

Understanding Frustrations with Post-Operative Drain Care and Identifying a Path for Improvement: A Mixed-Methods Study

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Background

- Drains in plastic surgery (PS) are critical in preventing surgical complications
- However, managing drain care and tracking output at home can be difficult for patients
- Providers receive frequent outpatient communication, inaccurate output totals
- A **mobile application** may help patients and providers easily manage drain care and **mitigate drain-related frustrations**

Methods

- Single-institution data via the PS clinical advice services (CAS) help line
- Retrospective review: 6mos of patient calls
- CAS providers were surveyed on:
 - The frequency and nature of drain-related outpatient communication
 - Their experiences related to drain care

Qualitative, quantitative data used to create a mobile application to facilitate drain care

Results

n = 223 calls (from 163 patients)

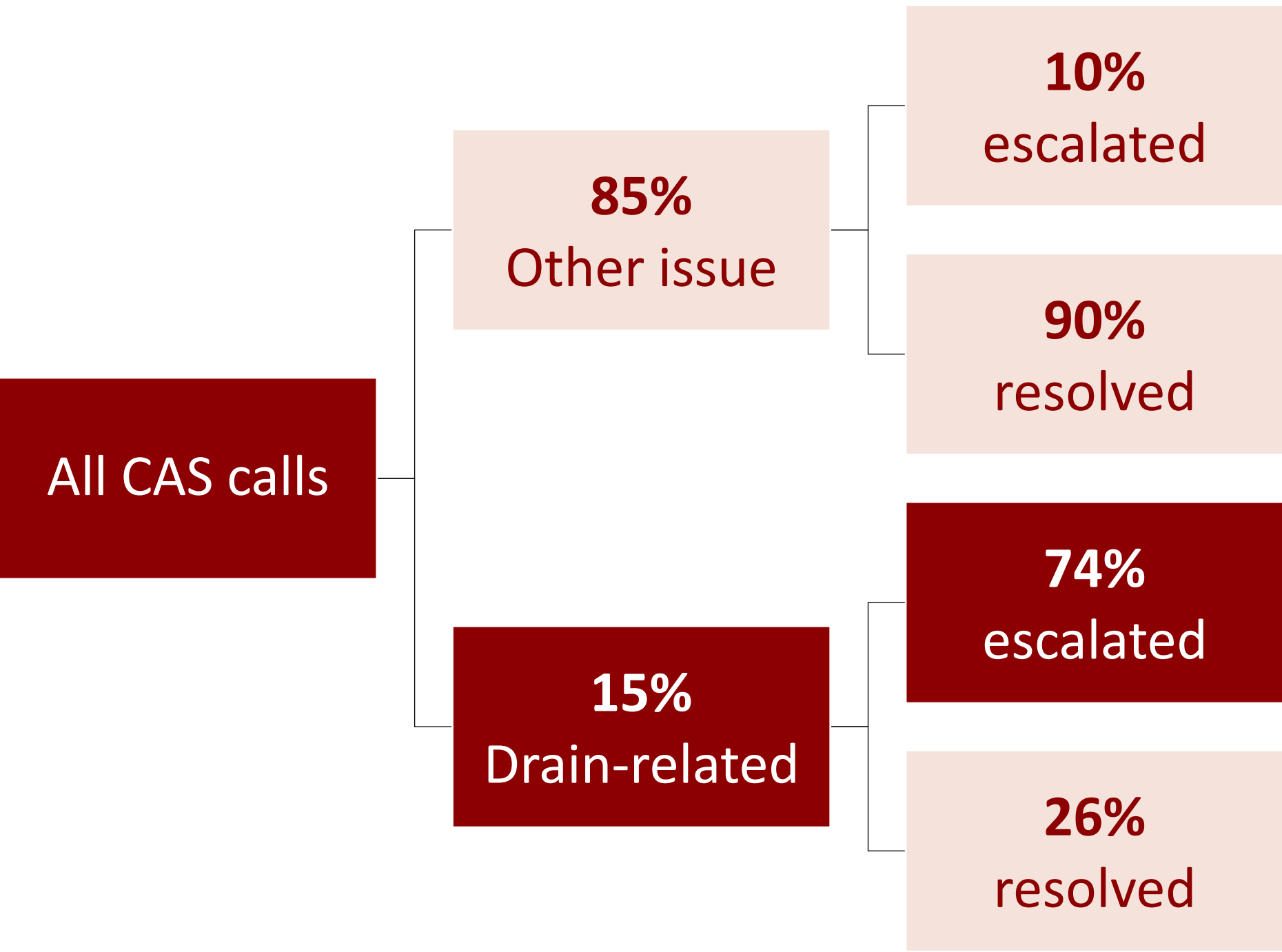
15% of all patient calls to PS CAS were drain-related

Drain-related calls were **escalated** to the on-call resident **7.4x more frequently** than unrelated calls

Providers responded that...

