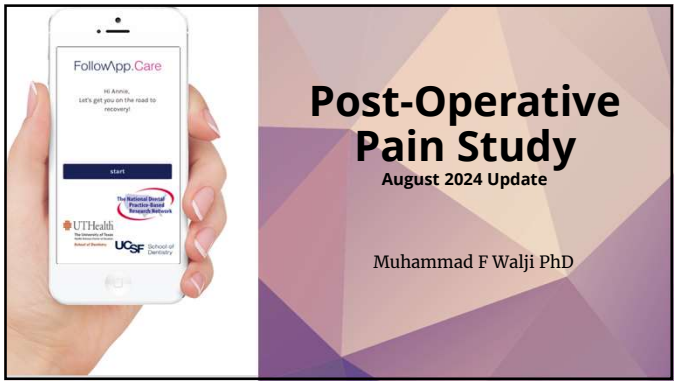
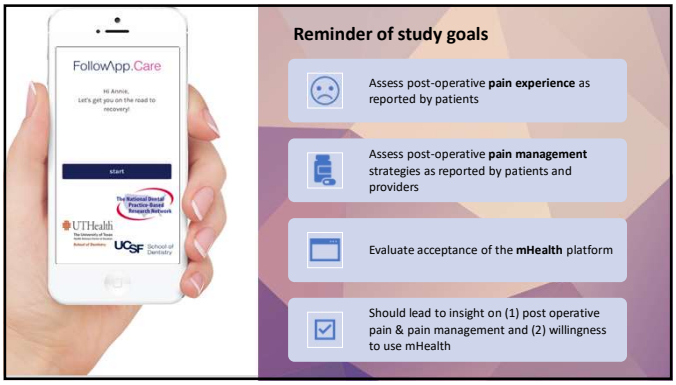
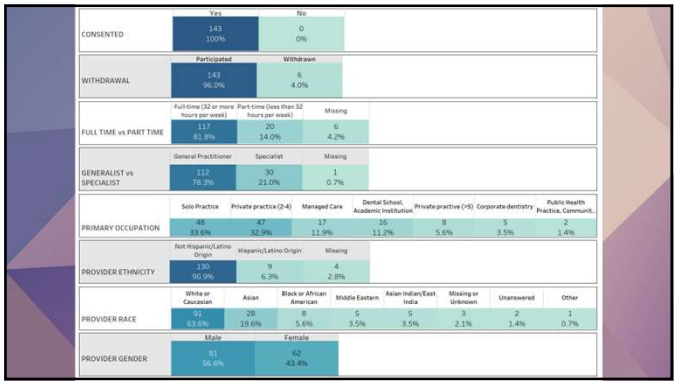

FollowApp.Care
start
Post-Operative Pain Study
August 2024 Update
Muhammad F Walji PhD

1


FollowApp.Care
start
Reminder of study goals
Assess post-operative pain experience as reported by patients
Assess post-operative pain management strategies as reported by patients and providers
Evaluate acceptance of the mHealth platform
Should lead to insight on (1) post operative pain & pain management and (2) willingness to use mHealth

