Developing a Pediatric Pain App

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OBJECTIVES

- Design an app whose features include
  - General use (for surgical and nursing services)
  - Pain management of pediatric surgical patients by weight and age
  - Pediatric pain drug doses calculation by patient weight - tylenol, NSAIDS, oral and iv/im/sc opioids
  - Recommended pain management for routine day surgery cases
  - Recommended pain management for inpatients (tylenol, NSAIDS, infusions, po/iv/im/sc)
  - Pain Score tools
- Advanced use for acute and chronic pain services
  - Conversions from po/iv/im/sc/transdermal to po/iv/im/sc/transdermal opioids
  - Doses for PCA opiates
  - Pain Score tools
  - Regional anesthesia dosing

BACKGROUND

- 27% of pediatric patients have pain before admission
- 77% experience pain during admission
- 23% have moderate or severe pain
- 64% have moderate or severe pain sometime in the previous 24 h
- Analgesics were largely intermittent and single-agent, although 90% of patients found these helpful.
- Knowledge of pain medication is a limitation

DESIGN PROCESS

- Determine need
- Identify goals
- Recruit team
- Gather data
- GUI design
- App iterations
- Alpha testing
- Beta testing
- Marketing
- Distribution

CHALLENGES

- Time
- Identifying developers
- Corporate branding
- GUI design
- Data integrity
- Quality and safety

TARGET POPULATION

- Physicians (surgeons, pediatricians, general practitioners, anesthesiologists, dentists)
- Nurses
- Medical Students
- Nursing Students

QUALITY AND SAFETY

- 3 months of data integrity testing via an iterative process
- 8 alpha testers
- 20 beta testers
- Post market testing

SCREENSHOTS