A novel transition: Lessons learned during rapid implementation and evolution of telehealth group based opioid treatment (t-GBOT) during the COVID-19 pandemic

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Key insights

The telehealth group-based opioid treatment (t-GBOT) format is generally preferred by providers and patients with opioid use disorder (OUD) compared to the individual telehealth model, among those who have become accustomed to in-person group-based forms of treatment.

Transitioning to t-GBOT across a health system is feasible, though it is important to garner early support from central leadership to help drive new and core infrastructure and workflow-related changes.

T-GBOT models demonstrated patient participation levels and associated provider productivity rates comparable to pre-COVID in-person groups, which exceed general primary care productivity rates.

Implementing t-GBOT requires initial investment of time and resources. Special attention should be paid to creating a cadre of "telehealth group champions" to support onboarding patients and providers to the virtual format.

Providers adjusting to t-GBOT format should focus attention on evolving patient behavioral expectations, group content, and delivery formats.

Background

Opioid crisis

While the opioid crisis has reached epidemic proportions in the U.S over the past decade,[1] it has been compounded by effects of the COVID-19 pandemic that emerged in March 2020. As people across the country were forced to physically distance, socially isolate, and quarantine, the pandemic shook social, medical, and economic structures that had previously provided support and stability for those struggling with opioid use disorder (OUD). Patients with OUD encountered delays

Abbreviations	
ASAM	American Society for Addictions Medicine
B/N	Buprenorphine-Naloxone
CHA	Cambridge Health Alliance
DEA	Drug Enforcement Administration
GBOT	Group Based Opioid Treatment
HIPAA	Health Insurance Portability and Accountability Act
IOP	Intensive Outpatient Program
OBOT	Office Based Opioid treatment
OUD	Opioid Use Disorder
PDSA	Plan Do Study Act
SMA	Shared Medical Appointment
SUD	Substance Use Disorder
t-GBOT	Telehealth Group Based Opioid Treatment
UDS	Urine Drug Screen

in care due to clinic closures, public transportation disruptions, and financial stressors; more people were using drugs alone, increasing the risk for overdose deaths; and, the social and economic hardships spurred by the pandemic led to worsening mental health and patients turning to substance abuse to cope.[2] In fact, in the general population across the US, reports of anxiety and depression rose four-fold, from 10% four months before the pandemic to 40% four months after the pandemic began.[3] The synergistic effects of the opioid crisis and the COVID-19 pandemic have resulted in over 81,000 drug overdose deaths in the 12 months ending in May 2020 (with two-thirds from opioid-related deaths), the highest number of overdose deaths ever recorded in a 12-month period.[4]

Group-based opioid treatment (GBOT)

Group-Based Opioid Treatment (GBOT) has emerged as a mechanism for treating patients with opioid use disorder (OUD). While many outpatient providers offer an evidence-based treatment for OUD – Buprenorphine-naloxone (B/N) – to patients via one-to-one provider visits, GBOT is a type of shared medical appointment (SMA) that allows patients struggling with OUD to receive pharmacotherapy with B/N coupled with peer support and behavioral counseling.[5] For patients, this model can create a sense of accountability, shared identity, and a supportive community unlikely to be achieved through individual visits with providers.[6] It can also potentially increase access to both psychotherapeutic and pharmacological components of care.[7] For providers, GBOT offers the potential to increase the number of patients being treated for OUD by enhancing the volume capacity among providers who prescribe B/N. For instance, in GBOT, primary care providers have the ability to see 20–30 patients in a typical 4-h primary care setting (if two GBOT groups are provided).[8] By taking a collaborative team-based approach to care that involves both prescribers and other providers (e.g., nurses, behavioral health counselors, medical assistants, and administrative staff), the GBOT model may mitigate provider burnout because they are no longer caring for this psychosocially complex patient population alone. It also utilizes the patients' abilities to support each other, further taking the burden off the prescriber to solve difficult addiction-related problems.[8,9]