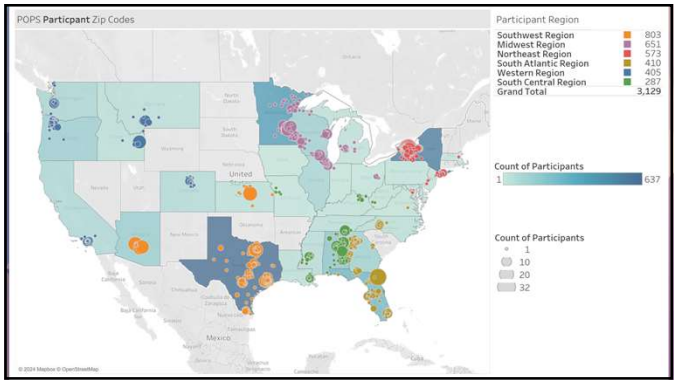
2


CONSENTED
Yes 143 100%
No 0 0%
WITHDRAWAL
Participated 143 96.0%
Withdrawn 6 4.0%
FULL TIME vs PART TIME
Full-time (32 or more hours per week) 117 81.8%
Part-time (less than 32 hours per week) 20 14.0%
Missing 6 4.2%
GENERALIST vs SPECIALIST
General Practitioner 112 78.3%
Specialist 30 21.0%
Missing 1 0.7%
PRIMARY OCCUPATION
Solo Practice 48 33.6%
Private practice (2-4) 47 32.9%
Managed Care 17 11.9%
Dental School, Academic Institution 16 11.2%
Private practice (>5) 8 5.6%
Corporate dentistry 5 3.5%
Public Health Practice, Communit... 2 1.4%
PROVIDER ETHNICITY
Not Hispanic/Latino Origin 130 90.9%
Hispanic/Latino Origin 9 6.3%
Missing 4 2.8%
PROVIDER RACE
White or Caucasian 91 63.6%
Asian 28 19.6%
Black or African American 8 5.6%
Middle Eastern 5 3.5%
Asian Indian/East India 5 3.5%
Missing or Unknown 3 2.1%
Unanswered 2 1.4%
Other 1 0.7%
PROVIDER GENDER
Male 81 56.6%
Female 62 43.4%

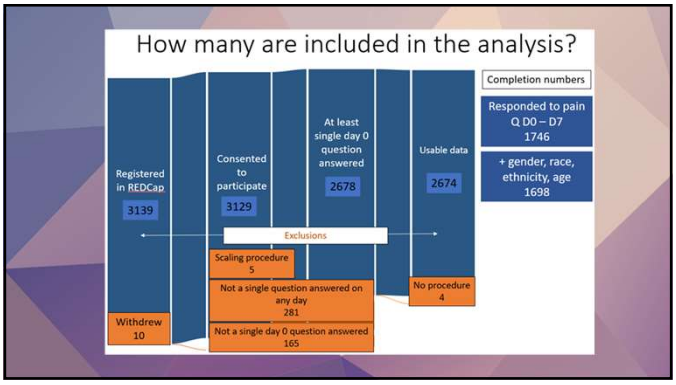
3

Patient Demographics
Average Age: 49.8 SD: 17.4
Average Household Count: 2.87 (med =2), SD: 2.08
GENDER
Female 1,489 47.9%
Male 1,171 37.7%
Missing 444 14.3%
Other 5 0.2%
RACE
Caucasian 1,843 59.3%
Missing 480 15.4%
African American 395 12.7%
Asian 151 4.9%
Prefer Not to Answer 119 3.8%
Multiple Races 73 2.3%
Native American Alaska Native 31 1.0%
Native Hawaiian Other Pacific Isla... 17 0.5%
ETHNICITY
Not Hispanic/Latino Origin 2,271 73.0%
Missing 456 14.7%
Hispanic/Latino Origin 339 10.9%
Prefer Not to Answer 43 1.4%
INSURANCE
Private Insurance 1,562 50.2%
Missing 519 16.7%
Public/Government Insurance 489 15.7%
No Dental Insurance 436 14.0%
I Don't Know 69 2.2%
Prefer Not to Answer 34 1.1%
INCOME
Over $100,000 714 23.0%
$50,001-$100,000 699 22.5%
Prefer Not to Answer 474 15.2%
Missing 470 15.1%
$25,001-$50,000 461 14.8%
Up to $25,000 291 9.4%
NEIGHBORHOOD
Suburban 1,438 46.3%
Urban 704 22.6%
Rural 487 15.7%
Missing 480 15.4%
EDUCATION
Some College/ Associate's Degree 857 27.6%
High School Diploma/GED 659 21.2%
Bachelor's Degree 601 19.3%
Missing 465 15.0%
Graduate Degree 432 13.9%
Less than High School Diploma 95 3.1%

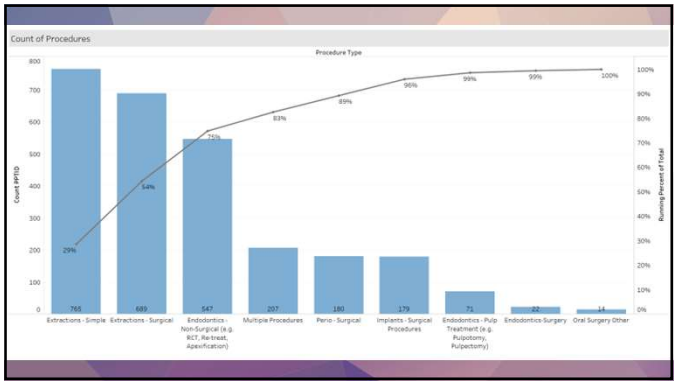
4


POPS Particpant Zip Codes
Participant Region
Southwest Region 803
Midwest Region 651
Northeast Region 573
South Atlantic Region 410
Western Region 405
South Central Region 287
Grand Total 3,129
Count of Participants
1
637
Count of Participants
1
10
20
32

