

## MAINSTREAMING TELEHEALTH? START WITH THE UNDERSERVED

By: *Barry R. Furrow\**

### I. INTRODUCTION

The COVID-19 pandemic spurred increased interest in telehealth and telemedicine. During the pandemic, health care providers provided services to patients who wanted to avoid offices that risked COVID-19 contagion. Pre-pandemic Medicare rules precluded telehealth visits from home; however, Medicare granted waivers to allow telehealth during the pandemic. Telehealth uses jumped as doctors used telemedicine tools to reach out to patients. “The number of Medicare fee-for-service (FFS) beneficiary telehealth visits increased 63-fold in 2020, from approximately 840,000 in 2019 to nearly 52.7 million in 2020.”<sup>1</sup>

Telehealth increased from less than 1% of visits across all visit specialties to 8% of primary visits and 3% of specialty visits.<sup>2</sup> Telehealth was one third of behavioral health visits, with 70% of these for audio-only services.<sup>3</sup> “Visits to behavioral health specialists showed the largest increase in telehealth in 2020,” with telehealth comprising a third of total visits.<sup>4</sup> Up to 70% of these telehealth visits during 2020 were reimbursable for audio-only services.<sup>5</sup> “Black and rural beneficiaries had lower use of telehealth compared with White and urban beneficiaries, respectively,” and there was considerable variation by state.<sup>6</sup> Entrepreneurs jumped at the market opportunities that telehealth demand seemed to offer, with companies that provide a range of such services marketing their services aggressively—Amwell, Sesame Care, and Plushcare are three examples.<sup>7</sup>

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<sup>1</sup> Lok Wang Samson, Wafa Tarazi, Gina Turrini & Steven Sheingold, *MEDICARE BENEFICIARIES’ USE OF TELEHEALTH IN 2020: TRENDS BY BENEFICIARY CHARACTERISTICS AND LOCATION* (Dec. 3, 2021), <https://aspe.hhs.gov/sites/default/files/documents/a1d5d810fe3433e18b192be42dbf2351/medicare-telehealth-report.pdf> [https://perma.cc/A29S-TKS7].

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> James Roland, Daniel Potter & Emma Caplan, *11 of the Best Telemedicine Companies*,

This paper will use “telehealth” (rather than telemedicine) to address the new technologies of electronic communication. The Centers for Medicare and Medicaid Services (CMS) no longer uses “telemedicine” as part of its vocabulary, instead using the broader term “telehealth” exclusively; it defines telehealth as “...the use of electronic information and telecommunications technologies to extend care when you [the physician] and the patient are not in the same place at the same time.”<sup>8</sup> Technologies for telehealth include terrestrial and wireless communications, videoconferencing, streaming media, and store-and-forward imaging.<sup>9</sup> “Telehealth services may be billed and paid differently, depending on the payer/insurer you’re working with and your geographic location.”<sup>10</sup>

Telehealth technologies are divided by CMS into the following general categories: (1) live video; (2) store-and-forward; (3) e-visits; (4) remote patient monitoring; (5) audio-only visits; (6) mobile health (mHealth); and (7) case-based teleconferencing.<sup>11</sup> The American Telemedicine Association describes telehealth as a modality that “...effectively connects individuals and their healthcare providers when in-person care is not necessary or not possible. Using telehealth services, patients can receive care, consult with a provider, get information about a condition or treatment, arrange for prescriptions, and receive a diagnosis.”<sup>12</sup>

Telehealth is not new: its history can be traced back to physician-patient telephone conversations as early as 1924.<sup>13</sup> The goal has always been to use

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HEALTHLINE (Feb. 28, 2022), <https://www.healthline.com/health/best-telemedicine-companies#A-quick-look-at-the-best-telemedicine-companies> [<https://perma.cc/V58V-8BPN>].

<sup>8</sup> Coverage to Care, *Telehealth for Providers: What You Need to Know*, CTR. FOR MEDICARE & MEDICAID SERVICES (2021), <https://www.cms.gov/files/document/telehealth-toolkit-providers.pdf> [<https://perma.cc/3RH6-2LK9>].

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* at 5. The full description of each category by CMS is as follows:

**Live video** – Also referred to as “real-time;” a two-way, face-to-face interaction between a patient and a provider using audiovisual communications technology

**Store-and-forward** – Remote evaluation of recorded video and/or images submitted by an established patient

**E-visits** – Non-face-to-face patient-initiated communications through an online patient portal

**Remote patient monitoring** – Use of digital technologies to collect health data from patients in one location and electronically transmit that information securely to providers in a different location (data can include vital signs, weight, blood pressure, blood sugar, pacemaker information, etc.)

**Audio-only visits** – Use of telephone for visits without video

**Mobile health (mHealth)** – Allows patients to review their personal health data via mobile devices, such as cell phones and tablet computers, which can be done from their home and assists in communicating their health status and any changes; often includes use of dedicated application software (apps), which are downloaded onto devices

**Case-based teleconferencing** – Method of providing holistic, coordinated, and integrated services across providers; usually interdisciplinary, with one or multiple internal and external providers and, if possible and appropriate, the client and family members/close supports

<sup>12</sup> *Telehealth: Defining 21<sup>st</sup> Century Care*, AM. TELEMEDICINE ASS’N, <https://www.americantelemed.org/resource/why-telemedicine/> [<https://perma.cc/3C73-KMU3>].

<sup>13</sup> Kesha Amit Shah & Ana Tomljenovic-Berube, *A New Dimension of Health Care: The Benefits, Limitations and Implications of Virtual Medicine*, 15 J. UNDERGRADUATE LIFE SCIS. 1 (July 2021),

electronic technology operating instantaneously over distance to empower health care professionals to evaluate, diagnose and treat patients. What is described as telehealth today began in the 1950's when some hospital systems and university medical centers wanted to find efficient ways to share information and images by telephone.<sup>14</sup> One of the early successes was the transmission of radiological images over the telephone between a health center in Philadelphia and another center 24 miles away in Westchester, Pennsylvania.<sup>15</sup> Such technologies were often used to help doctors connect a patient in one location to specialists somewhere else—this was a great advantage to rural patients lacking ready access to specialists. Until the internet developed and became universally adopted, telehealth was still limited by its expense and complexity.<sup>16</sup> As internet speeds increased, telehealth became more practical, allowing for high-quality video transmission and the use of smart devices. Video transmission meant that remote healthcare could be delivered to patients at home, work, or in nursing facilities as a replacement for in-person visits to a health care provider.<sup>17</sup>

Telehealth has progressed beyond fostering communication links to offering treatment even for serious medical conditions—one study that examined treatment of chronic heart failures found lower admission rates, shorter hospital stays, and fewer deaths.<sup>18</sup> Telepsychiatry and behavioral health have proved effective for patients and are likely to grow rapidly. Teleabortion is another example of a treatment that is already in use by women in the U.S. and can only increase, as it allows access to drug treatments for women far from abortion providers.<sup>19</sup> Other underserved subgroups of the population that usually do not get health care, such as the rural poor and the homeless, may also benefit. Fans (and vendors) of telehealth platforms dream of new tools: self-service telehealth kiosks (e.g., Healthspot Stations) with high-definition video conferencing and medical peripheral devices so that patients can connect with providers remotely,<sup>20</sup> robotic telesurgery,<sup>21</sup> and a universally available

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<https://doi.org/10.33137/juls.v15i1.37034> (excellent history of virtual care from a Canadian perspective).

<sup>14</sup> *What is Telemedicine*, CHIRON HEALTH, <https://chironhealth.com/telemedicine/what-is-telemedicine/> [<https://perma.cc/RNZ9-KUC8>] [hereinafter Chiron Health].

<sup>15</sup> *Telemedicine: A Guide to Assessing Telecommunications for Health Care* (Marilyn J. Field, Editor; Committee on Evaluating Clinical Applications of Telemedicine, Institute of Medicine 1996) page 36, <http://www.nap.edu/catalog/5296.html> [<https://perma.cc/7AWG-N9WU>].

<sup>16</sup> Chiron Health, *supra* note 14, at 2.

<sup>17</sup> *Id.*

<sup>18</sup> See Mao-Huan Lin, Wo-Liang Yuan, Tu-Cheng Huang, Hai-Feng Zhang, Jing-Ting Mai & Jing-Feng Wang, *Clinical Effectiveness of Telemedicine for Chronic Heart Failure: A Systematic Review and Meta-Analysis*, 65 J. INVESTIGATIVE MED. 899, 899 (Mar. 22, 2017).

<sup>19</sup> Pam Belluck, *Abortion by Telemedicine: A Growing Option as Access to Clinics Wanes*, N.Y. TIMES (June 29, 2020), <https://www.nytimes.com/2020/04/28/health/telabortion-abortion-telemedicine.html> [<https://perma.cc/K485-TYT6>].

<sup>20</sup> Cynthia LeRouge & Monica J. Garfield, *Crossing the Telemedicine Chasm: Have the U.S. Barriers to Widespread Adoption of Telemedicine Been Significantly Reduced?*, 10 INT. J. ENVIRON. RES. PUB. HEALTH 6472, 6479 (2013) (“One of the major goals of telemedicine is to enhance the delivery of health care to geographically disadvantaged and medically underserved populations, thereby providing an improved quality of care while decreasing costs.”).

<sup>21</sup> *Id.*

broadband infrastructure.<sup>22</sup>

This paper will consider telehealth's realistic potential as a tool for creating or improving access to health care for underserved groups in the U.S. Too many telehealth discussions have focused on middle-class patient care, possible gains in efficiency, convenience, and other possible benefits to those with good health insurance, and physician anxiety about mastering new telehealth platforms or losing income by trying to offer hybrid services while telehealth drains their time and income.

Many market analysts predict a thriving market for telehealth tools and platforms. Bloomberg Intelligence is in this camp:

Digital-health use accelerated during the Covid-19 pandemic and is now set to shape demand for tools that can add greater efficiency to the delivery of care as well as aid discovery of novel interventional approaches...Profound changes are underway in virtual care, treatment of chronic conditions and the expanded use of real-world evidence. We project telehealth will eclipse \$20 billion in revenue by 2027 and a \$12 billion opportunity in glucose monitors.<sup>23</sup>

Bloomberg's optimism sees telehealth opportunities everywhere, predicting that 15% of outpatient visits will be by telehealth by 2027, as barriers to adoption fall.

I argue that this telehealth expansion hypothesis is overstated. Trilliant Health, a healthcare analytics company, used a predictive analytics tool to see a ten-year view of the healthcare market.<sup>24</sup> Trilliant concluded that patients prefer in-person care if given a choice. "The total addressable market for telehealth is <1% of the health economy...and declining."<sup>25</sup> Telehealth did not bridge the primary care gap, it only minimally changed how patients access telehealth, and specialty telehealth was a small share of the total volume. Most patients had only one telehealth visit and returned to in-person care that was often hybrid care. Trilliant found that "[c]ompared to the 2020 peak of the pandemic, the proportion of patients in virtual-only or hybrid arrangements is declining."<sup>26</sup>

Females are the primary users of telehealth (59 %), while behavioral health

<sup>22</sup> Eric Topol, *Telemedicine Is Essential Amid the Covid-19 Crisis and After It*, THE ECONOMIST (May 31, 2020),

<https://www.economist.com/open-future/2020/03/31/telemedicine-is-essential-amid-the-covid-19-crisis-and-after-it> [<https://perma.cc/J9CJ-VSGY>] (Dr. Eric Topol argues that telemedicine "requires a digital infrastructure that ensures secure connections between patients and physicians." In rural areas where telemedicine can relieve provider shortages, broadband infrastructure and universal broadband adoption are needed.).