Organizational context

Our health system

Cambridge Health Alliance (CHA) is a public hospital and academic health system serving cities across north Boston. Our system comprises thirteen primary care sites, two hospitals, one urgent care center, and a specialty Outpatient Addiction Services (OAS) site. This study included four of our primary care sites in Malden, Everett, Revere, and Somerville, Massachusetts, all with similar patient demographics. CHA has a longstanding commitment to serving vulnerable and diverse patients. Over the past year, we provided care to a panel of 130,000 patients. Our patients are ethnically diverse, with 63% of the panel self-identifying as non-White, and 44% choosing their care in a language other than English. CHA's patients are approximately 65% public payer or uninsured. Within our accountable care organizations (ACOs), our providers care for a higher percentage of patients with SUDs than other care sites within our same ACOs.

OUD treatment at CHA pre-COVID-19

Before March 2020 when the COVID-19 pandemic began, CHA provided in-person GBOT ("groups") as the standard of care for treating patients with OUD at many of our sites. We provided approximately 17 groups per week across our primary care sites. In our GBOT model, approximately 6–15 patients joined each group, and groups met weekly or monthly (depending on patient's stage of recovery). During these 60–90 minute sessions, groups began with reading of group "ground rules." Each patient then individually "checked in" to share how their recovery was going, discussing close calls, cravings, and slips/lapses, while receiving peer support. Group facilitators augmented this peer support by employing activities based on common evidence-based therapeutic approaches, such as cognitive behavioral therapy, community reinforcement approaches, twelve step facilitation, and psycho-education.[10] At the end of the group, each patient received a B/N prescription. The provider team (often including front desk staff, medical assistants, addiction nurses, physician and physician assistant providers, social workers, and psychologists) met between group sessions to discuss patient care and plan GBOT implementation logistics and then divide up tasks and follow-up with patients as needed throughout the week.

Problem

Ambulatory clinics transition to telehealth

When the COVID-19 pandemic hit the U.S. in March 2020, several new federal and state regulations enabled us to treat our OUD patients virtually to mitigate the risks of in-person appointments: the Drug Enforcement Administration (DEA) issued new regulations allowing providers to write prescriptions for controlled substances, like B/N, without an in-person appointment[11]; Medicare granted providers the ability to bill for telehealth delivered services[12]; and Health and Human Services (HHS) issued a "Notification of Enforcement Discretion," waiving enforcement of Health Insurance Portability and Accountability Act (HIPAA) regulations,[13] thus allowing providers to treat patients outside of the office without breaching privacy concerns.

While these new regulations enabled the provision of telehealth services to patients with OUD, our providers confronted challenges adapting to new technologies and workflows that facilitated treatment at the *individual* patient level. Learning how to provide telehealth *group*-based opioid treatment (t-GBOT) appointments seemed more daunting, and hence our health system put a temporary pause on all SMAs. From March through June 2020, we thus moved all our OUD patients' care from treatment via the in-person GBOT model to individual telehealth appointments.

GBOT providers soon found this new care delivery model taxing. Rather than seeing 6–15 patients at a time in a one-hour-long GBOT session, providers began spending 3–4 hours calling these same patients individually. These one-on-one visits between patient and provider also precluded the collaborative team-based model providers had become accustomed to, an approach that facilitated comprehensive management of this psychosocially complex patient population and hence

Table 1
PDSA cycles.

