

# Lessons for Oncology From the COVID-19 Pandemic

## Operationalizing and Scaling Virtual Cancer Care in Health Systems

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**Abstract:** After several decades of slow expansion, the use of virtual care in oncology rapidly expanded during the COVID-19 pandemic. Data from cancer centers across the country show that most patients and providers were satisfied with components of virtual care, and virtual care may be able to improve access to care. However, the rapid implementation of programs during the pandemic worsened disparities in access to virtual care. Health systems must develop strategies to monitor quality, support patients and providers, promote health equity, and overcome regulatory challenges to successfully deliver care in hybrid systems that combine in-person and virtual care.

**Key Words:** Digital health, health equity, health policy, health systems, telehealth, telemedicine, virtual care

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Health care providers have used technology to connect with patients for nearly 100 years, and the use of telemedicine steadily expanded in recent years, primarily focused on expanding access to care in rural areas.<sup>1–3</sup> Prior to the COVID-19 pandemic, efforts to expand telehealth were limited by reimbursement policies. For example, Medicare covered telemedicine only for patients in rural areas and required patients to be at a medical facility for visits.<sup>4</sup> Additional barriers previously identified included technology limitations, staff and patient digital literacy, and providers' resistance to change.<sup>5</sup>

The COVID-19 pandemic caused a rapid expansion of virtual care as health systems sought to continue providing clinical care while maintaining physical distancing.<sup>6</sup> Regulatory changes during the pandemic helped accelerate the development and expansion telehealth programs. As health care systems begin to re-equilibrate, we must now determine how to integrate virtual care into oncology practice to advance patient care. The American Society of Clinical Oncology (ASCO) highlighted the importance of virtual care to the future of oncology in their 2020 *Road to Recovery* report by dedicating 2 of the 5 goals for clinical care to improving access to telehealth and ensuring providers have the resources to deliver high-quality care through system transformations.<sup>7</sup> Implementing virtual cancer care in large academic hospitals requires aligning virtual care adoption across all specialties to collectively bringing our patients toward the future.

In order to discuss virtual care in oncology, we must first define the term *virtual care*, the components that it encompasses and how they relate to “traditional,” in-person, health care. After defining virtual care, we will review the evidence for the components of virtual

care, where it exists, discuss the opportunities and challenges presented by virtual care, and discuss how large health systems that include cancer centers can implement integrated virtual care systems.

### DEFINING VIRTUAL CARE

Virtual care refers to using text, audio, and video technologies, either synchronously or asynchronously, for the evaluation and management of patients.<sup>8</sup> The term *virtual care* is often used interchangeably with telehealth, and it describes care along a continuum from a patient's first contact with a provider through the entirety of their relationship. This definition contrasts with traditional, in-person care, which is characterized by episodic interactions between patients and members of a care team, and telemedicine, which is often used to describe the synchronous use of audiovisual technology to deliver care to patients at a distance, usually with a similar cadence to traditional, in-person care.

Integrated virtual care systems should incorporate elements of traditional care delivery systems that can improve the quality of care when delivered remotely. By deconstructing in-person visits and applying value stream mapping, we can identify the high-value components of clinical care to incorporate into virtual care and low-value portions to eliminate. For example, recording vital signs, obtaining laboratory tests, and reviewing symptoms with clinic staff are valuable steps that collect and organize information to inform medical decisions. Extended times in waiting rooms and commuting are low-value components that can be eliminated with virtual care. Communication gaps between in-person visits also present opportunities for virtual care to improve care by increasing the frequency of interactions and monitoring between visits.

We view virtual care as encompassing the entire spectrum of tools and services that provide data to patients and providers, process data into actionable information, and facilitate interactions between members of care teams. These components can deliver care before appointments, during appointments, and between appointments (Fig. 1). Each component collects different types of quantitative and qualitative data and can help share information with patients (Table 1).

### Before Appointments

Patients are often diagnosed with cancer in community settings, and cancer care begins before they meet an oncologist.<sup>9</sup> More than 50% of patients with cancer seek information about their diagnosis online before they see an oncologist.<sup>10</sup> Health systems' websites can help patients identify providers, learn about services provided, and begin educating themselves with information from credible sources. Between this first online encounter and the initial appointment, cancer patients typically have remote interactions with scheduling staff and coordinators helping collect records and results. They also complete previsit questionnaires to provide information about their medical history, medications, symptoms they are experiencing, and certain preferences such as language. In an integrated virtual care system, these interactions all help triage patients to the appropriate venue for care and ensure patients and providers have all of the necessary information.

