

INNOVATION IN A TIME OF UNCERTAINTY: OPPORTUNITIES FOR THE UTILIZATION OF HYBRID SERVICES BY CHIROPRACTORS AS A RESULT OF THE COVID-19 PANDEMIC

Casey Rogers DC¹, Bret White DC DABCO², John D'Amico DC DABCO³, Charles Penza DC PhD⁴

ABSTRACT

Objective: The COVID-19 pandemic has had a profound impact on the delivery of healthcare services. The objective of this commentary is to highlight the potential for implementing, covering, and improving access to virtual healthcare in combination with face-to-face services.

Discussion: In response to the COVID-19 pandemic across the United States, many state and local governments enacted stay-at-home orders and closure of non-essential businesses, followed by phased re-opening and adherence to federal recommendations and guidelines. These measures, aimed at stopping and slowing the spread of COVID-19, abruptly changed the ability of healthcare providers to deliver healthcare services as they had prior to the pandemic. This included providing pain management, with specific challenges for Doctors of Chiropractic who rely on face-to-face service. The impact of these current disruptions on the future of healthcare services, "the new normal," is unknown and there may be lasting fundamental shifts. Staff chiropractors employed by the Veterans Administration have collaborated to implement virtual pain management services to lessen the impact of interrupted, discontinued, delayed, limited, and/or suspended care. We provide a brief overview of the health approach implemented across the Veterans Health Administration and implemented virtual care. These innovative approaches may become a part of the "new normal."

Conclusion: The current pandemic has transformed how conservative pain management strategies are delivered. The future of the post-pandemic healthcare system will

be transformed. Future success may depend on adopting new clinical models that include virtual healthcare. (*J Contemporary Chiropr* 2020;3:86-91)

Key Indexing Terms: Chiropractic; COVID-19; Telehealth; Hybrid Care; Pandemic

INTRODUCTION

Because of the spread of SARS-CoV-2 (COVID-19), in the United States public health has prioritized treatment, prevention, and policy of this condition. (1) This major shift leaves many other persistent health care topics, such as chronic pain, in an unusual state. Many state and local governments have enforced closures of outpatient care facilities that treat chronic pain, including chiropractic offices deemed non-essential. (2) State governments offered varied guidance to clinics with regard to proceeding with care. (3) Healthcare providers such as chiropractors, as well as their employees and patients, have been affected by mass closures and/or limited/restricted hours of service for these chronic pain conditions. (2) Though the COVID-19 pandemic is arguably the most significant health issue ever, greater than 50 million American people are still suffering with chronic pain, a condition with a cost burden upwards of \$635 billion. (4)

As well, delay, suspension, or discontinuing treatments for chronic pain is likely to demonstrate negative consequences for those seeking care, including increased pain, depression, and disability. (2) Additionally, suspension of service will have a dramatic effect economically on the chiropractor involved in a fee-for-service (FFS) based practice, as care cannot be delivered and reimbursement will thus not be received. As time persists, cost-effective, new, and innovative ways to ensure patients receive care for chronic pain must be approached to mitigate adverse long-sustained effects of this disruption in care to both the patient and provider.

¹ Chiropractic Resident, Bruce W. Carter VA Medical Center, Miami, FL

² Assistant Professor, Keiser University College of Chiropractic Medicine, West Palm Beach, FL, bretwhite@keiseruniversity.edu

³ Chiropractor, William "Bill" Kling VA Clinic, Sunrise, FL

⁴ Chiropractor, Chiropractic Residency Director, Bruce W. Carter VA Medical Center, Miami, FL

DISCUSSION

Hybrid Forms of Care and Access to Telehealth Services

An innovative way of accomplishing safe and effective care amid COVID-19 is implementing a hybrid model of face-to-face and telehealth services. Using this model, chiropractors can continue to focus on factors impacting pain for those seeking care. The foods that we eat, the liquids that we drink, the time we spend in recovery (sleep, meditation, etc.), and how we move can all be addressed remotely while manual therapies can be introduced when safe for both provider and the patient. Chiropractors will need to observe the state law under which they are practicing with regard to telehealth services; however, given the current conditions from COVID-19 access to these services have been increased substantially⁵.