	P	D	S	A
Topic	Initial Plan	What we did	What we learned	Further revisions
Learning Community	Create a "Learning community" to support each other in launching and sustaining telehealth group-based opioid treatment (t-GBOT) group visits	- Assembled initial working group consisting of members from Family Medicine & Psychiatry. - Held regularly scheduled meeting times. - Learned from 'early adopters' of telehealth in Psychiatry about workflows, patient onboarding, personnel needs, technology concerns, privacy/HIPAA	Grant-supported leadership time was integral to developing our "learning community," which served as an effective format to regularly share best practices, expand groups, and continually improve them.	We expanded the initial working group to SMA leaders and staff across all primary care sites and included various types of SMAs: - weight loss - chronic pain - mindfulness - Haitian Wellness
Staff Roles	Create new roles to support telehealth-based GBOT infrastructure	- Recruited a Telehealth Group Champion (medical assistant) to onboard patients into the virtual forum (GoogleMeet, Zoom), set up weekly virtual meetings, and assist with IT support before/during/after the meetings	Patients and providers unfamiliar with technology required a significant amount of support to get started, including individualized phone calls to help them: - create e-mail accounts - download the platform or phone app - use audio and video functions - perform trial runs with the technology Finding the right "champion" is important. It should be someone who enjoys the GBOT work and associated patient population, has specialized and robust IT skills, is patient and able to teach others effectively, and has strong attention-to-detail and executive skills.	We sought buy-in from Leadership to sustain telehealth group champion' roles in our institution's 'new normal' operations
Patient Expectations	Create new behavioral expectations for patients that align with the televisit format	Set the following new expectations: a) Confidentiality: Patients signed new confidentiality agreements and were encouraged to call from a quiet private space b) Communication: Patients were encouraged to mute themselves when not speaking and only unmute while speaking c) Participation: Patients were encouraged to maintain full participation for entirety of group visit and limit surrounding distractions These new behavioral expectations were added into the "ground rules" that GBOT groups read at the beginning of each group	Unanticipated, disruptive patient behaviors emerged, including: - dressing inappropriately - smoking - leaving group early - engaging in other distracting and unsafe tasks, such as driving, walking, and running errands in public spaces Technological barriers limited the benefits of peer support associated with group visits: - Due to muting requirements, patients provided limited reciprocal responses to others - Patients joining via voice-only (not video), struggled connecting through nonverbal/visual cues, 'see' who was present, and share resources - It was difficult for GBOT facilitators to assess clinical status of voice-only participants - Patients were unable to benefit from informal socializing that had previously taken place before/after in-person groups	We revised the group rules with attention to specific problematic behaviors: - appropriate attire - prohibiting smoking or vaping - mandating use of video (unless patients did not have this function on their phone) - keeping their video on during the entire group visit - prohibiting patients from "leaving" the visit until the facilitator acknowledges that session has ended - encouraging patients to participate fully during entirety of visit, to stay in one location, and not to drive/be in transit during group Staff played a more active facilitation role, which included: a) muting patients when needed b) inviting commentary via the 'chat' and the 'hand raise' functions and un-muting after each speaker c) calling directly on people to create an "order" to check-ins d) employing tighter time management skills e) reserving a few minutes at the end of the meeting for open space dialogue to foster informal social support
Group Activities	Change the content and format of group activities	- Shifted the *content* of group discussions to COVID-related education, challenges around seeking social support while maintaining social distancing, and associated feelings of anxiety - Shifted the *format* to more abbreviated and didactic-style activities, such as short question prompts that each patient could reflect on during their "check-in."	Patients appreciated the opportunity to reflect and discuss how COVID was affecting them and their families. Patients felt the new format limited in-depth discussions and made check-ins feel rushed with less opportunity to provide therapeutic support to others. Patients demonstrated increased need for psychotherapeutic support.	We placed greater focus during our GBOT discussions around: a) accessing peer support resources to help reduce social isolation in a safe way (e.g. frequent updates on 12-step meetings, other support groups, and IOPs) b) encouraging patients to engage in individual psychotherapeutic services as needed.

