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MEDICINE

PERSONALIZED PAIN PROGRAM

Telemedicine for Perioperative Pain Management

Traci Speed, MD, PhD
Johns Hopkins University School of Medicine
Department of Psychiatry and Behavioral Sciences
speed@jhmi.edu

AAPM 2022
38TH
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Disclosures and Learning Objectives

Traci Speed, MD, PhD has documented that she has nothing to disclose.

This presentation does not contain off-label or investigational use of drugs or products.

1) To describe a transitional pain services transition to telemedicine
2) To summarize clinical outcomes and patient perspectives of telemedicine-delivered perioperative pain care
3) To discuss health disparities in telemedicine-delivered ambulatory pain medicine

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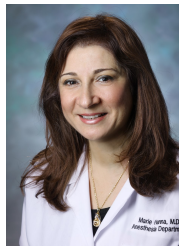
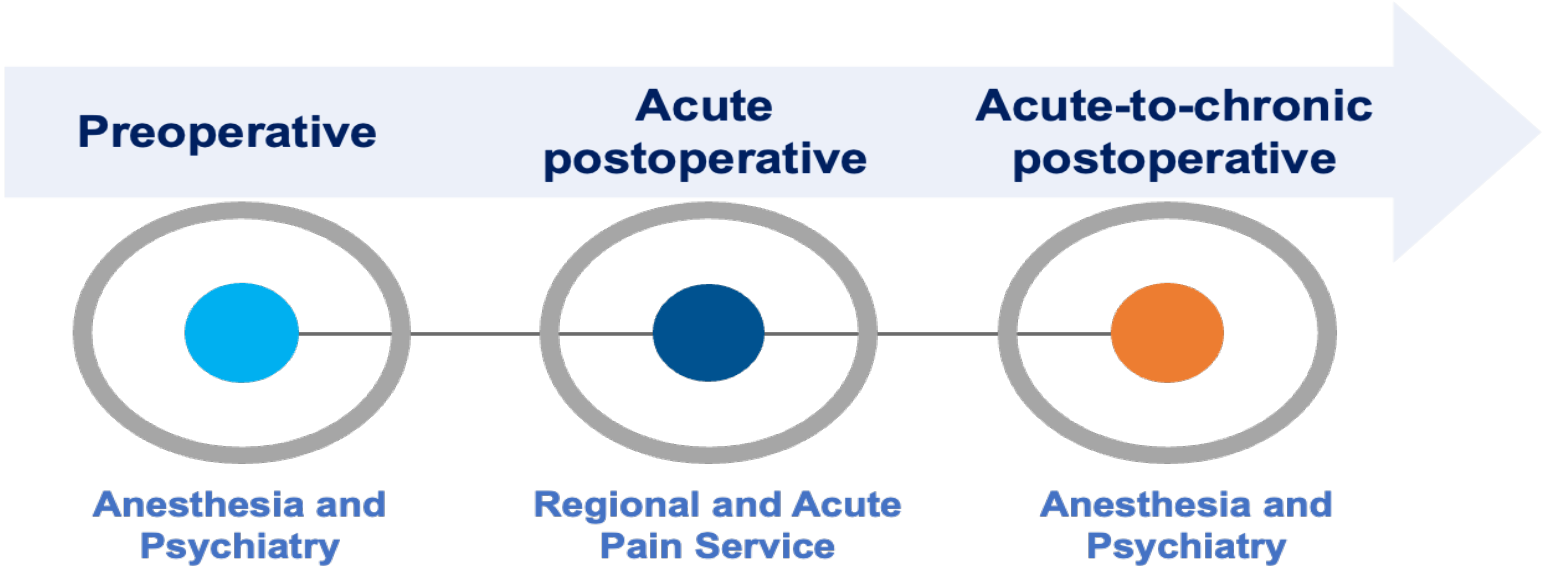
Johns Hopkins Personalized Pain Program (PPP) est. 2017





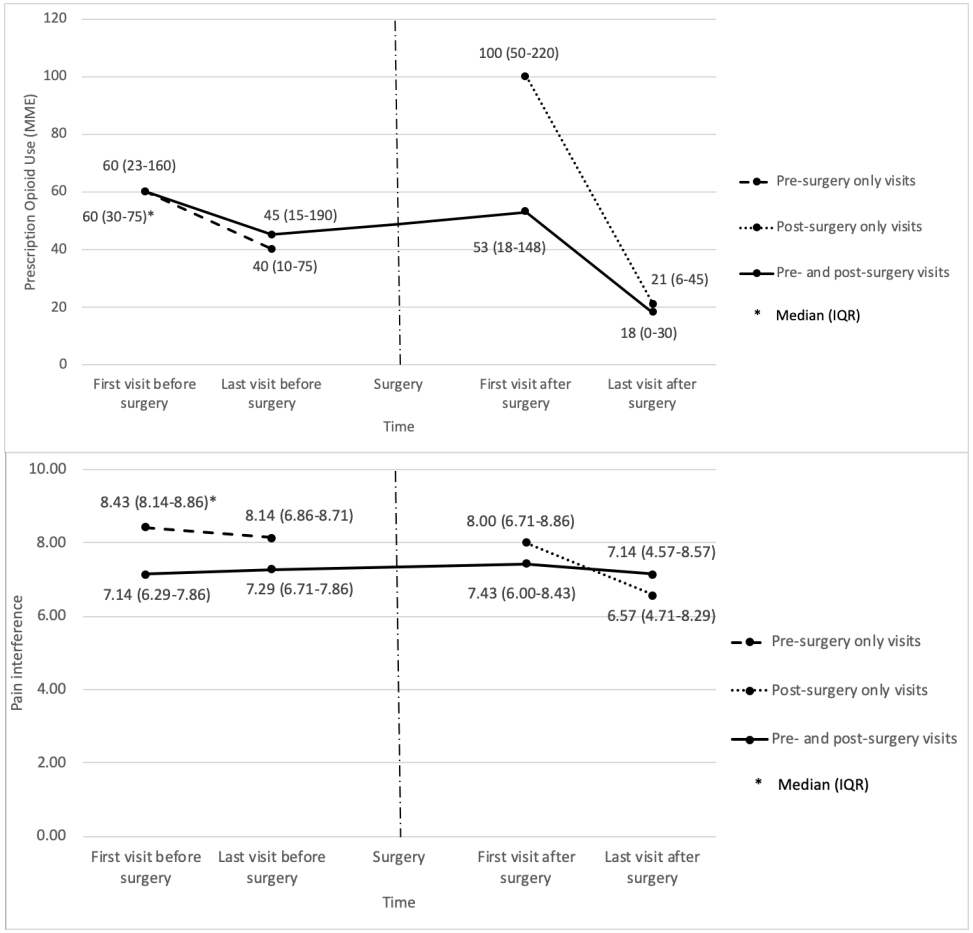
PPP provides multidisciplinary coordinated care for surgical patients who:

- Have long-term opioid use (often higher-dose)
- Have an opioid use disorder (OUD), active or in remission
- Take medications for OUD (mOUD)
- Are opioid-naïve and at risk of long-term postoperative opioid use (i.e., trauma or extensive surgical procedures)

https://www.hopkinsmedicine.org/armstrong_institute/ppp/treatments

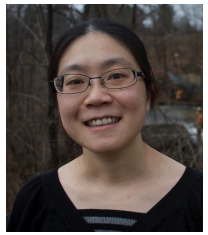
Before the pandemic:

- **In-person** ambulatory clinic in black-majority urban city
- **Evidence of postoperative opioid and pain reduction**
- **Patient engagement and racial disparities research**
- Qualitative analyses:
  - Patients experienced PPP **access barriers**
    - cost of parking
    - commute time
    - insurance coverage
  - Patients suggested a **telehealth** option
- **Disparate outcomes** in pain severity, pain interference, patient engagement (unpublished)



(Xie, in press, JOM)

Human Factors Engineering Approach



Ambulatory | Patients

Epic TIPS & TRICKS

Video Visits on Your Desktop/Laptop

Using Cisco Webex for MyChart Video Visits

Use this tipsheet as a guide to prepare for your video visit before your appointment and for instructions on how to join the visit on the day of your appointment. Follow all steps on pages 1-5 before your visit.