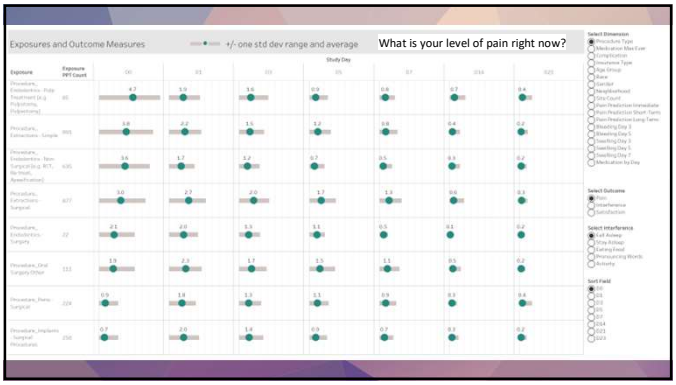
5


How many are included in the analysis?
Registered in REDCap 3139
Consented to participate 3129
At least single day 0 question answered 2678
Usable data 2674
Completion numbers
Responded to pain Q D0 – D7 1746
+ gender, race, ethnicity, age 1698
Exclusions
Scaling procedure 5
Not a single question answered on any day 281
Not a single day 0 question answered 165
No procedure 4
Withdrew 10

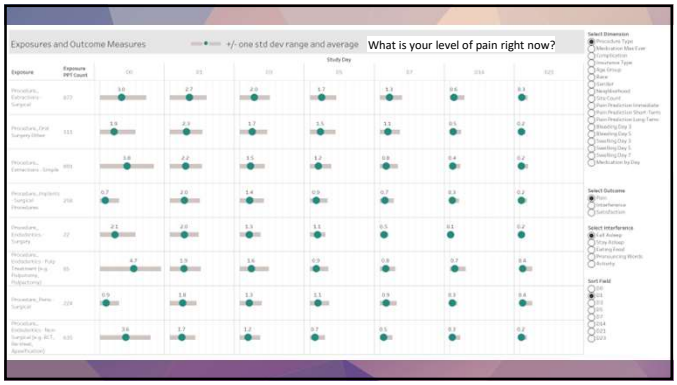
6


Count of Procedures
Procedure Type
Count PPTID
Running Percent of Total
765
689
547
207
180
179
71
32
14
29%
54%
77%
83%
89%
96%
99%
99%
100%
Extractions - Simple
Extractions - Surgical
Endodontics - Non-Surgical (e.g. RCT, Re-treat, Apexification)
Multiple Procedures
Perio - Surgical
Implants - Surgical Procedures
Endodontics - Pulp Treatment (e.g. Pulpotomy, Pulpectomy)
Endodontics-Surgery
Oral Surgery Other

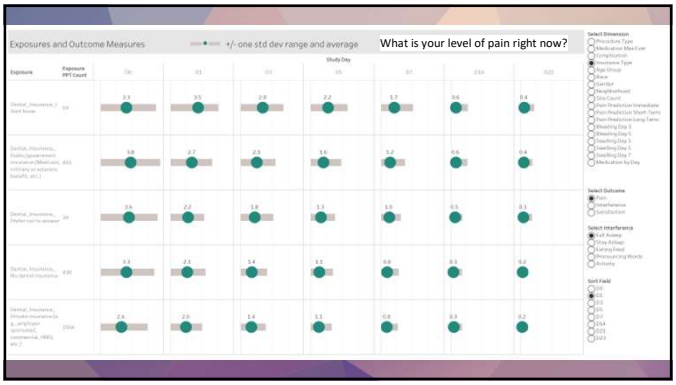
7


Exposures and Outcome Measures
+/- one std dev range and average
What is your level of pain right now?