<sup>23</sup> Jonathan Palmer & Duane Wright, *Digital Reshaping the Health-Care Ecosystem*, BLOOMBERG INTEL. (Feb. 23, 2022), [https://assets.bbhub.io/company/sites/51/2022/02/BI-Digital-Reshaping-the-Health-Care-Ecosystem\\_FINAL.pdf](https://assets.bbhub.io/company/sites/51/2022/02/BI-Digital-Reshaping-the-Health-Care-Ecosystem_FINAL.pdf) [<https://perma.cc/A4MV-87QP>].

<sup>24</sup> *Trends Shaping the Health Economy: Telehealth*, TRILLIANT HEALTH (Feb. 2022), [https://f.hubspotusercontent30.net/hubfs/3833986/K\\_FINAL\\_Trilliant%20Health\\_2022%20Telehealth%20Trends%20Report\\_02.24.22-1.pdf](https://f.hubspotusercontent30.net/hubfs/3833986/K_FINAL_Trilliant%20Health_2022%20Telehealth%20Trends%20Report_02.24.22-1.pdf) [<https://perma.cc/JJM4-N5TQ>].

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 18.

visits are the high share, constituting around 48% of all telehealth visits between April 2019 and November 2021.<sup>27</sup> Trilliant suggests that in economic terms, telehealth provider “pioneers” are regressing to the mean: in April 2020 telehealth visits were 59% of pre-COVID-19 telehealth adopters’ care portfolios, and that share has dropped to 36% by November 2021.<sup>28</sup> Their bottom line is that telehealth use will continue to shrink. Provider resistance to telehealth is likely to continue to inhibit its spread, even with the Telehealth Modernization Act of 2021 (HR 1332) in the second Cures Act.<sup>29</sup>

This paper proceeds in three parts. Part II considers the ethical framework for expanding telehealth to underserved populations. Part III describes the classes of underserved populations that exist and the evidence that supports the merits of telehealth availability for these populations.<sup>30</sup> Some examples include expanding opportunities for improved reproductive health care for women, including pharmaceutical abortions using telemedicine; psychiatric and other behavioral health consultations; and early diagnosis opportunities for residents of rural and urban areas. Part IV discusses some strategies that will help to reach these populations.

## II. JUSTIFICATIONS FOR EXPANDING TELEHEALTH TO UNDERSERVED POPULATIONS

Where do underserved populations in need of health care fit in this contested space of poor access and limited resources? Such populations are underserved in a rich country that tolerates vast levels of inequality across most indices—housing, food, education, and of course health. Such populations may be underserved because of (1) lack of proximity to health care, or (2) economic limits such as low or no income, which result in poor social determinants of health. Unequal income distribution in a society correlates with worse health-related outcomes such as life expectancy, infant mortality, obesity, and mental illness, as well as with worse social outcomes such as homicides, imprisonment, literacy, and trust.<sup>31</sup> Figure 1 makes clear where the U.S. falls on an index of health and social problems—our high level of income inequality produces devastating results.

Even if the gloomy assessment of Trilliant and other analysts proves to be correct as to the growth of the for-profit telehealth care market, the need for readily available telehealth for underserved populations is apparent and will require large public subsidies to expand the availability of telehealth modalities. The technology of telehealth is improving rapidly, and its use for underserved populations will begin the process of equalizing access to health care services.

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<sup>27</sup> *Id.* at 20.

<sup>28</sup> *Id.* at 33.

<sup>29</sup> Telehealth Modernization Act of 2021, H.R. 1332, 117<sup>th</sup> Cong. (2021).

<sup>30</sup> LeRouge, *supra* note 20, at 6473.

<sup>31</sup> Simone Rambotti, *Recalibrating the Spirit Level: An Analysis of the Interaction of Income Inequality and Poverty and Its Effect on Health*, 139 SOC. SCI. MED. 123, 126 (2015) (review of Richard Wilkinson and Kate Pickett, *The Spirit Level* (2009, rvsd edition 2011)).

Health outcomes for the underserved will begin to improve as a result. Government funding is required to implement advances in telehealth to allow underserved populations to receive more convenient, high-quality care, leading to better health outcomes. Increasing access to improved health options requires focusing on the most important categories of the underserved, while paying attention to the use of flexible telehealth models.<sup>32</sup> The market will only respond when government programs, waivers of old telehealth rules, and much more funding is available to put in place high speed broadband networks that will make telehealth work smoothly and easily.

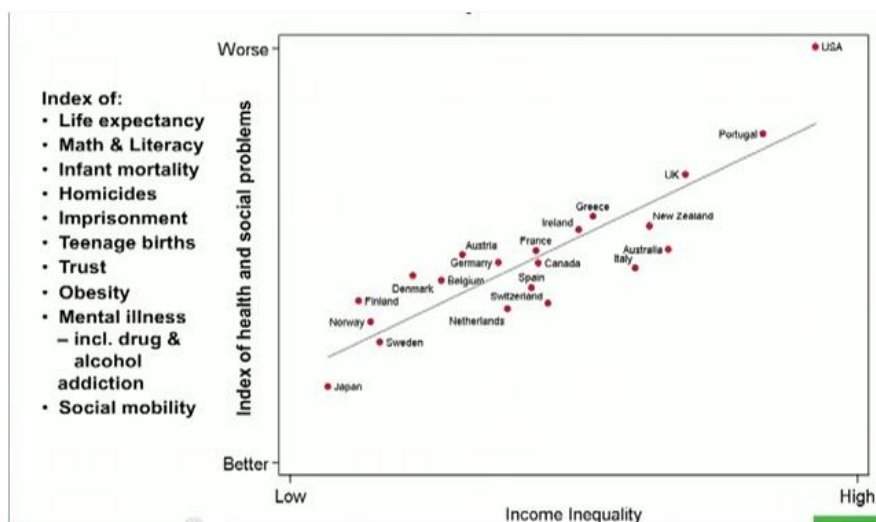


Figure 1: Relationship Between Income Inequality and an Index of Health and Social Problems in the Wealthiest Nations<sup>33</sup>

Digital inclusion is a critical social determinant of health.<sup>34</sup> The Federal Communications Commission in 2019 examined the relationship between a community's health and level of connectivity; it asked whether more accessible

<sup>32</sup> Kate Pickett & Richard Wilkinson, *ASAP Policy Briefing: Fair Distribution Within Nations*, ALL FOR SUSTAINABILITY & PROSPERITY, <https://www.europarl.europa.eu/cmsdata/103808/Fair%20distribution%20within%20nations-Kate%20Pickett.pdf> [<https://perma.cc/9ZL9-492Q>].

<sup>33</sup> Joshua Farley, Matthew Burke, Gary Flomenhoft, Brian Kelly, D. Forrest Murray, Stephen Posner, Matthew Putnam, Adam Scanlan & Aaron Witham, *Monetary and Fiscal Policies for a Finite Planet*, 5 SUSTAINABILITY 2802, 2818 fig.4 (2013), <https://www.mdpi.com/2071-1050/5/6/2802/htm>.

<sup>34</sup> See Cynthia J. Sieck, Amy Sheon, Jessica S. Ancker, Jill Castek, Bill Callahan & Angela Siefer, *Digital Inclusion as a Social Determinant of Health*, NPJ DIGI. MED. (Mar. 17, 2021), <https://doi.org/10.1038/s41746-021-00413-8> [<https://perma.cc/562M-K8LC>]. See also Brittney Crock Bauerly, *Broadband Access as a "Super-Determinant" of Health* (July 12, 2018), <https://www.networkforphl.org/news-insights/broadband-access-as-a-super-determinant-of-health/> [<https://perma.cc/49G2-4Q3N>].

broadband services would improve health outcomes.<sup>35</sup> Diabetes prevalence data—a risk factor for severe illness from COVID-19—and broadband data (as of December 2015) were compared. The FCC report found as follows:

There is a significant correlation between increasing broadband access and improved health outcomes. Based on December 2015 data, counties in any quintile of broadband access have on average 9.6% lower diabetes prevalence than in those counties in the next lower quintile of access. This change in diabetes prevalence remains when we control for education (8.7%) and income (8.4%) separately or together with age (6.0%). Internet *adoption* appears to have an even stronger correlation to improved health outcomes. Communities in a given quintile of Internet adoption on average have 16.5% lower diabetes prevalence compared to communities in the next lower quintile.<sup>36</sup>

The FCC report went so far as to argue that broadband connectivity was a “super” determinant of health. The FCC wrote:

There is increasing evidence demonstrating a strong relationship between broadband access, Internet adoption, and health outcomes. As such, fostering digital equity and health equity are inextricably intertwined. For many years, stakeholders have viewed broadband as a critical means to connect doctors to patients and to close gaps related to time and distance. Unfortunately, many Americans are still falling through the broadband health gap.

The Connect2HealthFCC Task Force’s (C2H Task Force) research indicates that one promising solution may lie in a paradigm shift—in recognizing that broadband plays a more direct and consequential role—as a social determinant of health, if not as a “super” determinant of health.<sup>37</sup>

The report noted that telehealth technologies can reduce mortality and hospitalization in persons with heart failure, expand primary care access, decrease loneliness, improve social contacts, and improve diabetes outcomes.<sup>38</sup> In other words, there is an ethical imperative to fund and expand telehealth in all its dimensions because it will be the only way to improve access to health care for several underserved categories of Americans.

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<sup>35</sup> *Studies and Data Analytics on Broadband and Health*, FED. COMMC’N COMM’N (Feb. 7, 2022), <https://www.fcc.gov/health/sdoh/studies-and-data-analytics> [https://perma.cc/U32N-ZY PF].

<sup>36</sup> *Id.*

<sup>37</sup> *Advancing Broadband Connectivity as a Social Determinant of Health*, FED. COMMC’N COMM’N (Feb. 7, 2022), <https://www.fcc.gov/health/SDOH> [https://perma.cc/9K42-RP56].

<sup>38</sup> *Id.*

### III. UNDERSERVED POPULATIONS: SEVEN CATEGORIES

The Centers for Medicare & Medicaid Services (CMS) defines underserved and vulnerable populations as populations that “face barriers that make it difficult to get health coverage and basic health care services,” such as health, financial, educational, and/or housing disparities.<sup>39</sup> My focus is on seven categories of underserved populations where telehealth modalities can improve access to care in major ways. Some of these categories are categorized by lack of proximity to care and others by lack of resources, as captured by the larger framework of the social determinants of health.

These underserved populations receive fewer health care services, face barriers to accessing primary health care services, are often unfamiliar with the health care delivery system, and lack access to readily available providers.<sup>40</sup> Underserved and vulnerable populations include minority populations such as Hispanic, African American, and American Indian and Alaska Native (AIAN) populations.<sup>41</sup> These populations suffer from higher mortality rates due to the social, financial, and health inequities imposed on Black, Hispanic, and Indigenous communities throughout America’s past and current history of institutionalized racism and historical trauma.<sup>42</sup> Both the rural and urban poor must be included in this group as well, given their lack of access to good quality care and the harms that can result from this lack of access. The categories overlap to some extent, but it is helpful nonetheless to separate out the categories of telehealth services that best serve these populations.