Before You Start

Cisco Webex does not work on Internet Explorer. It is compatible with most all other browsers. Google Chrome is recommended. Click here to download Google Chrome. Click here to learn how to change your default browser.

Browser not supported :(

Please use one of the following latest browser:

1.Chrome

2.Firefox

3.Safari

4. You will now be brought to the waiting room for your video visit (right).
   - You will receive a message, "Please wait, the provider will see you shortly."
   - You do not need to test your video and audio if you did previously.

5. If your provider has joined the visit before you, you will be brought directly into the video visit (below).

Provider's waiting room

Please wait, the provider will see you shortly

Johns Hopkins University School of Medicine website

Work system elements		Adaptation
People	Clinicians	• Authorized to electronically prescribe controlled substances
	Coordinator	• Trained in establishing telemedicine platform with patients
	Patients	• Receiving instructions on how to install and launch telemedicine platform through email prior to health visit
Tasks	Before visit	• Coordinator obtains patient consent to telemedicine visit • Coordinator reschedules in-person visit to telemedicine visit • Coordinator confirms patient access to telemedicine platform • Coordinator emails surveys to patients
	During visit	• Clinician confirms patient identity and contact information (to call patient in case of technology failure) • Clinician obtains medical history and completes modified physical exam • Clinician electronically prescribes medications (including controlled substances)
	After visit	• Patient receives summary in electronic medical record • Coordinator schedules follow-up visit and serves as liaison if the patient has follow-up questions
Tools and technologies		• (Non-)HIPAA compliant platform for telemedicine visit • Access to PDMP • Access to EMRs
Physical environment		• Patient and clinician not required to go to the clinic
Organization		• Guidance on using (non-)HIPAA compliant platforms • Guidance on scheduling appointments for out-of-state patients

Rahman et al *Pain Medicine* 2021

Has telemedicine impacted outpatient perioperative pain care?

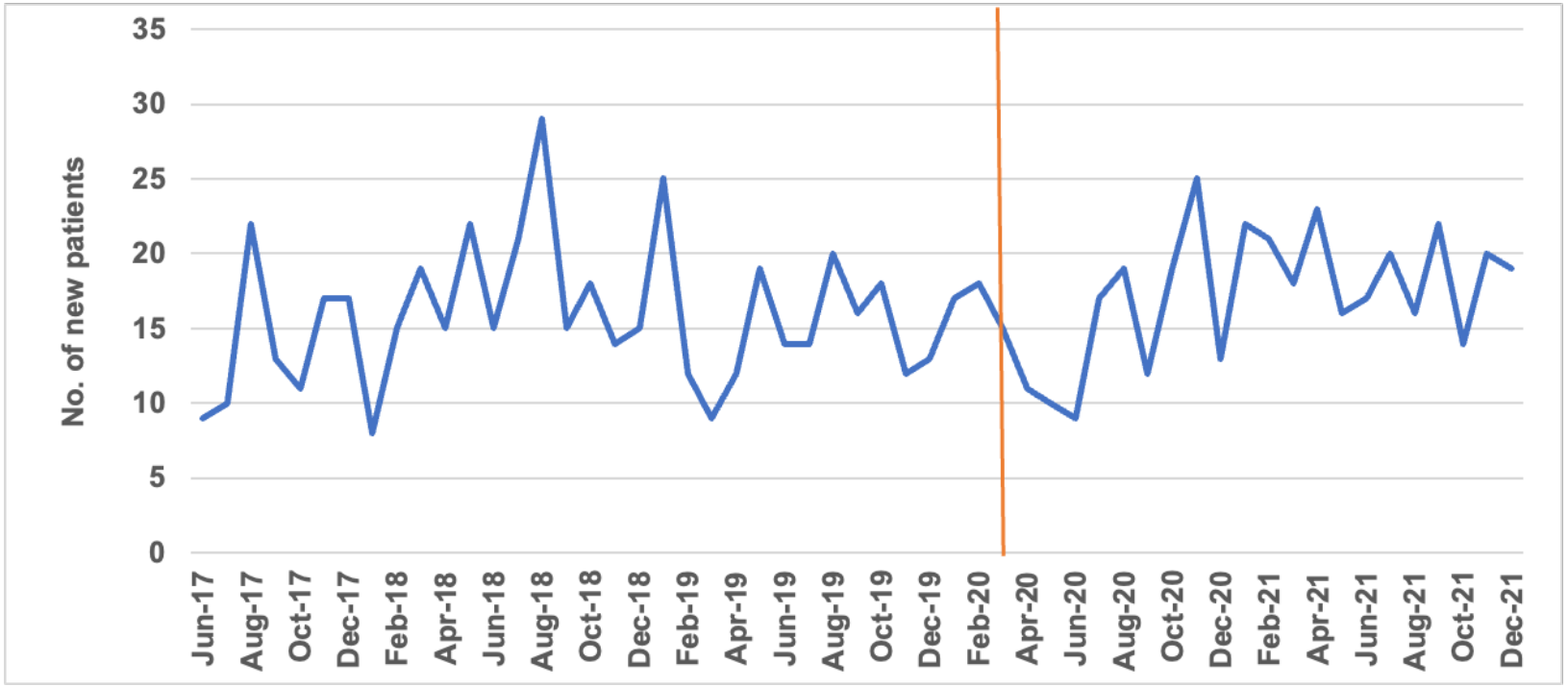
PPP visits before and during the COVID-19 pandemic

June 2017–December 2021

No. of PPP visits	First visit before COVID n = 583	%	First visit after COVID n = 380	%	P value
Only 1 PPP visit	223	38.3	111	29.2	0.004
Two or more PPP visits	360	61.8	269	70.8	