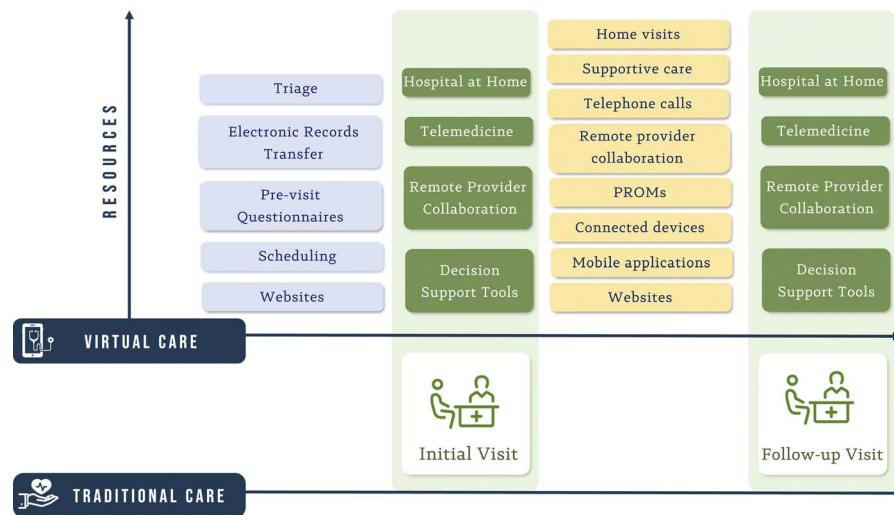
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**FIGURE 1.** Components of virtual care used before appointments, during appointments, and between appointments.

During Appointments

As seen during the COVID-19 pandemic, virtual care can shift many components of in-person visits to audio or visual formats. Depending on patient and provider access to technology, as well as medical appropriateness, virtual physician encounters can be conducted

via telephone or video or more resource-intensive services such as home visits and home hospital programs.<sup>11</sup> Virtual care also increases opportunities for oncologists to interact with other providers through emails, messaging services, virtual consults, and virtual tumor boards.<sup>12,13</sup> During appointments, providers can also use electronic decision support tools to help determine diagnoses and management.

**TABLE 1.** Examples of Types of Collected Data, Shared Information, and Patient Services Provided Through Components of Virtual Care

Virtual Care Component	Data Collected		Patient Experience
	Quantitative	Qualitative	
Home hospital	Vitals, weight, labs	Physical exam, patient interview	Daily progress update, changes to treatment plan, IV and oral medications
Home visits	Vitals, weight, labs	Physical exam, patient interview	Conversation with recommendations and update to treatment plan, IV and oral medications
Video visits		Patient appearance, patient-guided exam, patient interview	Conversation with recommendations and update to treatment plan
Telephone/audio visits		Patient interview	Conversation with recommendations and update to treatment plan
Wearables	Step count, heart rate/rhythm		
Nonwearable connected devices	Vitals, weight	Patient symptoms	
PROMs and questionnaires		Patient symptoms	
Mobile applications	Patient-entered vitals, weight, activity level	Patient symptoms	Basic feedback, provider alerts when inputs require intervention (triage)
Websites			Reliable health information
Conversational assistants	Patient-entered vitals, weight, activity level	Patient symptoms, patient questions	Answers to basic questions, provider alerts when additional intervention needed (triage)
Decision support tools	Provider-entered vitals, labs, imaging		Recommendations for diagnostics and therapeutics
Virtual tumor boards	Vitals, labs, imaging	Provider-reported patient information	Consensus multidisciplinary recommendations on evaluation and management
E-consults	Provider-entered vitals, labs, imaging	Provider-reported patient information	Recommendations for evaluation and management from additional provider(s)

IV, intravenous; Labs, laboratory test results.