#### A. *Special Case #1: Rural Populations*<sup>43</sup>

Rural residents have a higher mortality rate than urban residents.<sup>44</sup> Gordon Gong and coauthors identify socioeconomic status, physician shortages, and lack of health insurance as the primary reasons rural residents have higher mortality rates than urban residents in almost every state in the country.<sup>45</sup> The

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<sup>39</sup> *Serving Vulnerable and Underserved Populations*, CTR. FOR MEDICARE & MEDICAID SERV., <https://marketplace.cms.gov/technical-assistance-resources/training-materials/vulnerable-and-underserved-populations.pdf> [https://perma.cc/7S89-9FPU].

<sup>40</sup> I have used graphic images throughout this paper to better convey clearly the failures of the U.S. healthcare system in delivering accessible health care services to the seven categories of underserved populations.

<sup>41</sup> *Id.*

<sup>42</sup> Paula Braveman, Elaine Arkin, Tracy Orleans, Dwayne Proctor & Alonzo Plough, *What is Health Equity?*, ROBERT WOOD JOHNSON FOUND. (May 1, 2017), <https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html> [https://perma.cc/BK65-P2YR].

<sup>43</sup> *See generally About the Rural Health Information Hub*, RURAL HEALTH INFO. HUB, <https://www.ruralhealthinfo.org/about> [https://perma.cc/438M-LB7K] (formerly the Rural Assistance Center, is funded by the Federal Office of Rural Health Policy to be a national clearinghouse on rural health issues).

<sup>44</sup> Gordon Gong, Scott G. Phillips, Catherine Hudson, Debra Curti & Billy U. Philips, *Higher US Rural Mortality Rates Linked to Socioeconomic Status, Physician Shortages, and Lack of Health Insurance*, 38 HEALTH AFFS. 2003 (2019), <https://www.healthaffairs.org/doi/epdf/10.1377/hlthaff.2019.00722> [https://perma.cc/P5AR-DH3W].

<sup>45</sup> *Id.*



social determinants of the health model capture their vulnerabilities and include poor housing, limited incomes, distrust of government programs, and limited English language proficiency.<sup>46</sup> Communication connectivity is also a major shortcoming for the underserved.

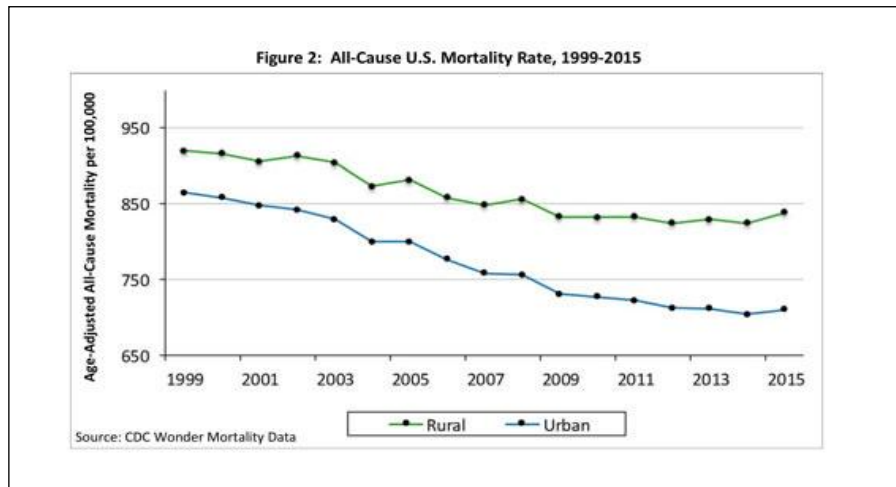


Figure 2: All-Cause U.S. Mortality Rate, 1999-2015<sup>47</sup>

The authors conclude that “rural dwellers would have lived longer than their urban counterparts had their socioeconomic conditions and access to health care been similar—possibly because of cleaner air or other salutary attributes of rural areas.”<sup>48</sup>

The search for possible solutions leads the authors to argue that “states could improve rural health by the use of telemedicine in rural communities.”<sup>49</sup> Many states limit telehealth technologies to certain types of providers or to synchronous-only applications. The authors conclude that “[s]tates’ removal of such barriers could improve rural health.”<sup>50</sup> The failures of many states to expand their Medicaid programs after the passage of the Affordable Care Act is a partial contributor to limited access to health care, as Figure 3 illustrates.

<sup>46</sup> *Id.*

<sup>47</sup> Abby Hoffman & Mark Holmes, *Regional Differences in Rural and Urban Mortality Trends*, Findings Brief NC Rural Health Research Program (Aug. 2017), [https://www.shepscenter.unc.edu/wp-content/uploads/dlm\\_uploads/2017/08/Regional-Differences-in-Urban-and-Rural-Mortality-Trends.pdf](https://www.shepscenter.unc.edu/wp-content/uploads/dlm_uploads/2017/08/Regional-Differences-in-Urban-and-Rural-Mortality-Trends.pdf) [<https://perma.cc/58Z2-ZMB4>] (noting that while all-cause mortality is decreasing nationwide over time in both urban and rural areas, “...urban mortality is lower than rural mortality and is decreasing more rapidly.”).

<sup>48</sup> Gong, *supra* note 44, at 2007.

<sup>49</sup> *Id.* at 2008.

<sup>50</sup> *Id.*

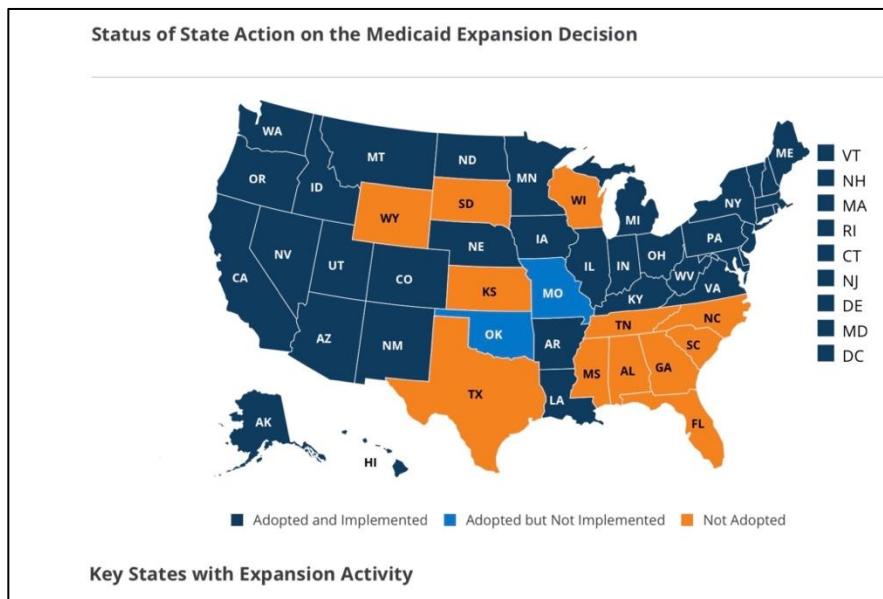


Figure 3: Rural Hospitals and Medicaid Expansion<sup>51</sup>

The Chartis Group, studying hospital closures, concluded that a sizeable portion of the country's rural hospitals are vulnerable to closure.<sup>52</sup> As shown in Figure 4, from 2010 to the present, 138 rural hospitals closed. Many of these hospitals were in states that refused to expand Medicaid coverage under the Affordable Care Act.<sup>53</sup> These smaller rural hospitals generally lose money and are vulnerable to closing when Medicaid reimbursement is not increased.<sup>54</sup>

<sup>51</sup> Jean Covillo, *Missouri Medicaid Expansion-Approved by Voters – Opposed by Legislators*, EXCEL ANESTHESIA BLOG (Mar. 27, 2021), <https://www.eakc.net/2021/03/27/missouri-medicaid-expansion-approved-by-voters-opposed-by-legislators/> [https://perma.cc/4KQT-ZTS8].

<sup>52</sup> *Rural Communities at Risk: Widening Health Disparities Present New Challenges in Aftermath of Pandemic*, CHARTIS GRP. (2021), <https://www.chartis.com/insights/rural-communities-risk-widening-health-disparities-present-new-challenges-aftermath> [https://perma.cc/9TR4-9FVR].

<sup>53</sup> *Id.* at 4.

<sup>54</sup> Leslie Hook & Hannah Kuchler, *How Coronavirus Broke America's Healthcare System*, FIN. TIMES MAG. (Apr. 29, 2020), <https://www.ft.com/content/3bbb4f7c-890e-11ea-a01c-a28a3e3fbd33> (last visited Apr. 23, 2022).

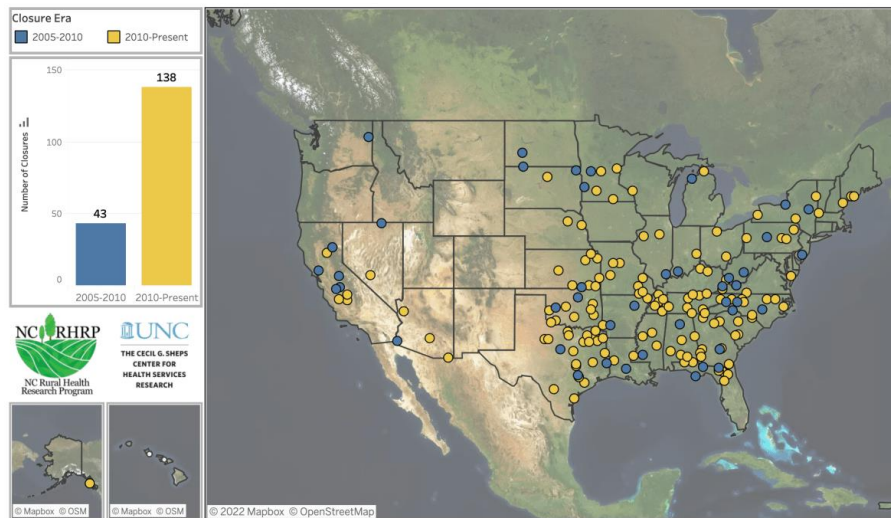


Figure 4: 181 Rural Hospital Closures since January 2005<sup>55</sup>

Rural Emergency Hospitals (REHs) are a new legislative creation<sup>56</sup> that offers no in-patient care but does provide 24-hour emergency services.<sup>57</sup> These new rural hospitals are the first new rural providers in over twenty years, following on the heels of the Critical Access Hospital (CAH). The details of these REHs have not yet been subject to further rulemaking, but the National Advisory Committee on Rural Health and Human Services made a very strong telehealth recommendation.<sup>58</sup> Their Recommendation # 4 is as follows:

Recommendation 4: The Committee recommends that the Secretary allow for the doctor of medicine or osteopathy to be on-call, either in person or remotely (e.g., via telephone or electronic communication),

<sup>55</sup> *181 Rural Hospital Closures since January 2005*, CECIL G. SHEPS CTR. FOR HEALTH SERVS. RSCH., <https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures> [https://perma.cc/3AT4-GLJN].