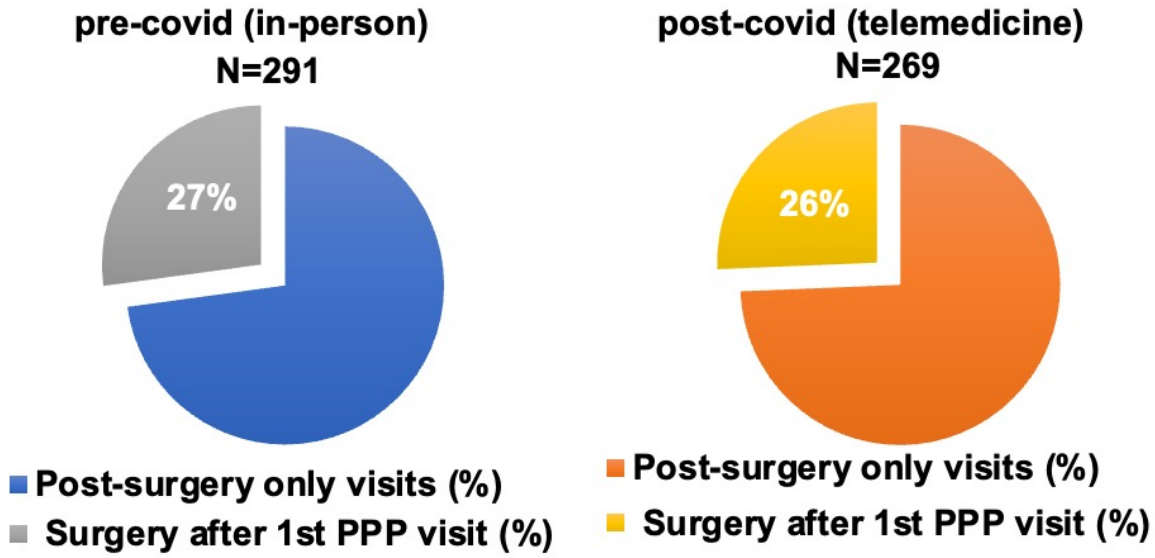
*From chi-square test

same number of new patient visits since converting to telemedicine, p=.164

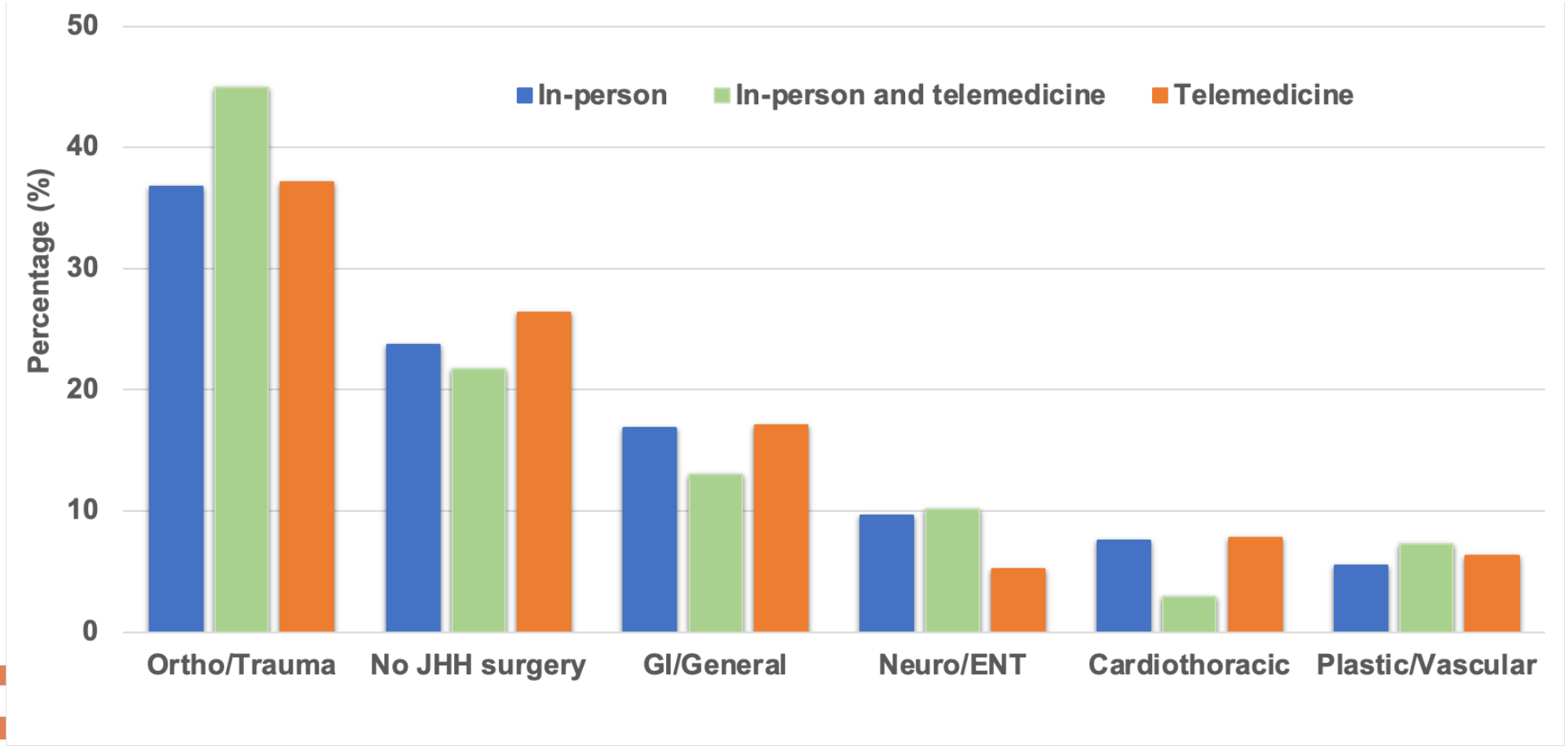


Demographic and clinical characteristics

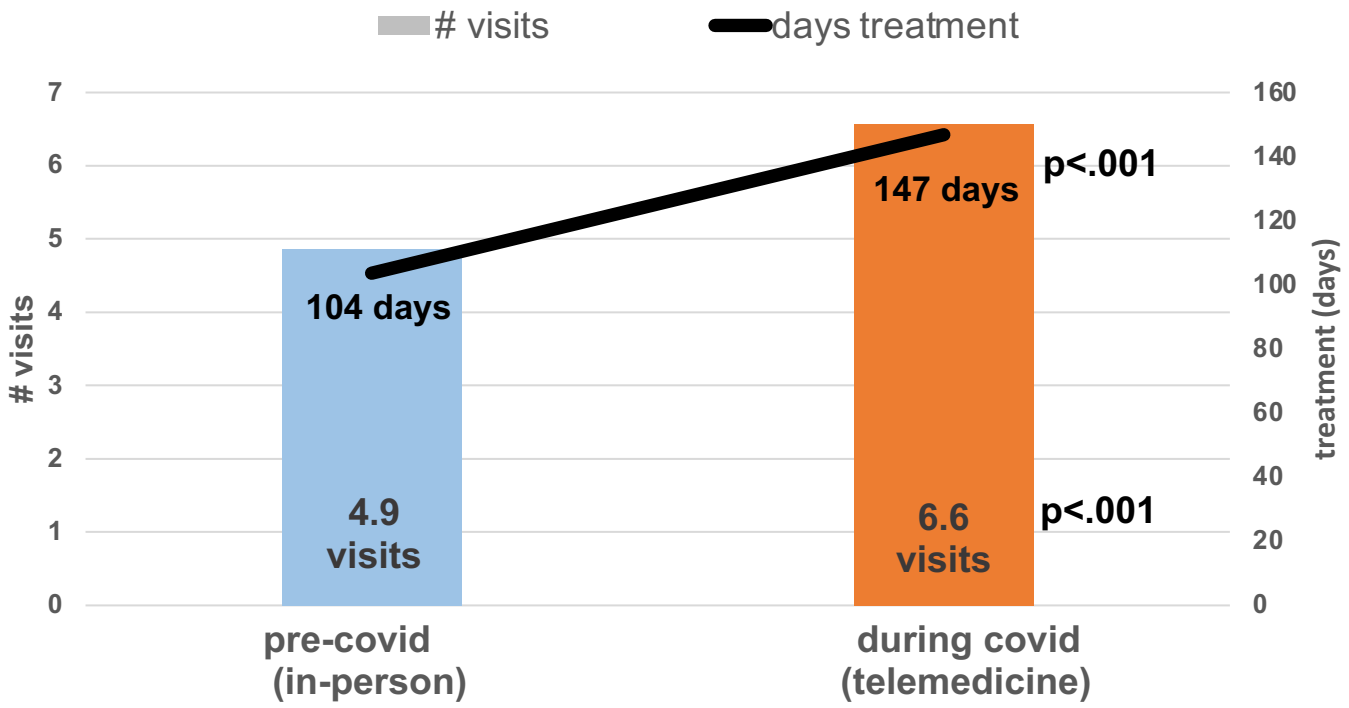
	in-person only (pre-covid)		in-person and telemedicine		telemedicine (during covid)		
	n	%	n	%	n	%	P value*
Age (year)							
18-29	45	15.5	20	29.0	35	13.0	0.121
30-39	68	23.4	13	18.8	58	21.6	
40-49	59	20.3	16	23.2	62	23.1	
50-59	65	22.3	12	17.4	61	22.7	
60+	54	18.6	8	11.6	53	19.7	
Gender							
Female	156	53.6	35	50.7	154	57.3	0.527
Race							
Caucasian	171	58.8	36	52.2	182	67.7	0.065
African American	102	35.1	28	40.6	70	26.0	
Other	18	6.2	5	7.3	17	6.3	
Marital status							
Single	122	41.9	40	58.0	105	39.0	**0.014**
Married	120	41.9	20	58.0	120	44.6	
