

Post Operative Pain Monitoring Mobile Application



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Objective

Create digital system providing patient progress information to improve post-discharge care regimens and pain outcomes

Motivation

57% of patients reported to be **unsatisfied** with their pain regimen after discharge.[1]

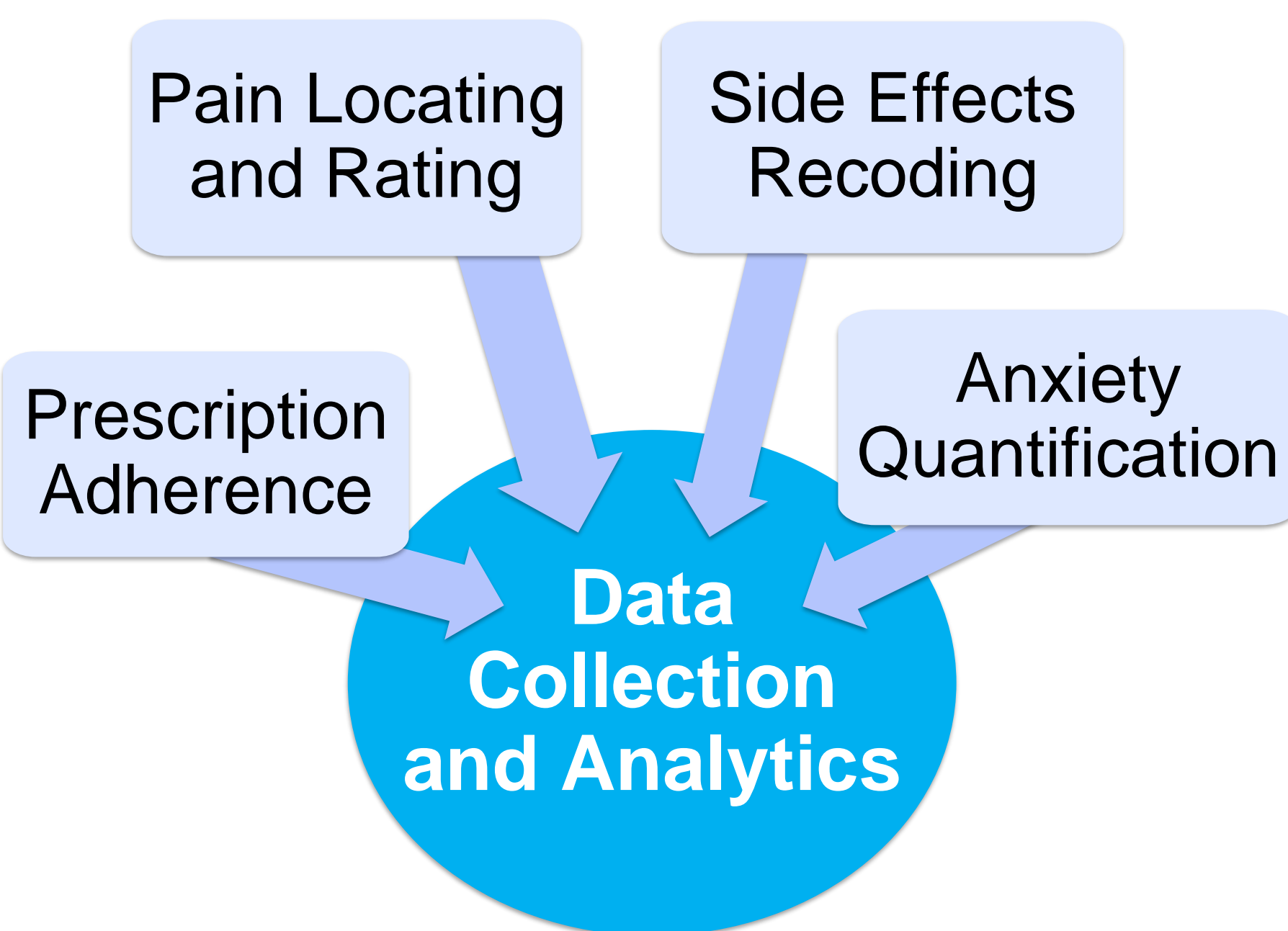
66% of Americans with prescriptions are Non-Adherent[2]

Constraints

C1: System cannot interface with hospital **EMR system**.

