Telehealth Delivery of Tobacco Cessation Treatment in Cancer Care: An Ongoing Innovation Accelerated by the COVID-19 Pandemic

The Cancer Center Cessation Initiative Telehealth Working Group*

ABSTRACT

The COVID-19 pandemic precipitated a rapid transformation in healthcare delivery. Ambulatory care abruptly shifted from in-person to telehealth visits with providers using digital video and audio tools to reach patients at home. Advantages to telehealth care include enhanced patient convenience and provider efficiencies, but financial, geographic, privacy, and access barriers to telehealth also exist. These are disproportionately greater for older adults and for those in rural areas, low-income communities, and communities of color, threatening to worsen preexisting disparities in tobacco use and health. Pandemic-associated regulatory changes regarding privacy and billing allowed many Cancer Center Cessation Initiative (C3I) programs in NCI-designated Cancer Centers to start or expand video-based telehealth care. Using 3 C3I programs as examples, we describe the methods used to shift to telehealth delivery. Although telephone-delivered treatment was already a core tobacco treatment modality with a robust evidence base, little research has yet compared the effectiveness of tobacco cessation treatment delivery by video versus phone or in-person modalities. Video-delivery has shown greater medication adherence, higher patient satisfaction, and better retention in care than phone-based delivery, and may improve cessation outcomes. We outline key questions for further investigation to advance telehealth for tobacco cessation treatment in cancer care.

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Background

The COVID-19 pandemic precipitated a rapid transformation in US healthcare delivery. Providers and systems abruptly shifted from in-person to virtual telehealth visits using digital video and audio tools.¹ Healthcare systems rapidly re-engineered health information technology and workflows, facilitated by changes in payment regulations that permitted billing for remotely delivered services not previously allowed.¹ The success of this shift demonstrated the viability of remote care delivery. Healthcare systems' current challenge is defining how best to integrate and sustain telehealth care for the post-pandemic era.

Delivering care to patients using video- or phone-based telehealth tools offers many potential benefits. Treatment delivered at home increases access to care for many patients, allows family members' participation in care, and may give providers additional information about patients' needs. Telehealth care may increase the efficiency and ease of delivering services that do not require an in-person visit, thereby increasing patient

and provider satisfaction with care. However, telehealth care also has challenges, including financial, geographic, and access-related barriers.¹ Patient barriers are disproportionately greater for older adults and for those in low-income communities, rural areas, and communities of color, threatening to worsen preexisting disparities in healthcare access and health status.^{2,3} Although technology barriers could worsen preexisting disparities in some cases, there are opportunities in which technology may substantially increase reach and communication in cohorts with limited financial support and difficulty with travel. Although HIPAA-compliant digital platforms support privacy and confidentiality, privacy barriers to virtual care delivery have not been fully or permanently resolved. And finally, although some states have mandated third-party reimbursement telehealth commensurate with in-person visits, video and voice telehealth care delivery still operate under temporary Medicare rules.⁴

Telehealth and Tobacco Use Treatment Delivery

The shift to telehealth was arguably less dramatic for tobacco use treatment services, because telephone visits are a longstanding, core treatment modality in

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community and healthcare settings.^{5,6} Quitlines, the largest tobacco treatment network in the United States, already offered tobacco users behavioral treatment by telephone and web-based interfaces plus short-term nicotine replacement. These services required only a telephone and were generally provided free of charge. State-based telephone quitlines have been used to improve access to support for quitting smoking in patients with cancer.⁷ However, quitlines typically provide brief interventions and focus on tobacco users who are ready to quit.⁸

Because patients with cancer experience unique stressors that can inhibit cessation,⁹ the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) for treating tobacco use among patients with cancer recommend a more robust treatment than currently provided by quitlines or many community programs.¹⁰ Prepandemic, the Cancer Center Cessation Initiative (C3I) had enabled many NCI-designated Cancer Centers to provide in-person and/or remotely delivered cessation services. When the pandemic required suspension of in-person visits, most C3I cancer centers shifted their service delivery from in-person to remote visits using telephone and/or video telehealth services. A survey of 41 C3I sites reported an increase in the proportion of sites offering phone-based counseling from 71% to 84% between December 2019 and December 2020, with most indicating that this shift was in response to COVID-19.