Separated/Divorce/Widowed	43	14.8	7	10.1	44	16.4	
Other	6	2.1	2	2.9	0	0.0	
Education							
High school or lower	125	43.0	39	56.5	111	41.3	0.194
College	55	18.9	13	18.8	54	20.1	
Professional or doctorate	30	10.3	7	10.1	37	13.8	
Not reported	81	27.8	10	14.5	67	24.9	
Employment status							
Employed	81	27.8	19	27.5	101	37.6	0.058
Unemployed	123	42.3	31	44.9	85	31.6	
Disabled	46	15.8	10	14.5	46	17.1	
Retired	35	12.0	5	7.3	32	11.9	
Other	6	2.1	4	5.8	5	1.9	
Insurance							
Private	171	58.8	45	65.2	178	66.2	0.219
Public	114	39.2	21	30.4	85	31.6	
Self-pay or uninsured	6	2.1	3	4.4	6	2.2	
On medication for opioid use disorder (mOUD)							
No	32	11.0	14	20.3	36	13.4	0.117



PPP treats myriad surgical patients

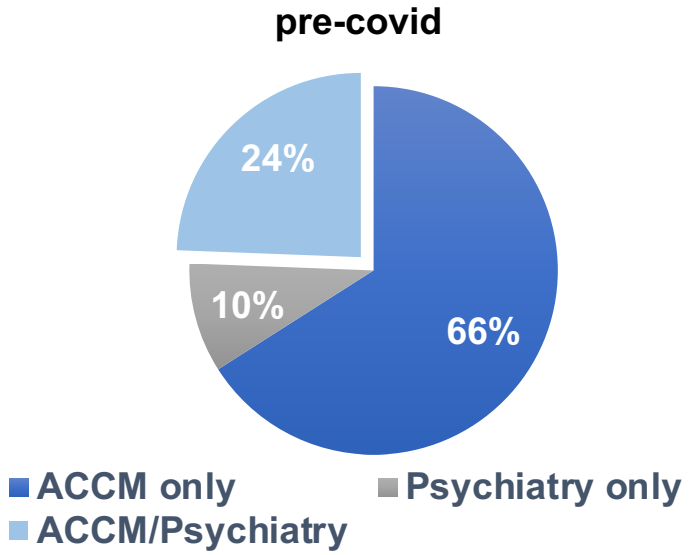


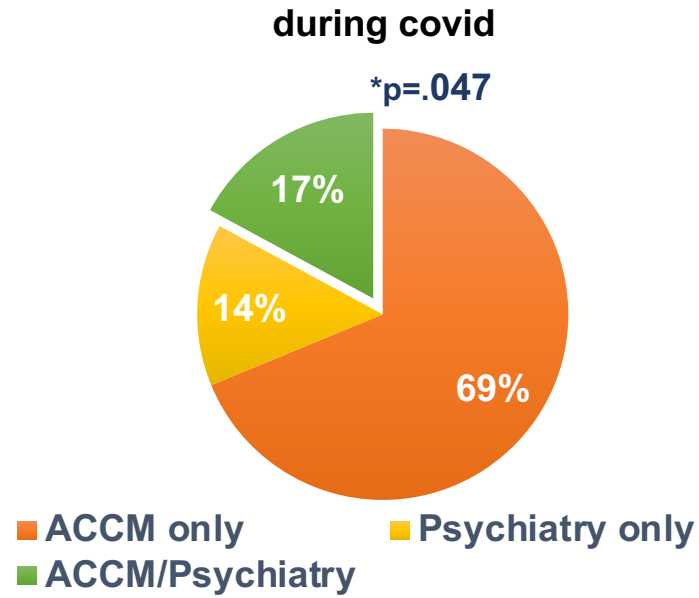
Longer PPP treatment duration during COVID



