

Development and Early Validation of a Survey Instrument for Assessing Patient Engagement in Pain Management

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JOHNS HOPKINS
M E D I C I N E

THE JOHNS HOPKINS HOSPITAL

Ariana Prinzbach MD*

Olivia Sutton MD*

Traci Speed MD, PhD

Marie Hanna MD, MEHP

Anping Xie PhD

Yea-Jen Hsu PhD



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



Learning Objectives

- To bring attention to the importance of patient engagement in perioperative pain medicine
- To present a survey instrument designed to assess and quantify patient engagement in order to study its relationship with clinical outcomes

A background image showing a large, translucent orange pill bottle and several white, oval-shaped pills with a vertical score line, scattered on a white surface.

The Opioid Epidemic

- Opioids were involved in nearly 50,000 deaths in 2019, which is six times the number of overdoses in 1999¹
- The U.S. economic cost of opioid use disorder plus fatal opioid overdoses during 2017 alone was \$1,012 billion²
- In 2020 there were nearly 143 million opioid prescriptions (Opioid dispensing rate of 43.3 per 100 persons)³
- About 21 to 29% of patients prescribed opioids for chronic pain misuse their prescriptions⁴

The Role of Surgery in Opioid Crisis

- Within the perioperative arena, the combination of poorly managed post-surgical pain and the prescription of opioids has led to increased opioid misuse, dependency and harm
- Surgery is one of the most common reasons for the initiation of chronic opioids⁵
 - Over 80% of surgical patients receive post-op opioid prescriptions⁶
- Chronic opioid users are especially vulnerable and susceptible to misuse⁶

the



Recognizing a Problem

- The Johns Hopkins Hospital (JHH) Acute Pain Service identified a critical knowledge gap in managing acute surgical pain in patients on chronic opioids
- The Personalized Pain Program (PPP) was created in 2017



Armstrong Institute for Patient Safety and Quality

Personalized Pain Program



Reduce Pain. Improve Function. Recover Better.



What is the PPP?

- Multidisciplinary team of acute and chronic pain specialists and psychiatrists with expertise in addiction medicine
 - Innovative, translational, and coordinated care model to taper opioid use

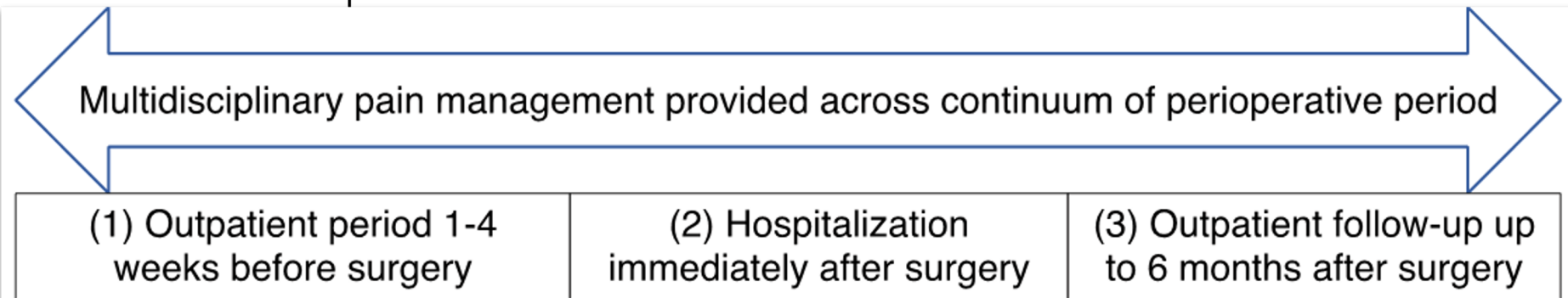
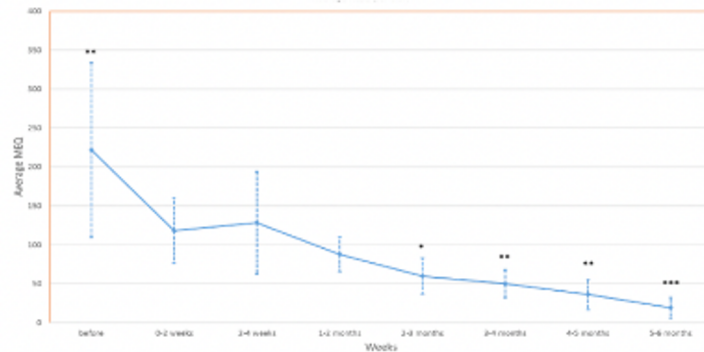


