original contributions

Telemedicine in Community Cancer Care: How Technology Helps Patients With Cancer Navigate a Pandemic

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QUESTIONS ASKED: Can you successfully implement multidisciplinary telemedicine in community oncology (1) through multistakeholder education between clinicians, clinical staff, administrative staff, support, and patient education; with (2) what level of satisfaction in providers and patients; (3) what changes in clinic operations; (4) what opportunities and barriers to optimal utilization; (5) what acceptance of virtual support groups; and (6) what insights into other strategies to support care delivery?

SUMMARY ANSWER: Multistakeholder implementation of a bimodal private HIPAA compliant platform permitted immediate adoption, and more than 20% of patients were seen through telemedicine from April to October. Satisfaction is high from patients and providers. Using education to overcome gaps in implementation, we were able to overcome many of the challenges to realize opportunities in operational agility and growth of ancillary services.

WHAT WE DID: We characterize multistakeholder implementation, utilization, and provider and patient feedback. We describe secondary learnings from broad implementation, limitations, and opportunities for further growth.

WHAT WE FOUND: Across a large statewide practice with 640 practitioners at 221 sites of service, we partnered with our network to select a HIPAA compliant vendor and began the process of education and implementation. Multistakeholder implementation was conducted for clinicians, medical assistants, technology support, administrative personnel, pharmacists, social workers, and marketing and liaison teams. Patient educational tools were developed in coordination with marketing and published on the practice website and were given to clinical and administrative staff to improve implementation of telemedicine with patients. By late October, the practice had conducted > 50,000 telemedicine visits and from March to October. From April to October, around 15%-20% of new patient visits and 20%-25% of established patient visits were seen using the telemedicine platform. Very few were using phone-only services despite our large state having the largest gap in broadband access in rural areas across the country, although phone-only support in rural Texas remained important when patients did not have broadband access. Satisfaction is high with the platform as demonstrated in the Table. Unplanned opportunities from the clinician engagement were the launch of virtual support groups by telemedicine from our social workers and the launch of telepharmacy.

BIAS, CONFOUNDING FACTOR(S), REAL-LIFE IMPLICATIONS: Our evaluation is limited in that it is a single practice experience and descriptive in nature. For decades, telemedicine policy has focused on singular interactions, when clearly the deep value of telemedicine is in longitudinal complex care such as cancer care. The operational agility to use the platform after multiple stakeholders were educated was useful for adoption and permitted rapid triage, converting to telemedicine patients who screen-failed in the clinic, conversion of an entire region to telemedicine in anticipation of a hurricane, and growth of ancillary services to meet patient needs. Most limitations are in technical challenges and broadband access.

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abstract

COVID-19 places unprecedented demands on the oncology ecosystem. The extensive pressure of managing health care during the pandemic establishes the need for rapid implementation of telemedicine. Across our large statewide practice of 640 practitioners at 221 sites of service, an aggressive multidisciplinary telemedicine strategy was implemented in March by coordinating and training many different parts of our healthcare delivery system. From March to September, telemedicine grew to serve 15%-20% of new patients and 20%-25% of established patients, permitting the practice to implement safety protocols and reduce volumes in clinic while continuing to manage the acute and chronic care needs of our patient population. We surveyed practice leaders, queried for qualitative feedback, and established 76% were satisfied with the platform. The common challenges for patients were the first-time use and technology function, and patients were, in general, grateful and happy to have the option to visit their clinicians on a telemedicine platform. In addition to conducting new and established visits remotely, telemedicine allows risk assessments, avoidance of hospitalization, family education, psychosocial care, and improved pharmacy support. The implementation has limitations including technical complexity; increased burden on patients and staff; and broadband access, particularly in rural communities. For telemedicine to improve as a solution to enhance the longitudinal care of patients with cancer, payment coverage policies need to continue after the pandemic, technologic adoption needs to be easy for patients, and broadband access in rural areas needs to be a policy priority. Further research to optimize the patient and clinician experience is required to continue to make progress.