Table 1 (*continued*)

Topic	P	D	S	A
	Initial Plan	What we did	What we learned	Further revisions
Urine Drug Tests	Adjust standards around urine drug tests	During early COVID-era when in-person primary care clinics and labs were not open, we stopped performing urine drug tests	Many patients continued to discuss triggers, close-calls, and lapses in recovery. While urine drug tests are still considered one way to hold patients accountable for lapses, they may not be essential for all patients, especially if expectations and group norms establish that honesty is a cardinal ground rule, "relapse is part of recovery," and patients will not be dismissed for lapses[16]	As labs have re-opened: - We continue to *not* mandate drug testing for those stable in recovery and those who openly discuss their struggles. - For patients new to recovery or those we are concerned about, we brought them in for periodic drug testing (weighing the risks associated with COVID exposure with the benefits of fostering more accountability to one's recovery).
"Low-threshold" Approach	Support patients by taking a harm reduction, "low threshold" approach that provides ease in access to Buprenorphine-naloxone (B/N)[17]	- Switched from hard copy to e-prescribing of B/N - Extended prescription duration from weekly to bi-weekly or monthly to minimize patients' number of pharmacy trips and hence the risk of associated COVID exposure - With limited options to refer struggling patients to higher levels of care (IOP had closed, there were no in-person 12 step meetings), we kept patients in group and continued to refill B/N	It can be difficult for providers to assess patients' recovery status without physically seeing them. Patients who did not show up for t-GBOT meetings created a precarious situation for providers who had to decide whether to adhere to a harm reduction approach (continuing B/N) or temporarily limit prescriptions to encourage patient engagement.	As the pandemic evolved, we increased accountability by limiting prescription durations to 7 days. As we opened our clinics, we offered both in-person and telehealth *individual* appointments (in addition to group treatment) for patients struggling and needing more support.

mitigated feelings of provider burnout. Additionally, GBOT providers could no longer utilize the peer support therapeutic modality inherent in group-based therapy, which had been a key component to patients' treatment. Patients also began asking when we would return to group-based treatment.

Solution

In this report, we describe how we responded to patients' and providers' needs by launching a telehealth Group-based Opioid Treatment (t-GBOT) model across our health system.

Several factors laid the groundwork for our transition to the t-GBOT model: The CHA Psychiatry department had already developed a detailed workflow to move their therapeutic groups to telehealth, resolving questions around technology, HIPAA compliance, and consent. And, in response to COVID, our health care system shifted toward regionalization and consolidation of services, enabling GBOT to incorporate previous patients and recruit new patients, irrespective of their geographic location.

To launch and grow the t-GBOT model across our primary care sites, we employed a robust health systems change redesign framework–rapid "Plan, Do, Study, Act" (PDSA) cycles.[14,15] In Table 1 below, we describe six iterative PDSA cycles broken down by our initial plan, what we implemented, what we learned through the implementation process, and how we further revised our intervention to meet the needs of our patients and our health care system.

Measurable outcomes

Volume of care

Pilot site: Initial productivity to assess feasibility of t-GOBT model

In May 2020, we launched the t-GBOT model by providing a weekly hour-long group visit built into one GBOT provider's four-hour-long clinical session at one of our primary care sites (site 1). This initial group served as a pilot for us to learn from before expanding t-GBOT across our health system. After initially investing time and resources in connecting patients with this telehealth group, we saw that productivity far exceeded the general primary care productivity rate. As Fig. 1 demonstrates, from July through September 2020, the GBOT provider's productivity ranged between 3.5 and 5.75 patients/hour while the productivity for individual patient-provider visits at this site during the same period of time was approximately 2 patients/hour. The goal productivity number for providers across our health system is 2.25 patients/hour for physicians and 2.0 patients/hour for physician assistants. In October 2020, this pilot site added a second weekly t-GBOT session and productivity subsequently doubled to 8–10 patients seen/hour, since two groups were conducted in the same amount of provider clinical time.

Expansion to other sites: Productivity and attendance rates

As our pilot site (in Malden, Massachusetts) was demonstrating feasibility, we used our SMA working group to share best practices with 3 other primary care sites (Everette, Revere, and Cambridge, MA) that subsequently launched t-GBOT models at different times (from May through October 2020). During this time, each site transitioned their patients who had been previously enrolled in in-person GBOT (and were temporarily seen individually during COIVD) to t-GBOT. Each site also added newly enrolled patients into the t-GBOT model and thus grew from offering one t-GBOT group/week to offering two to four t-GBOT groups/week. Since launching across all sites (over a period of approximately six months), as of October 2020, we have had 189 discrete patients attending regularly (defined as participating in three or more groups).

