

## **Perioperative Pain Management During the COVID-19 Pandemic: A Telemedicine**

### **Approach**

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### **Approach**

As the opioid crisis continues in the shadow of the COVID-19 pandemic, new restrictions present challenges to pain and opioid management for surgical patients. The opioid crisis continues as opioid addiction and overdose deaths persist nationwide. Acute surgical pain exacerbations in conjunction with limited access to social, mental, and medical resources<sup>1,2</sup> increases the risk of excess opioid prescribing, diversion, misuse, and dependency.<sup>3</sup> This may manifest in unnecessary emergency department visits, hospital admissions, increased rates of drug overdoses, and suicide.<sup>4</sup> Health care systems must adapt to provide services for these patients.<sup>5</sup>

### **Telemedicine**

Telemedicine allows real-time, audio-video communication between patients and clinicians in remote locations,<sup>6</sup> and can potentially address the novel challenges to pain management for surgical patients during the pandemic.<sup>7,8</sup> Nascent literature has demonstrated increased utilization and acceptability of telemedicine services in the United States.<sup>9,10</sup> Benefits include saving travel time and cost, reduced missed visits, and improved inter-clinician communication<sup>11</sup> without compromised quality of care. A randomized clinical trial comparing telemedicine to usual care for rural veterans with post-traumatic stress disorder (PTSD) showed that patients using telemedicine were engaged in psychotherapy and had reduced PTSD symptoms compared with patients using usual care.<sup>12</sup>

Despite the benefits, telemedicine alters traditional patient-provider relationships.<sup>13</sup> The high cost of implementation and maintenance may render services unaffordable.<sup>14</sup> It may inadvertently widen healthcare disparities as a consequence of patients lacking access or ability to use technology.<sup>15-17</sup> A system-wide approach is necessary to manage knowledge gaps in confidentiality and HIPAA compliance.<sup>18</sup>

#### The Johns Hopkins Perioperative Pain Program (PPP) during the COVID-19 Pandemic

To address the opioid crisis, the PPP has coordinated care for surgical patients on long-term opioid therapy (LTOT) and opioid-naïve patients at risk of LTOT by utilizing a personalized pain management plan centered in multimodal and regional techniques.<sup>19-21</sup> A prospective study of PPP patients showed significant reduction in morphine milligram equivalent, improved pain scores and self-reported physical function for postoperative patients on LTOT.<sup>22</sup> To provide services for new patients undergoing urgent or emergent surgeries and preexisting patients, the PPP has transitioned to telemedicine. Table 1 describes adaptations to the PPP operation.<sup>23</sup>

As a clinic within a tertiary academic medical center, the PPP continues to receive referrals for patients undergoing urgent or emergent surgeries during the COVID-19 pandemic. To continue providing care for these patients, and for established patients who are undergoing opioid tapers that are individualized to their needs, we transitioned PPP to telemedicine using the existing infrastructure at Johns Hopkins. The COVID-19 public health emergency declared by the Secretary of Health and Human Services allows providers to prescribe controlled substances

without conducting in-person visits. Table 1 describes adaptations to the PPP work systems and processes to ensure a successful transition to telemedicine.<sup>24</sup>

Table 1 Adaptations of PPP work systems and processes for telemedicine

Work system elements	Adaptation
People	<ul style="list-style-type: none"> <li>- Clinicians               <ul style="list-style-type: none"> <li>- Had preexisting access to a prescription drug monitoring program</li> <li>- Received authorization to electronically prescribe controlled substances</li> </ul> </li> <li>- Clinic coordinator               <ul style="list-style-type: none"> <li>- Trained in establishing the telemedicine platform with patients</li> </ul> </li> <li>- Patients               <ul style="list-style-type: none"> <li>- Received instructions by email on installing and launching the telemedicine platform prior to their visit</li> </ul> </li> </ul>
Tasks	<ul style="list-style-type: none"> <li>- Before visit               <ul style="list-style-type: none"> <li>- Clinic coordinator obtained patient consent for a telemedicine visit, confirmed patient access to telemedicine platform, and emailed patient-reported measures survey to the patient</li> </ul> </li> <li>- During visit               <ul style="list-style-type: none"> <li>- Clinician obtained patient consent to telemedicine visit (if not consented before visit), confirmed patient identity and contact information (to call patient in case of technology failure), completed history, and electronically prescribed medications (including controlled substances)</li> </ul> </li> <li>- After visit</li> </ul>