C2: System cannot assume the patient followed the **prescribed medication plan**

Requirements



Prototype



Progression of our Application
Wireframe → Prototype

Societal Impact

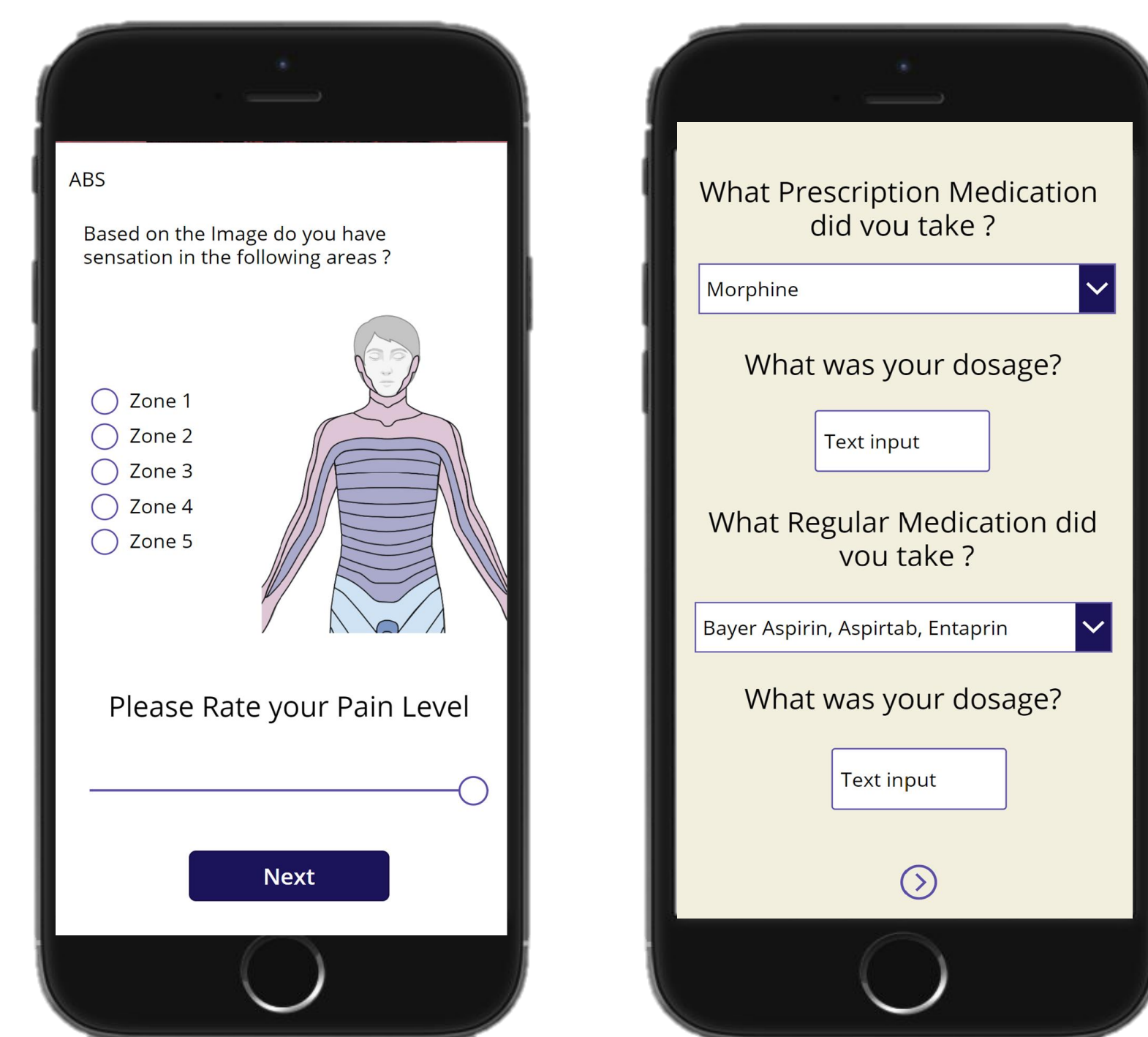
Our application is under **ePRO (electronic patient reported outcomes) application heading** that has an estimated **\$2.8 billion market by 2026 [3]**.