## Between Appointments

Between clinic visits, virtual care can increase the frequency of data collection and information exchange. Telephone calls, patient messaging, and electronic communication between members of care teams are already frequently used, but often occur through fragmented systems with incomplete documentation. Technologies such as connected devices (wearables and nonwearables) can passively or actively collect information from patients to transmit to providers.<sup>14</sup> Online platforms and mobile applications can help collect patient-reported outcome measures (PROMs) and guide patients through disease surveillance and symptom monitoring.<sup>15–17</sup> Tools such as artificial intelligence (AI)-powered chat bots can increase opportunities for conversational, bidirectional information exchange to provide information to patients and assist with triaging patients to the correct resources and clinical staff.<sup>18</sup>

## VIRTUAL CARE DURING COVID-19

During the first wave of the COVID-19 pandemic, the federal government declared a public health emergency and made several changes to encourage use of virtual care. The Centers for Medicare & Medicaid Services issues waivers to expand coverage of telemedicine to all beneficiaries, including visits provided in patients' homes; to create payment parity between audio-only, video, and in-person visits; and to expand the types of providers who could be reimbursed for virtual visits.<sup>19,20</sup> Most private insurers made similar changes, and telemedicine use rapidly increased, including in our health system (Fig. 2).<sup>21–24</sup>

Use of virtual visits rapidly increased in medical oncology,<sup>25–29</sup> radiation oncology,<sup>30,31</sup> surgical oncology, and palliative care practices.<sup>32</sup> Other forms of virtual care such as electronic messages from patients also substantially increased.<sup>33</sup> Some oncology practices that did not offer virtual visits before the COVID-19 pandemic reported up to 50% of their patients were seen virtually by April 2020. A 2020 survey of oncology practices showed that 100% of National Cancer Institute–designated cancer centers and 61% of community practices offered virtual visits. Rates of telemedicine use varied across oncology subspecialties, ranging from 38% in breast oncology to 47% for cutaneous oncology.<sup>34</sup> Specialties such as cardiology, gastroenterology, and neurology that often help manage novel therapies and their toxicities also experienced substantial increases in virtual care. While rates of telemedicine use have declined some since the beginning of the pandemic, they remain higher than prepandemic levels.<sup>21,35</sup>

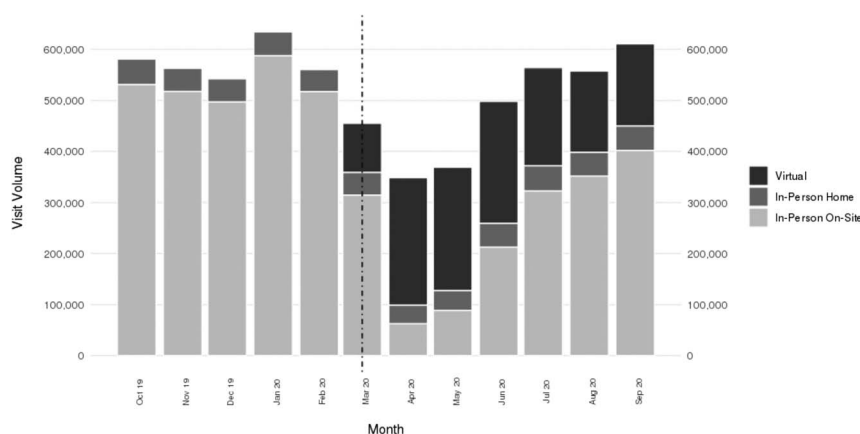
The COVID-19 pandemic also forced oncologists to modify research protocols to allow for continued participation in clinical research. Increased flexibilities from study sponsors, funders, and regulators permitted protocols to allow virtual visits, remote monitoring, virtual consent, and e-signatures to improve efficiency. In some instances, research participants were allowed to receive study-related treatment and complete laboratory test results and imaging at local health centers.<sup>7</sup> Regulators and sponsors also implemented new policies to reduce administrative and regulatory requirements for cancer centers, including allowing virtual site selection and study monitoring.<sup>36,37</sup>