N=291

N=269





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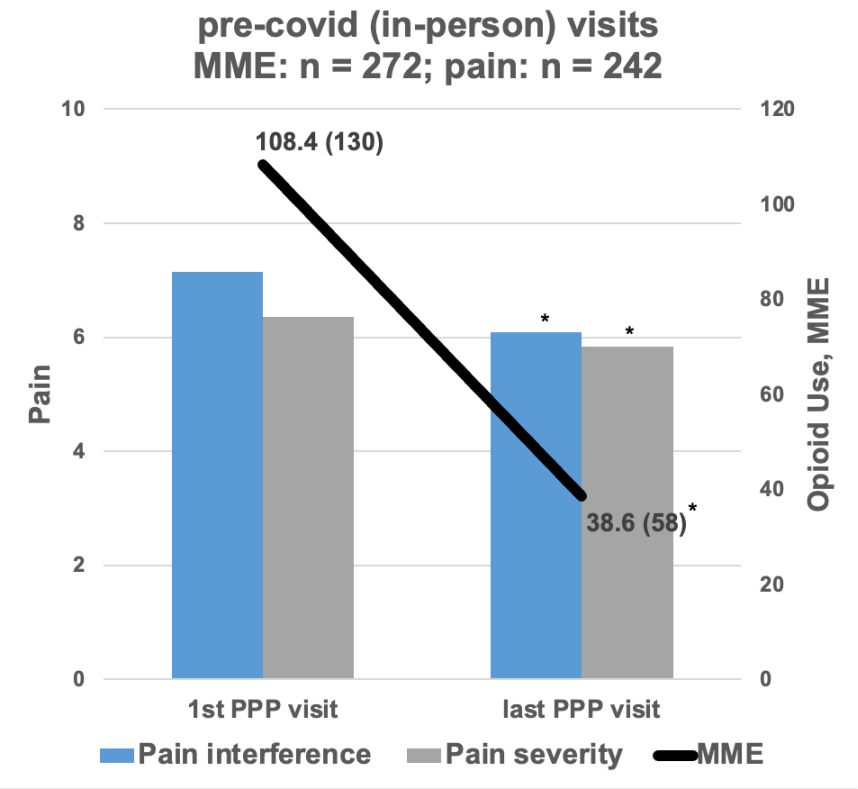
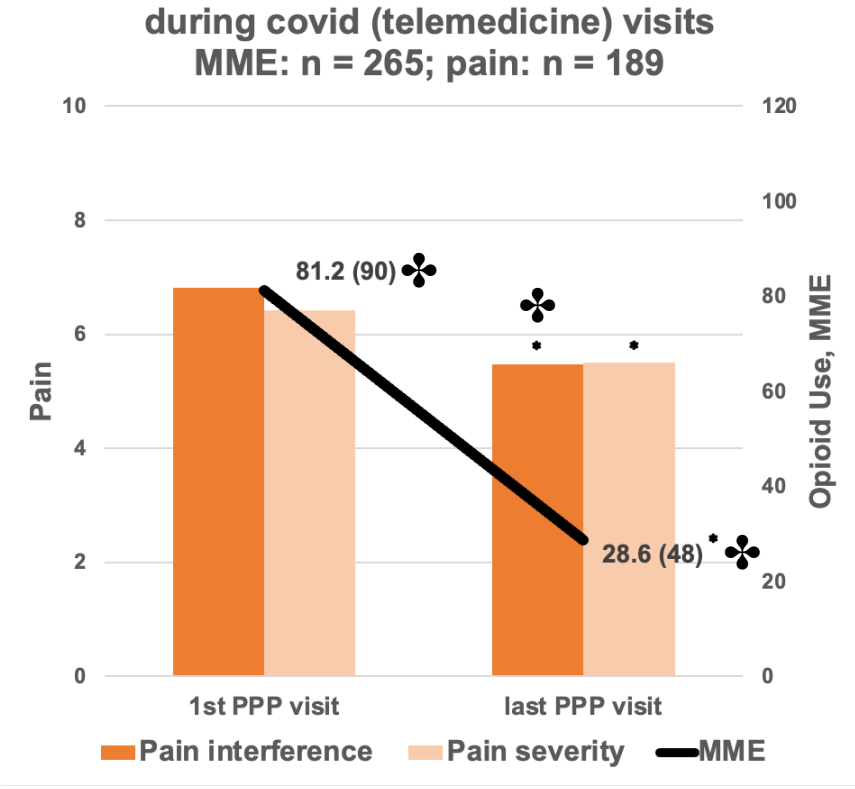
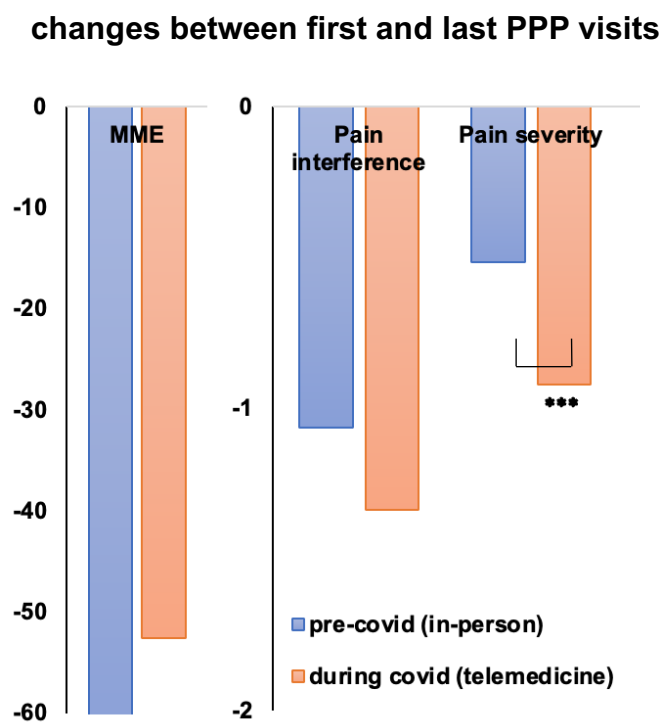
Pain, Opioid Use, and Function







* p<.05 comparing first to last PPP visit
✤ p<.05 comparing in-person and telemedicine groups
*** p<.05 comparing changes between in-person and telemedicine groups

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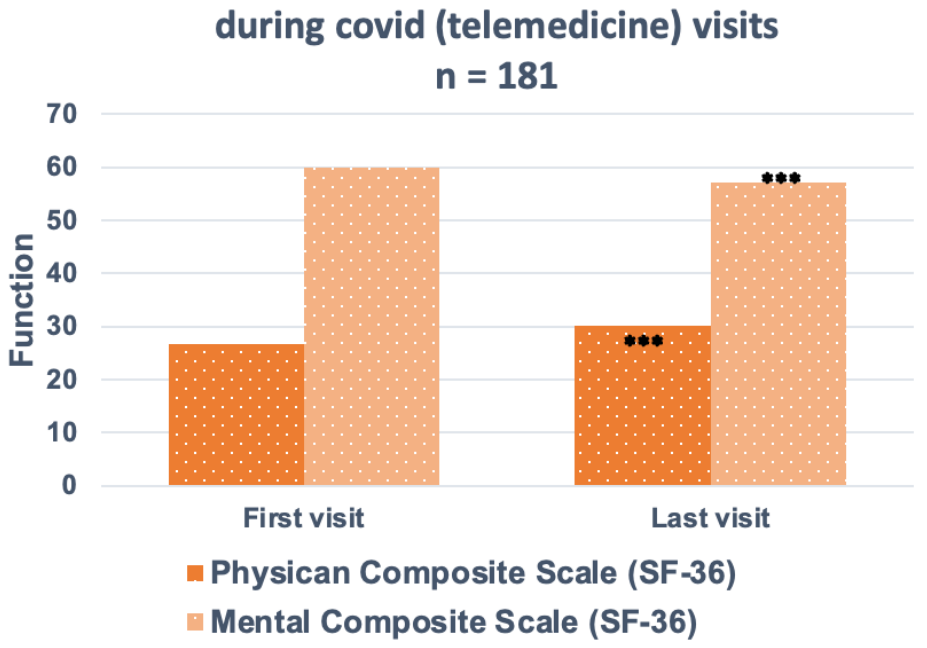
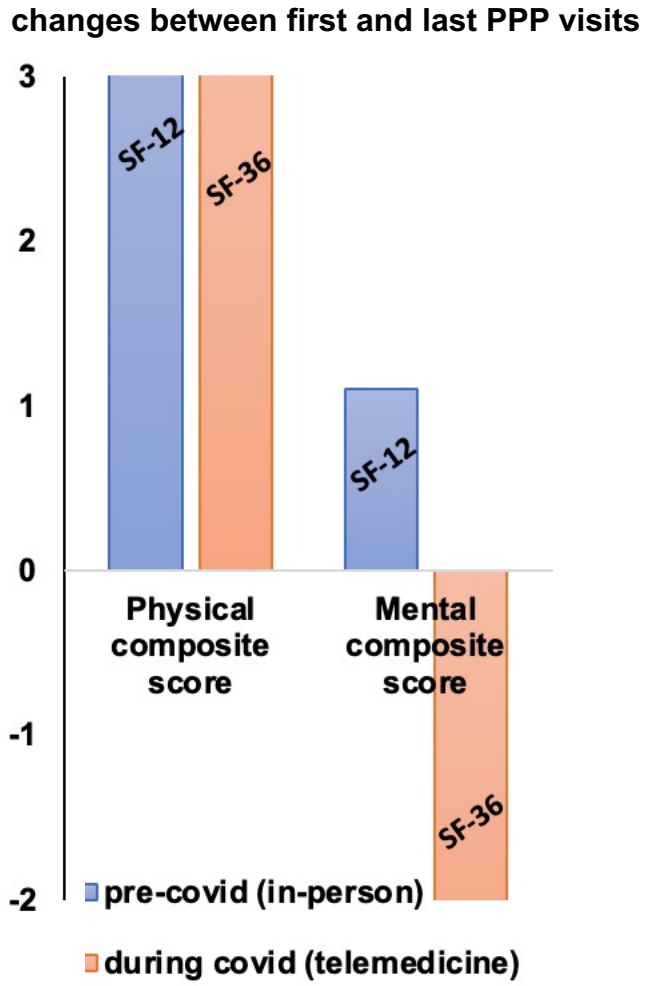
Physical and Mental Health Functioning





