PROC (BAYL UNIV MED CENT)
2022;35(2):259–260
https://doi.org/10.1080/08998280.2021.1984814

Taylor & Francis
Taylor & Francis Group

COVID-19 and the acceleration toward remote cancer care

Sophia N. Wix, MPhil[a], and Jorge J. Nieva, MD[b]

[a]Texas Christian University School of Medicine, Fort Worth, Texas; [b]Department of Medicine, Keck School of Medicine, USC/Norris Cancer Center, Los Angeles, California

ABSTRACT

The disruption caused by the COVID-19 pandemic has disproportionately affected cancer patients' access to care. As a result, many specialists in the United States, including oncologists, have adopted telemedicine—a transition largely made possible by reforms to insurer reimbursement schemes. Years after the COVID-19 crisis, there will continue to be a steady demand for remote outpatient visits, particularly in oncology. However, in a health system heavily influenced by reimbursements, strategies to optimize remote oncology care will not be embraced without appropriate incentives. Here we propose that restructuring financial incentives in three areas of cancer care—anticancer drug delivery, wearable health monitoring, and digital data-sharing tools—has the potential to improve patient outcomes, reduce overall costs, and expand clinical trial access for patients in underresourced areas. As with telemedicine, it is time for policymakers to recognize this need and adjust the incentives, both for routine care and for clinical trials, to make it possible.

KEYWORDS COVID-19; oncology; patient-reported outcomes; remote care; telemedicine

The COVID-19 pandemic has disrupted patient care across all disease settings, particularly oncology care. In developed nations like the United States, cancer patients have been disproportionately affected due to the need for infusion center access, the complexity of radiology and radiation oncology care, and interrupted opportunities to enroll in clinical trials.[1] These concerns, among others, have given oncologists pause, exposing the challenges of our reimbursement-centric health system, but also allowing us to adapt for positive change in the future. One critical example is the recent adoption of telemedicine. After the Centers for Medicare and Medicaid Services as well as other insurers issued waivers to relax restrictions on telemedicine and ensured reimbursement parity, the use of telemedicine increased nearly 350-fold among primary care Medicare providers in the United States between February and April 2020.[2] The transition to remote care has proven to be a convenient, preferred, and cost-effective option for many cancer patients,[3] and there is no reason we should stop at patient evaluation and management services. This article proposes the strategy of financial restructuring after COVID-19 to improve digital cancer care, at-home drug delivery, and clinical trials.

ANTICANCER DRUG DELIVERY

Because much of the profit of oncology care is tied to drug delivery, hospitals are incentivized to provide intravenous infusions at outpatient centers. Although in-person supervision of chemotherapy infusions may be important to a patient's health and safety due to associated toxicities, many anticancer monoclonal antibody agents are becoming readily available for administration via subcutaneous injections, which are safe and possible at home. Randomized studies of trastuzumab in HER2-positive breast cancer patients revealed a positive preference, time savings, and equal efficacy for subcutaneous injection compared to intravenous infusion.[4] More agents are currently under investigation for subcutaneous delivery, including pembrolizumab for patients with advanced melanoma[5] and atezolizumab for patients with

Corresponding author: Jorge J. Nieva, MD, USC/Norris Cancer Center, 1441 Eastlake Ave., NTT, Suite 3440, Los Angeles, CA 90033-9173 (e-mail: jorge.nieva@med.usc.edu)

Received July 12, 2021; Revised September 15, 2021; Accepted September 20, 2021.

stage IV non–small cell lung cancer.[6] Disruption of this incentive structure has the potential to increase remote access to oncology care, improve convenience for patients in distant locations, and lower long-term costs, with savings available to expand other remote services like home nursing. It is time that the mode of anticancer agent administration is no longer tied to hospital profits.