Figure 1. Concept Flow of Perioperative Pain Program (PPP).

The Impact of the PPP

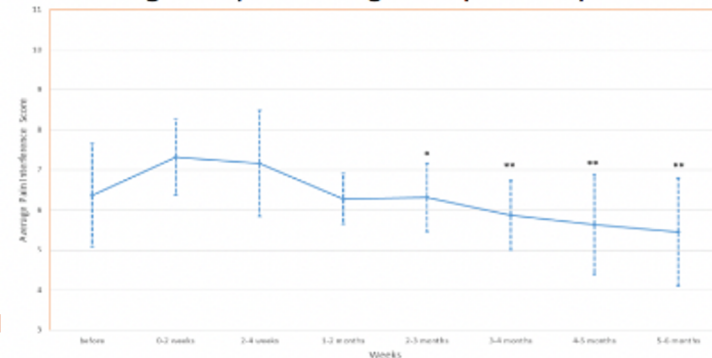
- The PPP has significantly reduced postoperative prescription opioid consumption, and improved pain scores and physical function^{7,8}



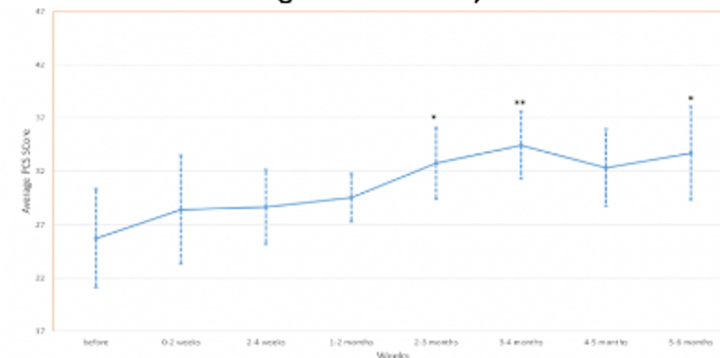
a. Average Morphine Milligram Equivalent per Visit



b. Average Pain Intensity Scores



c. Average Pain Interference Scores



d. Average SF12 Physical Scores

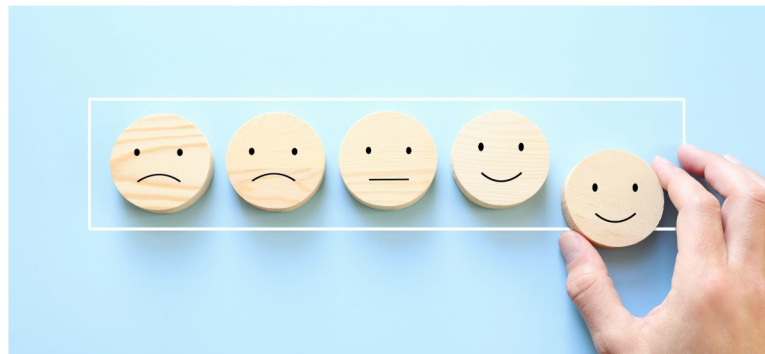
Patient Engagement in Perioperative Pain Management