*** p<.005 comparing first to last PPP visit

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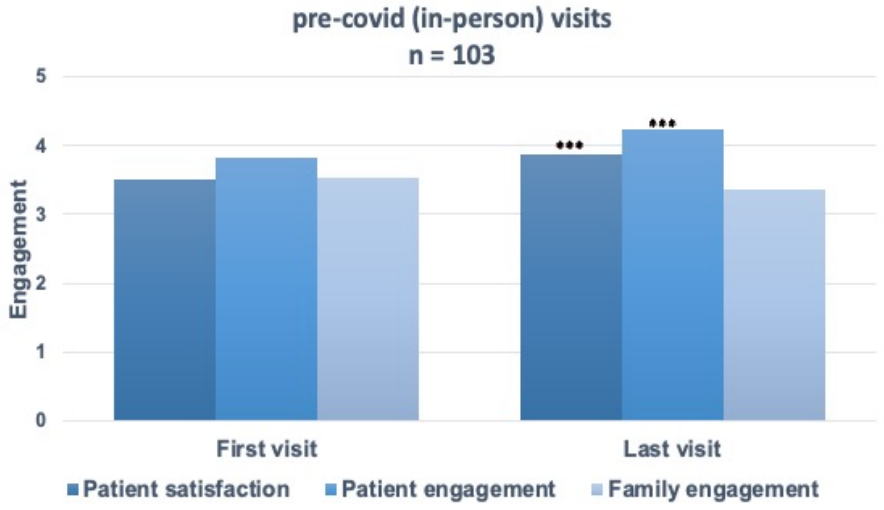
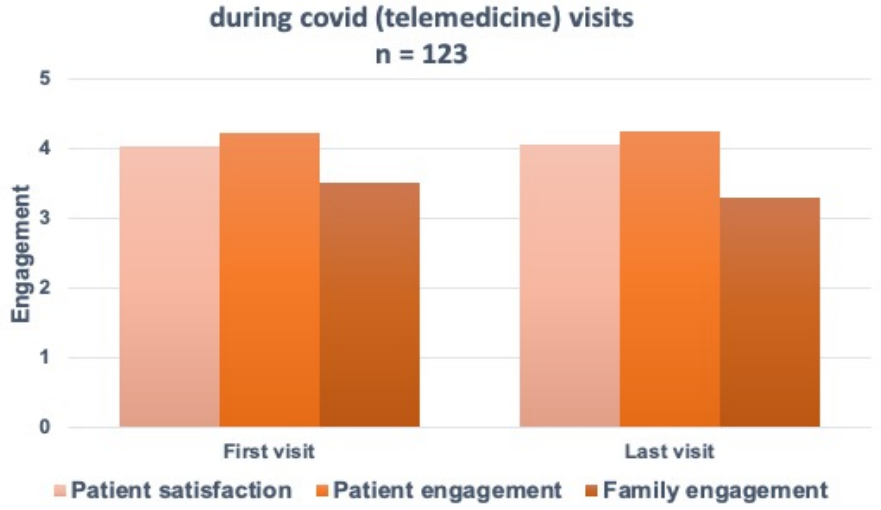
Satisfaction and Engagement

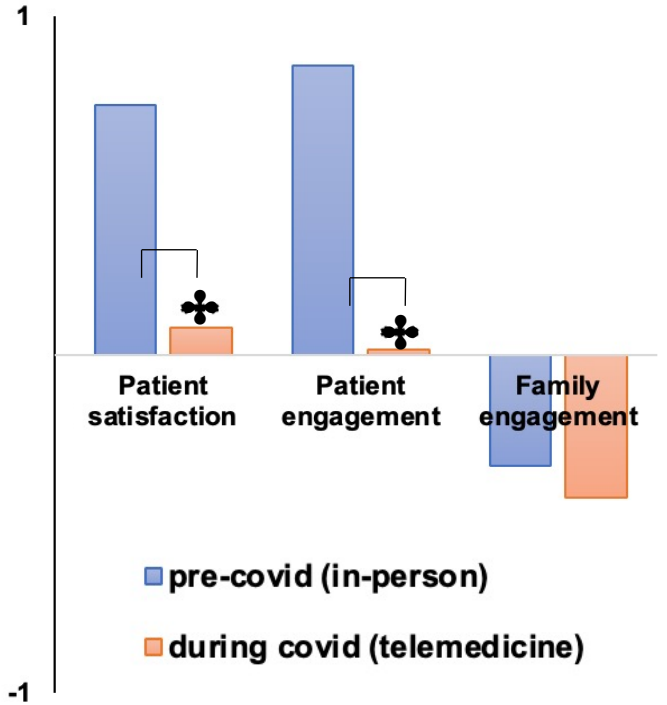
(1) In general, how satisfied are you with the Perioperative Pain Clinic?

(2) To what extent are you engaged in the management of your perioperative pain?

(3) To what extent are your family members engaged in the management of your perioperative pain?