<sup>56</sup> In December 2020, Congress passed the Consolidated Appropriations Act (CAA) of 2021, Pub. L. No. 116-260, 135 Stat. 1183, which, in Section 125, created a new Medicare provider type called the Rural Emergency Hospital (REH). The REH will be a new rural hospital type that does not provide inpatient care but will provide 24-hour emergency services. By creating the REH, Congress has established the first new rural provider type in over 20 years when the Critical Access Hospital (CAH) was created in 1997 under the Balanced Budget Act, Pub. L. No. 105-33, 111 Stat. 370.

<sup>57</sup> George H. Pink, Kristie W. Thompson, H. Ann Howard & G. Mark Holmes, *How Many Hospitals Might Convert to a Rural Emergency Hospital?*, N.C. RURAL HEALTH RSCH. PROGRAM, <https://www.ruralhealthresearch.org/publications/1440> [https://perma.cc/LDT6-59V2].

<sup>58</sup> NAT'L ADVISORY COMM. ON RURAL HEALTH & HUM. SERVS., RURAL EMERGENCY HOSP. POL'Y BRIEF AND RECOMMENDATIONS TO THE SEC'Y (2021), <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/rural/publications/2021-rural-emergency-hospital-policy-brief.pdf> [https://perma.cc/25PV-7F9X].

to provide medical direction, consultation, and supervision for the services provided in the REH.<sup>59</sup>

This recommendation is a necessary feature of these REHs, allowing a physician to be on-call by telephone or other electronic form for the REH services. As rural hospitals continue to close, these REHs have the potential to be an effective substitute, drawing on telehealth as a physician or nurse extender to reach out broadly to those isolated in rural communities. Telehealth allows for consulting at inconvenient times, such as the middle of the night, and allows specialty care in locations where it is not otherwise available or where the patients do not speak the language,<sup>60</sup> know physicians, or have childcare available. Telehealth also allows for lengthy consultations for mental health and substance abuse treatment. These REHs can hopefully provide not only access to emergency care, but access to a platform for telehealth and a necessary replacement as rural hospitals continue to struggle and close.

Given the shortage of some medical specialties in rural America, telehealth can play an important role in ensuring patients in rural communities can access the care they need. If a rural primary care provider (PCP) needs to refer a patient to a Stroke Specialist in an area where no such specialists practice, with telehealth, she may be able to leverage telecommunications technologies to connect the patient with a specialist at a remote site instead of asking the patient to travel to another community to obtain care. Consults are much easier,<sup>61</sup> and if telehealth becomes the platform for access to health care for rural residents, it will help with the isolation that is inherent all too often in rural life.

### ***B. Special Case #2: Underserved Urban Populations***

Poor urban populations are comprised of many subgroups. Using New York City Public Wi-Fi Hot Spot distribution data, Figure 5 below illustrates how urban “redlining” can limit access by many poor subgroups to the internet as a tool for accessing health, among other things.<sup>62</sup> Stern writes that “COVID-19 has underscored inequitable access to broadband; for many low-income

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<sup>59</sup> *Id.* at 7.

<sup>60</sup> The Cleveland Clinic markets “the Insights of 3,500 Expert Specialists in Over 550 Advanced Subspecialties: The Clinic is a revolutionary joint venture between Cleveland Clinic and Amwell that brings digital health solutions to a new level” and whose “[v]irtual Second Opinions offer unparalleled ease of use, advanced technology and powerful outcomes.” *Unlocking Access to the World’s Best Healthcare Expertise*, THE CLINIC, <https://theclinic.io> [<https://perma.cc/U5AZ-RG74>]; See generally the Cleveland Clinic’s TeleSpecialist offerings, <https://tstelemed.com/cleveland-clinic-s-spin-off-marketplace-ready-for-business-clinical-innovation-technology/>. One must ask what this telehealth consulting will cost, and whether it will make sense for a Medicaid population or others whose reimbursement is low.

<sup>61</sup> INST. OF MED., *THE ROLE OF TELEHEALTH IN AN EVOLVING HEALTH CARE ENVIRONMENT: WORKSHOP SUMMARY* (Nat’l Acad. Press, 2012).

<sup>62</sup> Alena Stern, *How Cities’ Technology Responses to the Pandemic Can Close Instead of Widen Disparities*, URBAN INST. (Oct. 8, 2020), <https://www.urban.org/urban-wire/how-cities-technology-responses-pandemic-can-close-instead-widen-disparities> [<https://perma.cc/DBT4-QZD8>].

households, fast and reliable internet is unaffordable and in some cases unavailable because of ‘digital redlining.’”<sup>63</sup>

This redlining is driven by profitability concerns by internet service providers as to coverage for marginalized groups and communities. Stern observes that “[c]hildren younger than 18, cost-burdened renters, and households without internet access are underserved, suggesting the city’s current Wi-Fi hot spot distribution does not equitably serve children who most need these services to attend online classes during the pandemic.”<sup>64</sup>

Internet service providers must be incentivized (or forced) to provide broadband coverage for all communities, instead of consistently redlining poor areas. The FCC argued in a 2017 report that “[t]he primary goal of federal actions with respect to digital infrastructure should be to increase and accelerate profitable, incremental, private-sector investment to achieve at least 98% nationwide deployment of future-proofed, fixed broadband networks.”<sup>65</sup> This cost was estimated at \$80 billion in 2017.<sup>66</sup> The states and the FCC together need to legislate to override restrictive laws that block broadband expansion and to then fund its expansion.

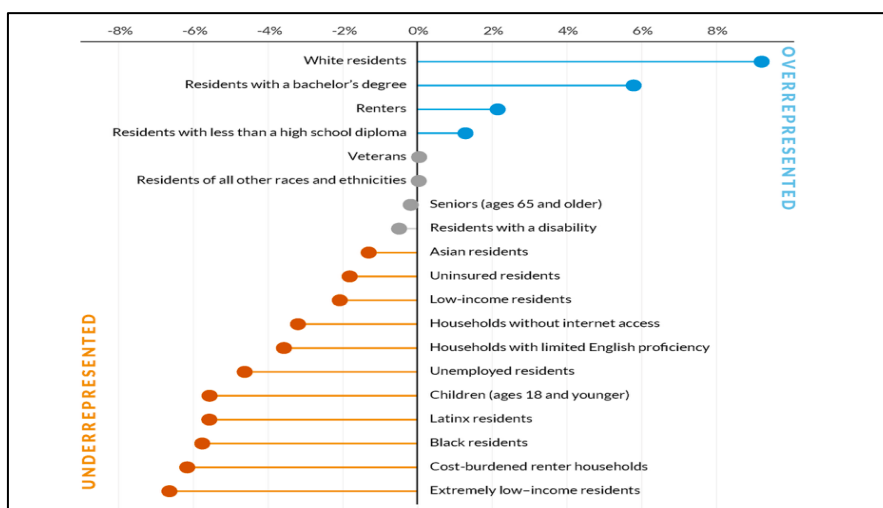


Figure 5: Demographic Representation and New York City Public Wi-Fi Hot Spots<sup>67</sup>

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> PAUL DE SA, WHITE PAPER ON IMPROVING THE NATION’S DIGITAL INFRASTRUCTURE 1 (2017), <https://www.fcc.gov/document/improving-nations-digital-infrastructure> [<https://perma.cc/GPQ3-WGMM>].

<sup>66</sup> *Id.* at 2.

<sup>67</sup> Stern, *supra* note 62.

Telephone modalities matter for telehealth, particularly in the absence of free or affordable broadband access to service for underserved populations. The elegant telehealth platforms of companies like AMD Global Telemedicine feature secure encrypted cloud-based telemedicine platforms, exemplified by AGNES Connect®. This platform “enables remote clinical healthcare providers to capture and share medical device data, exchange documents and medical images in real-time, and participate in a live video conference—all in a single web-based platform.”<sup>68</sup> Telehealth has typically assumed a synchronous video-based platform, assuming high internet speeds and wide bandwidth. The underserved rarely have this level of access to video-only telehealth services.<sup>69</sup>

Few studies have differentiated between telehealth modalities. CMS has estimated that 30% of telehealth visits were audio only during the pandemic, and perhaps even higher, since low-income patients face barriers to video visits.<sup>70</sup> Federally Qualified Health Centers (FQHCs), outpatient health centers that provide primary care to 30 million low-income individuals, were granted a CMS waiver to provide video and telephone (audio only) patient visits at their locations.<sup>71</sup> This increased patient use of telehealth during the pandemic, particularly for behavioral health visits, since the telephone only visits replaced in-person visits.<sup>72</sup> Telephone visits were generally excluded from telehealth definitions before the pandemic struck, and reimbursement for telephone visits by CMS has not been permanently extended out of worries of fraud, abuse, and difficulty of quality controls.<sup>73</sup> The JAMA study argued that “eliminating coverage for telephone visits could disproportionately affect underserved populations and threaten the ability of FQHCs to meet patient needs.”<sup>74</sup>

Another study of nearly 150,000 patients who had scheduled telehealth visits in 2020 found a disparate impact on the poor.<sup>75</sup> The study concluded that

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<sup>68</sup> *Telehealth for Corona Virus*, AMD GLOB. MED., <https://amdtelemedicine.com/telehealth-solutions-for-covid-19> [<https://perma.cc/37SH-QQVS>].

<sup>69</sup> Lori Uscher-Pines, Jessica Sousa, Maggie Jones, Christopher Whaley, Christopher Perrone, Colleen McCullough & Allison J. Ober, *Telehealth Use Among Safety-Net Organizations in California During the COVID-19 Pandemic*, 325 JAMA 1106 (2021).

<sup>70</sup> Seema Verma, *Early Impact of CMS Expansion of Medicare Telehealth During COVID-19*, HEALTH AFFS. FOREFRONT (July 15, 2020), <https://www.healthaffairs.org/doi/10.1377/hblog20200715.454789/full> [<https://perma.cc/TXU4-XYTF>].

<sup>71</sup> Uscher-Pines, *supra* note 69, at 1106. For a description of FQHCs, *see generally* *Federal Qualified Health Centers*, CTR. FOR MEDICARE & MEDICAID SERVS., <https://www.cms.gov/Center/Provider-Type/Federally-Qualified-Health-Centers-FQHC-Center> [<https://perma.cc/E6KX-2M4S>].

<sup>72</sup> Uscher-Pines, *supra* note 69, at 1106.

<sup>73</sup> *Id.* at 1107.