- This concept has gained importance in the era of patient-centered care
 - Improved engagement has been shown to:
 - Grant patients higher satisfaction and better treatment compliance⁹
 - Improve healthcare outcomes
 - Decrease related costs
 - Improve quality and safety^{10,11,12,13}
- There is limited information regarding engagement of surgical patients in perioperative pain management and its potential to impact opioid use
- Recently, a few studies have shown how better patient engagement in the postoperative setting can lead to improved outcomes
 - A study of patients undergoing knee replacement surgery demonstrated decreased prescription opioid use among patients with improved engagement¹⁴
 - Within the PPP, a new study found that patients who perceived they were engaged in their care had significantly reduced prescription opioid use after surgery¹⁵



Patient Engagement and the PPP

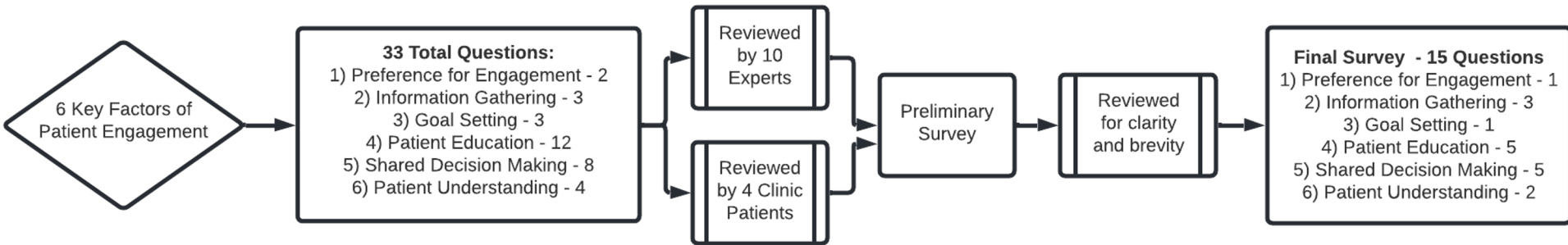
- Rigorous instruments for assessing patient engagement in pain management are limited
 - Through closer attention to patient engagement in pain management, there is significant potential to improve a myriad of outcomes
- In 2019 an initial survey of patients participating in PPP was conducted
 - 84% believed it was important to engage patients in pain management
 - But only 65% felt they were very-well engaged
- Thus, the PPP proposed to adapt and pilot test an educational program
 - Primary goal is to improve patient engagement in perioperative pain management
- **The objective of our study is to develop and validate a survey instrument to quantify patient engagement in pain management**



6 Key Constructs of Patient Engagement

Question Category	Description
Preference for engagement	A provider discusses patient's preferred level of engagement.
Information gathering	A provider collects patient's information about beliefs, concerns, expectation, and illness experiences.
Goal setting	A provider and patient set a goal together for better functional outcomes.
Patient education	A provider informs a patient of the care setting, such as diagnostic tests, health condition, and treatment options.
Shared decision-making	A provider and patient work together to make the best decisions about the care that a patient receive.
Patient understanding	A provider helps a patient understand and relate to health information.

Methods



Methods: Experts

- Survey was sent to 12 experts for review
 - Specializing in Psychiatry, Chronic Pain, Acute Pain, Health Policy, and Patient Engagement
 - 7 PhD, 6 MD
 - Responses were anonymous
 - 10 Responded: 83.33% response rate

Methods: Relevance Score

$$\text{Relevance Score} = \frac{(\text{"Highly Relevant"} * 100 + \text{"Quite Relevant"} * 66.67 + \text{"Somewhat Relevant"} * 33.33)}{\text{Total Reviewers}}$$