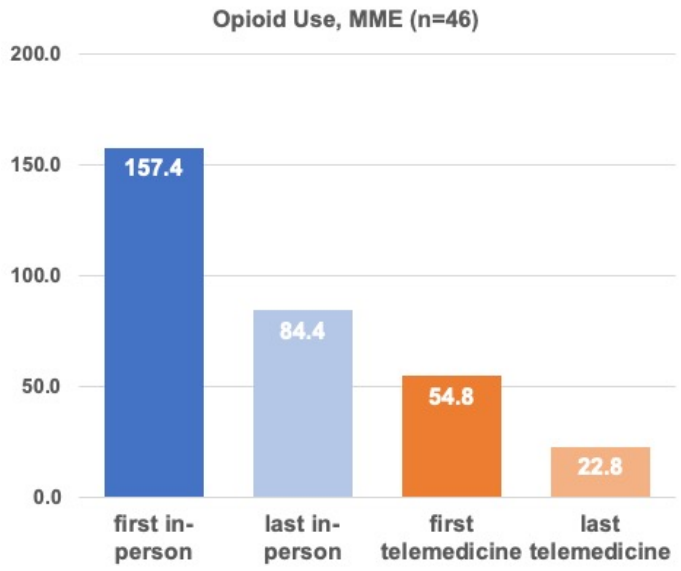


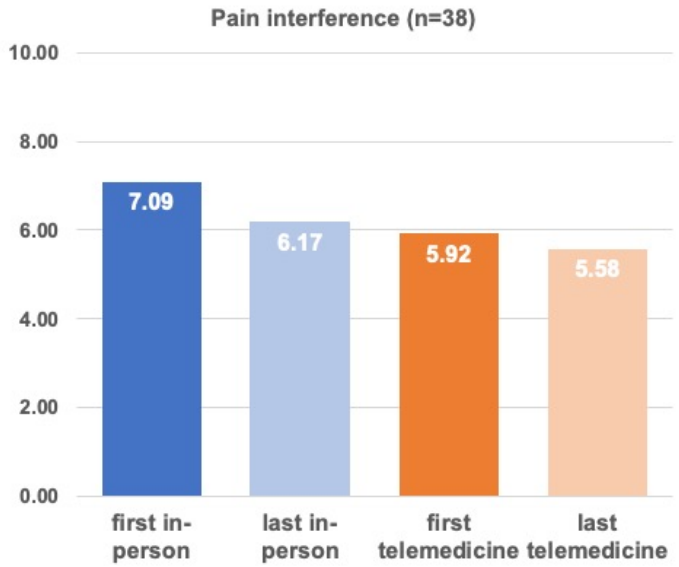


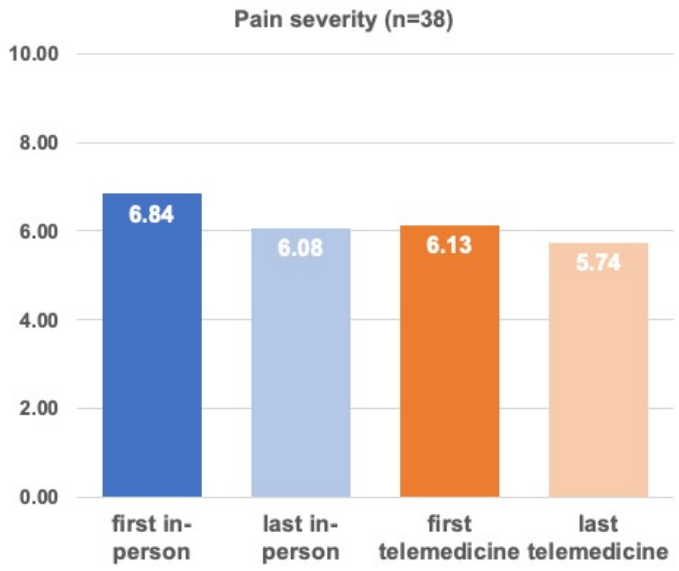


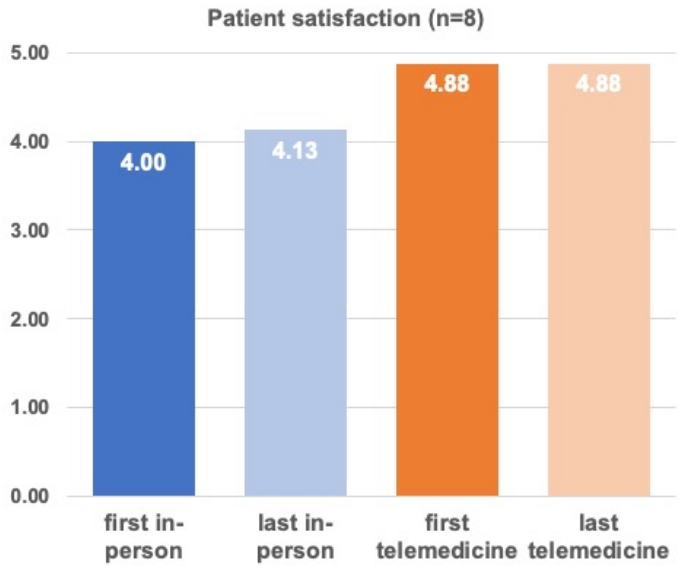
*** p<.01 comparing first to last PPP visit
✤ p<.05 comparing in-person and telemedicine groups

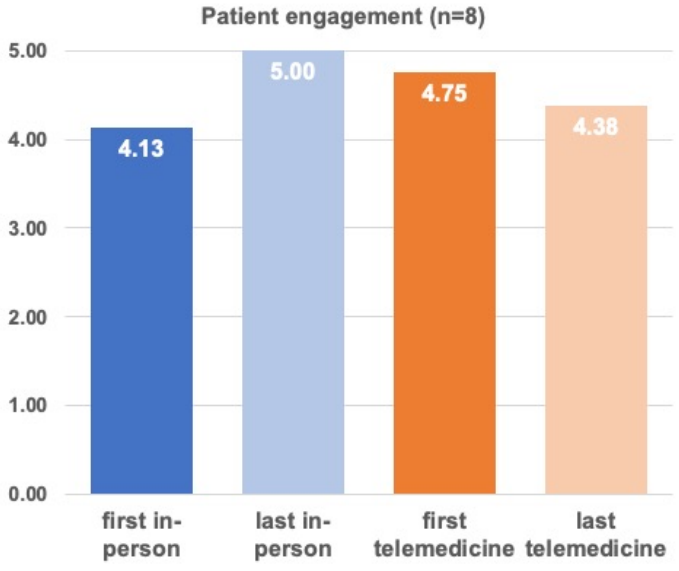
Patients who transitioned from in-person to telemedicine

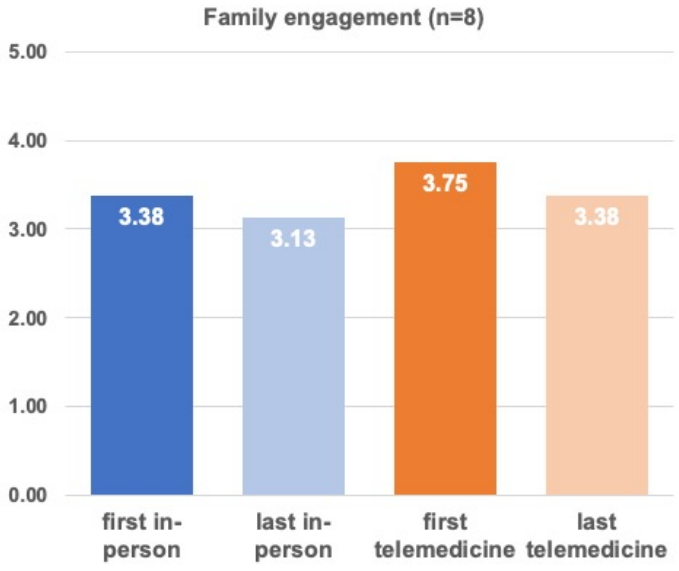












Telemedicine not associated with changes in outcomes

Adjusted Model	Opioid use (MME)			Pain severity			Pain interference		
	Coef.	SE	P value	Coef.	SE	P value	Coef.	SE	P value
Telemedicine group									
In-person group	(ref)			(ref)			(ref)		
Both group	2.32	7.87	0.769	-0.07	0.31	0.822	-0.20	0.40	0.620
Telemedicine group	2.47	4.36	0.571	-0.24	0.19	0.202	-0.13	0.24	0.600
Constant	-3.62	12.09	0.765	1.46	0.59	0.014	2.49	0.74	0.001