DIGITAL PATIENT MONITORING

Amid the rapid transition to telemedicine at the onset of COVID-19, oncologists did not have the opportunity or the incentives necessary to deploy devices that can monitor and assess their patients remotely. Using existing technologies, oncologists can now implement digital monitoring tools, including wearable devices, three-dimensional sensors, and electronic patient-reported outcome metrics, to augment the conventional physical examination. Not only is this transition cost-effective and convenient, but it also provides oncologists with hundreds of data points about a patient's disease status between visits, allowing for a more specific, data-driven approach to oncology care and clinical trial metrics. This transition will be effective not just for oncologists, but also for many specialists managing chronic conditions, including arthritis, diabetes, hypertension, and depression. Upon further development of remote patient management tools, such as wearable health monitors, additional randomized clinical studies will be needed to establish the efficacy and preference of their use. By altering incentives around digital health devices, physicians will have the opportunity to optimize telemedicine visits and enhance their clinical decisions with real-time data from remote monitoring devices.

DECENTRALIZING CLINICAL TRIALS

Traditional clinical trial regulations do not permit study-related procedures, imaging, or laboratory work to be conducted outside the main center where the study is based. As a result, patients at rural hospitals and those living among underresourced communities have been particularly disadvantaged and underrepresented in cancer trials for decades. The COVID-19 pandemic, however, accelerated the US Food and Drug Administration's reforms in clinical trial design, notably the relaxed restrictions on where routine laboratory tests and imaging may be performed.[7] This type of continued legislation has the potential to enhance accessibility and allow for greater diversity among clinical trial subjects. Further financial investment in a secure, standardized, universal data-sharing platform for trial patient data will be crucial to promote the decentralization of clinical trials. These changes have the potential to accelerate data-collection times, enhance communication between distant collaborators, lower costs, and allow underresourced patient populations access to specialized expertise that was previously unattainable.

CALL TO ACTION

The American health system has long awaited the transition to digital medicine and remote care for patients, and the movement toward home drug delivery, remote patient monitoring, and trial data sharing is within our immediate foresight. The transition to remote care has been a silver lining for cancer patients and oncologists. But physician and hospital compensation changes are required to successfully leverage this experience into a sustained and expanded benefit for our patients. It is time for policymakers and payers to recognize this need and adjust the incentives, both for routine care and clinical trials, to make it possible.

DECLARATION OF INTERESTS

Dr. Nieva has patents related to the objective measurement of human performance and ownership interests in Cansera, Quantgene, and Epic Sciences. He has research funding from Merck and receives personal fees from Astra Zeneca, Western Oncolytics, Amgen, and Genentech. Ms. Wix has nothing to disclose.

1. Unger JM, Blanke CD, LeBlanc M, Hershman DL. Association of the coronavirus disease 2019 (COVID-19) outbreak with enrollment in cancer clinical trials. *JAMA Netw Open*. 2020;3(6):e2010651. doi: 10.1001/jamanetworkopen.2020.10651.
2. US Department of Health and Human Services. Medicare beneficiary use of telehealth visits: early data from the start of COVID-19 pandemic. July 28, 2020. https://aspe.hhs.gov/system/files/pdf/263866/HP_IssueBrief_MedicareTelehealth_final7.29.20.pdf.
3. Smrke A, Younger E, Wilson R, et al. Telemedicine during the COVID-19 pandemic: impact on care for rare cancers. *JCO Glob Oncol*. 2020;6:1046–1051. doi:10.1200/GO.20.00220.
4. Dent S, Ammendolea C, Christofides A, et al. A multidisciplinary perspective on the subcutaneous administration of trastuzumab in HER2-positive breast cancer. *Curr Oncol*. 2019;26(1):e70–e80. doi: 10.3747/co.26.4220.
5. Relative bioavailability study of subcutaneous injection versus intravenous infusion of pembrolizumab (MK-3475) in participants with advanced melanoma (MK-3475-555/KEYNOTE-555). ClinicalTrials.gov identifier: NCT03665597. Updated February 27, 2020. https://clinicaltrials.gov/ct2/show/NCT03665597.
6. A study to investigate the pharmacokinetics, efficacy, and safety of atezolizumab subcutaneous in patients with stage IV non-small cell lung cancer (IMscin001). ClinicalTrials.gov identifier: NCT03735121. Updated August 25, 2020. https://clinicaltrials.gov/ct2/show/NCT03735121.
7. US Food and Drug Administration. FDA guidance on conduct of clinical trials of medical products during COVID-19 public health emergency: guidance for industry, investigators, and institutional review boards. September 21, 2020. https://www.fda.gov/media/136238/download.