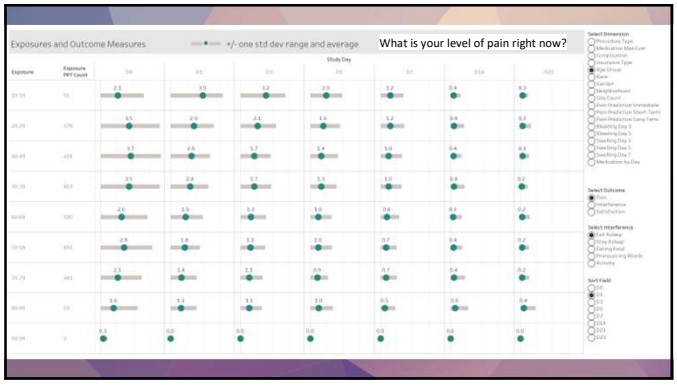
8


Exposures and Outcome Measures
+/- one std dev range and average
What is your level of pain right now?

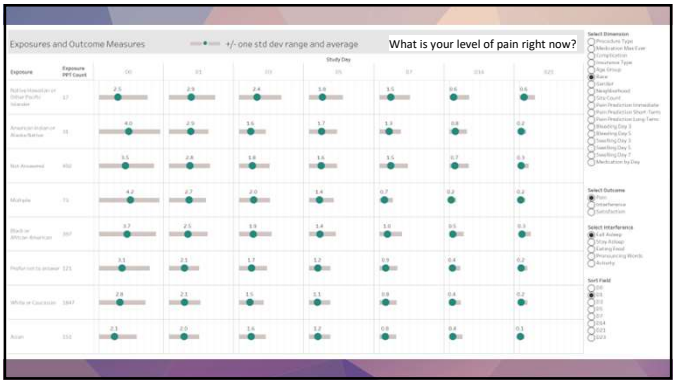
9


Exposures and Outcome Measures
+/- one std dev range and average
What is your level of pain right now?

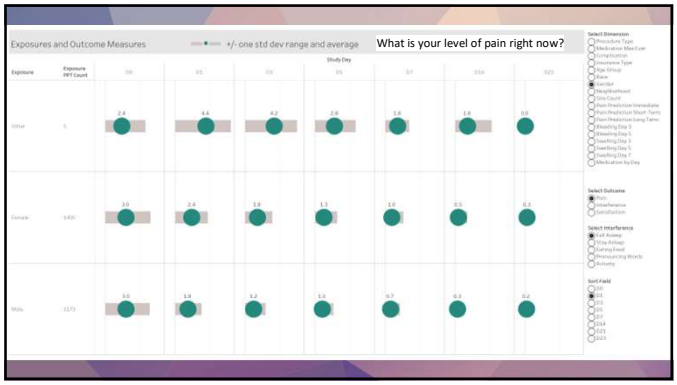
10


Exposures and Outcome Measures
+/- one std dev range and average
What is your level of pain right now?

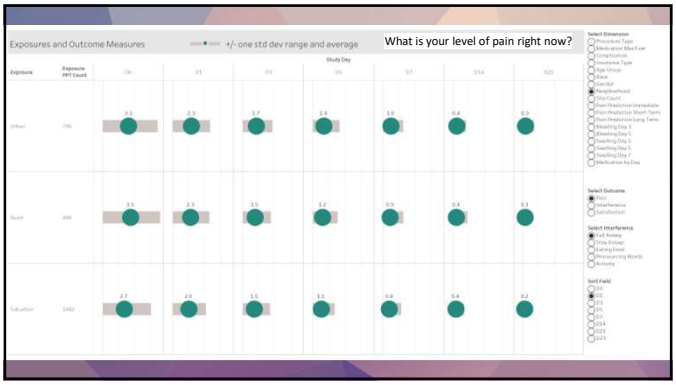
11


Exposures and Outcome Measures
+/- one std dev range and average
What is your level of pain right now?

