



Rapid conversion to virtual obesity care in COVID-19: Impact on patient care, interdisciplinary collaboration, and training

Jessica A. Lohnberg^{1,2}  | Lianne Salcido¹ | Susan Frayne^{3,4} | Naina Mahtani⁵ | Cheryl Bates⁶ | Michelle E. Hauser^{4,6,7,8} | Jessica Y. Breland^{2,3} 

¹Psychology Service, Veterans Affairs Palo Alto Health Care System, Palo Alto, California, USA

²Department of Psychiatry & Behavioral Sciences, Stanford University School of Medicine, Stanford, California, USA

³VA HSR&D Center for Innovation to Implementation (Ci2i), VA Palo Alto Health Care System, Menlo Park, California, USA

⁴Division of Primary Care and Population Health, Stanford University, Stanford, California, USA

⁵Mental Health Service, San Francisco VA Health Care System, San Francisco, California, USA

⁶Medical Service, Veterans Affairs Palo Alto Health Care System, Palo Alto, California, USA

⁷Minimally Invasive & Bariatric Surgery, Division of General Surgery, Department of Surgery, Stanford University School of Medicine, Stanford, California, USA

⁸Department of Medicine, Adult Primary Care-Fair Oaks Health Center, San Mateo County Health System, Redwood City, California, USA

Correspondence

Jessica Lohnberg, VA Palo Alto Health Care System, 3801 Miranda Avenue, Palo Alto, CA 94304, USA.

Email: jessica.lohnberg@va.gov

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Abstract

Objective: The COVID-19 pandemic presents challenges to maintaining interdisciplinary collaboration while transitioning care to telehealth environments. This paper describes how an intensive weight management clinic rapidly transitioned from in-person only to a telehealth environment.

Method: As a program evaluation project, changes to clinic procedures were tracked on a weekly basis. Patients were invited to complete phone surveys after clinic appointments from 1 May 2020 to 31 July 2020. The survey included 12 items rated on a 5-point scale (“strongly disagree” to “strongly agree”).

Results: Adaptations included converting team meetings and clinical training to phone/video platforms and transferring a complex patient tracking system to an interactive virtual format. Fifty-eight patients completed phone surveys (81% response rate). All “agreed” or “strongly agreed” that they were satisfied with telehealth care; 51% “agreed” or “strongly agreed” that telephone visits were as good as in-person visits; and 53% preferred phone appointments even after pandemic restrictions are eased.

Conclusions: It is feasible to rapidly transition to a telehealth clinic when supported by infrastructure and resources of a national, integrated healthcare system. Patient preferences include access to both telehealth and in-person services. A blended telehealth/in-person model that maintains interdisciplinary collaboration and training is necessary even after the COVID-19 pandemic.

KEYWORDS

health systems, obesity treatment, patient satisfaction, professional education, quality improvement

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1 | INTRODUCTION

Over 40% of adults in the United States have obesity,¹ a serious public health concern associated with diabetes, heart disease, and severe COVID-19, among other conditions.^{2,3} Clinical practice guidelines⁴ and the 2018 US Preventive Services Task Force Recommendation Statement⁵ recommend an intensive, multidisciplinary, and multicomponent approach to weight management, incorporating behavioral interventions, nutrition, and exercise. Integrating multiple disciplines into a single functioning clinic often requires on-site, in-person clinical care. In-person weight management programs have been the gold standard for decades. Notably, weight loss outcomes are best with high-intensity lifestyle interventions (>14 sessions in 6 months) as compared to low- or moderate-intensity interventions.⁴ Bariatric surgery⁶ and weight loss medications,⁷ in conjunction with lifestyle changes, have been shown to produce even greater and more durable weight loss, and clinical practice guidelines for bariatric surgery similarly recommend a team approach with frequent follow-up.⁸

Weight management is particularly important for patients using the Veterans Health Administration (VHA) as over 40% of VHA primary care patients have obesity.⁹ VHA offers free, evidence-based, weight management, which a systematic review demonstrated is associated with weight loss of 0.13–3.3 kg at 12 months.¹⁰ As with outside VA, greater weight loss occurs as participation in programming increases.¹⁰ For example, a study of patients using VHA comprehensive lifestyle intervention programming showed those with more than six contacts achieved greater weight loss than those who had a single contact.¹¹ Long-term success of bariatric surgery is also associated with adherence to follow up appointments.¹² Given that the effectiveness of weight loss programs is partially dependent on the dose-response relationship, improving access to treatment is essential.