- 58%** of drain-related calls were **preventable**
- 25%** of patients **forget their drain output logs**
- They are concerned about **inaccurate drain measurements 21% of the time**

PS CAS Encounters and Outcomes



Conclusions

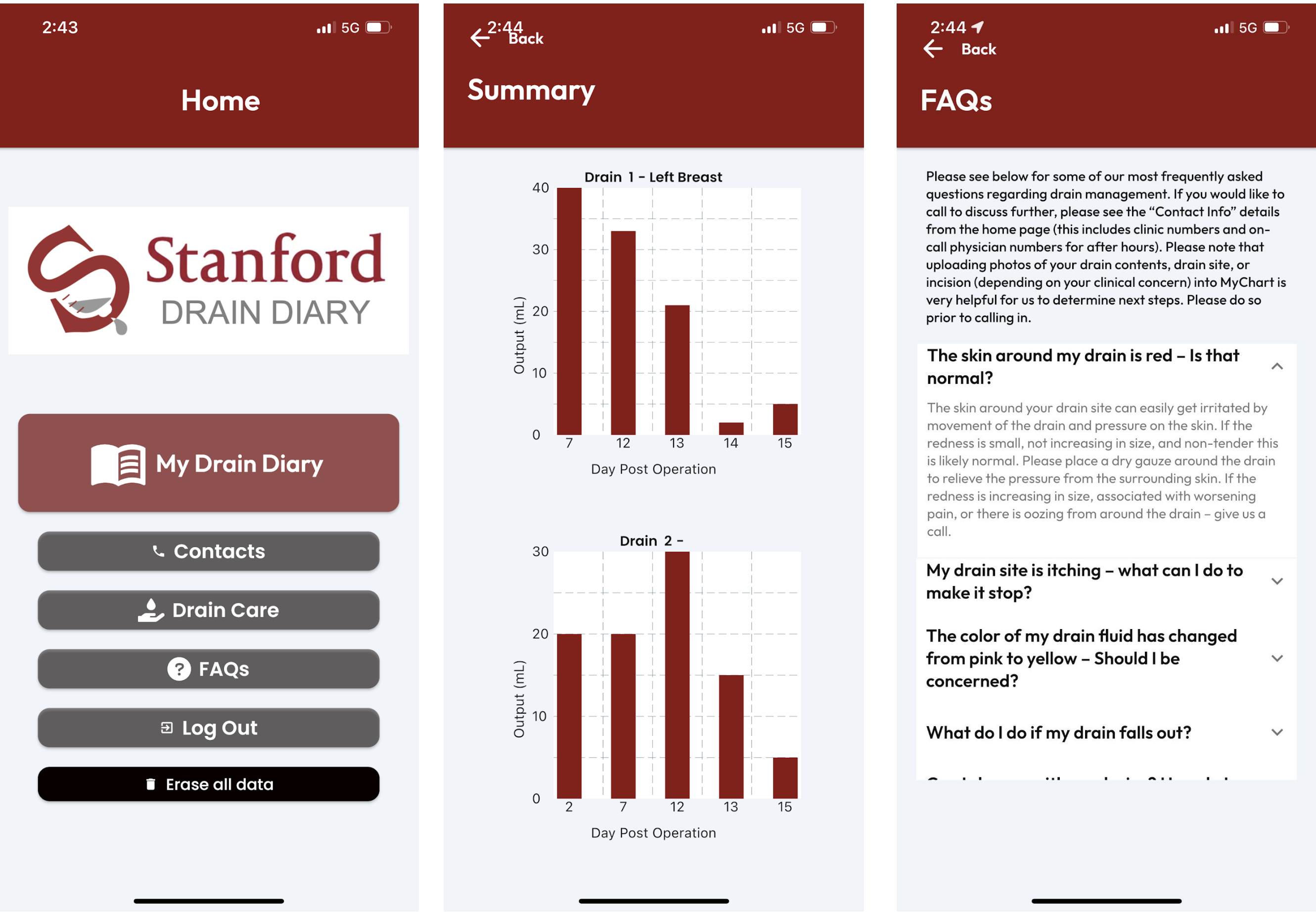
- Drain care requires a **disproportionately large effort** from PS providers
- A mobile app to accurately track output can **facilitate drain care** for patients, providers
- Features like a **24hr output chart** and an **FAQ page**, can further alleviate provider burdens
- Drain Diary is now **available in the App Store!**

Future Directions

- Wider implementation of mobile application, then evaluate improvement in:
 - Patient outcomes:** complications, time to drain removal, overall satisfaction
 - Provider burden:** fewer CAS calls, fewer escalations, reliable record-keeping

Integrate into EMR for better data accessibility

Develop provider interface as central platform for managing all patients' drains



Mobile Application Features

- User-friendly record-keeping interface
- Clear labeling for multiple drains
- 24hr output measurements shown to providers for planning drain removal
- Push notifications to remind patients to empty their drains
- FAQ page to help triage common issues before consulting PS CAS