## VIRTUAL CARE IN ONCOLOGY

Measuring quality and monitoring safety will continue to be a central challenge for health systems as they integrate virtual care. We organized the evidence, challenges, and opportunities for virtual care in oncology based on the quadruple aim of health care improvement—improving the patient experience, improving provider satisfaction and well-being, improving population health, and controlling costs.<sup>38</sup> Given the importance of health equity to virtual care implementation, we dedicated an additional section to discuss evidence of disparities in virtual care. Successfully integrating virtual care into health systems will require developing new metrics for quality and safety that encourage the use of new communication modalities, evaluate how specialties use virtual care to integrate and align care, and track clinically meaningful outcomes.<sup>7,39</sup>

## Patient Experience

Studies looking at patient satisfaction with virtual care have primarily focused on perceptions of virtual visits. Among patients receiving radiation, most were satisfied with virtual postradiation visits, and nearly 90% of patients in 1 study preferred to keep telehealth as part of their care.<sup>40,41</sup> Numerous studies reported positive patient perceptions of virtual visits, and patients frequently highlighted reduced travel time and increased convenience as the biggest positives.<sup>2,26,41–47</sup> One study estimated that virtual visits saved 20,000 miles of travel, more than 200 miles per patient.<sup>42</sup> At our institution, we also found that virtual visits can increase opportunities for family members to join for appointments, particularly when they live far away. Virtual health care technology can improve the efficiency of family meetings and complex discussions. However, several studies have shown some prefer in-person care. These patients report difficulty accessing technology and less provider connection with virtual care.<sup>48–50</sup>



**FIGURE 2.** Overall visits by visit type within the Mass General Brigham health care system from October 2019 through September 2020.

Virtual care can also improve patient access to supportive care. Telemedicine use remains high for behavioral and mental health, important components of oncology care, and virtual visits can improve access to care in these specialties.<sup>4,21</sup> Virtual care can also improve access to rehabilitation, spiritual care, genetic counseling, and nurse navigators.<sup>51–55</sup> Multiple types of virtual care (Web platforms, telephone-based interventions, smartphone applications) have been piloted to improve survivorship care,<sup>56</sup> and virtual support groups increased educational opportunities and connections among Native American and Alaskan Native cancer survivors.<sup>57</sup> Studies have shown that virtual smoking cessation applications can increase rates of tobacco cessation.<sup>58</sup>

Virtual care encompasses a spectrum of tools and services, and health systems must develop an integrated approach to ensure consistent, seamless experiences across practices and specialties. As we consider scaling virtual care in academic health systems, having uniformity in experience across different disciplines and between academic and community sites is important for the patient experience and to increase uptake and understanding. Virtual care has the potential to be more standardized than in-person care when systems coordinate the use of technologies and protocols across practices. Standardization of the preparation process before the visit, knowing what to expect in the technology interface, and the experience of virtual care during the interactions are important considerations, particularly in the context of large, heterogeneous academic systems. A decentralized approach to virtual care implementation can result in a fragmented, confusing patient experience with different technologies required to interface with different providers. The decisions to select and implement technologies should be centrally coordinated to ensure services across the health system are standardized and integrated.

In addition, health systems must go beyond their traditional roles to meet patient's needs in the increasingly complex landscape of virtual care. As rates of digital literacy increase, more oncology patients seek health information online,<sup>10</sup> and increasing online patient education materials can provide credible information about treatment options and clinical trial opportunities. Publishing clear, credible online material also represents a marketing opportunity for health systems as patients seek quality health information online. Improving digital infrastructure and online resources will also help improve patient access to members of their care team, and tools such as conversational agents can help direct patients to information and triage questions and concerns.

## Health Equity

As many as 50 million adults in the United States younger than 65 years have low digital literacy.<sup>59</sup> Previous studies have shown that more than 25% of patients do not have sufficient digital access or digital literacy for virtual visits. Rates were higher among older and non-White patients, as well as patients with lower incomes, lower education levels, and disabilities.<sup>48,60,61</sup> Lack of access to broadband is associated with lower rates of use of telemedicine and patient portals.<sup>62,63</sup> In some parts of the country, health care providers also have limited broadband connectivity, which can impair their ability to offer virtual care. These digital access disparities may have contributed to lower rates of video visits during the COVID-19 pandemic among racial minorities, older patients, and patients at federally qualified health centers.<sup>64,65</sup>

Additionally, while virtual care has the potential to improve access to interpreter services, more work is needed to realize this potential. An analysis of nearly 1 million virtual visits found that telemedicine was lower among patients who require interpreters.<sup>66</sup> Language barriers also limit access to health-focused mobile applications, most of which are only available in English.<sup>67</sup>

Health disparities and unequal access to technology and health care resources continue to be significant problems throughout the United States. As health systems implement virtual care, they must monitor health equity, including utilization and outcomes for patients with limited digital access, patients who do not speak English, and patients with disabilities. Health systems must be intentional while developing and implementing virtual care systems to ensure that new tools do not increase health disparities.