The U.S. Department of Health and Human Services has made tentative provisions to the Health Insurance Portability and Accountability Act (HIPAA) during the time of COVID-19. These provisions include making digital platforms such as Skype, Google Hangouts, and Zoom HIPAA compliant platforms. (5) This action can greatly increase access to telehealth for a large portion of the population to reach their chiropractic provider remotely.

Telephone-based follow-up services can provide ongoing monitoring of pain-related symptoms and insufficient treatment response. "Treatment" in this scenario can be the initial form of treatment, such as self-care strategies, home exercise programs, shipped therapeutic aids (TENS units, lumbar supports, etc.), activity modifications, dietary modifications, and/or a short course of face-to-face visits. These "treatment response monitoring" telehealth appointments can also be used to re-enforce assisting individuals to build core behavioral and cognitive skills for pain self-care and health coaching sessions. This serves to help individuals be accountable to their established explicit goals for increasing physical activity and healthy behaviors as well as address barriers to change that appear.

Using Digital Tools to Evolve the Chiropractic Role and Become a Partner in a Person's Pursuit of Health and Wellbeing

During the COVID-19 pandemic, telehealth services are being used in various forms. (6) Tools such as telephone calls, video-on-demand (VOD), and messaging systems are being used to keep individuals from feeling forgotten or lost. Their condition is important and there are providers trying to help manage their pain amid a pandemic, despite disruptions. These tools also help ensure the safety of both the individual and provider. Prior research has demonstrated that long-term outcomes are not affected compared to treatment via telemedicine in adjunct or alternative to face-to-face appointments. (7)

Further, historical factors, symptom descriptions, and other interview questions routinely applied to face-to-face consults can be applied on telehealth calls or video conferencing. These questions aid in the primary and differential diagnosis of a person's chief complaint, which can also impact the providers decision on treatment protocols, deferring/delaying care, or referral in the case of "red flag" presentations. Based on the exam, the provider can implement a hybrid form of care consisting of some face-to-face encounters complemented with telehealth visits. All factors considered, the provider and individual can mutually decide what pathway best fits their pursuit of treatment, wellness, and overall health.

Screening the Risk Factors for COVID-19 and Creating a Care Sequence Plan

While consulting a patient in a telemedicine setting the provider can screen patients for high risk factors for infection with COVID-19. According the Centers for Disease Control and Prevention (CDC) these risk factors include if the patient reports any of the following conditions (8):

- Greater than 65 years of age
- Lives in a nursing home or long-term care facility
- Chronic lung disease or moderate to severe asthma
- Immunocompromising conditions (i.e. HIV/AIDS)
- Heart conditions (i.e. coronary heart disease)
- BMI >40
- Diabetes
- Chronic kidney disease/undergoing dialysis
- Liver disease

If the patient reports any of the above conditions, the chiropractor can engage in a shared decision-making process to determine the risk/benefit of face-to-face treatment. This process begins with the question "is the person in enough pain that face-to-face treatment outweighs the potential risk of delaying/deferring care?" To help facilitate the answer the provider must weigh some potential concerns:

- "Is the person at a high risk for infection or worse outcomes with COVID-19 if they report to a clinic setting?"
- "Is there an ability to provide a low volume/low traffic clinic setting?"