With the growing use of technology, electronic platforms such as telehealth and mobile health products (mHealth) are increasingly being used for many aspects of health care, including weight management.¹³ Virtual visits are a way to improve access to health care, creating the potential to increase engagement in weight management programs.¹⁴ Digital weight loss interventions and telephone counseling have been shown to be effective at creating and maintaining clinically meaningful weight loss in socioeconomically disadvantaged patients¹⁵ and rural patients¹⁶ in particular, thus extending obesity care to those with limited access to in-person programs. The COVID-19 pandemic limited access to in-person care for all patients. Resulting transitions to virtual care exposed more patients to telehealth than might otherwise seek it out and could have the potential to enhance population-wide engagement in weight management programs.

At the same time, the COVID-19 pandemic and rapid transition to virtual care challenged the functioning of interdisciplinary teams. Graham and colleagues¹⁷ wrote about the personal difficulties that may be experienced by bariatric teams during the COVID-19 pandemic related to the mental and emotional tolls the pandemic

has on providers themselves and the patient-provider relationships. They postulated, however, that remote bariatric consultations have the potential to protect the physical health, mental health, and well-being of bariatric teams. Health professions trainees, including medical students and residents, were similarly impacted by COVID-19 infection control measures. When the Association of American Medical Colleges recommended that medical students not participate in direct clinical care during the pandemic, with the exception of critical workforce need, clinical programs were challenged to recreate the valuable multidisciplinary team experience within a virtual space.¹⁸ Virtual environments can help ensure social distancing while maintaining the elements of interdisciplinary teamwork and training.

Despite this growing support for telehealth for weight management,¹³ few articles examine the effects of telehealth in the context of interdisciplinary team functioning or medical training. This short communication describes the in-person to telehealth conversion of an interdisciplinary intensive weight management clinic as a result of COVID-19 shelter-in-place orders and associated patient satisfaction and preferences.

2 | METHODS

2.1 | Clinic structure and staff pre-pandemic

The MOVE TIME intensive weight management clinic is multidisciplinary, composed of providers from five disciplines: surgery, internal medicine, behavioral medicine psychology, nutrition, and physical therapy specialties. In addition, there are trainees from these and other specialties who rotate through the clinic, training for one to two weeks (i.e., medical students, medicine residents), up to one month (i.e., psychiatry interns), six months (i.e., psychology interns, physical therapy trainees, dietitian trainees), or one year (i.e., surgical fellows, psychology postdoctoral fellows). Trainees have the opportunity to observe each discipline performing their role and then are observed by their attending or supervisor conducting their piece of the interdisciplinary encounter. MOVE TIME is a model for longitudinal interdisciplinary pre- and post-bariatric surgery care across the VHA that also provides lifestyle management and weight loss medications.¹⁹ Before March 2020, most clinic procedures were in-person, including pre- and post-clinic interdisciplinary team meetings, patient visits, and clinical supervision of trainees from all specialties. At each clinic visit, patients were seen individually by providers from each discipline, with clinicians consulting face-to-face between visits. However, some physician-only appointments were done by telephone, such as consult triage, initial weight loss medication titration appointments, and post-one year follow-up appointments if preferred by the patient. The interdisciplinary team met in-person in a workroom at the beginning of the clinic day to review the patients scheduled for that day. Clinicians also used a whiteboard grid in the secure clinic workroom to mark the start/end of visits and to communicate other information (e.g., needed

prescriptions, patient updates). This grid was the key to clinic flow as it ensured patients were efficiently seen by each discipline and allowed for communication between team members when consultation with each other in real time during the course of the patient's visit was impossible. The whiteboard indicated when a patient was being seen by a particular provider or when a patient was available, or about to be available, to be seen by the next provider so that no patient waited too long between providers.

2.2 | Patient population

The clinic serves VHA patients with obesity and associated comorbidities who are interested in intensive, interdisciplinary weight management care, including dietary counseling, behavioral interventions, diagnosis and treatment of obesity-related diseases, weight loss medications, and/or bariatric surgery. The clinic also serves bariatric surgery patients from 12 VA medical centers in 8 US states who typically travel for in-person appointments.