Case Studies of Telehealth Adoption

We describe 3 C3I programs that transitioned from primarily in-person to virtual telehealth services prompted by the COVID-19 pandemic (Table 1).

Memorial Sloan Kettering Cancer Center (MSKCC) and The University of Texas MD Anderson Cancer Center (MDACC) have well-established comprehensive tobacco treatment programs, introduced in 1999 (MSKCC) and 2006 (MDACC). Prepandemic, both programs offered in-person individual and/or group visits, and team members prescribed cessation medications. Both were already piloting telehealth service delivery pre-pandemic but efforts were limited by state medical board restrictions on prescribing medications by phone or providing counseling across state lines. When COVID constrained in-person service delivery, these regulatory barriers were lifted, and both programs rapidly shifted to remote telehealth service delivery in March 2020. For both programs, the switch to telehealth increased patients' access to comprehensive tobacco treatment services. In particular, the proportion of patients completing scheduled visits increased substantially after the switch to telehealth (MSKCC, 60%–75%¹¹; MDACC, 79%–91%). Because interpreters could easily join telehealth visits, MSKCC reached more diverse and non-English-speaking populations that previously had difficulty accessing in-person services, and also reached more patients living far from the facility. However, providers and patients at both programs also faced technical challenges. At MDACC, many patients were reluctant to schedule video-based visits, despite the program's offer to provide technical support. Consequently, 80% to 90% of services were delivered only by telephone during the pandemic's first months. By early 2021, however, 50% of visits were provided by video telehealth, which the program attributed to increasing public familiarity with video conferencing.

Table 1. Examples of Telehealth Adaptation of Tobacco Treatment That Occurred During the Pandemic

	Memorial Sloan Kettering Cancer Center (MSKCC) (New York & New Jersey)	MD Anderson Cancer Center (MDACC) (Houston, Texas)	University of Chicago Medicine (UCM) (Chicago, Illinois)
Treatment Modalities Pre-COVID-19	Primarily phone visits, with in-person individual and group visits and limited use of video telehealth	Primarily in-person individual visits Piloting video telehealth to patient homes	Primarily in-person group visits
Treatment Modalities During COVID-19	Exclusive telehealth or phone. Platforms - 3/20: Cisco Jabber app linked to patient portal; Doximity or Face-time as backup. 4/21: transition to Zoom for group telehealth	Primarily telehealth Zoom platform, with phone call backup	Exclusive telehealth Zoom platform
Service Delivery Staff^a	Psychologist/TTS, APN/TTS	MD, PA-C, LPC, LPCA, LCSW, Psychologist	Psychologist, LCSW/TTS
Bill for Services?^a	Yes	No	Yes
Patients Served^a	Cancer center patients, some household members	Cancer center patients and household members	Cancer center patients and patients with other medical conditions

Abbreviations: APN, Advanced Practice Nurse (eg, Nurse Practitioner); LCSW, Licensed Clinical Social Worker; LPC, Licensed Professional Counselor; LPCA, Licensed Professional Counseling Associate; PA-C, Physician Assistant; TTS, Tobacco Treatment Specialist.

^aBefore and during COVID-19 pandemic.