<sup>74</sup> *Id.*

<sup>75</sup> *See* Lauren A. Eberly, Michael J. Kallan, Howard M. Julien, Norrissa Haynes, Sameed Ahmed M. Khatana, Ashwin S. Nathan, Christopher Snider, Neel P. Chokshi, Nwamaka D. Eneanya, Samuel U. Takvorian, Rebecca Anastos-Wallen, Krisda Chaiyachati, Marietta Ambrose, Rupal O’Quinn, Matthew Seigerman, Lee R. Goldberg, Damien Leri, Katherine Choi, Yevginiy Gitelman, Daniel M. Kolansky, Thomas P. Cappola, Victor A. Ferrari, William Hanson, Mary Elizabeth Deleener & Srinath Adusumalli, *Patient Characteristics Associated with Telemedicine Access for Primary and Specialty Ambulatory Care During the COVID-19 Pandemic*, JAMA Network (Dec. 29, 2020), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/27744>

the digital divide was real, and that patients of color have low rates of access to broadband.<sup>76</sup> They noted that older patients, Asian patients, Medicaid users, and non-English speakers were less likely to complete telehealth visits.<sup>77</sup> Telehealth access must focus on improving access by these vulnerable groups.<sup>78</sup> This will require public funding and may merit treating internet service providers as public utilities with a mandate to serve all subgroups in a market area.<sup>79</sup>

### *C. Special Case #3: The Homeless*

The homeless are a growing category of people who lack easy access to any form of health care, from hospitals to primary care. They truly belong in my “underserved” category. They are high utilizers of hospital ERs, and as a group they have a high incidence of chronic mental illness and psychiatric disorders, substance addiction, and other somatic health conditions.<sup>80</sup> They also lack health insurance.<sup>81</sup> Given these barriers to care, how can people experiencing homelessness (PEHs) take advantage of telehealth?

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<sup>88</sup> [https://perma.cc/TGK7-NGCF].

<sup>76</sup> *Id.* at 7.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 9.

<sup>79</sup> Meredith Whipple, *We Already Knew Broadband Should Be a Public Utility. The Pandemic Made It Obvious*, PUB. KNOWLEDGE (Mar. 15, 2021), <https://publicknowledge.org/we-already-knew-broadband-should-be-a-public-utility-the-pandemic-made-it-obvious/>

[https://perma.cc/YH57-PGLL] (noting that the passage of the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which treats internet access as a utility, stating that “the term ‘covered utility payment’ means payment for a service for the distribution of electricity, gas, water, transportation, telephone, or internet access for which service began before February 15, 2020.”).

<sup>80</sup> Cristin S. Adams, Marty S. Player, Carole R. Berini, Suzanne Perkins, Jerome Fay, Layne Walker, Echo Buffalo, Chelsea Roach & Vanessa A. Diaz, *A Telehealth Initiative to Overcome Health Care Barriers for People Experiencing Homelessness*, 27 *TELEMEDICINE AND E-HEALTH* 851, 854 (Aug. 2021).

<sup>81</sup> *Id.*

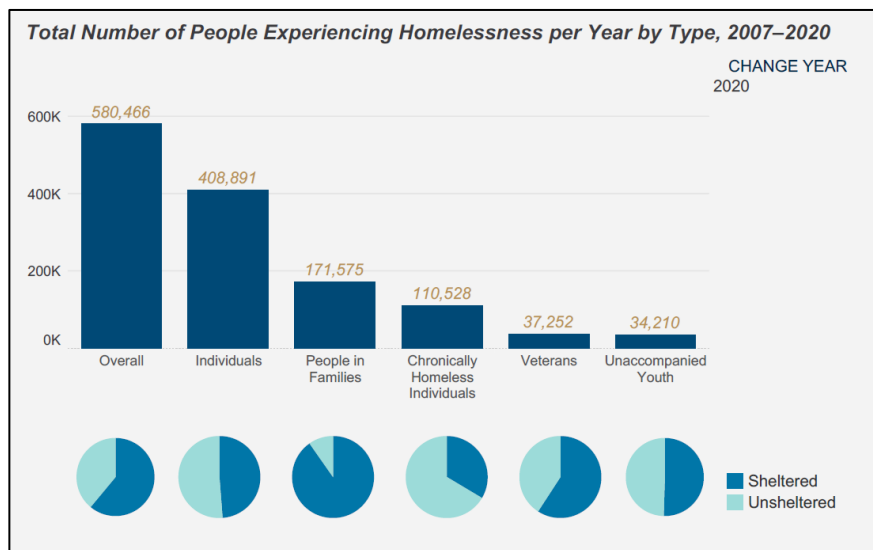


Figure 6: Total Number of People Experiencing Homelessness per Year by Type, 2007-2020<sup>82</sup>

The homeless population, to the surprise of some, has a high rate of use of mobile phone and internet technologies. One study found that PEHs who were clients at a community center “...reported high rates of technology access, including mobile phone, computer, and internet. This initial survey showed a population with both a need and a desire for primary medical care, a lack of current access to such care, and a connectedness to technology that could potentially be leveraged to address this issue.”<sup>83</sup> The authors’ final conclusion was an optimistic one: “[t]he survey results demonstrate that telehealth is a health care delivery method for PEH that is feasible, is accepted by patients and providers, and increases access to health care. Using telehealth to increase access to care has the potential to reduce disparity in health outcomes for this vulnerable population and modify high cost health care utilization patterns.”<sup>84</sup>

Technology access by itself is therefore not the major problem for PEHs. PEHs value their mobile phones as their primary source of contact with the news, government activities, and friends. They are a lifeline.<sup>85</sup> PEHs can receive health

<sup>82</sup> *State of Homelessness: 2021 Edition*, NAT’L ALL. TO END HOMELESSNESS, <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-2021/> [<https://perma.cc/4NUT-A2HA>].

<sup>83</sup> Adams, *supra* note 80, at 854. See also Sarah B. Hunter, Rajeev Ramchand & Benjamin Henwood, *Access to Mobile Technology Could Help to Alleviate LA’s Homelessness Crisis*, RAND BLOG (Sept. 16, 2020), <https://www.rand.org/blog/2020/09/access-to-mobile-technology-could-help-to-alleviate.html>. [<https://perma.cc/G2U8-2MGN>].

<sup>84</sup> Adams, *supra* note 80, at 857.

<sup>85</sup> Personal communication with Nicholas Furrow, the director of *The Way Home*, a group in Eugene, Oregon that works with the large homeless community in Eugene on food, housing, and health issues, Dec. 24, 2021. See also Kayla Robbins, *Why Do Some Homeless People Have Cell*



care consultations, behavioral programs, and other benefits through audio-only uses of their phones.<sup>86</sup> Even text messaging is valuable for conveying medical information.<sup>87</sup> This use of audio-cell phones may allow the detection of patient conditions before an emergency room visit is needed.<sup>88</sup> However, there are downsides to overreliance on mobile phone use by PEHs to access telehealth services: they have trouble finding charging points if the public library in their town is closed (or not nearby); many PEHs lack annual phone contracts for their mobile phones (meaning frequent phone number changes and limiting the ease of contact on a regular basis); and there is the ever present risk of theft.<sup>89</sup> Some states do provide free wireless service for the poor meeting eligibility requirements.<sup>90</sup>

Telehealth services have been expanded by the Centers for Medicare and Medicaid Services (CMS).<sup>91</sup> Telehealth services that are permanently eligible for reimbursement under the Medicare program now include audio-only services for established patients with mental illness or substance use disorders (SUDs) who are unable or unwilling to use video technology.<sup>92</sup>

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*Phones?*, INVISIBLE PEOPLE (Sept. 9, 2019), <https://invisiblepeople.tv/why-do-some-homeless-people-have-cell-phones> [<https://perma.cc/8N3T-VB58>].

<sup>86</sup> Rob Houston & Matthew Ralls, *The Doctor Will Hear You Now: Audio-Only Telehealth and the Promise of Access, Equity, and Engagement in Medicaid*, CTR. FOR HEALTH CARE STRATEGIES (Mar. 31, 2022), <https://www.chcs.org/the-doctor-will-hear-you-now-audio-only-telehealth-and-the-promise-of-access-equity-and-engagement-in-medicaid/> [<https://perma.cc/4SJN-QEV2>].

<sup>87</sup> Adams, *supra* note 80, at 856.

<sup>88</sup> Harmony Rhoades, Suzanne L. Wenzel, Eric Rice, Hailey Winetrobe & Benjamin Henwood, *No Digital Divide? Technology Use Among Homeless Adults*, J. OF SOC. DISTRESS & HOMELESSNESS (Mar. 22, 2017), <http://dx.doi.org/10.1080/10530789.2017.1305140> [<https://perma.cc/TQ6A-DZ7F>] (The authors note that “Nearly every homeless adult in this study had a cell phone; as such, technology access is unlikely to be a major barrier to the dissemination of cell phone-based health interventions for this population...the high-prevalence of cell phones found in this study suggests that technology-based programs may be promising methods for improving health and wellness among homeless adults.”).

<sup>89</sup> Maria C. Raven, Lauren M. Kaplan, Marina Rosenberg, Lina Tieu, David Guzman & Margot Kushel, *Mobile Phone, Computer, and Internet Use Among Older Homeless Adults: Results From the HOPE HOME Cohort Study*, 6 JMIR MHEALTH UHEALTH. E10049 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6305882/?report=printable> [<https://perma.cc/YEC8-YYF>] (noting that participants in a large study had phones and “...used them for social support and communication with health care providers; however, few had annual phone contracts. Without annual contracts, it is likely that participants’ phone numbers changed frequently, limiting the utility for two-way communication.”).

<sup>90</sup> See *Pennsylvania Free Government Phone from FeelSafe Wireless*, FEELSAFE WIRELESS, <https://www.feelsafewireless.com/pennsylvania-free-government-phone> [<https://perma.cc/CV3U-PSUM>].

<sup>91</sup> In December 2020, Congress approved the Consolidated Appropriations Act (CAA) of 2021, a \$1.4 trillion dollar package that—among many other provisions—permanently expanded mental health services provided via telehealth by easing geographic and site-of-service restrictions under the Medicare program. Mark Moran, *Audio-Only Telehealth Now Approved Permanently for Mental Health/Substance Use Services*, PSYCH. NEWS (Dec. 27, 2021), <https://psychnews.psychiatryonline.org/doi/10.1176/appi.pn.2022.1.23> [<https://perma.cc/2WA4-RHNA>].

<sup>92</sup> See *id.* (“The final rule on telehealth services for mental illness/SUDs is part of the 2022 Medicare Physician Fee Schedule, which covers updates to physician payment and other regulations

#### D. Special Case #4: Maternal Mortality

U.S. maternal mortality has been moving upward by contrast to the rest of the world, as figure 7 below shows.<sup>93</sup> In an international comparison with the world from 1990 to 2013, looking at the maternal mortality ratio—the number of maternal deaths per 100,000 live births in the countries in the world as a whole—Figure 7 illustrates that maternal deaths per 100,000 had dropped by 45%, while the United States had a 136 % increase from 1990 to 2013.<sup>94</sup> Can telehealth begin to compensate for the shortcomings in U.S. delivery of maternal health services to begin to reverse this high rate?