2.3 | Transition to telehealth

California's March 2020 stay-at-home orders exempted healthcare workers. However, the clinic workroom did not allow for social distancing, especially when trying to conserve personal protective equipment for higher risk clinics. Consequently, MOVE TIME transitioned to a *virtual environment* for the interdisciplinary team and to *telephone care* for patients. We refer to this combination of the virtual environment for providers and telephone care for patients as telehealth MOVE TIME. Clinic adaptations were led by a point-person (the lead clinical psychologist) and included recreating physical workrooms in a virtual space to maintain the integrity of the clinic's interdisciplinary collaboration, communication, and planning. The pre- and post-clinic meetings were transitioned to a VHA-approved Zoom platform, which accommodated those working on campus and at home. We replaced the whiteboard grid with a HIPAA-compliant shared Microsoft Excel spreadsheet that could be viewed and edited by providers simultaneously via Microsoft Teams. Microsoft Teams chat enabled secure synchronous and asynchronous communication with other providers in-between patient telephone sessions. To transition the training environment from in-person to virtual, clinical trainees were included in Zoom meetings and used conference calls to observe attendings and be observed by supervisors during clinical encounters. In less than one week, the clinic was converted from in-person to fully telehealth.

2.4 | Program evaluation

To identify and understand clinician, patient, and trainee processes required to transition to telehealth MOVE TIME and to obtain patient feedback on the transition, a program evaluation project was

started in April 2020. Authors met weekly from April through July 2020 to discuss, review, and document changes to clinic procedures. In addition, between 1 May 2020 and 31 July 2020, all telehealth MOVE TIME patients who completed a visit with one of the medical providers were invited to participate in a phone survey after completing appointments. Psychology staff and trainees made calls and identified themselves as working with VA, but not as MOVE TIME clinicians (they did not call patients they themselves saw during clinic). The survey included 12 items rated on a five-point Likert scale ("strongly disagree" to "strongly agree") and was based on a prior survey.¹⁹ Items assessed satisfaction with care and beliefs about telehealth (see Tables 1 and 2 for the full text of each item). Descriptive statistics were used to report responses. This program evaluation was deemed non-research by the [blinded] Institutional Review Board.

3 | RESULTS

Of the 58 patients who completed the phone survey (81% response rate), 20 were patients who were new to the clinic and 38 were existing clinic patients. Respondents included 40 men and 18 women, and represented a mixture of patients who were undergoing pre-operative workup for bariatric surgery, those who had a history of bariatric surgery, and those primarily focused on medical weight loss. Most were White ($n = 37$) with a mean age of 54 (SD + 12). As seen in Table 1, all 58 patients agreed or strongly agreed that they were satisfied with their clinic experience, that recommendations from providers were easy to understand and helpful, and that questions were answered. Most patients thought wait times between visits were reasonable (91%). Roughly half said they would prefer to have all visits over the phone after the shelter-in-place order (53%). While video visits were not available at the time of the survey, patients were queried about preferences for hypothetical video visits. Most reported access to Internet for video visits (81%) As seen in Table 1, some patients prefer video to telephone, but most would not prefer to have all visits over video after shelter in place ends.

MOVE TIME patients with previous visits were asked questions that compared telephone and in-person experiences. As shown in Table 2, approximately half thought telephone visits were as good as, and roughly one-third thought telephone visits were inferior to, in-person visits. They overwhelmingly felt telephone visits took less time and cost less than in-person visits.

4 | DISCUSSION

This project describes the rapid transition of an interdisciplinary, intensive, weight management clinic to a telehealth format during the COVID-19 pandemic and presents patient satisfaction and clinic format preferences. When asked whether they would prefer to have telephone and/or video appointments after the shelter-in-place order ended, about half of the patients agreed. Responses suggested access

TABLE 1 Patient experiences in a virtual intensive weight management clinic during COVID-19 shelter in place order (N = 58)

