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ALSO IN THIS ISSUE

SP450

AACR

American Association
for Cancer Research*

FINDING CURES TOGETHER™

DISPARITIES DISCUSSIONS. The 15th American Association for Cancer Research (AACR) Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved covered links between neighborhood adversity and breast cancer and new data science devoted to disparities research. Addressing disparities in cancer care was a theme of the AACR Progress Report, **SP450-SP453**.



LIBUTTI **LICITRA** **EXPERTS AT RUTGERS.** A conference at Rutgers' Ernest Mario School of Pharmacy featured a discussion on payment models with Steven K. Libutti, MD, FACS, director, Rutgers Cancer Institute of New Jersey, who spoke about the potential for bundled payments, and Edward Licitra, MD, PhD, chair and CEO of Astera Cancer Care, who reviewed advances under the Oncology Care Model, **SP424**.

FIVE YEARS OF CAR T-CELL THERAPY.

The FDA approved the first chimeric antigen receptor (CAR) T-cell therapy on August 30, 2017, and Bitu Fakhri, MD, of Stanford Medicine discusses how treatment for diffuse large B-cell lymphoma has never looked back, **SP429**.



FAKHRI



MOONSHOT UPDATE.

The National Comprehensive Cancer Network's fall policy summit featured an update on Cancer Moonshot 2.0 from the program's coordinator, Danielle Carnival, PhD, **SP449**.

NEW INDICATION.

FDA approves pemigatinib (Pemazyre, Incyte) for myeloid/lymphoid neoplasms with *FGFR1* rearrangement, **SP463**.



TECHNOLOGY

The Promise of Telehealth—A Cautionary Tale
Implications of Telehealth Use on the Future of Oncology Care

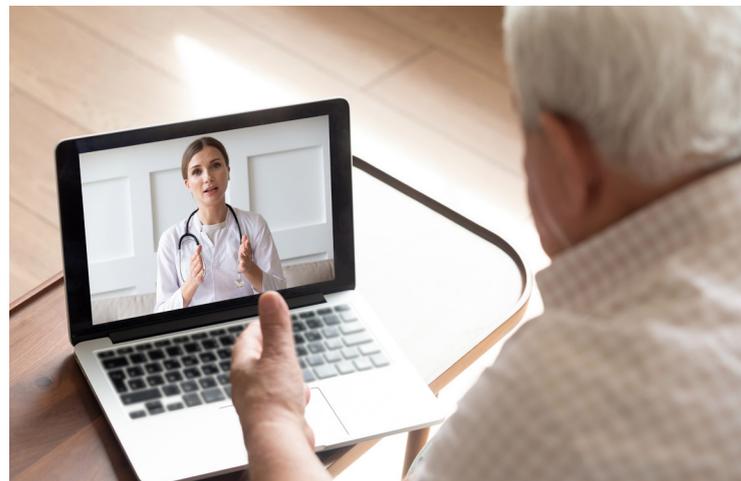
Neil Minkoff, MD; Joshua Greenblatt, BFA; and Yana Volman, MBA

EDITOR'S NOTE: This is the second installment of a 2-part series on the rise of telehealth during COVID-19 and its implications. Part I appeared on ajmc.com on September 15, 2022. See <https://bit.ly/3R3fMaV>

OPTIMIZING TELEHEALTH POST COVID-19 will be a balancing act. Despite its meteoric rise during the height of the pandemic, telehealth's application in complex, chronic, and/or life-threatening conditions may continue to present challenges.¹

Clear opportunities and advantages of telehealth for ambulatory patients or those in remote or rural areas are already evident. Providing diagnostic evaluations and follow-up consultations through virtual visits delivers value and efficiency. Easier and increased access to care may boost medication adherence, which can improve patient outcomes and potentially reduce the overall cost of care.

Many oncology practices embraced telehealth during COVID-19 as a cornerstone of safety for patients with cancer, many of whom are immunocompromised, only to discover added value. Beyond merely limiting unnecessary in-person patient visits to clinics, some practices report a more comprehensive and effective application of telehealth.



Many oncology practices embraced telehealth during the COVID-19 pandemic to protect immunocompromised patients, only to discover its added value.

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PAYMENT MODELS

Wither the RO Model: Focusing on Access to Spread the Value of Radiation Therapy

Anne Hubbard, MBA

THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY (ASTRO) has long advocated for an alternative payment model (APM) that recognizes the high-value care that radiation oncology provides to patients with cancer, and the society will continue to do so despite the indefinite delay of Medicare's Radiation Oncology (RO) Model announced in August.

Annual Medicare expenditures for radiation oncology services, both in the hospital outpatient setting and in the freestanding setting, equate to just over \$4 billion, which is significantly less than the more than the \$6 billion that CMS spends on just the top 3 cancer drugs.¹ Despite its high value in comparison to other oncology services, radiation oncology has experienced significant payment reductions in the Medicare Physician Fee Schedule resulting in a 27% cut between 2010 and 2019, when adjusted for utilization and inflation.²

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PRECISION MEDICINE

At Last, Artificial Intelligence Is Transforming Cancer Drug Discovery and Development

Dietmar Berger, MD, PhD

AFTER SPENDING MORE THAN 3 decades as a hematology/oncology researcher and physician, it is invigorating to be living in and working through a "golden age" in cancer research.