In Table 2, we highlight productivity and attendance rates of t-GBOT across all sites over the month of October 2020 (during COVID and after

all t-GBOT sites had launched) and compare this to productivity and attendance rates in January 2020 (the month prior to COVID-related changes). As this table demonstrates, productivity rates slightly declined from 5.8% (in GBOT) to 4.8% (in t-GBOT) though remained well above the actual and expected provider productivity rates. No-show rates declined slightly from 28% (in GBOT) to 24.7% (in t-GBOT). Newer groups were generally less productive than more established groups, and it took several weeks of recurring groups (at least 3 weeks) to establish consistent attendance.

Informal feedback collected from providers and patients

Informal feedback collected from providers and patients highlight both positive and negative experiences with the t-GBOT transition.

Providers greatly appreciated renewing a venue for patients to connect with each other. As one provider shared, "Patients felt incredibly disconnected from the health care system and from their doctor and site during early months of pandemic...they were asking us for weeks, when and if groups would restart...to be able to provide that connection again, albeit in a different way, was incredibly rewarding." Providers also recognized this same sense of isolation for themselves. "As a provider, I felt isolated, losing a sense of team. Our t-GBOT provider team really helped with that, as we again worked collaboratively in real time, physician, group coordinator, OBOT RN, mental health care partner." Providers also noted how televisit technology "provided a deeper lens into the lives of our patients. We have an inside view of their homes, possible interactions with others in their home, childcare and pets, and a larger picture of how they are managing during this extended challenging time."

Providers also acknowledged how challenging the technology could be for both them and their patients. Providers reported that inequitable technology access and technological literacy issues limited patients' ability to participate and some patients could only join via phone without a video function. Additionally, onboarding patients required a significant amount of time "from a very, very patient medical assistant who often would spend 45 minutes just teaching one patient how to create an e-mail account, access the virtual platform, and use its features." And, once the patients finally adapted to the technology, it still posed challenges in creating a supportive group environment. Providers explained that, "patients often talked over each other and struggled with muting or unmuting themselves," "it is harder to read nonverbal cues," and "patients do not get to experience the informal support they receive

when chatting before and after in-person groups. This is where a lot of friendships form and folks get to know each other at a more personal level."

From the patients' perspective, they appreciated the increased access to care, "I don't have to travel, it's easier. I used to have to take time off from work to get there… now, there is no commute." This access has led some patients to attend group more frequently than they previously did, "I don't mind the virtual because now I can come weekly (used to come monthly). For right now, during this time, it keeps us grounded and you still maintain the support system you need, you know, for my sobriety." And for some, being able to call from the comfort of their homes actually promoted greater involvement, "I think people are sharing more because they are more comfortable in their own environment."

Though for many patients, the virtual format dampened the connection to others that they crave. As one patient shared, "I miss being in the room with everyone, seeing people's reactions... [those] interactions felt therapeutic. Technology just can't replace that." Similarly, patients expressed how virtual groups precluded the more organic relationships that in-person groups can foster. As one patient explained, "in-person meetings include side discussions and 'tiny little things,' like meeting people after [group], coincidently walking back to the train station with them… these small things make the difference." Others thought that not physically showing up can make participation feel more passive and does not hold them to the same level of accountability as in-person groups. They also shared that the virtual format makes it harder to connect with a provider before or after a group for "more 1:1 individual help" if they are struggling or have a question. Many patients also expressed frustration with the technology.