Question	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
I was SATISFIED with my experience in the MOVE TIME clinic today.	0 (0%)	0 (0%)	0 (0%)	15 (26%)	43 (74%)
Recommendations provided during today's MOVE TIME were EASY TO UNDERSTAND.	0 (0%)	0 (0%)	0 (0%)	18 (31%)	40 (69%)
Today's recommendations from MOVE TIME providers were HELPFUL.	0 (0%)	0 (0%)	0 (0%)	17 (29%)	41 (71%)
All of my questions were answered during today's MOVE TIME visits.	0 (0%)	0 (0%)	0 (0%)	16 (28%)	42 (72%)
The length of time I WAITED between calls during today's MOVE TIME visits was reasonable.	4 (7%)	1 (2%)	0 (0%)	19 (33%)	34 (59%)
I would prefer to have all MOVE TIME appointments over the phone, even after the shelter in place order is lifted.	7 (12%)	14 (24%)	6 (10%)	11 (19%)	20 (24%)
I have Internet on a computer, tablet, or phone that I could use for video MOVE TIME visits.	5 (9%)	4 (7%)	2 (3%)	18 (31%)	29 (50%)
If video visits were available, I would prefer them to telephone visits. ^a	4 (7%)	7 (12%)	20 (24%)	14 (24%)	13 (22%)
I would prefer to have all MOVE TIME visits over video, even after the shelter in place order is lifted. ^a	10 (17%)	15 (26%)	12 (21%)	12 (21%)	9 (16%)

^aAsked before video visits were available.

TABLE 2 Patient experiences comparing telephone to in-person visits in an intensive weight management clinic during COVID-19 shelter in place order (N = 35 patients with previous clinic visits)

Question	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
MOVE TIME telephone visits are as good as in person MOVE TIME visits.	2 (6%)	10 (29%)	5 (14%)	7 (20%)	11 (31%)
The MOVE TIME telephone visits took less time than MOVE TIME in person visits (include travel time).	0 (0%)	0 (0%)	1 (3%)	12 (34%)	22 (63%)
The MOVE TIME telephone visit cost me less money than a MOVE TIME in person visit.	0 (0%)	1 (3%)	7 (20%)	10 (29%)	17 (49%)

to both modalities is important as some preferred phone and some thought they would prefer video. Most patients also said that telephone care took less time and cost less money than in-person care. The other finding was that it was also possible to transition the interdisciplinary team and training to a virtual environment and maintain communication, collaboration, and interprofessional training in the virtual space. The telehealth clinic remained a viable and satisfactory option to patients seeking weight loss medications and bariatric surgery from a multidisciplinary team.

To our knowledge, these are the first findings to demonstrate patient satisfaction with an interdisciplinary weight management clinic rapidly converted to telephone appointments while maintaining close interdisciplinary collaboration and interprofessional training. Outside the weight management context, previous work from a quality improvement initiative evaluating the rapid transition to virtual care due to COVID-19 in an orthopedic hospital showed that patients were satisfied with virtual care.²⁰ Similarly, patients in a videoconference weight loss program reported fewer barriers to program engagement,

especially in rural areas.²¹ This may also explain why some patients said they would prefer telephone or video care, even after the shelter-in-place orders are lifted. Telehealth care may increase access to services for patients with geographic, transportation, medical, or personal/work limitations. For example, a limited number of VHA facilities provide bariatric surgery services,²² thereby requiring patients from outlying VA facilities to travel for pre- and post-op appointments. Telehealth minimizes travel burdens in this population at higher medical risk during travel due to their multiple medical comorbidities. At the same time, if not implemented thoughtfully, virtual care could exacerbate inequities as it requires factors marginalized patients may lack, like internet-enabled phones, computers, and/or tablets. Furthermore, patients from lower socioeconomic statuses may not have adequate living space to ensure safety and privacy over virtual mediums. When required to rapidly convert the clinic to all telehealth, MOVE TIME initially used telephone appointments because this technology was most accessible to patients, it did not require additional infrastructure and equipment, and the VA covered the cost of

care provided by telephone. In planning to convert more care to video visits, VHA proactively addresses potential virtual care inequities by providing veterans without necessary equipment or Internet with a cellular-enabled tablet for video appointments.²³ Other systems may need to do the same.