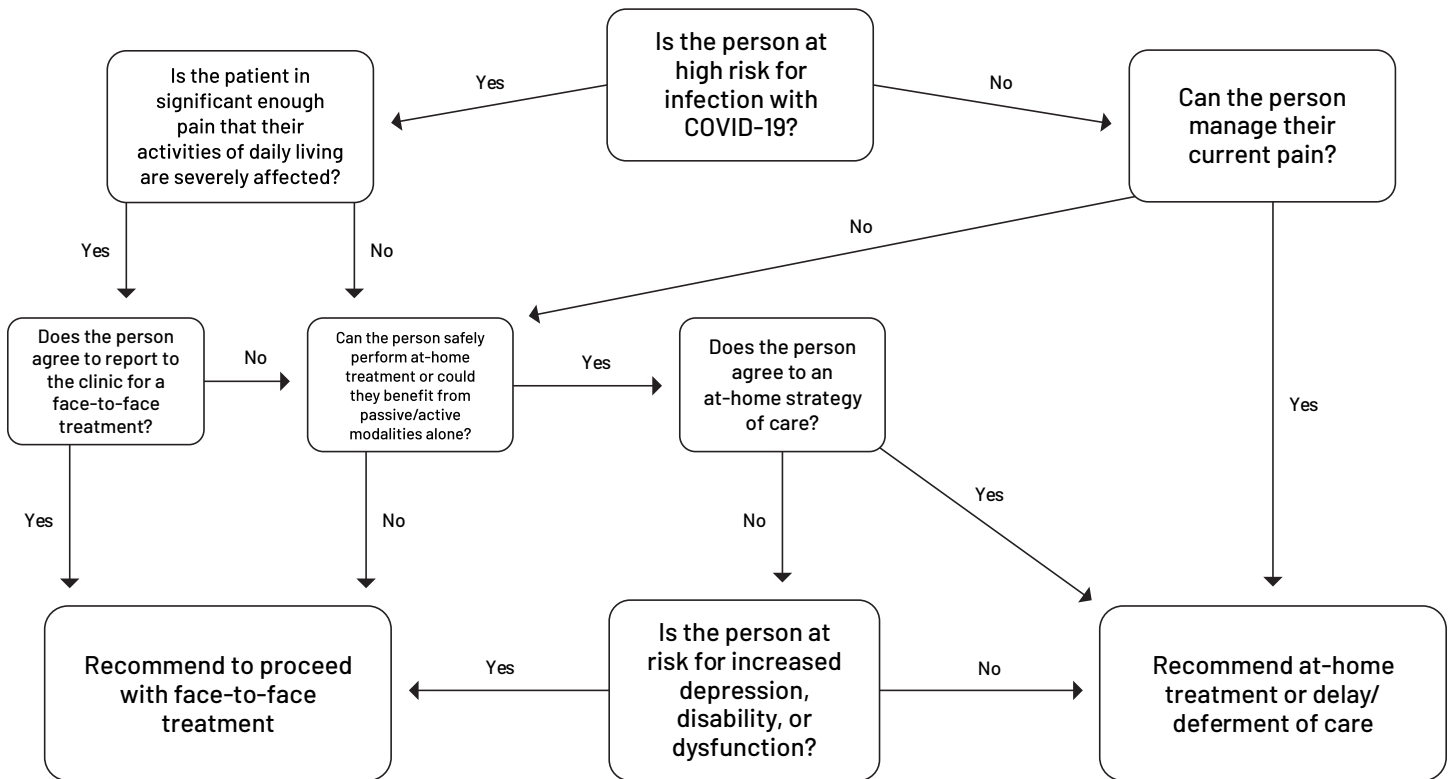


Figure 1. The figure represents a potential algorithm that providers may use to weigh a cost to benefit in determining face-to-face, at-home, or delay/deferment of treatment within a hybrid model of services.

- “Is the person able to reasonably manage their own pain at home without treatment?”
- “Can the person safely perform at-home care (i.e. exercise, stretching, yoga, etc?)”
- “Would the initiation of treatment offset potential visits to the emergency department or urgent care facility?”
- “Is the person at a high risk for worse outcomes such as increased depression, disability, or dysfunction if treatment is delayed?”

After deliberating these questions, shared decision-making will play an extremely important role in determining the next appropriate action for safe and ethical care for the individual. Though questions regarding determination of increased risk of depression, disability, and dysfunction are beyond the scope of this commentary, this question too plays a tremendous role in the decision-making process regarding the next steps of care. An example algorithm of how this process may be achieved is provided in Figure 1.