Average relevance score of final questions: 83.97

Average relevance score of discarded questions: 56.59

Average relevance across all questions: 72.85

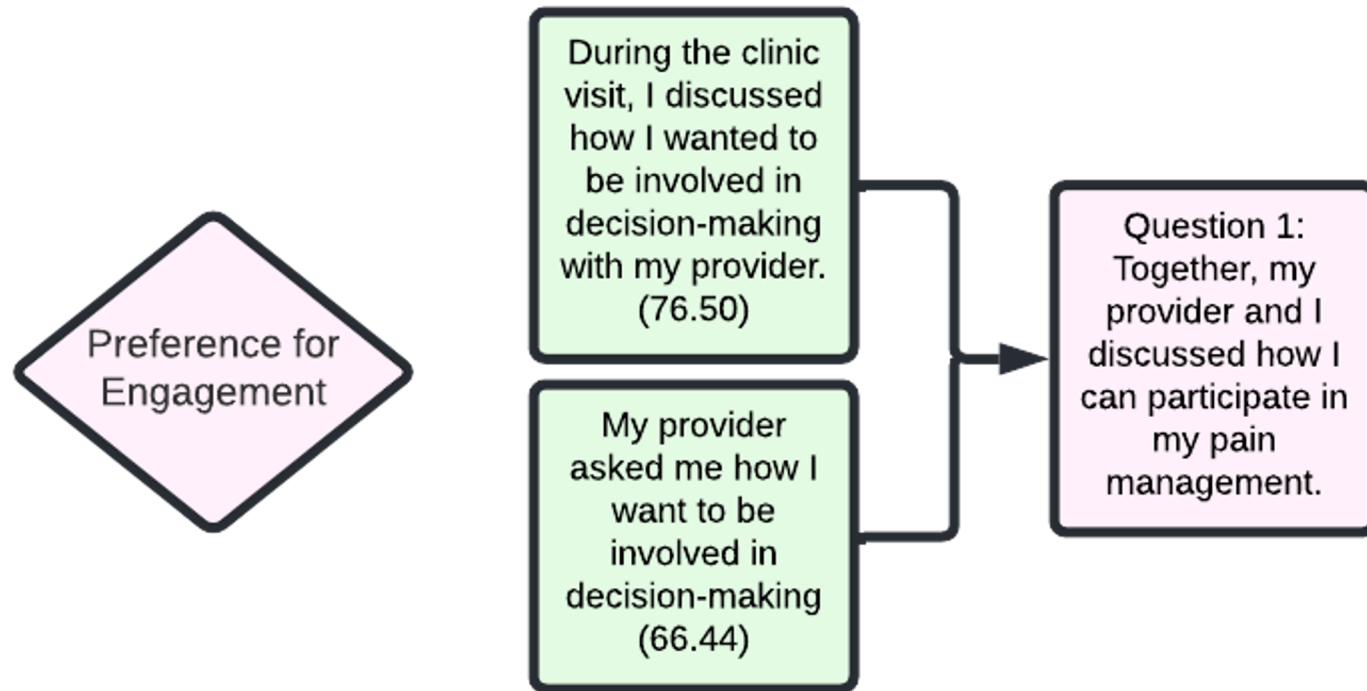
Range of relevance score of final questions: (59.00; 95.14)

Range of relevance score of discarded questions (37.38; 86.50)