Lessons learned and unresolved questions

Our results suggest that shifting to a telehealth based group-based opioid treatment (t-GBOT) model is feasible across a health system and can meet many providers' and patients' needs during the COVID-pandemic that were not being met through individual telehealth visits. Though our initial data is small, it also suggests that telehealth group visit patient participation levels and associated provider productivity rates can *both* be maintained at relatively the same level as pre-COVID in-person groups. However, it was important for our organization's leadership to recognize and honor a transition period, providing an upfront investment in time and resources. Through our experience, we found that it took about three groups (ie. about 3 weeks) to get
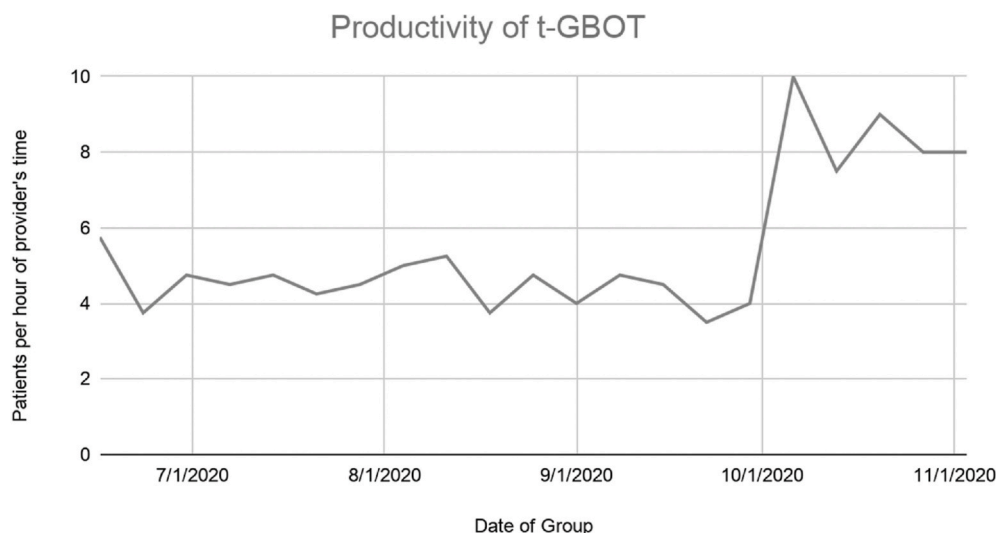

Fig. 1. Productivity of t-GBOT at Pilot Site.

technology and attendance solidified to promote sustained group attendance and associated provider productivity.

While we operate within a unique safety-net, academic health system, our transition efforts offer important implementation "lessons" for other health systems looking to transition to t-GBOT models. Consistent with successful improvement redesign strategies,[18,19] it is important to garner early support from central leadership to help drive new and core infrastructure and workflow-related changes: we needed a working group that spanned silos across both primary care and psychiatry departments; we needed time for this working group to meet to foster a learning community that shared best practices; we needed to repurpose roles, with special attention to a "telehealth group champion" at each site; and each of these team members needed adequate time and resources to meet the demands of their new responsibilities. Because so much of t-GBOT's success is dependent on onboarding patients and providers to new technology formats, it is essential to identify a champion who is able to work to the top of their license with demonstrable expertise in technological, interpersonal, and executive skills, who also enjoys working with the OUD patient population.[16] In the future, we hope to create one centralized "Telehealth Group *Coordinator*" who can train and support all telehealth group champions across all our primary care sites. We also hope to protect time for a *Provider* Group Telehealth Lead who would partner with the Coordinator to develop telehealth group-based medical visits across our primary care sites.

Informal patient and provider feedback suggest that the t-GBOT model is preferred to the individual telehealth model among those who have become accustomed to group-based forms of treatment, though more rigorous qualitative assessment is needed. The team-based care approach and peer support provided in group formats were greatly valued and welcomed after 3–6 months of experiencing OUD treatment through individual appointments. While telehealth technologies offer unique advantages like increased access to care, many patients still find the in-person support from both patients and providers uniquely rich and irreplaceable through virtual venues. Because virtual care is likely to continue throughout the COVID pandemic and beyond, providers will need to be able to continue to adapt and respond to virtual-based platform demands. As our PDSA cycles have demonstrated, attention should be paid to evolving group behavior expectations and content of group-based discussions and balancing recovery support through "low threshold" models that make B/N readily available while holding patients accountable. For example, depending on how social distancing safety protocols evolve, there may be opportunities for selected high risk patients to be held accountable through in-person visits or scheduled urine drug tests, allowing providers to further assess patients' recovery