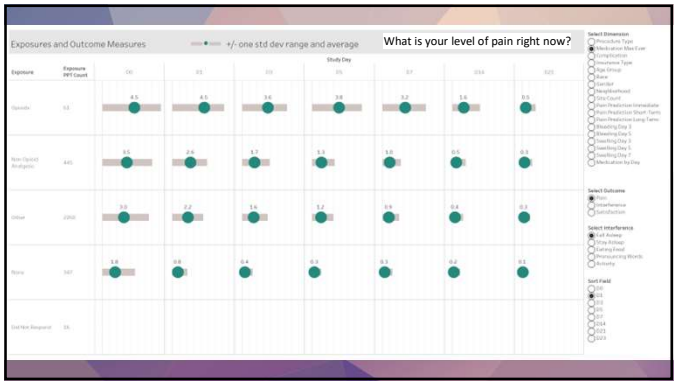
12



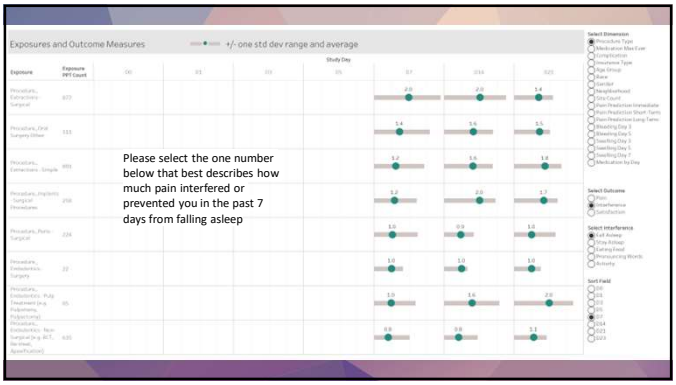
13



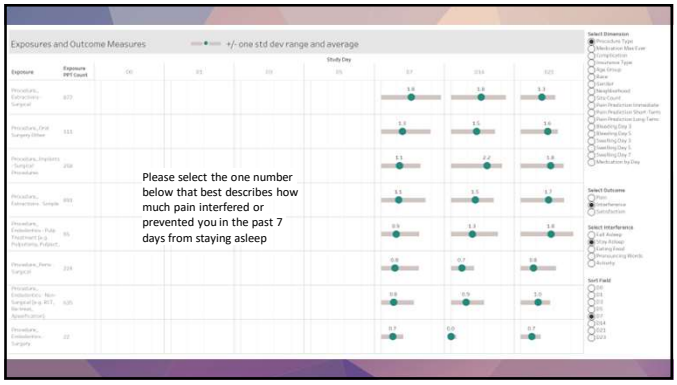
14



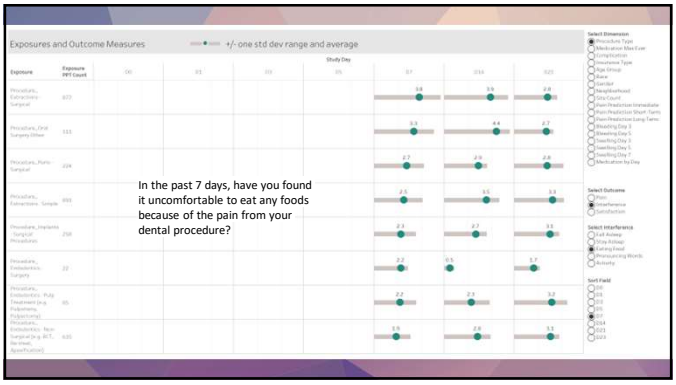
15



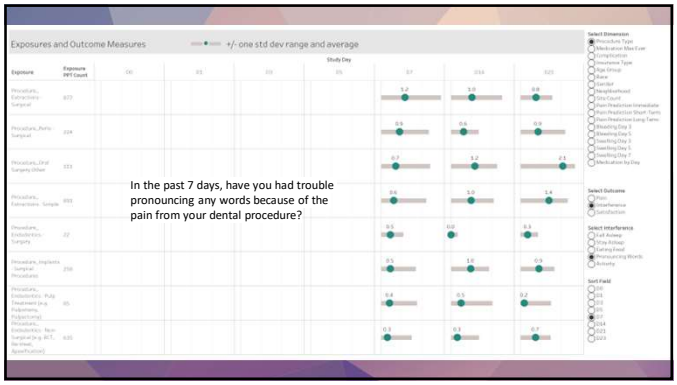
16



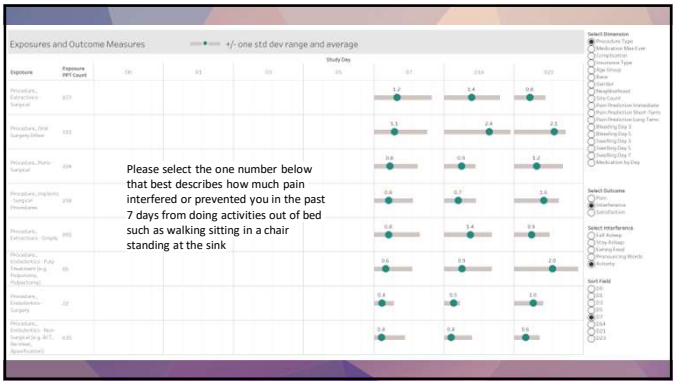
17



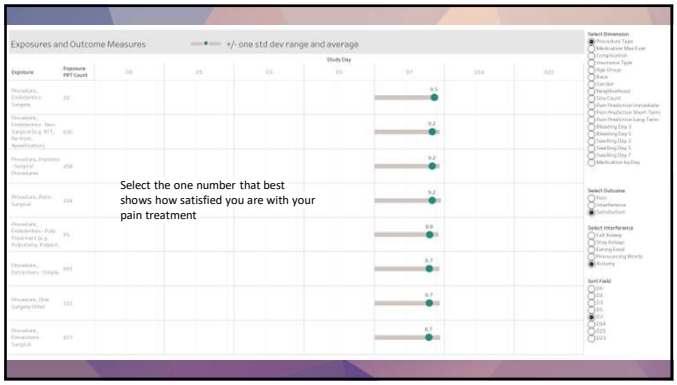
18



19

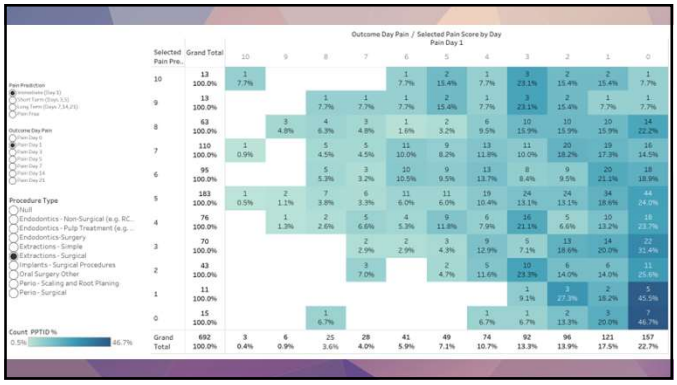


20



21

22



23

24

25

26

27

Hypothesis 1
There is a significant difference in pain intensity measured over time and the dental procedure groupings after adjusting for pain management strategies and other complications. More specifically, are their significant variations in pain intensity due to different treatments after adjusting for:

a. pain management strategy (e.g., pain medications used, adherence to pain management strategy, the usage of non-medicine methods for pain)
b. other complications

Hypothesis 2