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BACKGROUND

The COVID-19 pandemic and the policies that seek to control it have many cascading effects on health care. Telemedicine initiatives were recognized early on in the pandemic as an effective tool to manage risk while continuing to provide health care. The federal and state policies facilitating telemedicine were quickly implemented early in the pandemic to safely and effectively provide telemedicine support to patients.[1] Now, Health Insurance Portability and Accountability Act (HIPAA) compliant and noncompliant private platforms are permitted by federal policy, and Centers for Medicare & Medicaid Services (CMS) expanded covered charges including the sites where patients could obtain telemedicine services. These changes are important to support cancer care as medical distancing, patient fear, and restrictive policies are preventing patients from getting the appropriate cancer care they need. In the United States, early in the COVID-19 pandemic, cancer screenings decreased by 80%-90% and cancer encounters with clinicians decreased by 40%-50%.[2] Telemedicine is an important way to deliver care to patients where they are, although prior to the pandemic, telemedicine was largely focused on singular instances of a clinician-patient interface as opposed to broad implementation of longitudinal care for chronic conditions. The robust use of telemedicine in a community cancer practice sheds light on other ways that telehealth technology can be used to improve cancer care delivery for the longitudinal care of patients where they are.

METHODS

We characterize implementation of telemedicine across our large statewide practice with 640 clinicians at 221 sites of service. We describe onboarding of

one private HIPAA compliant platform, and systematic processes around education and multidisciplinary training are characterized broadly. We describe utilization of telemedicine across our statewide practice as a percentage of new and established patient visits. Strategic assessments of practice and patient needs are identified, and incremental functionalities in the use of telemedicine to support cancer care delivery are assessed. Burdens and limitations from staff and patients are characterized. Feedback from patient support groups is described.

RESULTS

Multifaceted education and coordination initiatives were initiated to launch a broad telemedicine platform using a single HIPAA compliant vendor. More than 640 clinicians at 221 sites of service in one large statewide practice were invited to participate in multiple webinars educating on the policy changes and demonstrating the functionality and compliance requirements of telemedicine. Nursing and practice administration developed workflow guidelines, and more than 900 clinical support staff were trained on the platform to guide patients and perform usual clinical duties through the platform. Educational content was developed in the form of hand outs and website content to educate patients about the telemedicine platform to optimize engagement and specification requirements. Local tech support was trained on the platform to optimize audio and video interface. Utilization is predominantly in patients with established cancer. Patient education and support were developed and provided through web-based tools and support staff directly. Clinic liaisons were trained to provide information to referring providers on the ability to conduct telemedicine services for management of new and established patients. While using telemedicine, we identified new applications beyond traditional office visits such as pharmacy functions and social work support including support groups.

By late October, our practice conducted > 50,000 telemedicine visits with patients yet had a substantial gap in the number of new and established patients from what we had forecasted we would serve year over year. Baseline weekly visit averages in comparison to monthly and weekly visit averages can be seen in Figure 1. After onboarding in March, telemedicine comprised about 15%-20% of new patient visits and 20%-25% of established patient visits from April to September.

Qualitative assessments of feedback from administrative leaders characterize limitations in patient ease of use of the technology platform, preference in platform selection, and broadband access, whereas feedback they received from patients was appreciation for risk avoidance opportunities and convenience of service. Patients also express desires for maintaining the telehealth option in the future (Table 1).

Feedback from clinical personnel is that it took additional time and effort to successfully have patients engage with the telemedicine platform and perform all the usual preclinical functions such as vital sign assessment, confirming medications, confirming dispensing pharmacy preference, documenting involved providers, and assessing pain. Despite multimodal efforts to educate patients by staff and on the website, the two major limitations of patient engagement are technical difficulties in engaging with the application and lack of appropriate broadband access at the patient site. Technical challenges are more prominent among older patients, although after successfully completing a telemedicine encounter, subsequent encounters were much easier in longitudinal care. Broadband access limitations are more prominent in rural areas. Patients were grateful for having access to their clinicians, and visit types varied from new cancer diagnosis, to cancer management, to acute management of complications like infections including COVID-19. Although staff encounter new and increasing burdens conducting telemedicine visits, there was substantial feedback of the importance of telemedicine in reducing volumes in the clinic while still serving patients.