University of Chicago Medicine (UCM) has a newer tobacco treatment program, established in 2016, offering in-person group programs with behavioral support, free nicotine replacement therapy, and medication prescriptions from primary care providers. To enhance program reach, referrals from clinicians were supplemented with proactive outreach to Cancer Center patients using a system of automated phone calls and emails that connected interested patients to medication and counseling resources. During the pandemic, in-person groups transitioned to a virtual format using a HIPAA-compliant Zoom platform. The attendance rate of scheduled groups increased from 47% (onsite in 2019) to 57% (virtual in 2020). As with most programs, the volume of scheduled sessions in 2020 was consistent with pre-pandemic levels after an initial slowdown of outpatient services and referrals. Many patients reported that the virtual format reduced barriers such as public transportation, parking charges, and mobility issues, but other patients remained reluctant or unable to connect via video. These barriers were particularly relevant for UCM's predominantly low-income, Black/African American patient population.

Research Agenda and Questions for the Future

The telehealth transformation of tobacco treatment delivery during the pandemic may offer the opportunity to better tailor treatment delivery to the needs of patients with cancer who use tobacco. Despite robust evidence demonstrating the effectiveness of delivering telephone-based tobacco treatment,⁵ limited research has compared delivering treatment by video vs phone vs other modalities. A recent Cochrane review found no difference in cessation outcomes between video- and phone-based counseling in the general population, but also noted limitations across studies and the need for additional trials.⁵ Importantly, compared with phone-based delivery, video-delivery has shown greater medication adherence and higher patient satisfaction.^{12,13} Finally, initial 4-month cessation outcomes from an ongoing randomized controlled trial in rural Australia, comparing video versus phone versus mailed materials, indicate that video was significantly more effective than mailed materials, but did not differ from phone-based counseling.¹⁴

To advance the field of tobacco-specific telehealth research in cancer care, we suggest several important areas for further investigation.

Operations: Feasibility and utilization of video-based and phone-based telehealth:

- Identify the training needs for staff to transition to virtual care delivery
 - Identify and investigate patient barriers
 - Do patients prefer telephone versus video visits?
 - Does providing technical assistance prior to intake facilitate successful engagement?
 - How can we best facilitate patients' willingness to accept video visits?
 - What is the feasibility and uptake of group versus individual video visits?
 - Are there any additional/unique barriers by race/ethnicity and socioeconomic status?
 - How do we reduce internet access barriers to accommodate video visits?
 - Assess the feasibility and timing (relative to diagnosis/treatment) of including tobacco treatment specialists during virtual oncology telehealth visits, given the potential to facilitate "warm handoffs" from oncology provider
 - Assess the feasibility of continued delivery across state lines
 - Identify billing issues (eg, low reimbursement rates of all tobacco use treatment services)
 - Assess the costs and benefits of integrating remote assessments (eg, carbon monoxide monitors for at-home use)
- Outcomes:** Reach and effectiveness of video-based telehealth compared with in-person or telephone:
- Reach of patients offered tobacco treatment, percentage who accept each treatment modality
 - Regarding the "digital divide": describe the patient characteristics of those who do/do not use virtual (telephone or video) care
 - To what extent does telehealth assist rural and urban populations with transportation challenges?
 - Does telehealth access increase pandemic-related readiness to quit?
 - Patient engagement: visit completion, patient satisfaction scores, therapeutic alliance
 - Patient receipt of tobacco treatment: number of completed sessions, percentage who complete the full program, use/duration of pharmacological treatment
 - Treatment effectiveness: quit attempts, abstinence at end of treatment and longer term (6–12 months), stratified by demographic, oncology treatment regimen, and clinical characteristics
 - What is the optimal combination of virtual and in-person care?
 - Provider efficiency (number of patients treated per day), patient satisfaction, quality of treatment delivery
 - Comparison of treatment modalities on cost, revenue, cost-effectiveness, and sustainability
 - Importance of payors maintaining reimbursement for phone-based telehealth until connectivity issues for video-based telehealth have been resolved

Conclusions

Advancing telephone and video-based telehealth has the potential to improve tobacco cessation treatment in cancer care settings and beyond. It may be particularly salient for marginalized populations. The COVID-19 pandemic catalyzed telehealth scale-up, offering the opportunity to investigate whether this treatment delivery modality can improve outcomes in tobacco cessation and cancer care.

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