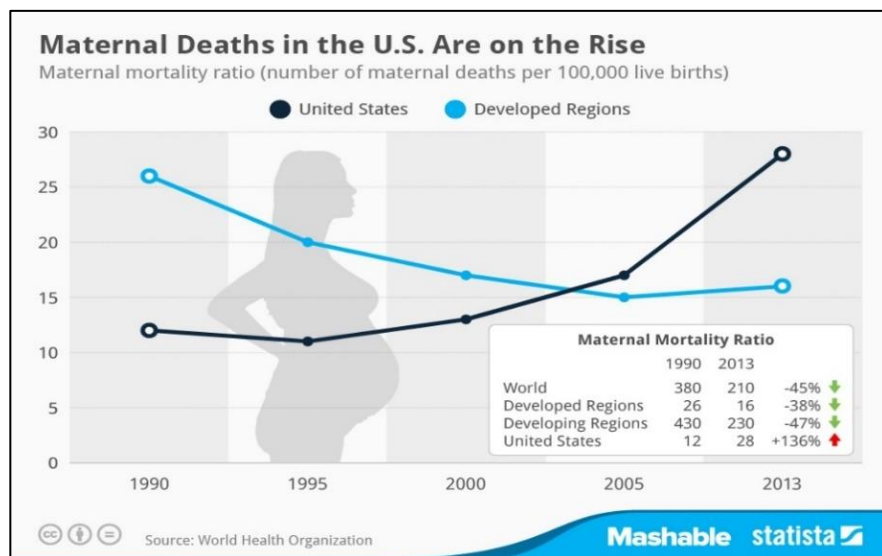


Figure 7: Maternal Mortality Ratio (Number of Maternal Deaths per 100,000 live births)<sup>95</sup>

regarding Medicare's Merit-Based Incentive Payment System (MIPS) each year. It was published in the Federal Register on November 19, 2021, and went into effect on January 1.")

<sup>93</sup> Felix Richter, *Maternal Deaths in the U.S. Are on the Rise*, STATISTA (May 12, 2014), <https://www.statista.com/chart/2231/maternal-mortality-rate/> [<https://perma.cc/M677-62TL>].

See generally Roosa Tikkanen, Munira Z. Gunja, Molly FitzGerald & Laurie Zephyrin, *Maternal Mortality and Maternity Care in the United States Compared to 10 Other Developed Countries*, COMMONWEALTH FUND (Nov. 18, 2020), <https://www.commonwealthfund.org/publications/issue-briefs/2020/nov/maternal-mortality-maternity-care-us-compared-10-countries> [<https://perma.cc/T7TN-PLRV>].

<sup>94</sup> Richter, *supra* note 93.

<sup>95</sup> *Id.*

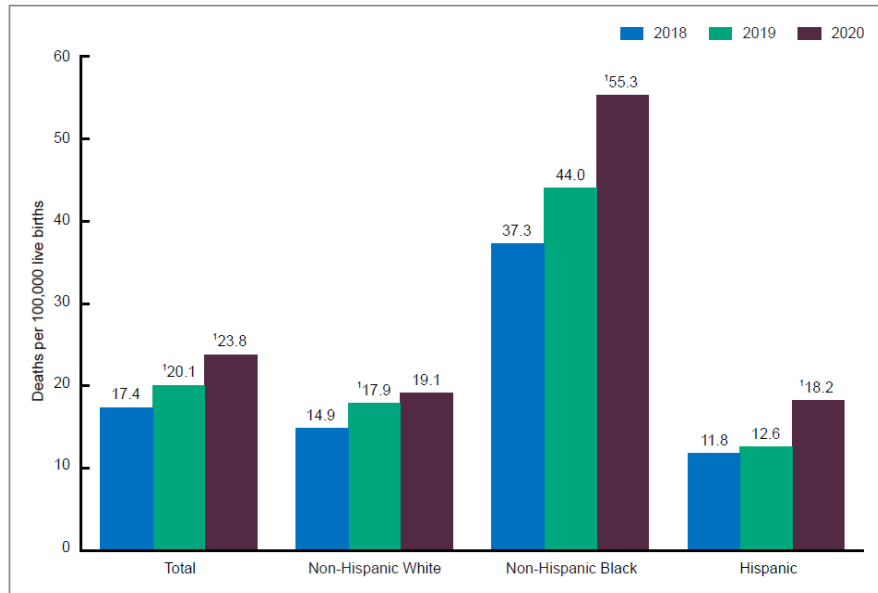


Figure 8: Maternal Mortality Rates by Race and Hispanic Origin: United States, 2018-2020<sup>96</sup>

The U.S. has a relative undersupply of maternity care providers, especially midwives, and lacks comprehensive postpartum supports. These maternal mortality statistical differences reflect the overall shortage of maternity care providers (both ob-gyns and midwives) relative to births. In most other countries midwives outnumber ob-gyns significantly, and primary care plays a central role in the health system.<sup>97</sup> Most U.S. maternal deaths occur post birth, yet the U.S. is the only country not to guarantee access to provider home visits or paid parental leave in the postpartum period.<sup>98</sup>

One obvious solution is to increase the numbers of maternity care providers—this takes time and money to achieve. Another strategy is to use telehealth services during and after pregnancy.<sup>99</sup> The graphic below

<sup>96</sup> Donna L. Hoyert, *Maternal Mortality Rates in the United States, 2019*, NAT'L CTR. FOR HEALTH STAT. (Apr. 2021), <https://www.cdc.gov/nchs/data/hestat/maternal-mortality-2021/E-Stat-Maternal-Mortality-Rates-H.pdf> [<https://perma.cc/AC5U-4C3Q>].

<sup>97</sup> Roosa Tikkanen, Munira Z. Gunja, Molly FitzGerald & Laurie Zephyrin, *Maternal Mortality and Maternity Care in the United States Compared to 10 Other Developed Countries*, COMMONWEALTH FUND (Nov. 18, 2020), <https://www.commonwealthfund.org/publications/issue-briefs/2020/nov/maternal-mortality-maternity-care-us-compared-10-countries> [<https://perma.cc/Z7UH-4CSB>].

<sup>98</sup> *Id.*

<sup>99</sup> Gabriela Weigel, Brittni Frederiksen & Usha Ranji, *Telemedicine and Pregnancy Care*, WOMEN'S HEALTH POL'Y (Feb. 26, 2020), <https://www.kff.org/womens-health-policy/issue->

demonstrates how telemedicine can be used for maternity care during and after pregnancy: prenatal care visits, at home monitoring, specialist consultation, and so on.<sup>100</sup>

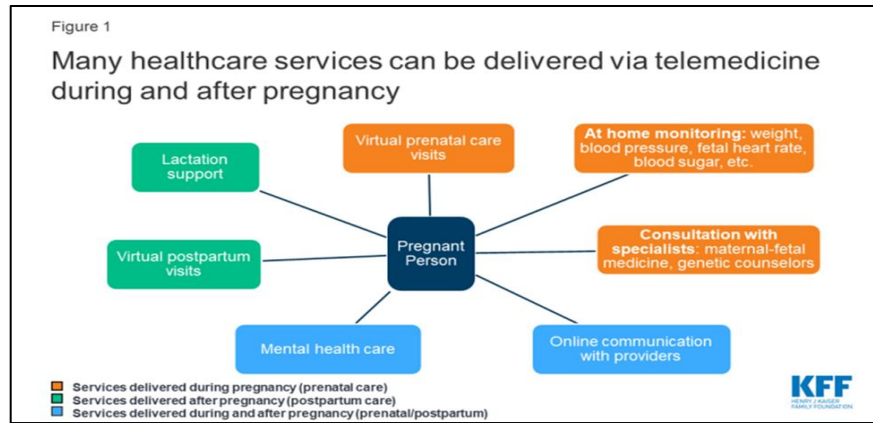


Figure 9: Many Healthcare Services Can be Delivered via Telemedicine During and After Pregnancy<sup>101</sup>

Some health systems have developed platforms for obstetric care.<sup>102</sup> One example is Sanford Health, a health care system serving 1.2 million people in rural areas spanning the Dakotas, Minnesota, and Iowa. Sanford innovated its use of telehealth to expand its health offerings. It built a virtual care center. It developed a telestroke program with 24-7 remote access to a board-certified Sanford Health neurologist to diagnose and treat symptoms quickly for a suspected stroke patient. It also partnered with TytoCare to remotely perform live guided physical examinations with a Sanford Health physician. Finally, it has pioneered an OB video option for obstetric care that allows patients to see their obstetrician for a routine 15 to 30-minute prenatal visit without traveling hundreds of miles, reducing the need for as many as one third of in-person prenatal visits.<sup>103</sup> As part of its obstetric care, Sanford Health now also provides home monitoring kits that include such tools as a fetal doppler and blood-pressure cuff. An initial nurse visit is required to train the patient in the use of the equipment. Such OB video visits are part of an evidence-based program based on telehealth guidance from the Society for Maternal-Fetal Medicine and

brief/telemedicine-and-pregnancy-care/ [https://perma.cc/N5L4-QCET]. See also Maternal Health Learning & Innovation Center, https://maternalhealthlearning.org/telehealth/ (last visited Apr. 1, 2022) [https://perma.cc/CSF7-5MCK].

<sup>100</sup> Weigel, *supra* note 99.

<sup>101</sup> *Id.* at fig.1.

<sup>102</sup> Jeremy M. Cauwels, *The Virtual Future of Health Care Delivery in Rural America*, NEJM CATALYST (Feb. 2, 2022), https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0422 [https://perma.cc/79LT-XC4Y].

<sup>103</sup> *Id.*

the American College of Obstetricians and Gynecologists. Sanford's novel programs demonstrate how a well-designed telehealth program can improve rural health offerings for women.

### *E. Special Case #5: Telabortion*

Obstetric services must include abortion as part of a full range of reproductive services.<sup>104</sup> The position of the American College of Obstetricians and Gynecologists is that abortion is an essential component of women's health care.<sup>105</sup> Abortion is, however, politically vulnerable—it is so contested in the U.S. that many states lack providers.<sup>106</sup> Even in states where there are no prohibitions on abortion, providers are often worried about abortion services and are reluctant to offer them even if they do not have religious or ideological objections to abortion.<sup>107</sup>

Telabortion has now become a real option for women, circumventing the limitations and restrictions they often face in their states.<sup>108</sup> Chong et al. studied abortion services in 13 states and the District of Columbia.<sup>109</sup> Pre-abortion tests were obtained by women locally, before a videoconference with a clinician. The packages containing mifepristone and misoprostone were sent by mail, with remote follow-up consultations within a month by telephone (or online survey if the participant could not be reached).<sup>110</sup> The authors concluded that “[t]his direct-to-patient telemedicine service was safe, effective, and acceptable, and supports the claim that there is no medical reason for mifepristone to be dispensed in clinics as required by the Food and Drug Administration.”<sup>111</sup> The authors found that in some cases, the participants did not even visit a facility to get the abortion service.<sup>112</sup>

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<sup>104</sup> See *Facts Are Important: Abortion is Healthcare*, ACOG (last visited Apr. 1, 2022), <https://www.acog.org/advocacy/facts-are-important/abortion-is-healthcare> [https://perma.cc/9REW-SGL4].

<sup>105</sup> *Id.*

<sup>106</sup> Jessica Arons, *THE LAST CLINICS STANDING: These Six States Show How the Supreme Court Could End Abortion Access Without Overruling Roe v. Wade*, ACLU (last visited Apr. 1, 2022), <https://www.aclu.org/issues/reproductive-freedom/abortion/last-clinics-standing> [https://perma.cc/2K5Q-RXJ5].

<sup>107</sup> *Id.*

<sup>108</sup> Belluck, *supra* note 19.