Use of telehealth to increase access to specialty care has grown in recent years as technology improves, but the pandemic expedited the transition for many clinics. At the beginning of the pandemic the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) recommended that elective metabolic and bariatric surgeries be postponed and telemedicine, online, or phone follow-up be considered if possible to decrease hospital density of patients.²⁴ One study of patients awaiting bariatric surgery during the pandemic showed that patients were concerned about the impact COVID-19 would have on their weight loss goals and evidence also showed an increase in snacking behavior and decrease in physical activity.²⁵ Because bariatric surgery had to be postponed for months, maintaining access to an interdisciplinary clinic structure, including all specialties, was crucial for this patient population. This quick transition to a virtual platform allowed the clinic to pivot its emphasis to rely on weight loss medications and comprehensive lifestyle interventions, allowing patients to still obtain the same standard of care and continue their efforts toward weight loss without losing the momentum they had started pre-pandemic. As seen by the patient satisfaction results from this program evaluation project, even though surgery was postponed for many patients and treatment shifted to lifestyle interventions and weight loss medications, they remained satisfied with the care provided by this interdisciplinary clinic, at least during the first several months of the pandemic, despite the need to rapidly transition from in-person clinical services and interdisciplinary processes and training to a delivery of clinical services via telephone with virtual formats for team functioning.

The transition to interdisciplinary team meetings required more virtual infrastructure and time than patient care. While delivery of patient care services was relatively straightforward via telephone, maintaining team processes in a virtual space required additional consideration of clinic logistics such as hardware and software requirements, data security, and management of team communications. This was achieved by having a digital infrastructure point-person and using telephone, videoconferencing, encrypted chat and spreadsheets for real-time communication and curbside consultations. Maintaining interdisciplinary collaboration was especially important with this complex population of patients with obesity and multiple medical and mental health comorbidities. Further, these systems were rapidly implemented without advance notice. Given these challenges, it is notable that the medical and psychology trainees remained active members of the team and gained valuable clinical experience in the virtual setting.

Telehealth will outlast the COVID-19 pandemic, making it essential to prepare future clinicians across the health professions to use telehealth not only for clinical care, but for a broad spectrum of clinical collaboration. The pandemic contributed to the mass transition to virtual interdisciplinary care and collaboration.²⁶ Medical

schools are now beginning to offer clerkships and courses focused on delivering telehealth services; however, little training is provided on virtual, interdisciplinary collaboration and communication.²⁷ Research suggests that such physician training competencies should include skills in virtual communication with the care team. Our results suggest the same is likely true for other disciplines.²⁸ Future program evaluation projects could also explore trainee and supervisor experiences of virtual interdisciplinary collaboration.

4.1 | Limitations

Patients who refused telephone care would not have been scheduled in telehealth MOVE TIME and therefore, the survey may be biased toward patients who were open to, and might prefer, telephone or other forms of virtual care, although we are not aware of any patients who refused telephone care. The patient survey did not include open-ended responses, so it is unclear why some patients prefer telephone versus in-person versus video care. However, it may be related to the lower time commitment and costs associated with telephone or video care and/or the possibility for increased interpersonal connection and rapport that is likely to be afforded via video or in-person care compared to telephone.

5 | CONCLUSION

Healthcare had been shifting toward incorporating more virtual care when the COVID-19 pandemic abruptly required a rapid shift to virtual formats without much time for planning and preparation. This paper demonstrated the feasibility of a rapid telehealth transition of an interdisciplinary weight management clinic in a way that was acceptable to patients, who expressed preferences for both virtual and in-person clinic options post-pandemic. Implications for virtual interdisciplinary collaboration and training include having a digital infrastructure point-person, ensuring platform accessibility for staff at the hospital or offsite, developing strategies for real-time team communication during a clinic session, and making adaptations to training (e.g., updated competencies). It is now clear that the future of obesity medicine will be blended in-person and virtual interdisciplinary care models. Given recommendations for multidisciplinary treatment and expanding needs for telehealth, obesity medicine must consider virtual care not only for delivery of clinical services, but also for interdisciplinary collaboration and training.

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CONFLICTS OF INTEREST

The authors declared no conflict of interest.

AUTHOR CONTRIBUTIONS

Jessica Y. Breland, Jessica A. Lohnberg, Susan Frayne, Michelle E. Hauser, and Cheryl Bates conceptualized the qualitative improvement project. Jessica Y. Breland and Naina Mahtani conducted data collection, and Jessica A. Lohnberg and Jessica Y. Breland analyzed and interpreted the data. Jessica A. Lohnberg, Lianne Salcido, and Jessica Y. Breland wrote the manuscript. All authors were involved in the editing and revision process and provided approval of the final manuscript.

ORCID

Jessica A. Lohnberg  <https://orcid.org/0000-0002-7107-1485>

Jessica Y. Breland  <https://orcid.org/0000-0003-0024-3478>

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