## Provider Experience

Most studies evaluating oncology providers' opinions of virtual care focus on perceptions of virtual visits. Recent studies before and during the COVID-19 pandemic show that most oncologists have a favorable opinion of virtual visits.<sup>2,25,68,69</sup> An ASCO survey conducted in late 2020 found that 92% of providers would like to continue telehealth as part of their practice, and 64% of providers felt the quality of care with virtual visits was similar to in-person visits.<sup>70</sup> However, some providers did report challenges with internet connection and equipment issues. Providers felt that virtual visits are more appropriate for certain types of visits such as survivorship and symptom management and less appropriate for postsurgery/radiation visits, initial visits, and goals-of-care conversations.<sup>69</sup>

Virtual care has allowed oncology providers to increase remote collaboration with other providers. Secure email is an established communication tool for provider collaboration; however, these messages frequently occur outside health records and are not captured, causing data fragmentation. Virtual tumor boards existed before 2020<sup>12,71</sup>; however, during the pandemic, they were implemented at health systems across the country.<sup>72</sup> Virtual tumor boards improve recommendations, increase collaboration and educational opportunities, and are viewed favorably by participants. Our institution piloted virtual multidisciplinary visits where patients could simultaneously meet with a medical oncologist, radiation oncologist, and surgeon. We have continued use of virtual multidisciplinary visits for follow-up care where appropriate, and we continue to use virtual technology to involve providers simultaneously committed to in-person care at another site. Increasingly, our physicians are seeing patients at academic and community sites and balancing inpatient rounding schedules, and the ability to join visits virtually allows providers to be available for outpatient care while they are in a variety of places.

There are concerns about how adapting to virtual care will affect patient relationships and provider well-being.<sup>73</sup> In-person visits allow providers to use skills honed over many years to build rapport with patients, collect information, and lead challenging conversation. Virtual care changes visit dynamics and the mechanisms by which these goals are accomplished. Providers need support as they adopt communication skills, particularly in oncology where breaking bad news and sensitive conversations are routine parts of care.<sup>74,75</sup> Health systems will need to provide education and coaching as providers learn new skills such as guiding patients through self-examinations and increase use of new programs and applications. Health systems will also need to think creatively about how to create space for providers and patients to build meaningful connections with less frequent in-person interactions.<sup>76</sup>

Virtual care will also shift the sources of clinical data such as laboratory test results, imaging, and physical examinations and introduce new sources of data. Health systems must invest in resources to reduce the friction of data transfer. As the volume of patient data and sources of data increase, they will have to implement tools to process and present data to providers. Without these tools, virtual care may increase data fragmentation, new data may not be incorporated into clinical care, and providers' well-being



may be negatively impacted as they try to analyze additional data without sufficient resources.

## Outcomes and Population Health

Multiple studies have shown how virtual care can improve access to care for patients in rural areas and low-resource countries.<sup>1,77–79</sup> Given the projected shortages of oncologists in many areas,<sup>80</sup> virtual care can provide important tools to connect patients and providers. The potential to improve patient care is even greater in the era of precision medicine as virtual care can more easily connect experts on rare malignancies and uncommon mutations with patients to assist with management and consider for clinical trials.<sup>12,81,82</sup> In addition, many oncology patients have limited functional status that can increase barriers to travel and in-person visits. Virtual care can help patients with limited mobility receive medical care in their homes.