<sup>109</sup> Erica Chong, Tara Shochet, Elizabeth Raymond, Ingrida Platais, Holly A. Anger, Shandhini Raidoo, Reni Soon, Melissa S. Grant, Susan Haskell, Kristina Tocce, Maureen K. Baldwin, Christy M. Boraas, Paula H. Bednarek, Joey Banks, Leah Coplon, Francine Thompson, Esther Priegue & Beverly Winikoff, *Expansion of a Direct-to-Patient Telemedicine Abortion Service in the United States and Experience During the COVID-19 Pandemic*, 104 *CONTRACEPTION J.* 43 (Mar. 26, 2021), [https://www.contraceptionjournal.org/article/S0010-7824\(21\)00091-3/fulltext](https://www.contraceptionjournal.org/article/S0010-7824(21)00091-3/fulltext) [https://perma.cc/65EB-9SKM?type=image].

<sup>110</sup> *Id.* at 44.

<sup>111</sup> *Id.* at 43.

<sup>112</sup> *Id.* at 46.

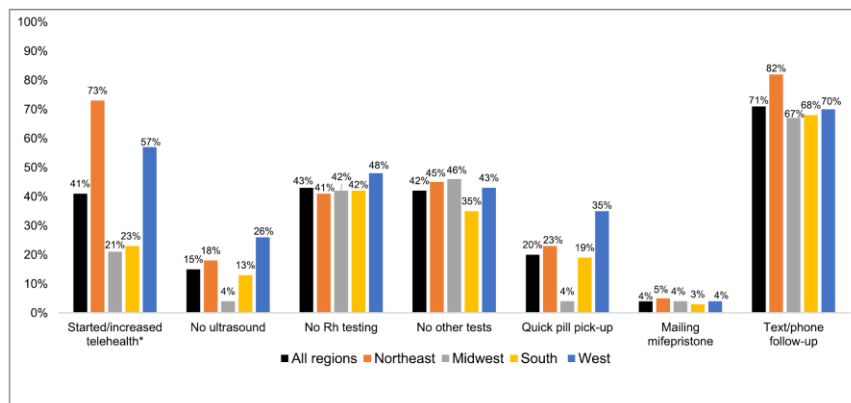


Figure 10: Percentage of Clinics Enacting Each Clinical Practice Change by Geographic Region<sup>113</sup>

Figure 10 shows the adoption of no-test and telehealth medication abortion by region.<sup>114</sup> Since medication abortion does not require physical contact between patient and clinician, it allows for remote prescribing and administration. The American College of Obstetricians and Gynecologists (ACOG) and the National Abortion Federation (NAF) endorse telehealth and no-test approaches for abortion care.<sup>115</sup> Telaboration meets the standard of care for abortions, replacing the in-person ultrasound or exam with other methods to determine the patient's duration of pregnancy and to screen for ectopic pregnancy.<sup>116</sup> Evaluation is by video or phone. The authors conclude: "[e]nabling patients to obtain abortion care in the way that they desire, and as early as possible, could improve both patient satisfaction and abortion outcomes."<sup>117</sup>

Telaboration is a perfect example of a telehealth service that improves the reproductive choices of women with very little evidence of any serious side-effects. It allows women access to a necessary reproductive service whether they live in rural areas, underserved urban areas, or restrictive state political environments. It obviates the limitations of access to abortion services in areas where only Catholic health systems operate with their restrictions on reproductive services. Teleabortion also makes access to necessary abortions possible in states with severe restrictions on access to abortions.

<sup>113</sup> Ushma D. Upadhyay, Rosalyn Schroeder & Sarah C.M. Roberts, *Adoption of No-Test and Telehealth Medication Abortion Care Among Independent Abortion Providers in Response to COVID-19*, 2 *CONTRACEPTION*: X (2020), <https://www.sciencedirect.com/science/article/pii/S2590151620300320> [<https://perma.cc/QCE5-43GQ?type=image>].

<sup>114</sup> *Id.* at 2.

<sup>115</sup> *Id.* at 1.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 4.

**F. Special Case #6: Infant Mortality**

The U.S. infant mortality rate has improved slightly over the past decades, but the rate has not matched improvements in other OECD countries.<sup>118</sup> Figure 11 below reveals the poor showing of the U.S. as to infant mortality. The average rate of infant mortality among OECD countries is 3.8 deaths per 1,000 live births, which the U.S. rate is 5.7 deaths per 1,000 live births, placing the United States 33rd out of 36 OECD countries. Estonia was number 1 with a low rate of 1.6 deaths per 1,000 live births; Columbia was last with a rate of 16.8 deaths per 1,000.

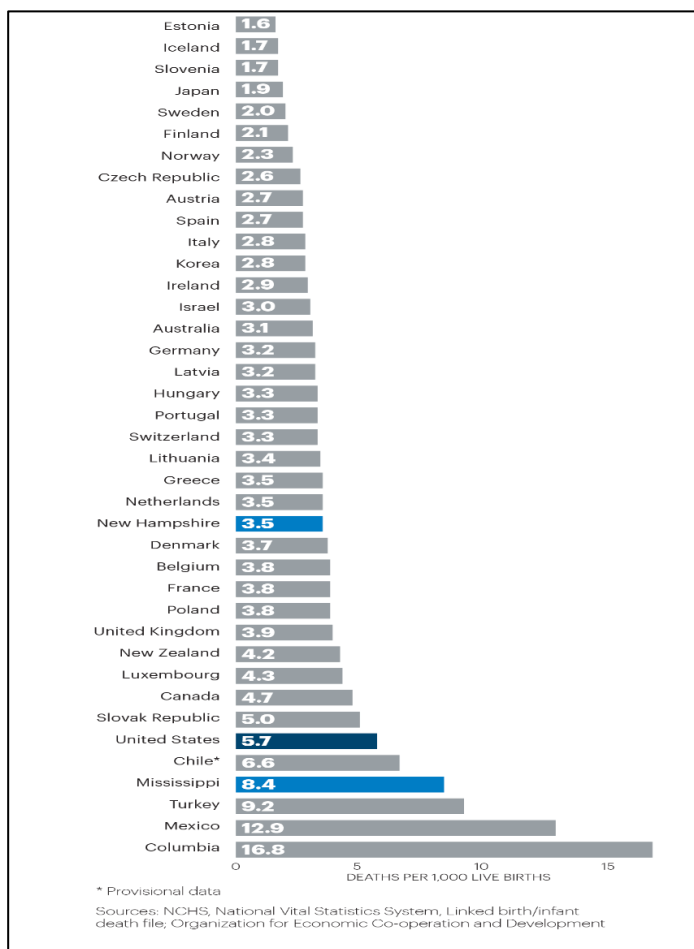


Figure 11: Infant Mortality Rates in OECD Member Countries and Top and Bottom U.S. States, 2018<sup>119</sup>

<sup>118</sup> UNITED HEALTH FOUNDATION, *International Comparison 2020 Annual Report*, <https://www.americashealthrankings.org/learn/reports/2020-annual-report/international-comparison> [https://perma.cc/9RQG-L3HE].

<sup>119</sup> *Id.*

Our poor infant mortality performance in an affluent country is marked by much higher mortality rates for Black, Native Hawaiian or other Pacific Islander, and American Indian or Alaska Native.<sup>120</sup> This is a familiar picture of underserved populations suffering from a lack of proper maternal and infant prenatal care.

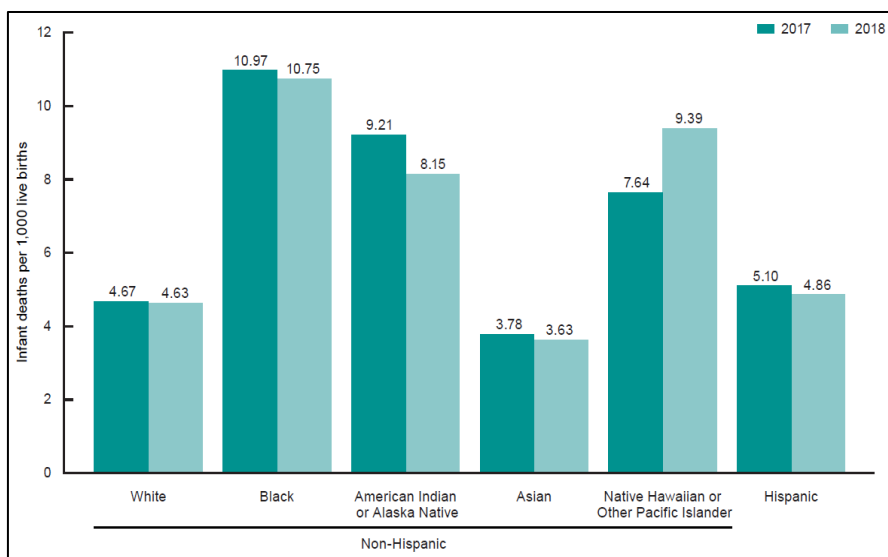


Figure 12: Infant Mortality Rates by Race and Hispanic Origin: United States, 2017-2018<sup>121</sup>

Telehealth can play a significant role in reducing infant mortality, for example through the use of perinatal regionalization, an evidence-based strategy to reduce infant mortality (IM). The ANGELS (Antenatal and Neonatal Guidelines, Education and Learning System) program has demonstrated how telemedicine can improve health care in a rural state like Arkansas.<sup>122</sup> Telemedicine in Arkansas has allowed obstetricians to provide subspecialty care to rural areas for families with limited resources and has improved access to high-risk obstetrics for these families.<sup>123</sup> In rural states such as Arkansas with remote areas, a high-risk center, through the use of telemedicine, can provide

<sup>120</sup> Rabah Kamal, Julie Hudman & Daniel McDermott, *What Do We Know About Infant Mortality in the U.S. and Comparable Countries?* HEALTH SYSTEM TRACKER (Oct. 18, 2019), <https://www.healthsystemtracker.org/chart-collection/infant-mortality-u-s-compare-countries> [https://perma.cc/MRA9-LR9W].

<sup>121</sup> Danielle M. Ely & Anne K. Driscoll, *Infant Mortality in the United States, 2018: Data from the Period Linked Birth/Infant Death File*, 69 NAT'L VITAL STAT. REP. 7 (2020).

<sup>122</sup> Clare Nesmith, Francesca Miquel-Verges, Tera Venable, Laura E. Carr & Richard W. Hall, *Reducing Infant Mortality Using Telemedicine and Implementation Science*, 47 OBSTET GYNECOL CLIN N AM 341-352 (2020).

<sup>123</sup> *Id.* at 345 et seq.



patients with the expertise of maternal fetal medicine specialists and geneticists. Complicated pregnancies can be handled using subspecialty expertise coupled with teleultrasound tools, broadband connections, and high-definition video, all HIPAA-compliant.<sup>124</sup>

### **G. Special Cases #7: Mental Illness**

Mental and behavioral health telemedicine has continued to thrive in the post-pandemic environment. During the pandemic, it was clear that the field of psychiatry and mental health generally had the potential to be both cost effective and structurally efficient due to the diminished fixed costs necessary for everyday operation.<sup>125</sup> Telemental health (TMH)<sup>126</sup> promises much improved access to mental health treatment for populations that could not get such care—travel distance, costs, and time limitations were barriers. TMH can reach rural communities using a hub and remote sites, can increase access for college students in rural areas including on campus, and can increase access for inmates of corrections facilities.<sup>127</sup>

Telehealth use grew rapidly among rural Medicare patients even before the pandemic.<sup>128</sup> Native American Tribes have moved to TMH. For example, the Lummi Tribal Health Center in Bellingham, Washington now offers its behavioral health program 100% as TMH, with the majority of their visits done by video conference using Zoom as a platform.<sup>129</sup> Half of these visits are done with unreliable connections and with the use of iPads by patients sitting in their cars in clinic parking lots—a workaround for such poor connections.<sup>130</sup> Telemental Health (TMH) is proving to be effective for both diagnosis and assessment in many settings.<sup>131</sup> One study concluded that “...telemental health

<sup>124</sup> *Id.* at 345.