There is a significant difference in pain interference measured over time and the dental procedure groupings, after adjusting for pain management strategies and other complications. More specifically, are their significant variations in pain interference due to different treatments after adjusting for:

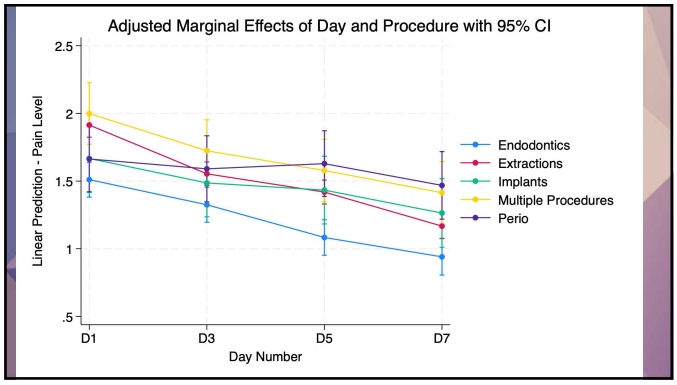
a. pain management strategy (e.g., pain medications used, adherence to pain management strategy, the usage of non-medicine methods for pain)
b. other complications

Hypothesis 3
There is a significant difference in patient satisfaction measured at the end of the 7-day period and dental procedure groupings, after adjusting for pain management strategies and other complications. More specifically, are their significant variations in patient satisfaction due to different treatments after adjusting for:

a. pain management strategy (e.g., pain medications used, adherence to pain management strategy, the usage of non-medicine methods for pain)
b. other complications.