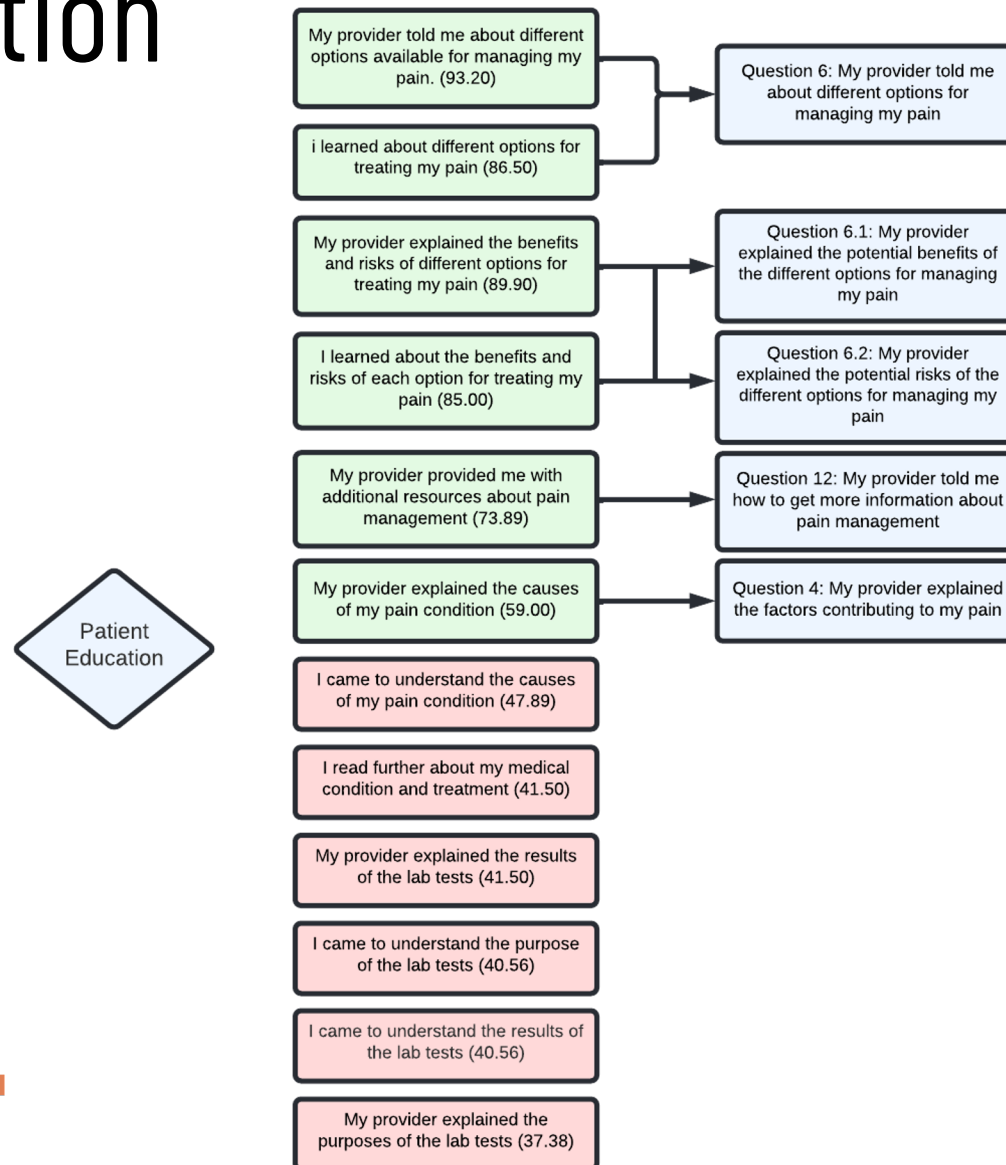
Methods: Patient Input

Type	Initial Question	Patient Review	Final Question
Rewording	"My provider encouraged me to express my needs for pain management"	3 out of 4 patients preferred the term <i>goals</i> to <i>needs</i>	"Together we discussed my goals for the outcomes of my pain management"
Adapted	"My provider discussed the facilitators and barriers to following the treatment plan with me"	Patient unanimously agreed discussing obstacles to care was important however found the wording confusing	"Together we discussed challenges that could make my pain management plan harder to follow"
Unchanged	"My provider told me about different options for treating my pain"	4 out of 4 patients emphasized the importance of this question	"My provider told me about different options for treating my pain"
Removed	"I came to understand the causes of my pain management condition"	3 out of 4 patients felt confused by the term pain condition and felt other questions better captured the intended sentiment.	N/A