A whole-health Approach Using Telehealth Services

The U.S. Department of Veterans Affairs has developed a uniquely coordinated safe and effective person-centered care by using and combining a Whole Health System

of Care and telemedicine/remote distance assessment tools. A significant benefit of Whole Health within the VA includes referral to access complementary and integrative health (CIH) services via online and digital media. The use of these separate services is supported by evidence of the benefit each can provide to the overall health of the individual. These services include but are not limited to yoga, meditation, mindfulness, and relaxation techniques. (9,10) Here, the individual can use a variety of mediums while remaining at home, reducing risk of infection or infecting others with COVID-19. These mediums can all be offered with live-group and pre-recorded VOD.

While using this hybrid model the chiropractor can also avoid provider burnout. (11) This a process of both mental and physical exhaustion as it relates to employment and patient care. This condition can have dramatic effects on not only the chiropractor, but also for those seeking care for their ailments. (11) By providing hybrid services the chiropractor can interchange physical treatments with communication and cognitive based therapy to reassure the patient can be their own “hero” in care for their pain. With properly implemented education plans the patient will understand therapies and techniques that can be performed safely at home without a cost burden to themselves or the healthcare system. Further, this can prevent unnecessary exposure to COVID-19 infection or infection of others.

Measuring Outcome Response and Satisfaction with Telehealth Services

Outcome measures often used by chiropractors, such as the Oswestry Disability Index, Neck Disability Index, and Numerical Rating Scale, can still be used to monitor and follow patient response to treatment while being applied remotely. An example of a measurable outcome might be a person wanting to achieve weight loss. An article published recently in the *Journal of the American Medical Association* suggested telehealth appointments had a positive effect for weight loss in rural areas compared to education alone, and 1-on-1 telephone visits have been shown to be more effective to group follow-up for maintaining healthy behavioral modifications for over 1 year (weight-loss). (12) Providers regularly make goals with those in their care and these goals can remain objective and clear for the recipient.

The opinion of individuals receiving care is considered a key factor in determining the delivery of health care services, with satisfaction being the standard for measuring the efficacy and effectiveness. (13-14) Many private healthcare practitioners have noted that compliance and overall positive treatment outcomes are heavily dependent upon satisfaction. There is obvious concern regarding satisfaction if in-office face-to-face encounters are not possible. However, several studies have determined that once the technological barriers are addressed, individuals often perceive equal, if not better, experiences with telehealth encounters compared to traditional in-office encounters with their health care providers. (13-14) Parisien *et al* reported high patient satisfaction with follow-up orthopedic telemedicine visits, noting there was no one in the telehealth group that experienced time away from work. (14) Additionally, most telehealth beneficiaries perceived increased satisfaction with the encounters due to added convenience and saved travel time. (15) Anecdotally, some providers expressed that the ability to speak with care givers in the comforts of their own home provides a great deal of comfort for individuals and allayed much of their fear regarding the etiology of their pain. In addition, understanding their condition seemed to empower those individuals and provided more confidence in becoming active while preventing fear avoidance behaviors.

Addressing Limitations and Barriers of Telehealth Services

There are limitations to consider when advocating for the increased use of hybrid telehealth chiropractic services. Though these limitations can have a negative effect while using telehealth services, there are ways providers can mitigate these scenarios to ensure the best outcomes are achieved.

1. The patient will not be receiving passive manipulation or potentially beneficial modalities.

For many instances of chronic pain, especially in the spine, high-velocity low-amplitude (HVLA) manipulation is indicated as a primary treatment. This treatment intervention has been shown to reduce pain in combination with usual medical care versus usual medical care alone. (16) As stated earlier, this is an area of importance when discussing a cost-to-benefit ratio of face-to-face care versus at-home treatment or delayed care when using the hybrid model. One area of benefit is that providers can prescribe safe and effective physiotherapeutic modalities, including exercise therapy, thermotherapies, and at-home transcutaneous electrical nerve stimulation (TENS) to modulate pain fluctuations.