As virtual care expands, it is important to ensure that it does not adversely impact health outcomes and to increase the evidence about how it can improve care. Data show that oncology patients can use virtual visits while receiving radiation and beginning systemic therapy without delays in treatment or increases in adverse events.<sup>40,42</sup> Multiple trials have shown that interventions incorporating PROMs and remote symptom monitoring into oncology care reduced avoidable acute care visits, improved quality of life, improved symptom control, and increased survival.<sup>15,17,83,84</sup> Data collected from wearable and nonwearable connected devices have been shown to correlate with clinically meaningful outcomes such as treatment toxicity and self-rated quality of life.<sup>14</sup> A recent prospective trial also showed that an intensive home hospital program for cancer patients reduced unplanned admissions and emergency room visits and substantially lowered the costs of care.<sup>85</sup>

Virtual care also has the ability to help manage health system capacity. Experiences at high-volume cancer centers during COVID-19 showed that conversion to virtual care helped maintain clinic volumes during the pandemic.<sup>86</sup> In addition, digital triage strategies and AI tools can help direct patient to appropriate resources and manage in-person patient volume.<sup>14,18</sup>

## Regulation, Payments, and Costs

Poor reimbursement slowed virtual care adoption before the pandemic, and waivers to create payment parity and expand reimbursement for virtual visits contributed to the expansion of virtual care during the pandemic.<sup>87</sup> The Centers for Medicare & Medicaid Services also recently increased support for remote monitoring by established billing codes for these services in 2019 and expanding coverage during the pandemic.<sup>88</sup> However, other elements of virtual care such as patient messages remain unreimbursed by most payers. Creating and adjusting billing codes will be essential to support virtual care using fee-for-service payments. Value-based payment models may also increase adoption of virtual care, as evidenced by higher rates of telemedicine use during the pandemic among patients in value-based payment models compared with patients in fee-for-service systems.<sup>89</sup> This difference may be mediated through payments to invest in infrastructure and technology in value-based payment models, which could increase preparedness and digital infrastructure.

Health systems will have to navigate evolving regulations on medical licensing, privacy, digital security, and malpractice as regulatory agencies adapt to virtual care. There have been multiple proposals to increase portability of medical licensing and allow providers to deliver care of patients in other states, but a long-term solution remains uncertain.<sup>90–92</sup> The US Food and Drug Administration recently developed a Digital Health Center of Excellence to help advance digital health and formalize a regulatory approach.<sup>93</sup>

At present, makers of many digital health tools do not have to demonstrate clinical benefit to market their products, and the US Food and Drug Administration requires health care providers develop processes to manage the risks of digital health tools.<sup>88</sup> As health systems integrate more mobile applications and remote monitoring tools, they must develop systems to evaluate efficacy, monitor content, and manage risks.

In addition, the evidence on how wider adoption of virtual care impacts overall health care utilization and costs remains uncertain. Some data suggest increased use of telehealth may prevent avoidable acute care encounters.<sup>83,85</sup> However, there remain concerns that telehealth may increase the overall number of visits. Health systems will play important roles in monitoring virtual care's effect on total utilization and managing the effects on costs.

## FUTURE OF VIRTUAL CARE IN ONCOLOGY

The need to continue providing care while maintaining physical distancing during COVID-19 pandemic dramatically accelerated the adoption of virtual care in oncology. As we move past the initial phases of the pandemic, health systems and cancer centers are transitioning to hybrid models integrating virtual and in-person care. Hybrid models can expedite care and save travel time while reserving in-person visits for complex and sensitive issues.<sup>94</sup> Some components of oncology care are best delivered in-person, and others can be effectively delivered virtually, either synchronously or asynchronously (Table 2). Health systems will need to define the modalities through which they will provide these services and standardize processes to triage how and when they will use each option.<sup>23</sup> Reliable triage systems will direct patients to the appropriate places in integrated care systems. Dedicated roles to assist and support providers through these transitions can increase use and provider satisfaction.<sup>96</sup> In addition, health systems should rethink how they use physical spaces to develop scalable systems to meet variable in-person and virtual care needs.

As we integrate virtual care into hybrid systems, attention to health equity is essential.<sup>97</sup> Health systems should ensure that digital health tools are designed with end users in mind and implemented in ways that meet the needs of patients. As prominent community institutions, health systems and cancer centers should advocate to improve broadband access, technology access and digital literacy in the communities they serve,<sup>98–100</sup> and systems should partner with patient and community groups to improve access to their services. Community health workers can help patients use online portals and join virtual visits, and systems should consider implementing programs to loan devices to patients or establish technology access points in low-resource communities.<sup>101</sup> Most importantly, tools should be developed to monitor use of virtual care by race and socioeconomic variables and direct resources toward unforeseen care gaps.