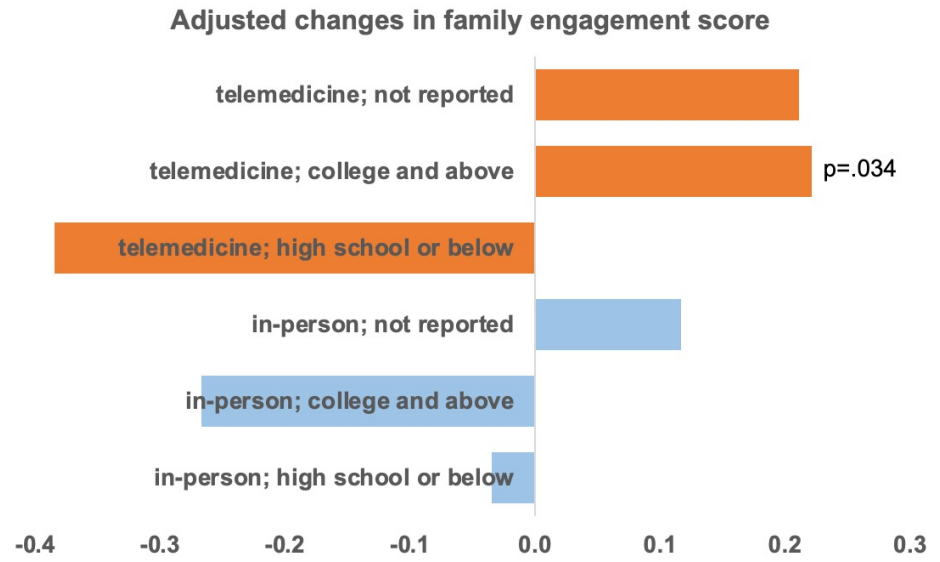
Adjusted Model	Patient Satisfaction			Patient engagement			Family engagement		
	Coef.	SE	P value	Coef.	SE	P value	Coef.	SE	P value
Telemedicine group									
In-person group	(ref)			(ref)			(ref)		
Both group	0.318	0.301	0.292	-0.112	0.221	0.612	0.26	0.35	0.457
Telemedicine group	-0.116	0.170	0.495	-0.157	0.125	0.211	-0.07	0.20	0.742
Constant	2.983	0.471	0.000	2.890	0.375	0.000	1.37	0.57	0.017

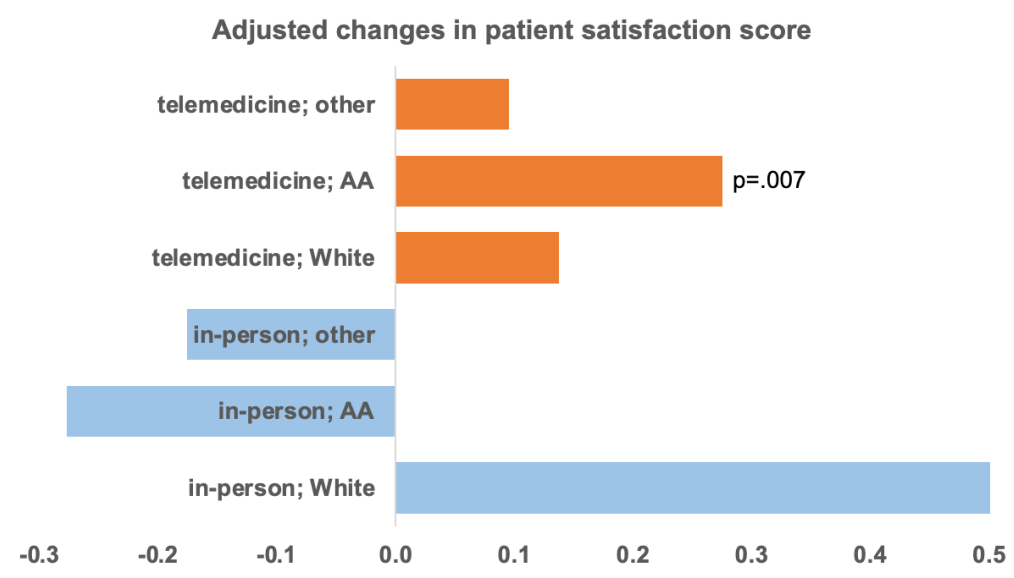
Adjusted for age, sex, education, race, timing of PPP relative to surgery, PPP treatment duration, no. surgeries while in PPP, psychiatry co-treatment, type of surgery

Telemedicine: bridging gaps or widening disparities?

Tele-divide?

- **No significant telemedicine by race** or **telemedicine by education** interactions on opioid use, pain severity, or pain interference
- **Telemedicine by race** interaction on <u>patient satisfaction</u>
- **Telemedicine by education** interaction on <u>family engagement</u>





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Semi-structured interviews on impact of telemedicine

Telemedicine Helped Overcome Challenges	
Immobility due to postoperative conditions	"When I was a fresh postoperative patient, it was **very hard [for me to travel**]."
Lengthy travel times	"I do enjoy the tele-visit, because **it keeps me from driving an hour**."
Lack of access to transportation	"[Telemedicine] was good for me; I have **a problem with transportation** getting around."
Inconvenience of parking at the hospital	"[Telemedicine] is convenient; **you don't have to pay for parking**."
Apprehension of exposure to COVID-19	"I am immune-deficient; it would've been a **little scary for me to go to the hospital**."
Barriers to using telemedicine	
Preventing patients from conveying their emotions to clinicians	"**Basic feelings don't come across** as much in the telemedicine visits."
Technical difficulties with using the telemedicine platform	"We had **trouble getting hooked up [on the telemedicine platform**] a couple of times."
Limitations in conducting physical exams	"[Clinicians] can't really identify certain things from just talking to you. **They need to physically see or touch you."**
Telemedicine was recommended as a routine practice	"**Offering telemedicine as a choice**, even after things settle down, would **improve patient experience."**

Xie et al (in press, JOM)

Contributions and Future Directions

Telemedicine:

- Maintained clinic volume
- Continued opioid tapering and postoperative pain care
- Reduced access barriers
- Increased patient satisfaction among African Americans (urban city)

Future directions

- Further research on access, delivery, and outcomes of telemedicine-delivered perioperative pain care
- Strategies to design equitable pain medicine telemedicine delivery systems
- Strategies to improve patient engagement and patient-provider relationship within telemedicine delivery systems

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