Verification

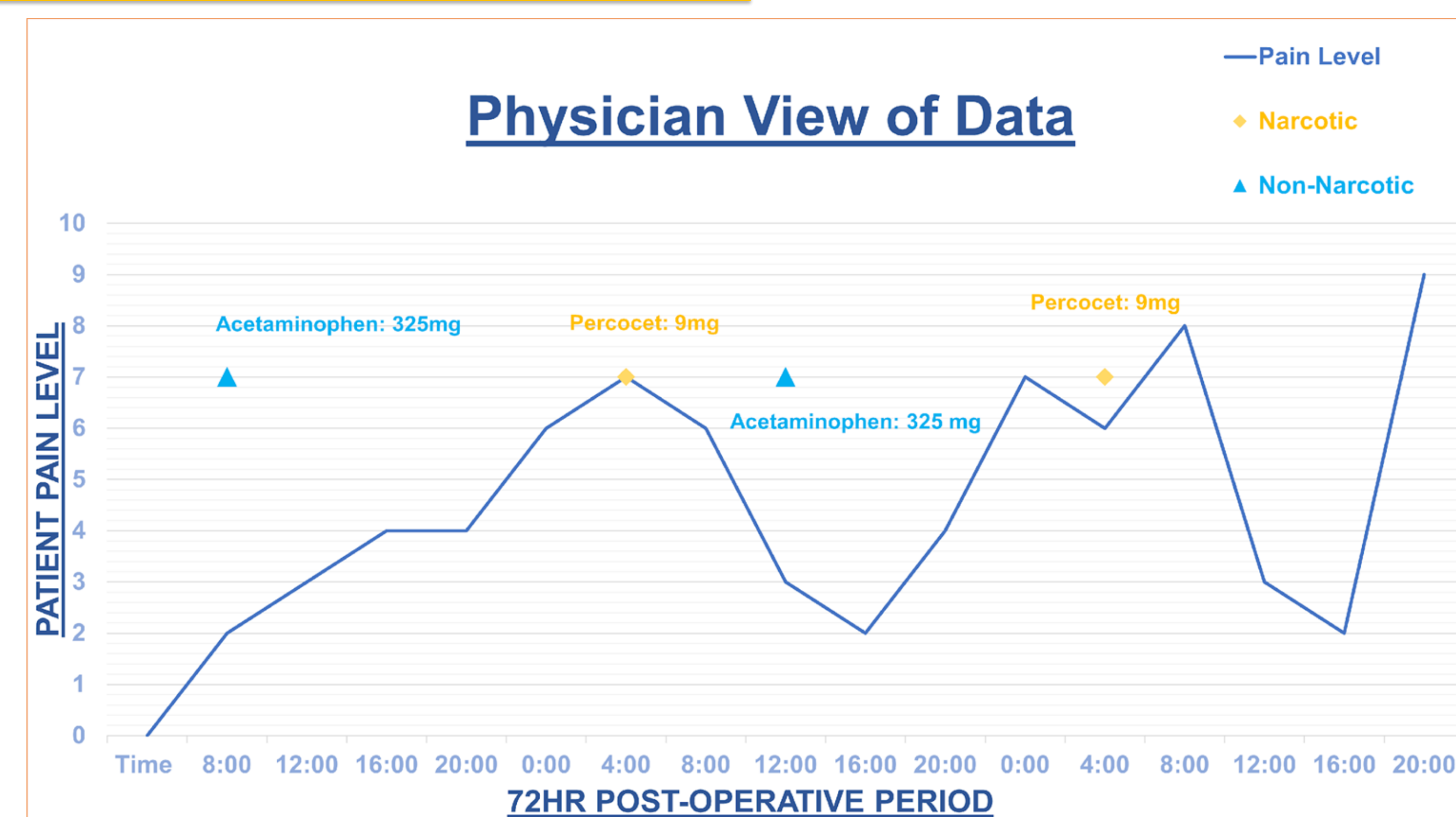
V1:Physician Verification
Ensures app is equivalent or better than existing 24-hour follow-up call

V2:Developer Verification
Input checked with storage and graphical visualization

Solution



Pain Level Input Medication Input
Patient View



Physician view of information input

Existing Solution

Phone Call 24hr post discharge

- Single point of contact disallowing extensive follow-up
- Location of pain cannot be communicated
- Medication usage not monitored



Conclusion

Ensuring effective pain management, proper patient recovery, and expediting the further care of side effects are all necessary, possible, and easy with

POPTAP

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[1] L., J. (n.d.). 15 frightening stats on medication adherence (plus infographic). Pillsy. Retrieved November 28, 2021, from <https://www.pillsy.com/articles/medication-adherence-stats-4>

[2] Department of Anesthesia and Critical Care. (n.d.). Postoperative pain experience: Results from a national... : Anesthesia & analgesia. LWW. Retrieved October 11, 2021, from <https://journals.lww.com/anesthesia>

[3] Kleinsinger, Fred. "The Unmet Challenge of Medication Nonadherence." The Permanente journal vol. 22 (2018): 18-033. doi:10.7812/TPP/18-033