The past 50 years have seen extraordinary strides in oncology treatment, leading to significant advances in patients' outlook and quality of life. However, as scientists we cannot ignore that most patients with advanced disease still face unacceptably low 5-year survival rates.¹

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At Last, Artificial Intelligence Is Transforming Cancer Drug Discovery and Development

DIETMAR BERGER, MD, PHD



BERGER

Dietmar Berger, MD, PhD, chief medical officer, global head of development, Sanofi.

CONTINUED FROM COVER

Now, harnessing a growing body of next-generation technologies will accelerate the industry as we have never seen before, with the potential to design and develop novel medicines that could extend and save lives.

Among the most exciting of these technologies are approaches that combine artificial intelligence (AI) and machine learning to discover and develop better cancer-fighting molecules in a fraction of previous timelines.

I have spent much of my career working to advance medicines that can shrink and destroy tumors while maintaining an acceptable safety profile. Advances in the study of human biology have transformed our understanding of tumor growth, the immune response, molecular resistance mechanisms, and individual patient differences at the molecular level. This is opening new doors for oncology researchers to use AI and machine learning to understand the 3-dimensional structure of proteins and target them with greater precision.

Recognizing this promise, Sanofi has invested in research collaborations that are focused on leveraging these new technology platforms, ones that have the potential to transform capabilities in target identification, molecule discovery, and clinical development, for both cancer and immune-mediated diseases. The goal is to shorten timelines and design higher-quality, more precisely targeted medicines for the patients who will benefit most.^{2,3}

With time, using AI to discover and design better medicines could improve success rates for early-stage assets and accelerate long developmental timelines. In turn, these efficiencies hold the potential to upend today's pharmacoeconomic model as new treatments reach the market.⁴

The benefits of investment in AI and machine learning extend to the process of drug development in other important ways:

DATA-DRIVEN STRATEGY AND DECISIONS. We can use AI and machine learning to understand the current standards of care, mining information from genomic and transcriptomic databases to assist with tumor characterization to understand the best indications where we can apply our medicines. Innovative study designs, modeling and simulation, decentralized clinical trials, process automation, and clinical digital data flow are increasingly used to streamline and accelerate our clinical development. AI holds great promise to initiate more effective clinical studies with a higher probability of success in patient populations chosen with more scientific rigor based on what we know about their molecular makeup.⁴

IDENTIFICATION OF COMBINATIONS. AI and machine learning can enable us to overlay various data sets focused on mechanism of action and tumor subtype to identify correlations that confer rational combinations. This can help us identify which patients stand a better chance to benefit, helping to minimize the trial and error of conventional, empirical research.^{4,5}

DIGITAL TECHNOLOGIES AND BIOMARKERS. Innovations in digital technologies are making it possible for the pharmaceutical industry to generate millions of data points over the course of a clinical trial. AI and machine learning can also help make sense of

the data generated and tailor potential therapies that improve on novel end points, such as patient mobility, and digital biomarkers.⁶

Cancer is too great a challenge to tackle alone. I am proud to be involved in meaningful work in collaboration with innovative minds across our industry to accelerate discovery and clinical development on behalf of patients with the goal of designing higher quality medicines utilizing these exciting technologies. The future is upon us, and the possibilities are enormous. ♦

AUTHOR INFORMATION

Dietmar Berger, MD, PhD, is chief medical officer and global head of development at Sanofi.

REFERENCES

1. Cancer facts and figures: 2021. American Cancer Society. Accessed July 2022. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2021/cancer-facts-and-figures-2021.pdf>
2. Sanofi invests \$180 million equity in Owkin's artificial intelligence and federated learning to advance oncology pipeline. News release. Sanofi; November 18, 2021. Accessed August 14, 2022. <https://www.sanofi.com/en/media-room/press-releases/2021/2021-11-18-06-30-00-2336966>
3. Exscientia and Sanofi establish strategic research collaboration to develop AI-driven pipeline of precision-engineered medicines. News release. Sanofi; January 7, 2022. Accessed August 14, 2022. <https://www.sanofi.com/en/media-room/press-releases/2022/2022-01-07-06-00-00-2362917>
4. Farina E, Nabhen JJ, Dacoregio MI, Batalini F, Moraes FY. An overview of artificial intelligence in oncology. *Future Sci OA*. 2022;8(4):FSO787. doi:10.2144/fsoa-2021-0074
5. Tsigelny IE. Artificial intelligence in drug combination therapy. *Brief Bioinform*. 2019;20(4):1434-1448. doi:10.1093/bib/bby004
6. Low CA. Harnessing consumer smartphone and wearable sensors for clinical cancer research. *NPJ Digit Med*. 2020;3:140. doi:10.1038/s41746-020-00351-x

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There's Still Time to Register for AJMC's Patient-Centered Oncology Care[®] (PCOC) Conference 2022

Do you have concerns about the Enhancing Oncology Model? Still have questions about reimbursement for biomarker testing in the age of precision medicine? Are you trying to understand what goes development of oncology clinical care pathways? To get up to speed on these changes in oncology care and more, join us for PCOC, a meeting like no other in cancer care delivery. In-person and virtual options are available.

Link to register: <https://bit.ly/3ej4JwR>