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Development and Pilot of MySafeCare: An Application for Patients and Family to Report Safety Concerns in the Hospital

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Introduction

- There is a limited understanding of threats to patient safety from the patient's perspective

- A method to capture patient perceived threats in real time could:
  - Help mitigate risks before safety incidents occur
  - Promote a learning health system

- How can we use technology to:
  - Capture patient perceived threats in real time?
  - Overcome barriers that prevent patients from reporting safety concerns?

What's the evidence?

- Surveyed patients identify 55- 66% more events
  - Not captured in health record or event reporting system[1,2-4]

- Engaging patients at the point of care and in real time, not after
  - Improved outcomes
    - » Decrease likelihood of adverse events[9]
    - » Improved cost-savings
      - Decreased delays in care, errors, and length of stay
      - HCAHPS Scores (Hospital Consumer Assessment of Healthcare Providers and Systems)
  - Improved process measures
    - » Increase satisfaction[2,4]
    - » Better data

([1]Weissman et al., 2008; [2]Weingart et al., 2005; [3]Weingart et al., 2006; [4]Currie, et al., 2009)

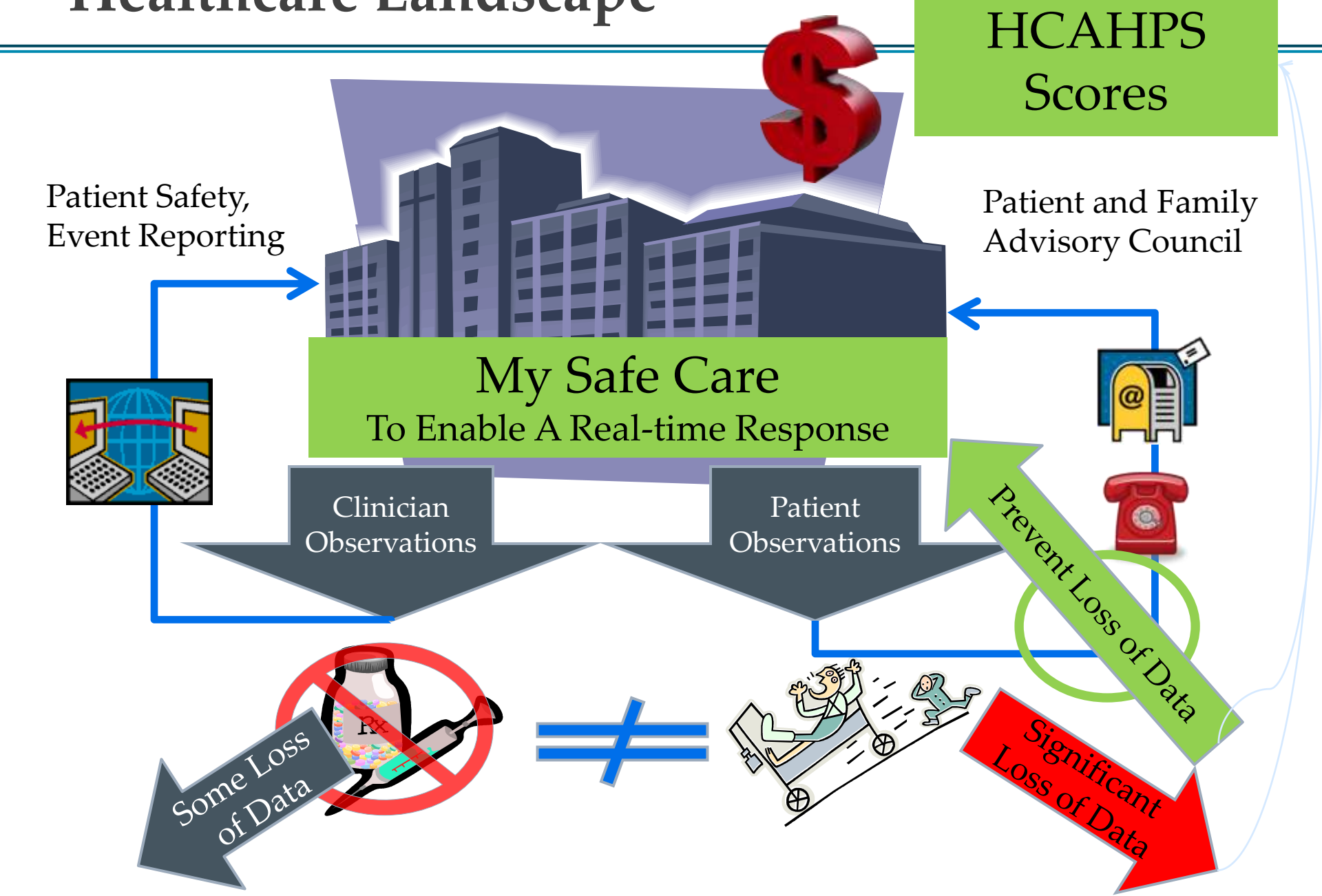
Healthcare Landscape

- Safety reporting systems are cumbersome
- Easy to forget reporting 'near misses'
- Apps are simple, fast, accessible in real-time

"Patients and families can play a critical role in preventing medical errors and reducing harm… Many of the barriers to engagement faced by patients and families – such as lack of access to their health records, intimidation, fear of retribution, and lack of easy to understand tools and checklists for enhancing safe care – can only be overcome if leaders and clinicians support patients and families to become more confident and effective in their interactions with health care providers."

(Lucian Leape Institute. *Safety is Personal: Partnering with Patients and Families for the Safest Care.* The National Patient Safety Foundation, 2014)

Healthcare Landscape

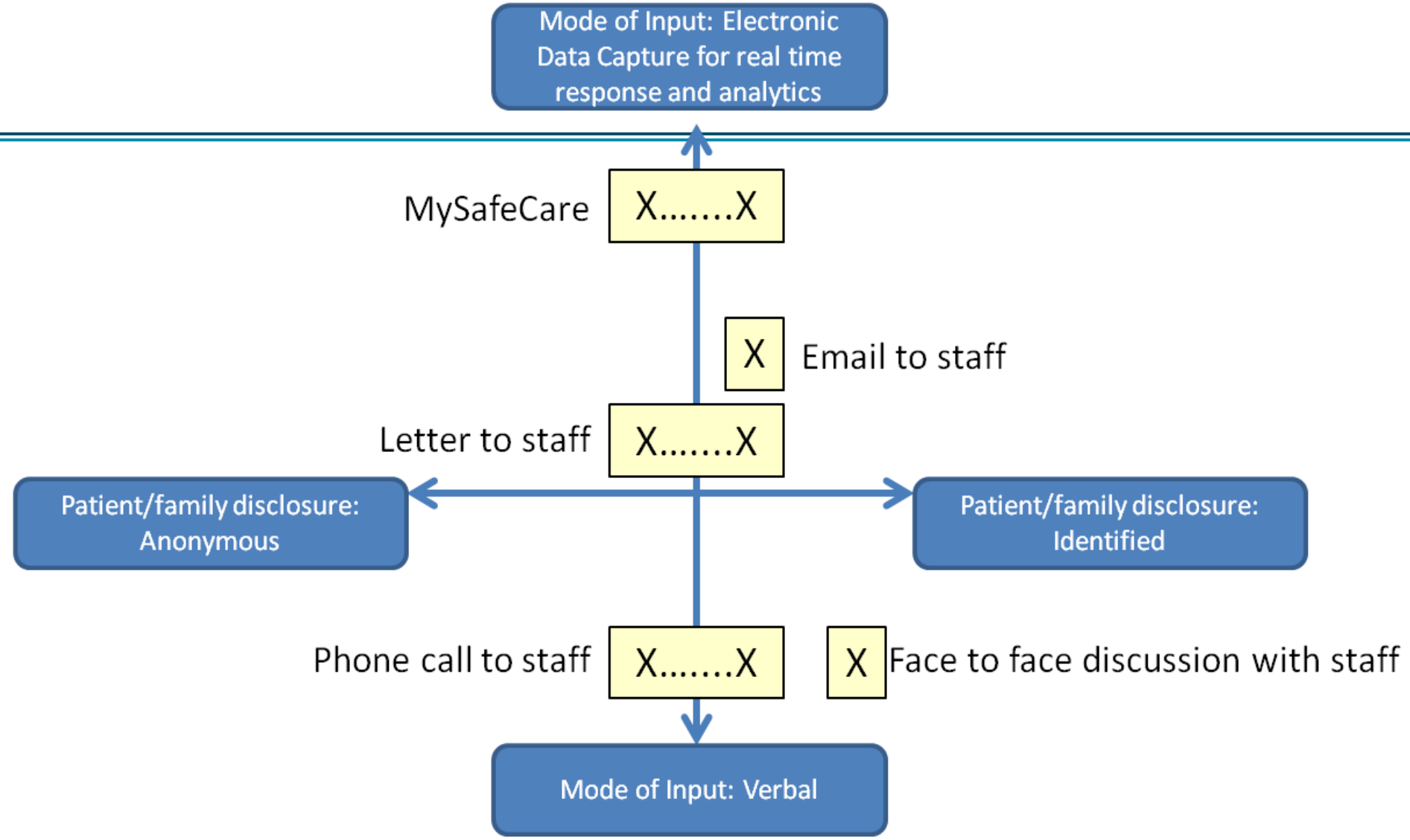


About MySafeCare

MySafeCare is a research tool that allows patients and their friends and family a real-time way to report safety concerns to appropriate clinical staff while in the hospital

Key Features:

- Web-based and mobile-enabled
- Anonymous and Identified reporting options
- Concern Categories (button icons) and subcategories
- Free text section for "in your own words"
- May enter a Compliment ☺



Key:

- Staff = clinical or administrative hospital staff including: Clinicians; Patient Family Relations Representative; Clinical Unit Directors/Managers; Administrators; Other Hospital Staff.
- Symbol "X.....X" indicates that path of submission enables patient/family to be anonymous or identified.

MySafeCare App

Patient Facing Application

9 Concern Categories

Subcategories

Free text section

Purpose

- Provide anonymous & identified reporting of safety concerns for inpatients and families
- Web-based and mobile enabled for real-time and quick reporting

Clinical Dashboard

IS Implications

- Standalone application accessed by any mobile device with internet access
- Facilitates communication between hospital administration/staff and patients and families
- Clinical Dashboard can be opened up to Nurse/Medical Directors, Patient and Family Relations staff, and clinical team

Aims

1. Iterative user-centered development
2. Pilot Testing
3. Quantitative analysis of submissions captured through MySafeCare
4. Qualitative analysis of the unique perspectives of patients and families related to reporting safety threats identified and explored in this project

Methods

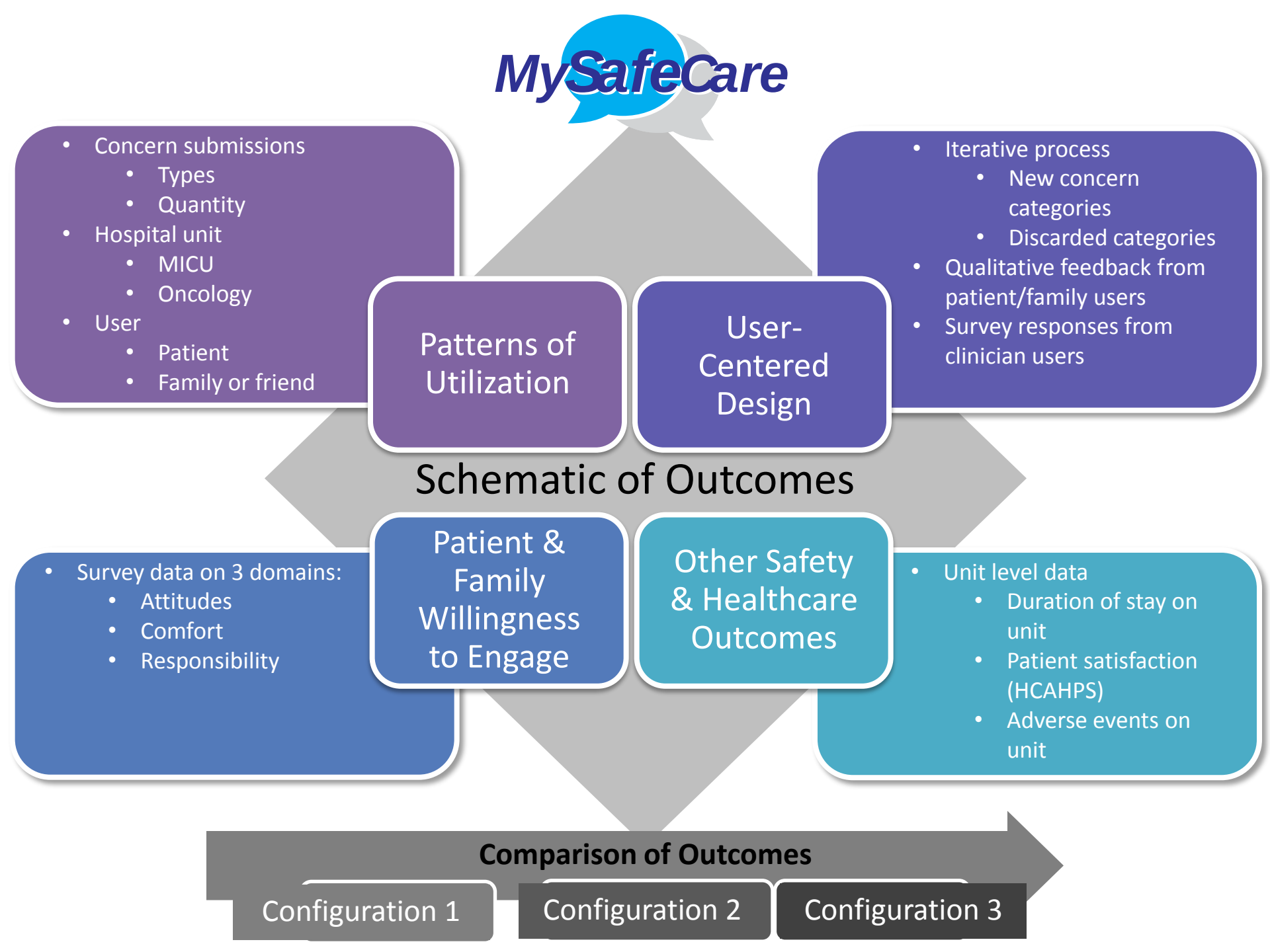
- Stakeholder engagement
  - Clinical units, Patient and Family Advisory Councils, Patient Safety
- User-centered design & usability testing
  - Development work to produce a configurable system
- Pilot Testing
- Outcomes Analysis

User Centered Design Methods

- Rapid iterative development and piloting
  1. Stakeholder engagement
  2. Iterative user-centered design
  3. Extraction and prioritization of requirements
  4. Wireframes and prototyping
  5. Development
  6. Testing
  7. Version revisions based on testing and end-user feedback

Pilot Testing on Clinical Units

- Version 1
  - 3 weeks during March - April 2015
    - » Vascular Surgery unit
- Version 2
  - 6 month trial during May - October 2015
    - » Medical Intensive Care Unit (MICU)
    - » Oncology Units (ONC)
- Version 3
  - February 2016 – now
    - » MICU and ONC
  - April 2016 - now
    - » Vascular Surgery unit


MySafeCare
Concern submissions
Types
Quantity
Hospital unit
MICU
Oncology
User
Patient
Family or friend
Patterns of Utilization
User-Centered Design
Iterative process
New concern categories
Discarded categories
Qualitative feedback from patient/family users
Survey responses from clinician users
Schematic of Outcomes
Survey data on 3 domains:
Attitudes
Comfort
Responsibility
Patient & Family Willingness to Engage
Other Safety & Healthcare Outcomes
Unit level data
Duration of stay on unit
Patient satisfaction (HCAHPS)
Adverse events on unit
Comparison of Outcomes
Configuration 1
Configuration 2
Configuration 3

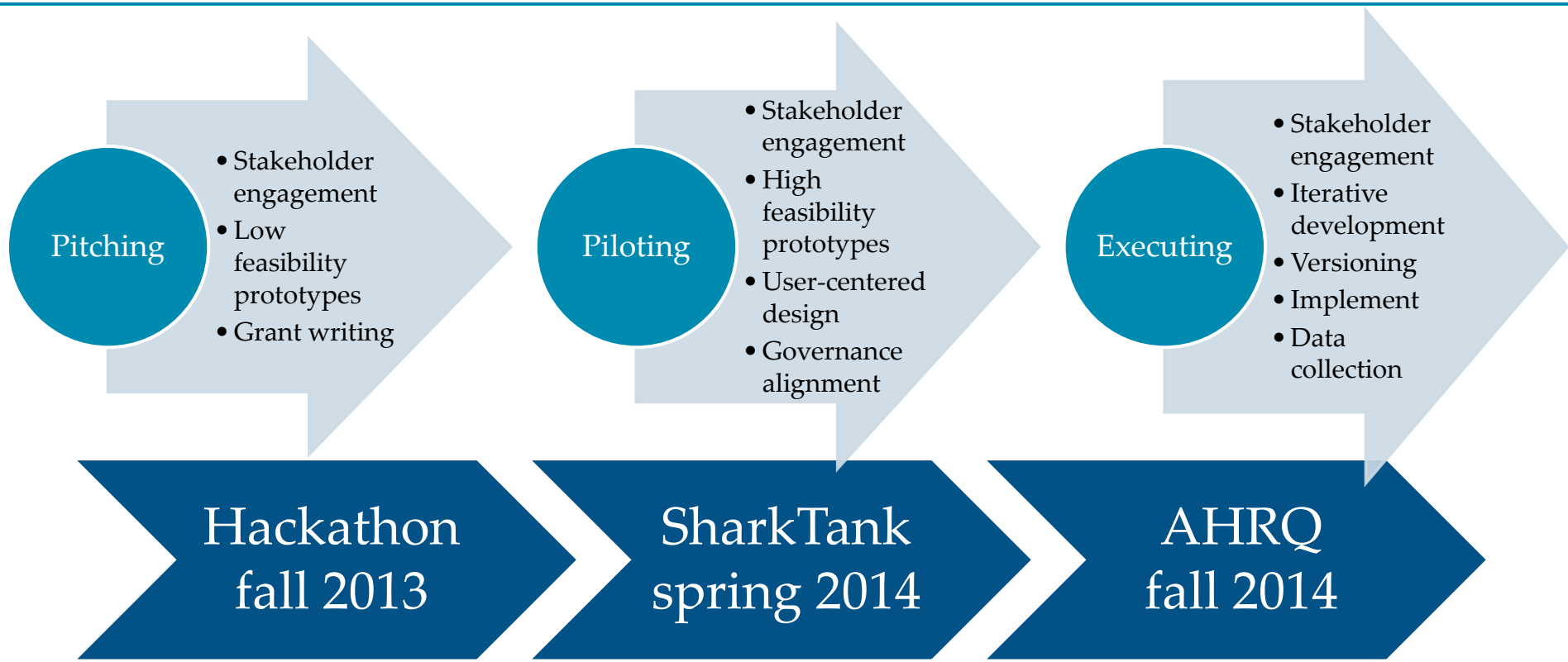
Results: Sample & Data Collected

- User-Centered Design
  - 11 individual user-centered design sessions
  - 3 small group user-centered design sessions
    - » 25 members of PFAC
    - » