Author Contributions: Dr Balderston had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Balderston, Gertz, Seedat, Rankin, Golladay.
Acquisition, analysis, or interpretation of data: All authors.
Drafting of the manuscript: Balderston, Gertz, Seedat, Rodriguez, Golladay.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Balderston, Gertz, Seedat, Hayes, Rodriguez, Golladay.
Administrative, technical, or material support: Balderston, Gertz, Seedat.
Supervision: Balderston, Gertz, Golladay.

Conflict of Interest Disclosures: Ms Rodriguez reported receiving grants from National Institutes of Health's National Center for Advancing Translational Sciences during the conduct of the study. Dr Golladay reported receiving personal fees and royalties from OrthoSensor, Inc, and grants from KCI, Inc, and Cerus outside the submitted work; and receiving an editor stipend from the American Association of Hip and Knee Surgeons for *Arthroplasty Today*. No other disclosures were reported.

Meeting Presentations: An abstract of this article was presented at the 23rd Annual Society for Academic Emergency Medicine Mid-Atlantic Regional Meeting; March 4, 2020; Washington, DC. It was scheduled to be presented at the Society for Academic Emergency Medicine Annual Meeting; May 15, 2020; Denver, Colorado; however, the meeting was canceled due to the coronavirus disease 2019 pandemic.

Additional Contributions: Thank you to the Bioinformatics team at Virginia Commonwealth University that helped with TriNetX support. Statistical analysis was supported by the Biostatistics Consulting Laboratory, which is partially supported by award No. UL1TR002649 from the National Institutes of Health's National Center for Advancing Translational Sciences.

1. Nelson A. Unequal treatment: confronting racial and ethnic disparities in health care. *J Natl Med Assoc*. 2002;94(8):666-668.

2. Vaccarino V, Rathore SS, Wenger NK, et al; National Registry of Myocardial Infarction Investigators. Sex and racial differences in the management of acute myocardial infarction, 1994 through 2002. *N Engl J Med*. 2005;353(7):671-682. doi:10.1056/NEJMsa032214

3. Hausmann LR, Ibrahim SA, Mehrotra A, et al. Racial and ethnic disparities in pneumonia treatment and mortality. *Med Care*. 2009;47(9):1009-1017. doi:10.1097/MLR.0b013e3181a80fdc

4. Whitman S, Ansell D, Orsi J, Francois T. The racial disparity in breast cancer mortality. *J Community Health*. 2011;36(4):588-596. doi:10.1007/s10900-010-9346-2

5. Gomez SL, Kelsey JL, Glaser SL, Lee MM, Sidney S. Inconsistencies between self-reported ethnicity and ethnicity recorded in a health maintenance organization. *Ann Epidemiol*. 2005;15(1):71-79. doi:10.1016/j.annepidem.2004.03.002

Editor's Note

Reappraising Medical Syntax—Does Race Belong in the First Line of the Patient History?

In the midst of the resurgent movement for racial justice, physicians and health care institutions should carefully look within for potential sources of racial and ethnic health disparities. In this issue of *JAMA Internal Medicine*, Balderston et al[1] report on differential documentation of race in the first line of the history of present illness (HPI). In 1200 admissions to an academic medical center in Richmond, Virginia, 33% of Black patients had their race documented in the first line of their admission note compared with 17% of White patients (adjusted odds ratio, 1.57; 95% CI, 1.11-2.25). Black clinicians had 58% lower odds of documenting race than White clinicians (adjusted odds ratio, 0.42; 95% CI, 0.20-0.80), and attending physicians had 2.37 times greater odds of documenting race than resident physicians (95% CI, 1.73-3.27) in adjusted analyses.

Why do Black patients have their race identified more often? The study does not answer this question; however, the function of race in the HPI merits further scrutiny. Hospital admission notes are intended to communicate relevant information in a predictable sequence, with key elements such as age and sex prioritized to facilitate efficient communication and formation of a differential diagnosis and plan. Race, however, is a social construct that explains minimal genetic or physiologic difference between 2 people.[2,3] Indeed, there is greater genetic variation within races than between races. Thus, in many cases, identifying Black race in the first line of the HPI may do little to facilitate medical communication while labeling patients as "other"—a potential conduit for bias.

The study by Balderston et al[1] was limited to a single academic medical center; the findings may or may not be generalizable to other hospitals or health systems. Moreover, the authors did not investigate clinical outcomes associated with differential documentation of race. The findings, however, raise the question of whether basic medical practices, such as how patients are characterized in the first line of the HPI, invite stereotypes and bias into clinical judgment. The rote documentation of race in the first line of the HPI is unlikely to serve a useful function, and the practice of differential documentation offers potential for harm. Given the important implications related to the experience of structural racism, we suggest that race should be documented as part of a complete social history in cases where it is deemed useful.

Jesse C. Ikeme, MD
James W. Salazar, MD, MAS
Richard W. Grant, MD, MPH

Author Affiliations: Department of Medicine, University of California, San Francisco (Ikeme, Salazar); Editorial Fellow, *JAMA Internal Medicine* (Salazar); Division of Research, Kaiser Permanente Northern California, Oakland (Grant); Associate Editor, *JAMA Internal Medicine* (Grant).

Published Online: January 11, 2021. doi:10.1001/jamainternmed.2020.5789

Corresponding Author: Jesse C. Ikeme, MD, Department of Medicine, University of California, San Francisco, 505 Parnassus Ave, Room M1480, San Francisco, CA 94143 (jesse.ikeme@ucsf.edu).

Conflict of Interest Disclosures: Dr Salazar reported receiving support from the National Heart, Lung, and Blood Institute under award No. R38HL143581. No other disclosures were reported.

1. Balderston JR, Gertz ZM, Seedat R, et al. Differential documentation of race in the first line of the history of present illness. *JAMA Intern Med*. Published online January 11, 2021. doi:10.1001/jamainternmed.2020.5792

2. Cooper RS, Kaufman JS, Ward R. Race and genomics. *N Engl J Med*. 2003;348(12):1166-1170. doi:10.1056/NEJMsb022863

3. Powe NR. Black kidney function matters: use or misuse of race? *JAMA*. 2020;324(8):737-738. doi:10.1001/jama.2020.13378

Trends in Outpatient Care Delivery and Telemedicine During the COVID-19 Pandemic in the US

The coronavirus disease 2019 (COVID-19) pandemic has dramatically altered patterns of health care delivery in the US. In the context of declining in-person outpatient visits, many clinicians began using telemedicine for the first time, spurred in part by regulatory changes that expanded public and private insurer reimbursement for a wider range of telemedicine services.[1,2] To understand how telemedicine compensated for declining outpatient

Supplemental content

© 2020 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ on 08/27/2022

volume and geographic variation in changing patterns of outpatient care, we examined telemedicine and in-person outpatient visits in 2020 among a national sample of 16.7 million individuals with commercial or Medicare Advantage insurance.

Methods | We used insurance claims from the OptumLabs Data Warehouse[3] to capture all outpatient visits over a 24-week period from January 1, 2020, to June 16, 2020. We included enrollees with 12 months of continuous enrollment (July 2019-June 2020). We assessed data completeness using weekly childbirth rates (eAppendix in the Supplement). We defined outpatient visits as Medicare's list of Common Procedural Terminology (CPT) codes eligible for telemedicine[4] and telemedicine visits via modifier codes GT, GQ, or 95 or CPT codes 99441-99443.

We assessed changes in outpatient visit volume by capturing weekly rates per 1000 enrollees of telemedicine, in-person, and total visits over the study period. For each state, during the final 4 weeks of the study period (May 20 to June 16), we calculated the percent of total weekly visits delivered by telemedicine and the percent change in total weekly visits compared to the 4 week period preceding expansion of telehealth coverage by Medicare (February 12 to March 10).[5] The Harvard Medical School institutional review board exempted this study from review and informed consent because all data were deidentified.

Results | Among 16 740 365 enrollees, the weekly rate of telemedicine visits increased during the pandemic period, peaking in the week of April 15, 2020, before declining by the week of June 10, 2020 (**Figure 1**). From the weeks of January 1 to June 10, the rates for telemedicine visits increased from 0.8 to 17.8 visits per 1000 enrollees (increase of 17.0 or 2013% change); in-person visits dropped from 102.7 to 76.3 (decrease of 26.4 or −30.0% change); total visits (telemedicine and in-person visits combined) decreased from 103.5 to 94.1 (−9.1% change).

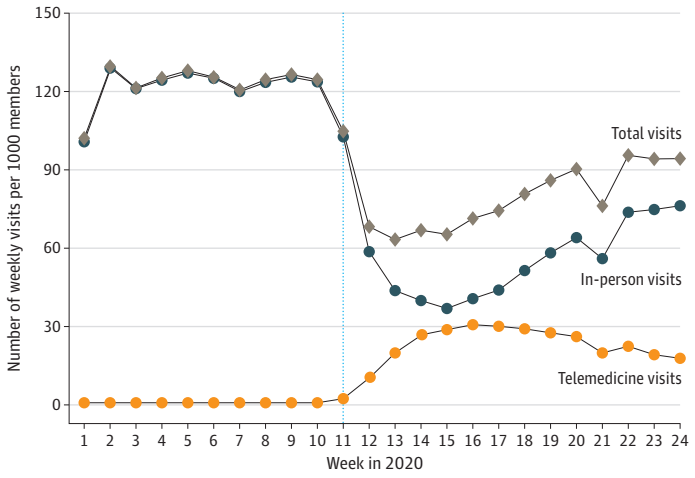
By the last 4 weeks of the study period, May 20 through June 16, there was wide geographic variation in the percent of total visits delivered by telemedicine (ranging from 8.4% in South Dakota to 47.6% in Massachusetts) and the percent change from baseline in total visit rates (ranging from −73.2% in Hawaii to −16.0% in Alaska) (**Figure 2**). Some states, especially in the South, had a small decline in total visits and lower rates of telemedicine use (ie, Tennessee, −23.6% change in total visits with 10.4% of all visits as telemedicine; Alabama, −21.5% and 13.4%, respectively).

Figure 1. Trends in In-Person, Telemedicine, and Total (In-Person Plus Telemedicine) Visits per Week During the Pre–COVID-19 and COVID-19 Periods, January 1, 2020, to June 16, 2020[a]

A In-person, telemedicine, and total visits

Visits per 1000 members with 12 mo of continuous enrollment			
Week	In-person visits	Telemedicine visits	Total visits
1	102.7	0.8	103.5
2	128.8	0.8	129.6
3	120.9	0.8	121.6
4	124.7	0.8	125.5
5	126.9	0.8	127.7
6	124.8	0.9	125.7
7	120.0	0.8	120.8
8	123.5	0.9	124.3
9	125.6	0.9	126.5
10	123.7	1.0	124.8
11	102.8	2.3	105.1
12	58.2	10.2	68.3
13	43.6	19.7	63.4
14	39.9	26.7	66.7
15	36.7	28.6	65.3
16	40.2	30.7	71.0
17	43.8	30.2	74.1
18	51.3	29.1	80.5
19	57.9	27.9	85.8
20	64.1	26.4	90.5
21	55.9	20.0	75.9
22	73.6	22.3	95.8
23	74.8	19.3	94.1
24	76.3	17.8	94.1

B Weekly visits



The dotted vertical line in panel B indicates the week of March 17, 2020, (week 11), when Medicare expanded reimbursement for telemedicine visits due to the COVID-19 pandemic.[4]

[a] Week 21 (May 20 to May 26, 2020) includes Memorial Day, a federal holiday in the US. The work week was likely 4 days for many practices resulting in a decrease in visit volume.

© 2020 American Medical Association. All rights reserved.

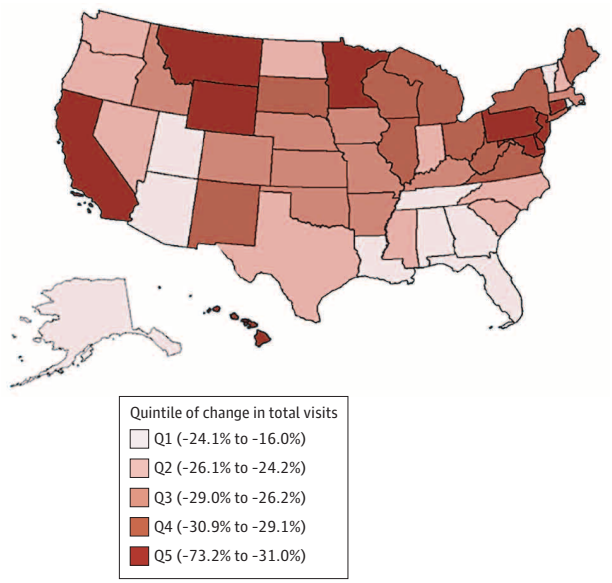
Downloaded From: https://jamanetwork.com/ on 08/27/2022

Figure 2. US Geographic Variation in the Percent Change in Total Visits and Percent of Total Visits Delivered by Telemedicine From May 20 to June 16, 2020

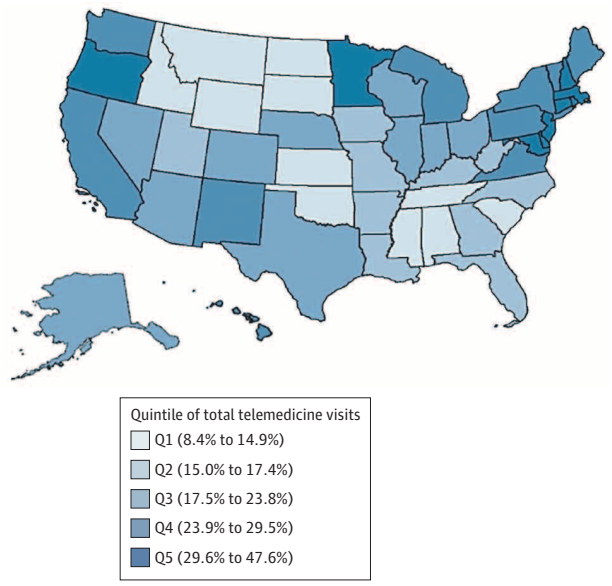
A Weekly visits per 1000 members with 12 mo continuous enrollment

State	Change in weekly total visits per 1000 members (wks 21-24 to 7-10), %	Weekly total visits per 1000 members delivered via telemedicine (wks 21-24), %
Alabama	-21.5	13.4
Alaska	-16.0	23.0
Arizona	-22.1	19.1
Arkansas	-26.8	15.4
California	-31.0	29.5
Colorado	-26.2	23.4
Connecticut	-34.3	31.5
Delaware	-32.9	33.8
District of Columbia	-32.2	43.1
Florida	-24.0	17.4
Georgia	-22.7	15.6
Hawaii	-73.2	24.5
Idaho	-27.6	10.9
Illinois	-29.4	23.8
Indiana	-26.0	22.0
Iowa	-29.0	15.1
Kansas	-27.4	13.0
Kentucky	-27.6	16.3
Louisiana	-22.6	15.9
Maine	-29.8	27.6
Maryland	-32.7	36.1
Massachusetts	-28.5	47.6
Michigan	-30.5	28.2
Minnesota	-32.2	34.5
Mississippi	-25.2	13.3
Missouri	-27.8	16.3
Montana	-31.2	11.3
Nebraska	-26.9	18.4
Nevada	-24.8	18.2
New Hampshire	-25.1	33.4
New Jersey	-36.3	30.3
New Mexico	-30.6	26.0
New York	-29.8	28.8
North Carolina	-24.5	16.7
North Dakota	-25.3	11.3
Ohio	-29.1	21.1
Oklahoma	-26.7	14.9
Oregon	-25.6	30.3
Pennsylvania	-31.7	26.6
Rhode Island	-20.0	40.6
South Carolina	-24.2	11.4
South Dakota	-29.7	8.4
Tennessee	-23.6	10.4
Texas	-25.0	20.3
Utah	-22.3	17.3
Vermont	-22.2	29.3
Virginia	-30.2	26.0
Washington	-24.6	24.4
West Virginia	-29.3	15.3
Wisconsin	-29.9	21.0
Wyoming	-33.1	12.2

B Change in total visits, %



C Total visits delivered by telemedicine, %



A, Data used to create panels B and C. B, Percent change in total weekly visits is defined as the difference between the total weekly visits from weeks 21 to 24 (May 20 to June 16) and baseline (weeks 7 to 10, February 12 to March 10) divided by the total weekly visits at baseline. Quintiles based on the distributions across all US states. C, Percent of total visits delivered by telemedicine is based on visits during weeks 21 to 24 (May 20 to June 16). Quintiles based on the distributions across all US states. Q1-Q5 indicates quintiles 1 to 5.

© 2020 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ on 08/27/2022

Discussion | In this national study of a commercially insured population, growth in telemedicine use offset roughly two-thirds of the decline in in-person visit volume during the COVID-19 pandemic. Although there was geographic variation in the magnitude of changes, every state experienced a drop in total visits, illustrating the broad scope of deferred care during the first months of COVID-19. Although some deferred care may have represented discretionary care that could be postponed without harm, these results also substantiate concerns that patients may fall behind in chronic illness management or face complications from deferred acute medical issues. This would be consistent with evidence from natural disasters resulting in decreased access to care associated with greater morbidity and mortality not directly related to the disaster itself.[6]

An important limitation is that results may not generalize to other populations (eg, traditional Medicare or Medicaid). Telemedicine use during the early COVID-19 pandemic only partially offset a drop in total outpatient care.

Sadiq Y. Patel, PHD, MS, MSW
Ateev Mehrotra, MD, MPH
Haiden A. Huskamp, PhD
Lori Uscher-Pines, PhD
Ishani Ganguli, MD, MPH
Michael L. Barnett, MD, MS

Author Affiliations: Department of Health Care Policy, Harvard Medical School, Boston, Massachusetts (Patel, Mehrotra, Huskamp); Division of General Medicine, Beth Israel Deaconess Medical Center, Boston, Massachusetts (Mehrotra); OptumLabs Visiting Fellow, Eden Prairie, Minnesota (Mehrotra); RAND Corporation, Arlington, Virginia (Uscher-Pines); Division of General Internal Medicine and Primary Care, Department of Medicine, Brigham and Women's Hospital, Boston, Massachusetts (Ganguli, Barnett); Department of Health Policy and Management, Harvard T. H. Chan School of Public Health, Boston, Massachusetts (Barnett).

Accepted for Publication: August 31, 2020.

Published Online: November 16, 2020. doi:10.1001/jamainternmed.2020.5928

Corresponding Author: Michael L. Barnett, MD, MS, Department of Health Care Policy and Management, Harvard T. H. Chan School of Public Health, 677 Huntington Ave, Kresge 411, Boston, MA 02115 (mbarnett@hsph.harvard.edu).

Author Contributions: Dr Patel had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Patel, Mehrotra, Barnett.
Acquisition, analysis, or interpretation of data: Patel, Huskamp, Uscher-Pines, Ganguli, Barnett.
Drafting of the manuscript: Patel.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Patel, Barnett.
Obtained funding: Mehrotra, Huskamp, Uscher-Pines.
Administrative, technical, or material support: Patel.
Supervision: Mehrotra, Uscher-Pines, Barnett.

Conflict of Interest Disclosures: Dr Mehrotra reported grants from the National Institutes of Health during the conduct of the study. Dr Huskamp reported grants from the National Institute of Mental Health during the conduct of the study. Dr Ganguli reported personal fees from Haven and personal fees from Blue Cross Blue Shield Massachusetts outside the submitted work. No other disclosures were reported.

Funding/Support: This project was supported by the National Institute on Aging of the National Institutes of Health (K23 AG058806-01) and the National Institute of Mental Health (R01 MH112829, T32MH019733). We thank Rebecca Shyu for contributing to data analysis, visualization, and manuscript preparation efforts.

Role of the Funder/Sponsor: The National Institute on Aging of the National Institutes of Health (K23 AG058806-01) and the National Institute of Mental Health had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

1. Mehrotra A, Chernew M, Linetsky D, Hatch H, Cutler D. The impact of the COVID-19 pandemic on outpatient visits: practices are adapting to the new normal. Commonwealth Fund. Published June 25, 2020. Accessed July 15, 2020. https://www.commonwealthfund.org/publications/2020/jun/impact-covid-19-pandemic-outpatient-visits-practices-adapting-new-normal.

2. Verma S. Early impact of CMS expansion of Medicare telehealth during COVID-19. Health Aff Blog. Published July 15, 2020. Accessed July 16, 2020. https://www.healthaffairs.org/do/10.1377/hblog20200715.454789/full/

3. OptumLabs. OptumLabs and OptumLabs Data Warehouse (OLDW) Descriptions and Citation. Eden Prairie, MN: n.p., May 2019. PDF. Reproduced with permission from OptumLabs. https://www.optumlabs.com/

4. Centers for Medicare & Medicaid Services. President Trump expands telehealth benefits for Medicare beneficiaries during COVID-19 outbreak. Newsroom. Published March 17, 2020. https://www.cms.gov/newsroom/press-releases/president-trump-expands-telehealth-benefits-medicare-beneficiaries-during-covid-19-outbreak.

5. Centers for Medicare & Medicaid Services. List of telehealth services. Updated April 30, 2020. Accessed July 15, 2020. https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes.

6. Baum A, Barnett ML, Wisnivesky J, Schwartz MD. Association between a temporary reduction in access to health care and long-term changes in hypertension control among veterans after a natural disaster. *JAMA Netw Open*. 2019;2(11):e1915111-e1915111. doi:10.1001/jamanetworkopen.2019.15111

Media Portrayals of Outcomes After Extracorporeal Membrane Oxygenation

Extracorporeal membrane oxygenation (ECMO) can provide temporary cardiac or respiratory support for the most severely ill patients in the intensive care unit. Use of ECMO has rapidly increased recently,[1] with studies suggesting favorable outcomes in selected patient populations.[2,3] However, ECMO is associated with important complications[1]; it consumes considerable resources[4]; and patients receiving ECMO remain at substantial risk of short- and long-term morbidity and mortality.[1,4]

Invited Commentary page 394

Because ECMO can improve outcomes in extremely ill patients, cases of survival after ECMO may gain media attention. However, this focus on survivors who are extremely ill may lead the media to preferentially publish stories with favorable outcomes. Because patients and families often gather medical information from news sources, including the internet,[5] such biased reporting could lead patients and families to have unrealistic expectations regarding the success of ECMO. We evaluated reports of patients receiving ECMO published in online media to systematically assess how mortality and disability attributed to this therapy were portrayed.

Methods | In this cross-sectional study, we conducted a systematic search to identify relevant news articles related to ECMO. We searched English-language news reports from Google News (http://news.google.com) and Bloomberg (http://www.bloomberg.com) published from January 1, 1960, through April 30, 2020. This literature review exempted from institutional review board approval and followed the

© 2020 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ on 08/27/2022