status and create opportunities to augment their support if needed, while continuing to prescribe life-saving MOUD. Future opportunities may also include developing home-based urine or oral swab-based toxicology testing. As we continue to experiment with new technology, we also hope to optimize patient support, such as accessing "break out rooms" for patients needing more individualized attention through peer-to-peer or provider-patient support. Additionally, since the virtual format enables providers to care for patients outside their usual geographic encactment area, we should explore ways to further expand access to care, such as offering t-GBOT sessions for non-English speakers. And, once we eventually return to providing in-person GBOT, we will need to determine if and how we will continue to run the t-GBOT format and which patients might be better served by this model, such as those living far-away or those with work schedules or family responsibilities that limit travel time to attend in-person sessions. With two GBOT delivery models, it will also be important to understand the efficacy of each. Initial studies comparing *individually* delivered telehealth services to in-person treatment suggest that telehealth services may improve treatment retention,[20] increase access to B/N (especially in urban, rural, and remote areas),[21] and produce similar relapse rates and similar abilities to build a meaningful relationship with a therapist.[20] However more comparative effectiveness data are needed, especially comparing in-person and telehealth *group-based* OUD treatment delivery models. Finally, understanding and quantifying resource allocation needs for each delivery model (in-person, individual; in-person, group-based; telehealth individual; telehealth group-based) will be important for long-term sustainability of each.

Conclusion

Our institution's efforts to transition to t-GBOT groups proved feasible and was welcomed by both providers and patients after an interim period of individual televisits for patients with OUD. Our PDSA cycles, which included developing our learning community, creating new roles for providers (especially telehealth group champions), evolving the group visit experience itself (changing behavioral expectations and group activity content and delivery formats), and balancing our accountability standards with patient safety concerns during a pandemic, highlight important focus areas for health systems to consider when making this transition.

Author contributions

All authors have made substantial contributions to all of the

Table 2
Average Productivity and Attendance of GBOT (pre-COVID) and t-GBOT (during COVID).

Site/Group	Start date of t-GBOT group	Group Frequency	Avg productivity[a] of GBOT (pre-COVID) in January 2020	Average productivity[a] of t-GBOT (during COVID) in October 2020 groups (patients/hour of provider's clinical time)	Avg no-show rate[b] of GBOT (pre-COVID) in January 2020	Average no-show rate[b] of t-GBOT (during COVID) in Oct 2020 groups
Site1 Group1	5/12/2020	weekly	10.5	8.1	6.0	13.0
Site1 Group2	7/23/2020	weekly	11.5	3.2	6.0	13.0
Site1 Group3	10/15/2020	weekly	10.5	6.6	16.5	0.0
Site2 Group1	5/26/2020	weekly	5.3	3.3	28.0	19.0
Site2 Group2	5/26/2020	biweekly	2.5	4.5	27.0	17.0
Site2 Group3	6/2/2020	weekly	6.5	5.7	9.0	30.0
Site2 Group4	6/2/2020	biweekly	4.0	4.8	15.0	8.0
Site3 Group1	7/13/2020	monthly	4.0	4.5	50.0	31.0
Site3 Group2	8/21/2020	weekly	5.0	4.1	42.0	56.0
Site3 Group3	9/23/2020	weekly	3.0	3.0	50.0	54.0
Site3 Group 4	10/27/2020	monthly	2.7	3.5	60.0	12.0
Site4 Group1	9/2/2020	weekly	6.0	6.4	15.0	23.0
Site4 Group2	9/2/2020	weekly	5.0	4.1	39.5	45.0
Average			**5.8**	**4.8**	**28%**	**24.7%**

[a] Productivity defined as patients/hour of provider's clinical time.
[b] No-show rate defined as percentage of patients who did not attend the group/number of patients scheduled for the group (rounded to the nearest 0.5%).

following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

Funding

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

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