Systems must develop frameworks to monitor quality and safety and support research evaluating the components of virtual care in different settings.<sup>102</sup> There is a shortage of high-quality studies of telehealth in oncology, and most data available assess patient and provider satisfaction with components of virtual care, particularly virtual visits.<sup>103</sup> Some studies show high patient satisfaction, whereas other studies show disparities in access and use. These discrepancies may be due to biases within observational data and the varied contexts in which programs were implemented and evaluated. We need to increase research evaluating where virtual care can improve quality, how innovative approaches to virtual care perform in real-world settings, and how different models affect utilization and costs.<sup>104</sup> We also need more evidence assessing the efficacy of digital health tools available to patients and the performance of emerging technologies such as AI and

**TABLE 2.** Modalities Through Which Selected Components of Patient Care Could Be Delivered in Hybrid Care Models

Goal/ Objective	Task	Asynchronous Remote	Synchronous Remote	Asynchronous In-Person	Synchronous In-Person
Clinical management	Initial visit		Virtual visit		In-person visit
	Toxicity monitoring	Connected devices Mobile applications PROMs and questionnaires	Virtual visit		In-person visit
	Symptom management	Mobile applications Secure messaging	Virtual visit		In-person visit Hospital admission
	Goals-of-care conversations		Virtual visit		In-person visit
	Surveillance	Patient-led surveillance Mobile applications	Virtual visit		In-person visit
	Patient questions	Secure messaging Conversational agents Websites	Virtual visit		In-person visit
	Ancillary services	Mobile applications Websites/online platforms	Telephone Virtual visits		In-person visit
Data collection	Imaging	Off-site imaging center		On-site imaging center	
	Labs	Home visit Off-site lab		On-site lab	
	Vital signs and weight	Connected devices	Patient-led remote exam		In-person vital check
Treatment	Systemic therapy	Home infusions*		Infusion center, no provider	Infusion center, with provider
	Medication refills	Patient portal Telephone	Virtual visit	On-site pharmacy	In-person visit
	Radiation therapy			On-site, no provider	On-site, with provider
Provider collaboration	Decision support	Digital triage	Pathways		
	Tumor boards		Virtual tumor boards		In-person tumor boards
	Consults and second opinions	Email E-consults	Virtual patient visit		In-person visit Multidisciplinary visits

Synchronous/asynchronous refers to the location of the patient and the licensed medical provider. Table lists all possible modalities through which selected tasks can be performed. "Ancillary services" include services such as social work, behavioral health, genetic counseling, and tobacco cessation.

\*ASCO has expressed concerns about the safety of routine use home infusions of anticancer therapy.<sup>95</sup>

virtual reality in real-world settings.<sup>105–108</sup> The National Cancer Institute and Agency for Healthcare Research and Quality have developed centers to support research into these questions, and health systems should continue to support this work.

Regulatory and payment issues will continue to shape virtual care. As the waivers issued during the pandemic expire, health systems should engage with state and federal regulatory bodies to develop sustainable solutions to the reimbursement and regulatory challenges that limited telehealth expansion before the pandemic. Cancer care organizations can improve care to their patients by providing virtual care between states, and they should encourage increasing flexibility of medical licensing through programs such as the Interstate Medical Licensing Compact or models similar to ones developed by the Veterans Affairs and TriCare.<sup>90,92,109,110</sup> Oncology providers should also provide input on efforts to update billing codes, develop alternative payment models including bundled payments, and determine which services and patients will be eligible for virtual care.<sup>87,111,112</sup> All of these decisions will shape how health systems provide virtual care.

Virtual care is now established as part of oncology care, and hybrid models integrating virtual and in-person care have the potential to improve population health, patient experiences, and provider satisfaction. Despite increased interest since the COVID-19 pandemic, many questions remain about how to design and implement

these models. Oncology care at large academic health systems presents unique challenges spanning many different specialists and programs, and standardizing experiences and expectations for virtual care is important as these programs are implemented. Health systems should strive for robust virtual care programs where the experiences across primary care and specialty practices are predictable and tailored to the needs of patients and providers with evidence to support value and clinical benefit.

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