2. Improper performance of at-home therapy by the person in pain or non-compliance.

One of the caveats of increased at-home treatments includes non-supervised activity by the individual. As with face-to-face services there are risks associated with treatment. Improper use of thermotherapies and electrical nerve stimulation can lead to burns, improper exercise techniques can lead to ligamentous or musculotendinous injury, and self-mobilization can lead to increased soreness and pain. When using a telehealth video chat platform, the provider must carefully observe the individual performing the respective therapeutic modalities safely and properly and provide thorough education of possible adverse effects from improper technique. With this approach the provider can be modestly confident that the individual is not put in harm's way.

3. Social disparities in access to technology and determinates of health.

A major public health issue in the United States is social inequity and limited access to increasing technology within healthcare. (17) Further, despite the growing use of technology, many underprivileged communities lack access to these advances. (18) Socioeconomic factors all too often play a role in disparities of care to the underserved and underprivileged populations. It is a significant challenge for today's chiropractor to ensure that all populations have fair and equal access to the same technologies for services. The provider must try their best to provide equal care and services that are safe and effective to underprivileged communities seeking care. These populations deserve the same remote access to safe care as all other populations and providers should recognize these disparities and adjust treatment plans accordingly. Chiropractic healthcare professionals cannot address the social determinants, which are significant

drivers of health and pain, such as food security and nutrition, education, accessible and safe housing, employment, transportation, meaningful relationships, and a sense of community. They can, however, listen and provide genuine empathy.

4. Medicare/Medicaid reimbursement disparities for chiropractic services.

Unfortunately, the Centers for Medicare and Medicaid Services (CMS) continues to unequally reimburse chiropractic services for care and treatments provided. This remains equally true for telehealth services. This disparity prevents a large population of chronic pain sufferers, many of whom are high risk for COVID-19 infection, from accessing services during the time of the global pandemic. Fortunately, chiropractic advocacy groups such as the American Chiropractic Association (ACA) have championed support to expanded access for Medicare beneficiaries from CMS for services rendered. The Chiropractic Medicare Coverage Modernization Act of 2019 (H.R. 3654) is a major legislative action that can provide this expansion. At the time of this commentary, the ACA has also submitted a waiver of current federal regulations in order to grant full recognition and authority to doctors of chiropractic to provide telehealth services to Medicare beneficiaries during this public health emergency. The global COVID-19 pandemic may finally be the definitive factor for recognition of the need for policy change that may help progress H.R. 3654.

5. Time and scheduling.

The use of telehealth services via digital devices and phones will require great communication between person, provider, and office staff. Scheduled appointments will need to remain timely and punctual. The importance of this is even greater than during typical face-to-face appointments. If these meetings cannot remain synchronized the remainder of the provider's work day may be delayed, the patient may not receive services or care, and the overall doctor-patient relationship may be jeopardized. Intraoffice communication must remain vigilant and communication between the office and the individual must be excellent. Further, providers must set aside appropriate time away from regular office distractions to dedicate their time to individuals via the telehealth platform.

CONCLUSION

A hybrid mix of face-to-face and telehealth may be used to mitigate risk and increase the number of patients under care, maintaining a reduced number of face-to-face patients visits per day. This will help to off-set potential financial losses. COVID-19 has impacted nearly every aspect of today's global environment. Pain management healthcare has been greatly affected by this global

pandemic, especially chiropractic care in the private sector and integrated hospital networks. Though many clinics have closed their doors or reduced hours, greater than 50 million chronic pain patients are still suffering (4), many without access to treatment. Telehealth offers a tremendous opportunity for providers to continue care for these individuals in a safe environment. When done properly, telephone calls, VOD, and direct messaging can provide care for individuals and concurrently reduce COVID-19 exposure risks and reduce healthcare costs. While providing remote care, providers can still deliver quality person-centered services, increase satisfaction, and ultimately reduce overall pain. Using the hybrid model, providers can invite these patients to the clinical office setting, when safe and provide manual therapies. Alternatively, implementing at-home modalities, cognitive-based therapy, and establishing goal-oriented outcomes, providers can continue to serve the population in an innovative and cost-effective way.