<sup>125</sup> *See supra* note 1.

<sup>126</sup> Amit Abraham, Anupama Jithesh, Sathyanarayanan Doraiswamy, Nasser Al-Khawaga, Ravinder Mantani & Sohaila Cheema, *Telemental Health Use in the COVID-19 Pandemic: A Scoping Review and Evidence Gap Mapping*, FRONT. PSYCHIATRY (Nov. 8, 2021), <https://www.frontiersin.org/articles/10.3389/fpsy.2021.748069/full> [<https://perma.cc/4BDL-98LJ>].

<sup>127</sup> *Id.*

<sup>128</sup> A study of telemental health use among rural Medicare beneficiaries from 2004-2017 found that it was “... growing rapidly and is serving a particularly disadvantaged population of disabled rural beneficiaries. Despite that rapid growth, a relatively small minority of rural Medicare patients with a diagnosis of mental illness receive a telemental health visit, and the rates of use are uneven across the country.” Ateev Mehrotra, Haiden A. Huskamp, Jeffrey Souza, Lori Uscher-Pines, Sherri Rose, Bruce E. Landon, Anupam B. Jena & Alisa B. Busch, *Rapid Growth in Mental Health Telemedicine Use Among Rural Medicare Beneficiaries, Wide Variation Across States*, 36 HEALTH AFFS. 909, 916 (May 2017).

<sup>129</sup> *Maturing Virtual Care in Tribal Communities*, EHEALTH INITIATIVE ROUNDTABLE SUMMARY & SPOTLIGHT 4, <https://www.ehdc.org/sites/default/files/MATURING%20VIRTUAL%20CARE%20IN%20TRIBAL%20COMMUNITIES3%27.pdf> [<https://perma.cc/49GB-JFTT>].

<sup>130</sup> *Id.* at 4.

<sup>131</sup> Mostafa Langarizadeh, Mohsen S. Tabatabaei, Kamran Tavakol, Majid Naghipour, Alireza Rostami & Fatemeh Moghbeli, *Telemental Health Care, an Effective Alternative to Conventional Mental Care: A Systematic Review*, 25 ACTA INFORM MED. 240-246 (2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5723163/pdf/AIM-25-240.pdf>.

care is cost effective and can lead to efficient and adaptable solutions to the care of patients with mental illnesses, with promising outcomes.”<sup>132</sup> Patients are generally satisfied between TMH and in-person care. For rural patients, those who are home bound or have other physical limitations, telemental health allows effective access to providers without transportation struggles. Telemental health, like telehealth generally, also allows for a provider with a similar cultural or ethnical background to treat the patient virtually, promoting better communication generally.<sup>133</sup> A recent study concluded that “...telehealth for mental health and some physical health conditions between healthcare practitioners and patients from racial/ethnic minorities offer promise across a range of outcomes and healthcare settings and can result in high levels of patient satisfaction.”<sup>134</sup>

Many providers are likely to continue to expand their telehealth offerings and even convert to telemental health services.<sup>135</sup> By improving access to marginalized communities with limited mental health resources, mitigating individual stigma, and creating reserve health system capacity, telemental health can reduce health disparities and improve the mental health of underserved communities.<sup>136</sup>

#### IV. CONCLUSION

Telehealth faces several barriers to expansion.<sup>137</sup> Some barriers include: (1) bandwidth capacity in most rural parts of the country, making uninterrupted access difficult or impossible; (2) limits on insurance coverage of the costs of telehealth; (3) difficulties in protecting medical data from hackers and other

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<sup>132</sup> *Id.* at 244.

<sup>133</sup> Mandy Truong, Ladan Yeganeh, Olivia Cook, Kimberley Crawford, Pauline Wong & Jacqueline Allen, *Using Telehealth Consultations for Healthcare Provision to Patients From Non-Indigenous Racial/Ethnic Minorities: A Systematic Review*, 29 J. AM. MED. INFORMATICS ASS'N 970-982 (2022).

<sup>134</sup> Marra Ackerman, Elizabeth Greenwald, Paraskevi Noulas & Christina Ahn, *Patient Satisfaction With and Use of Telemental Health Services in the Perinatal Period: A Survey Study*, 92 *Psychiatric Q.* 925 (2021).

<sup>135</sup> Eric Wicklund, *Mental Healthcare Organization to Close Clinics, Shift to Telehealth*, TELEHEALTH NEWS (Oct. 8, 2021), <https://mhealthintelligence.com/news/mental-healthcare-organization-to-close-clinics-shift-to-telehealth> [<https://perma.cc/38V4-N7LR>] (Southwestern Mental Health of Minnesota shuts down most physical locations and shifts to telehealth).

<sup>136</sup> Liability is not the focus of this article, but a telepsychiatry case, *White v. Harris*, 36 A.3d 203, 205 (Vt. 2011) is one of the first malpractice cases that considered a telemental health consultation and the questions of whether such a remote consultation could create a doctor-patient relationship for purposes of liability. A psychiatrist was brought in by videoconference and engaged in a ninety-minute consultation with a young patient. He then submitted his recommendations for a treatment plan to the patient's treatment team. The patient later committed suicide. The plaintiffs sued, arguing that the care provided by the psychiatrist fell below the required standard of care. The Vermont Supreme Court held that the doctor-patient relationship was established by the videoconference. See Tyler D. Wolf, *Telemedicine and Malpractice: Creating Uniformity at the National Level*, 61 WM. & MARY L. REV. 1505, 1507 (2020).

<sup>137</sup> Deborah R. Farringer, *A Telehealth Explosion: Using Lessons from the Pandemic to Shape the Future of Telehealth Regulation*, 9 TEX. A&M L. REV. 1, 3 (Nov. 18, 2021).

criminals, if the patient must use public networks or unencrypted channels;<sup>138</sup> (4) risks of delayed treatment if patients access telehealth first;<sup>139</sup> (5) the inability of providers to examine patients in person, creating the risk of diagnostic error if a symptom detectable during an in-person session is missed in a telemedicine session; and (6) impediments due to the patient platform—can the patient see and hear their doctor during a session? If a cellphone is the only “computer” source for making contact, will this work well or prove to be a distraction from an effective session? Can audio-only work?

The earlier discussion touched on some of these, but I will leave these concerns largely to others.<sup>140</sup> Most of these hurdles are overstated or are fixable, and others are receiving funding to improve the telehealth infrastructure. One example of an approach to easing medical practice barriers for physicians caused by fifty state medical licensing mandates is the Interstate Medical Licensure Compact.<sup>141</sup> This agreement (now including 34 states) allows participating U.S. states to work together to streamline the licensing process for physicians who want to practice in multiple states.<sup>142</sup> The Compact makes it easier for physicians to obtain licenses to practice in multiple states and also strengthens public protection by enhancing the ability of states to share investigative and disciplinary information. Telemental health, in particular, has expanded as a result of this Compact.

Other important reforms include federal funding legislation that improves access to broadband service for underserved populations: these include (1) enabling patients to effectively access telehealth services from their homes; and (2) investing in telecommunications infrastructure for less-resourced sites of care and ensuring internet access to patients in rural areas. The Infrastructure Investment and Jobs Act (IIJA), also known as the “Bipartisan Infrastructure Law,”<sup>143</sup> the \$900 billion coronavirus relief package passed by Congress at the end of 2020, includes a \$3.2 billion Emergency Broadband Connectivity Fund to be administered by the Federal Communications Commission. The bill includes \$65 billion for broadband infrastructure improvements and expansion; it also requires service providers to offer a low-cost plan. The FCC fund provides \$50-per-month internet subsidies for low-income households or those that have lost

<sup>138</sup> Marion Renault, *At Small and Rural Hospitals, Ransomware Attacks Are Causing Unprecedented Crises*, STAT (Apr. 11, 2022), <https://www.statnews.com/2022/04/11/ransomware-hospitals-rural-cyberattack/> [<https://perma.cc/U89C-LLL7>].

<sup>139</sup> I note that urgent care centers pose the same risks of delay in some cases, since these centers will often send patients on to emergency rooms when the problem is beyond the scope of practice of such centers.

<sup>140</sup> See generally Farringer, *supra* note 137.

<sup>141</sup> INTERSTATE MED. LICENSURE COMPACT, <https://www.imlcc.org/> [<https://perma.cc/L6QB-KA63>].

<sup>142</sup> Haley Grieco-Page, Candace J. Black, Jenna M. Berent, Bhuwan Gautam & Theresa S. Betancourt, *Beyond the Pandemic: Leveraging Rapid Expansions in U.S. Telemental Health and Digital Platforms to Address Disparities and Resolve the Digital Divide*, FRONT. IN PSYCHIATRY (Aug. 6, 2021), <https://www.frontiersin.org/articles/10.3389/fpsy.2021.671502/full> [<https://perma.cc/6CW8-PHQY>].

<sup>143</sup> Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58.

employment as a result of the pandemic, \$75-per-month internet subsidies for service on tribal lands, and discounts for connected devices.

These federal benefits will certainly help low income people afford high-speed internet connections—they have now been made a permanent benefit called the Affordable Connectivity Program.<sup>144</sup>

The idea of effective telehealth systems is built into the ideal of broadband internet access as a “superdeterminant of health.” The FCC has led the way, and cities and counties are following suit in an effort to reduce health disparities by using the “superdeterminant of health” idea to advocate for change.<sup>145</sup> The convergence of market promises of profitability for telehealth platforms and tools with political pressures from interest groups and government may lead to a different universe of health care practice of underserved populations, as well as those with easy access to providers in live settings. The evidence to answer many of these questions is not yet solid.<sup>146</sup> Only time will tell whether telehealth adoption takes hold for underserved populations.

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<sup>144</sup> *Affordable Connectivity Program*, FED. COMM'N COMM'N (last visited June 18, 2022), <https://www.fcc.gov/acp> [<https://perma.cc/4P5S-KNR7>].

<sup>145</sup> *Broadband: A Super Determinant of Health*, COUNTY HEALTH RANKINGS (Dec. 14, 2021), [https://www.countyhealthrankings.org/sites/default/files/media/document/Broadband\\_A%20Super%20Determinant%20of%20Health%20Presentation%20Slides.pdf](https://www.countyhealthrankings.org/sites/default/files/media/document/Broadband_A%20Super%20Determinant%20of%20Health%20Presentation%20Slides.pdf) [<https://perma.cc/J7GG-F5GE>].

<sup>146</sup> *California Health Benefits Review Program (CHBRP), Background Brief: Telehealth-Current State of the Evidence*, CHBRP (Feb. 11, 2021) (This brief to the 2021-2022 California State Legislature rates the quality of evidence underpinning many of the issues raised and suggests that more evidence is needed before public expenditures are justified).