Robust engagement with telemedicine demonstrated additional unforeseen benefits. No-show rates were tracked in one region contrasting telemedicine and traditional visits.
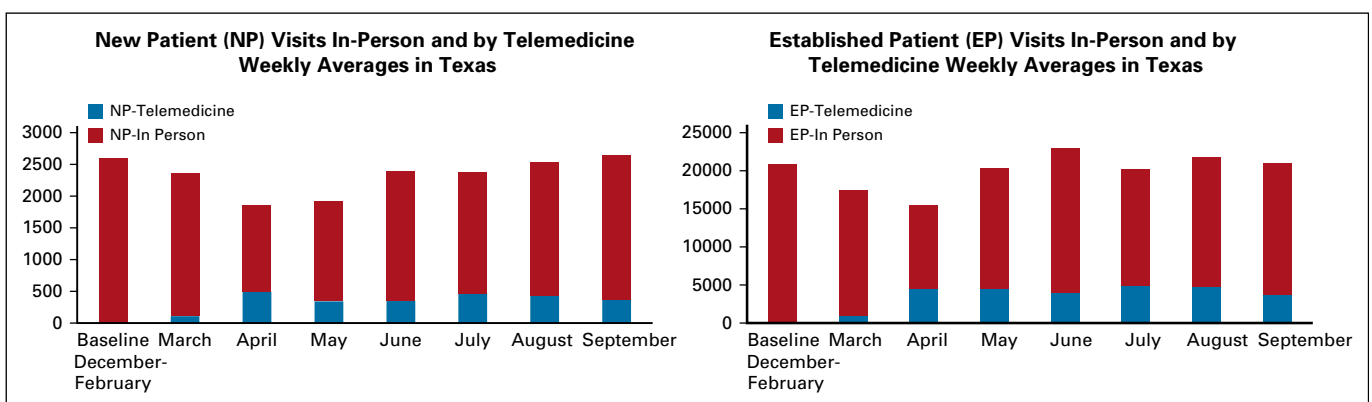

FIG 1. Telemedicine as a percentage of new and established patient visits by weekly trend across one large statewide oncology practice.

TABLE 1. Qualitative Assessment Practice Administrative Leaders

Overall satisfaction	76% satisfaction with a current telehealth platform 55% satisfied and 21% very satisfied
Top platform challenges	35% first-time installation 23% technology quality
What providers heard from patients	Patients appreciate the option to enable risk avoidance Like convenience and desire option in the future Happy when technology works Frustration with technology first-time use Older patient population technology hassle

Source: May 2020 Practice Interviews; total respondents 34.

No-show rates by telemedicine for established patients were 50% of the no-show rate for traditional office visits during COVID-19.

Operational changes were quickly possible by using telemedicine. For example, if patients had fever or symptoms of infection on preclinic screening, they could easily be transitioned to a telemedicine visit. During the course of the pandemic, a category 4 hurricane was predicted to hit our Houston area practices and, coinciding with the practices having a planned closure in anticipation of the hurricane, the entire patient panels were transitioned to telemedicine and were able to receive care.

Specialty service lines began using telemedicine to close identified gaps in care delivery to meet the needs of our patient population. During the pandemic, our social workers identified a need to improve social support and communication with patients and caregivers and launched virtual support groups and supportive care programs.

Our social workers immediately recognized the importance of providing virtual support for patients. We initiated virtual support groups with telemedicine support in June 2020. Each group is facilitated by 2 or more licensed social workers. The groups follow a 6-week structured curriculum that was developed by the Texas practice's social workers. These groups readily adopted this structure, and there was positive feedback from patients with an increased desire for connection and community as a result of the isolation and uncertainty associated with the pandemic. 65% of our participants in our first virtual group offerings in June had no previous engagement with social work services or social support programming. Seven weekly groups were offered with an average of 12 participants per group, per session. In our metropolitan areas, groups filled very quickly. In our more rural areas, we received limited interest for the original virtual groups offered, which improved as engagement strategies were adjusted for our rural locations. For patients participating in the pre- and postsurvey, patients reported a 10.5% reduction in distress. Patients' feedback also included feelings of gratitude and desire to continue with more virtual offerings, which lead to expansion of virtual support groups including survivorship and bilingual groups.