REFERENCES

1. Kolifarhood G, Aghaali M, Mozafar Saadati H *et al*. Epidemiological and clinical aspects of COVID-19; a narrative review. *Arch Acad Emerg Med* 2020;8(1):e41. Published 2020 Apr 1
2. Eccleston C, Blyth FM, Dear BF *et al*. Managing patients with chronic pain during the COVID-19 outbreak: considerations for the rapid introduction of remotely supported (eHealth) pain management services. *Pain* 2020;161(5):889-893
3. Neff SM, Roecker CB, Okamoto CS *et al*. Guidance concerning chiropractic practice in response to COVID-19 in the U.S.: a summary of state regulators' web-based information. *Chiropr Man Therap* 2020;28, 44. <https://doi.org/10.1186/s12998-020-00333-6>
4. Dahlhamer J, Lucas J, Zelaya C *et al*. Prevalence of chronic pain and high-impact chronic pain among adults - United States, 2016. *MMWR Morb Mortal Wkly Rep* 2018;67(36):1001-1006. doi:10.15585/mmwr.mm6736a2
5. Notification of Enforcement Discretion for Telehealth. HHS.gov. <https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html>
6. Mann DM, Chen J, Chunara R, Testa PA, Nov O. COVID-19 transforms health care through telemedicine: Evidence from the field. *J Am Med Inform Assoc* 2020;27(7):1132-1135. doi:10.1093/jamia/ocaa072
7. O'Brien KM, Hodder RK, Wiggers J *et al*. Effectiveness of telephone-based interventions for managing osteoarthritis and spinal pain: a systematic review and meta-analysis. *PeerJ* 2018;6:e5846. doi:10.7717/peerj.5846

8. People Who Are at Higher Risk for Severe Illness. Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>
9. Hempel S, Taylor SL, Marshall NJ *et al*. Evidence map of mindfulness. Washington (DC): Department of Veterans Affairs (US); 2014
10. Cherkin DC, Sherman KJ, Balderson BH *et al*. Effect of mindfulness-based stress reduction vs cognitive behavioral therapy or usual care on back pain and functional limitations in adults with chronic low back pain: a randomized clinical trial. *JAMA* 2016;315(12):1240-1249. doi:10.1001/jama.2016.2323
11. Singh R, Tadi P, Marlowe D. Provider burnout. [Updated 2020 Jan 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK538330/>
12. Hu L, Popp C, Sevick MA. Weight loss maintenance in rural populations in the United States: can telemedicine help? *JAMA Netw Open* 2020;3(6):e207134. doi:10.1001/jamanetworkopen.2020.7134
13. Manzoor F, Wei L, Hussain A, Asif M, Shah S. Patient satisfaction with health care services; an application of physician's behavior as a moderator. *International J Environmental Res Public Health* 2019;16(1):3318. doi:10.3390/ijerph16183318
14. Parisien R, Shin M, Constant M *et al*. Telehealth utilization in response to the Novel Coronavirus (COVID-19) pandemic in orthopaedic surgery. *J Am Acad Orthop Surg* 2020;28(11)e487-e492. doi:10.5435/JAAOS-D-20-00339
15. Donelan K, Barreto E, Sossong S, *et al*. Patient and clinician experiences with telehealth for patient follow-up care. *Am J Managed Care* 2019;25(1):40-44
16. Goertz CM, Long CR, Vining RD, Pohlman KA, Walter J, Coulter I. Effect of usual medical care plus chiropractic care vs usual medical care alone on pain and disability among US service members with low back pain: a comparative effectiveness clinical trial. *JAMA Netw Open* 2018;1(1):e180105. doi:10.1001/jamanetworkopen.2018.0105
17. Weiss D, Rydland HT, Øversveen E, Jensen MR, Solhaug S, Krokstad S. Innovative technologies and social inequalities in health: A scoping review of the literature. *PLoS One* 2018;13(4):e0195447. Published 2018 Apr 3. doi:10.1371/journal.pone.0195447
18. Weiss D, Rydland HT, Øversveen E, Jensen MR, Solhaug S, Krokstad S. Innovative technologies and social inequalities in health: A scoping review of the literature. *PLoS One*. 2018;13(4):e0195447. Published 2018 Apr 3. doi:10.1371/journal.pone.0195447