Hypothesis 4
Reported technology acceptance metrics; performance expectancy (PE), effort expectancy (EE), social influence (SI), and behavioral intention (BI) will be consistent with high acceptance of the FollowApp.Care platform.

28



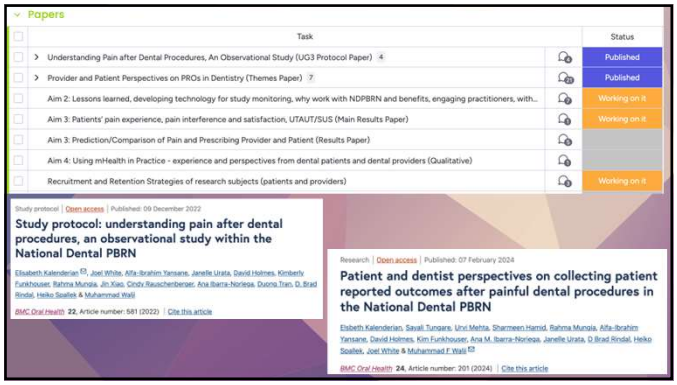
29

Timeline – On Track

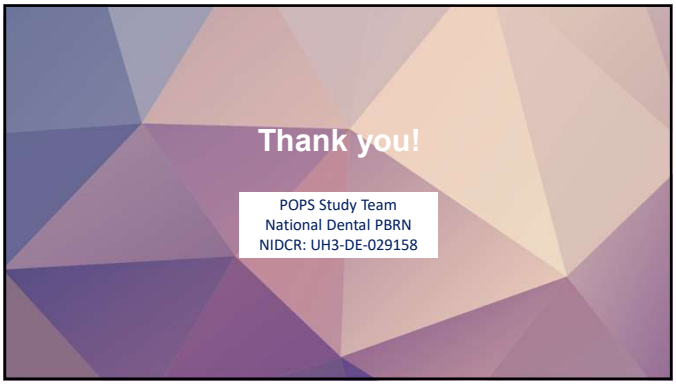
MILESTONES

Task	Status	Inte..	Due Date	Timeline
Year 1: Finalization of data management system and processes	Done		Nov 1, 2021	Sep 1, '21 - Nov 1, '21
Year 1: Initiation and completion of Ramp-up study	Done		Apr 30, 2022	Sep 1, '21 - Jul 31, '22
Year 2: Activation of Full study	Done		May 9, 2023	May 9, '22 - Sep 30, '22
Year 2: Completion of Practitioner recruitment and training	Done		Jun 30, 2023	May 9, '22 - Jun 30, '23
Year 2: Enrollment of 40% of study participants	Done		Jul 31, 2023	Sep 1, '22 - Jul 31, '23
Year 3: Enrollment of 90% of study participants	Done		Jul 31	Aug 1, '23 - Jul 31, '24
Year 4: Enrollment of 100% of study participants	Done		Apr 30	Aug 1, '24 - Jul 31, '25
Year 4: Completion of data collection on all participants	Done		May 25	Aug 1, '24 - Jul 31, '25
Year 4: Completion of primary study analyses			Jul 31, 2025	Aug 1, '24 - Jul 31, '25

30


Papers
Task
Status
Understanding Pain after Dental Procedures, An Observational Study (UG3 Protocol Paper) 4
Published
Provider and Patient Perspectives on PROs in Dentistry (Themes Paper) 7
Published
Aim 2: Lessons learned, developing technology for study monitoring, why work with NDPBRN and benefits, engaging practitioners, with...
Working on it
Aim 3: Patients' pain experience, pain interference and satisfaction, UTAUT/SUS (Main Results Paper)
Working on it
Aim 3: Prediction/Comparison of Pain and Prescribing Provider and Patient (Results Paper)
Aim 4: Using mHealth in Practice - experience and perspectives from dental patients and dental providers (Qualitative)
Recruitment and Retention Strategies of research subjects (patients and providers)
Working on it
Study protocol: understanding pain after dental procedures, an observational study within the National Dental PBRN
Patient and dentist perspectives on collecting patient reported outcomes after painful dental procedures in the National Dental PBRN

31


Thank you!
POPS Study Team
National Dental PBRN
NIDCR: UH3-DE-029158

32