DISCUSSION

COVID-19 is providing many challenges in all aspects of cancer care diagnosis, therapy, and monitoring. Diagnoses of cancer have been lower across the country because of diminished screening capability and medical distancing. Patients with cancer are exhibiting anxiety around obtaining appropriate workup and therapy because of the pandemic, and the natural consequences of medical distancing are delays in cancer diagnosis and untimely or incomplete follow-up that will increase cancer mortality for years to come. In the United Kingdom, they estimate that mortality for breast cancer will increase by 7.9%-9.6%, colorectal cancer by 15.3%-16.6%, and lung cancer by 4.8%-5.3% at 5 years because of delays in diagnosis and access to care.[3]

There are obvious benefits in using telemedicine to support cancer care delivery. Patients can attain diagnosis, treatment, and management remotely while staying in the safety of their own homes, patients can be seen faster, and it is easier to engage caregivers and improve patient and caregiver health literacy. Because of progressive changes in state and federal CMS policy, patients are able to receive care in their homes and obtain their cancer treatment and follow-up managed while they can socially distance. Patients can often be accommodated at the clinic more readily, allowing new and urgent care patients to be seen more quickly. Telemedicine offers the ability to engage caregivers in treatment planning discussions when it is difficult or not permissible to have them physically face to face in the clinic. Telemedicine has an important impact on health literacy and inclusion of caregivers in the treatment plan. Education of patients with cancer is complex, and health literacy among patients with cancer is highly variable. Caregiver presence is an important part of support for patients with cancer; however, during the COVID-19 pandemic, many caregivers have not been permitted to be physically present in clinics and hospitals to decrease risk of virus transmission. Telemedicine offers the possibility of closing these gaps in the important caregiver augmentation of health literacy and engagement in care; when using telemedicine from home, caregivers can be present. If patients are physically located in a different place from their caregivers, they can be added to a telemedicine call. This allows care coordination and education around multidisciplinary cancer care.

The practice of virtual support groups is relatively modern.[4] Social support during the pandemic is critical, and like all visits, availability is limited because of risks of transmission. Anxiety and depression complicate the pandemic, and this is particularly true for patients with cancer. Although psychosocial support is always helpful in patients with cancer, the need is augmented during the pandemic when anxiety, depression, and the fear of medical treatment are heightened, and caregiver presence is more variable. Virtual support groups have been one important way to

provide this support but have been more critical during the pandemic when anxiety is heightened and navigation of the healthcare ecosystem is more complex.

Virtual support groups provide a sense of community while also addressing important educational elements related to living with cancer. During support groups, patients have a dedicated space to verbalize their needs, fears, and concerns in a supportive setting. The structure groups create opportunities to learn from each other while enhancing coping skills, communication skills, navigating relational dynamics, etc. Using telemedicine, our clinical social workers have continued to provide counseling visits to patients and families, ensuring that patients' psychoemotional needs are addressed.

Although telemedicine for many has been the silver lining in the cloud of the pandemic, there are compelling reasons why it will continue to be an important way to access medical care even when the pandemic is over. In contrast to the singular visits of telemedicine that many telemedicine services offer, telemedicine in longitudinal care to provide services to established patients where it is best for them greatly enriches our ability to provide high-quality care.

Despite the many successes of telemedicine during the pandemic, limitations remain. Operationally, onboarding patients on telemedicine is more difficult than seeing them in clinic. Support staff have to engage with patients differently, and this can be an increased work burden on the practice. Patients can struggle with the technical aspects of telemedicine—downloading an application, updating their operating system for optimal functioning, or following a link to their virtual office visits. Efforts need to continue to provide educational platforms that make telemedicine easy for patients and clinical staff. Some patients, particularly in rural areas, have limited availability of appropriate bandwidth to make meaningful telemedicine a reality. For these patients with limited broadband access, alternative mechanisms to attain access to virtual health care are an important problem that requires better solutions. Because many rural communities face a middle mile problem where there is a segment of a telecommunication network linking the core network to the local network and the business models to invest in development are not sustainable, policy will need to foster development of broadband solutions that can solve challenges in telemedicine and education.

Moving forward, telemedicine is an important way to deliver longitudinal care. There are important policy modifications necessary to make that a reality. Telemedicine needs to continue to be permissible at any site for both patients and providers. Providing telemedicine to patients in their homes is a meaningful way to support patients with cancer and engage caregivers. Telemedicine needs to continue to have payment parity for medicare and commercial payers. Broadband access needs to improve as a legislative priority particularly in rural communities.

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

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