	<ul style="list-style-type: none"> <li>- Patient received visit summary in electronic medical records</li> <li>- Clinic coordinator scheduled follow-up visit and served as liaison if patient has follow-up questions</li> <li>- PPP providers communicated via email rather than in-person</li> </ul>
Tools and technologies	<ul style="list-style-type: none"> <li>- HIPAA compliant platform</li> <li>- Non-HIPAA compliant platforms</li> <li>- Prescription drug monitoring program</li> </ul>
Physical environment	<ul style="list-style-type: none"> <li>- Virtual</li> </ul>
Organization	<ul style="list-style-type: none"> <li>- Guidance on using (non-)HIPAA compliant telemedicine platforms</li> <li>- Guidance on scheduling appointments for out-of-state patients (with private insurance)</li> </ul>

Our experience has outlined the importance of a coordinator for scheduling and bridging communication. Patients and providers have accepted the use of telemedicine and are flexible in managing technology failure. Patients are grateful that their pain management and access to medications have not been disrupted. The length of the workday has not increased. As clinic space is not a limiting factor, scheduling flexibility is improved. E-prescribing and access to prescription drug monitoring databases remain vital. Challenges included building rapport with new patients, assessment based on observation of non-verbal pain behaviors, inability to collect vitals or a urine toxicology at the time of visit, limited physical exam, and lack of family members to collaborate collateral information. There is concern regarding burnout from

excessive use of technology. Collectively, we have found that the benefits have outweighed the challenges.

### Continued Role of Telemedicine

Since the Perioperative Pain Clinic adapted its response to the COVID19 pandemic, 116 patients have had 146 telemedicine encounters. Based on preliminary responses, patients have been satisfied with their telemedicine visits and believed that it improved their access to the clinic (*“It is a long distance from my house to the clinic. When I was a fresh post-operative patient, it was very hard.”*), mitigated the risk of COVID-19 (*“I do not have to worry about picking up a virus.”*), and facilitated the engagement of their family members (*“The video allows my families to be involved too.”*). On the other hand, patients indicated that patient-clinician communication was hindered by telemedicine (*“I find it much easier to talk in person, not online.”*) and they needed assistance to facilitate the use of the telemedicine system (*“Patients need more assistance on how to use the system.”*). Further analysis is underway to assess the impact of telemedicine on access to, quality of, and clinical outcomes of perioperative pain management, and will be addressed in a future study.

At this time, the Perioperative Pain Clinic is offering both on site and telemedicine visits. Almost all of the visits are telemedicine. New patients are encouraged to come to the clinic while established patients can decide which modality they would like to use to continue their care. Many patients have already expressed their preference to continue using telemedicine; a preference predictably seen in patients who are out of state. Patients who require more frequent urine toxicology screenings or with greater medical acuity are seen in the clinic. We predict that

telemedicine will become an integral part of our practice and anticipate that 50% of our practice may remain this way during the remainder of the COVID19 pandemic and possibly after. This is pending barriers in reimbursement and state licensure laws as current telemedicine restrictions are transient during the duration of the CARES Act.<sup>25</sup>

### Conclusion

In the midst of the COVID-19 pandemic, the PPP's innovative transition to telemedicine has allowed us to provide continuity of care for patients. Further investigation is needed to assess whether telemedicine for pain management is efficacious compared to in-person visits, and if access to and quality of perioperative pain management is maintained. If equivalent, our program may serve as a model to adapt telemedicine for vulnerable patients with limited access to pain management and mental health specialists.

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