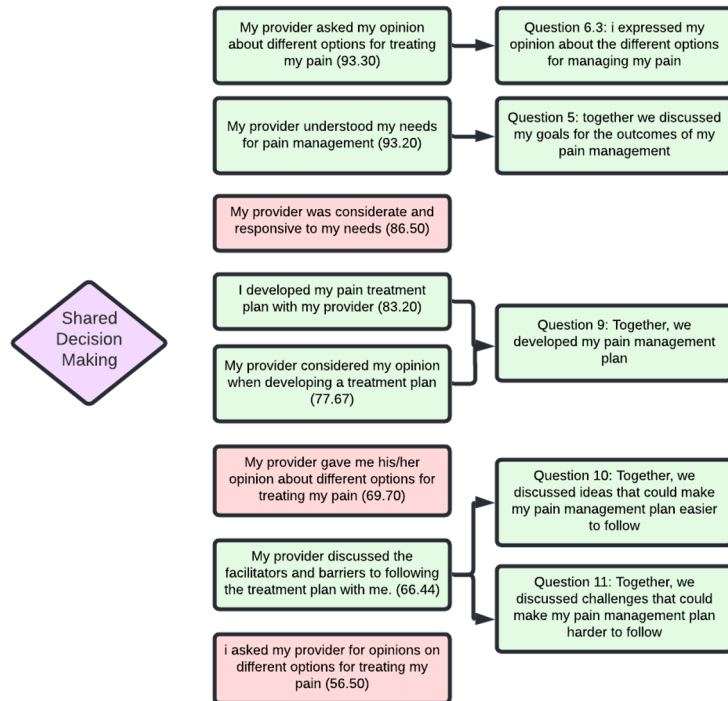
Construct Example: Preference for Engagement



Construct Example 2: Patient Education



Remaining Key Constructs



Results

Dear Patient,

We would like to learn more **about your recent experience as a patient in the Personalized Pain Program (PPP)**. We want to continue to provide the best care possible and help you better manage your pain. The survey below will take about 5 minutes to complete. Your responses will be kept strictly confidential and do not impact your pain management. Your input is valuable to us and we appreciate the time that you are taking to complete this survey.

Thank you,
Personalized Pain Program (PPP) Staff

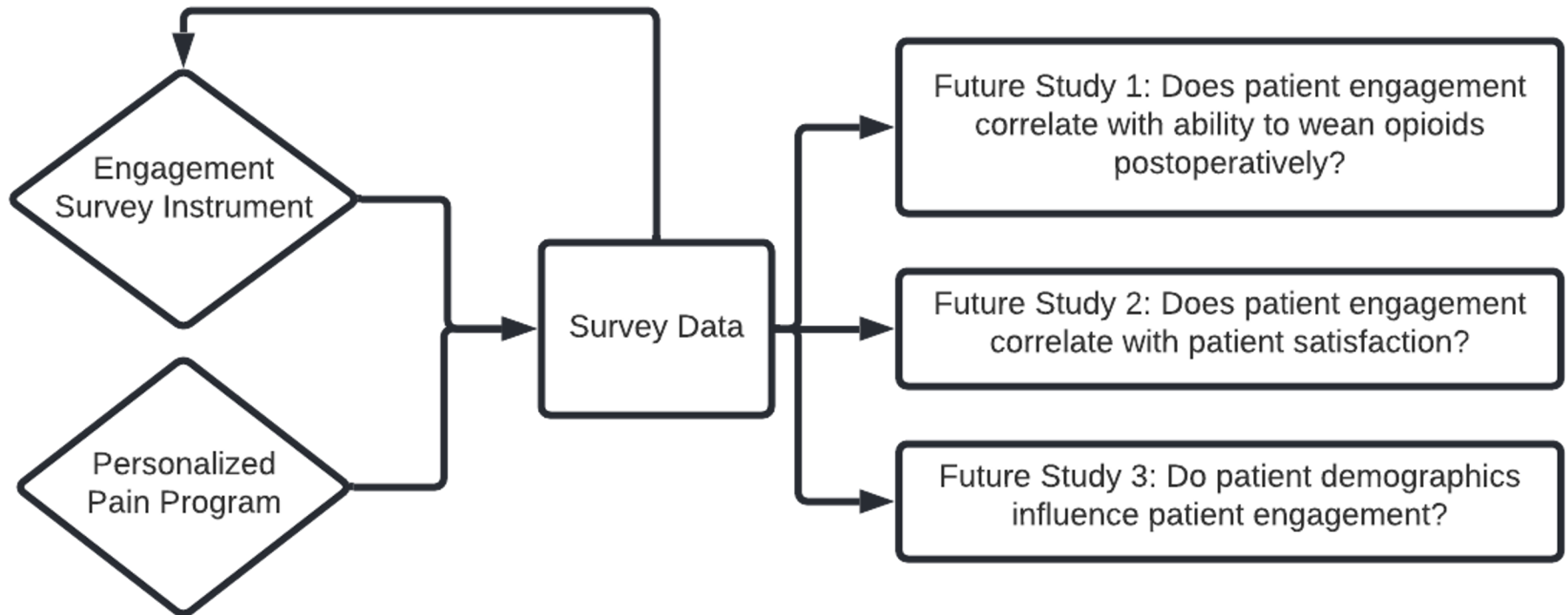
When answering each question, CONSIDER ONLY YOUR RECENT EXPERIENCE as a patient in the PPP and please circle the number that best describes your experience.



Results

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Not Applicable (N/A)
During the clinic visit...						
1. Together, my provider and I discussed how I can participate in my pain management.	1	2	3	4	5	N/A
2. I told my provider about my prior pain experience.	1	2	3	4	5	N/A
3. I told my provider about my current pain experience.	1	2	3	4	5	N/A
4. My provider explained the factors contributing to my pain.	1	2	3	4	5	N/A
5. Together we discussed my goals for the outcomes of my pain management.	1	2	3	4	5	N/A

Future Directions



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The background is a dark field filled with numerous colorful pills and capsules in various shapes, sizes, and colors including teal, orange, yellow, blue, and grey. Many of the pills have a single vertical line scored down the middle. The pills are scattered across the entire frame, creating a dense, textured pattern.

Thank you for Listening!

Acknowledgements: Marie Hanna MD, MEHP, Traci Speed MD, PhD, Anping Xie PhD, Yea-Jen Hsu PhD, Ronen Shechter MD, The Personalized Pain Program, and The Johns Hopkins Hospital

Supplemental Slide: Final Survey

The Patient Experience in Personalized Pain Program Survey (PEPS)

Dear Patient,

We would like to learn more **about your recent experience as a patient in the Personalized Pain Program (PPP)**. We want to continue to provide the best care possible and help you better manage your pain. The survey below will take about 5 minutes to complete. Your responses will be kept strictly confidential and do not impact your pain management. Your input is valuable to us and we appreciate the time that you are taking to complete this survey.

Thank you,
Personalized Pain Program (PPP) Staff

When answering each question, CONSIDER ONLY YOUR RECENT EXPERIENCE as a patient in the PPP and please circle the number that best describes your experience.

		Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Not Applicable (N/A)
During the clinic visit...							
1.	Together, my provider and I discussed how I can participate in my pain management.	1	2	3	4	5	N/A
2.	I told my provider about my prior pain experience.	1	2	3	4	5	N/A
3.	I told my provider about my current pain experience.	1	2	3	4	5	N/A
4.	My provider explained the factors contributing to my pain.	1	2	3	4	5	N/A
5.	Together we discussed my goals for the outcomes of my pain management.	1	2	3	4	5	N/A
6.	My provider told me about different options available for managing my pain.	1	2	3	4	5	N/A
	6.1 My provider explained the potential benefits of the different options for managing my pain.	1	2	3	4	5	N/A
	6.2 My provider explained the potential risks of the different options for managing my pain.	1	2	3	4	5	N/A
	6.3 I expressed my opinion about the different options for managing my pain.	1	2	3	4	5	N/A
7.	My provider made sure that I understood the information they provided.	1	2	3	4	5	N/A
8.	My provider addressed my questions and concerns.	1	2	3	4	5	N/A
9.	Together, we developed my pain management plan.	1	2	3	4	5	N/A
10.	Together, we discussed ideas that could make my pain management plan easier to follow.	1	2	3	4	5	N/A
11.	Together, we discussed challenges that could make my pain management plan harder to follow.	1	2	3	4	5	N/A
12.	My provider told me how to get more information about pain management.	1	2	3	4	5	N/A

Thank you very much for your participation in this study!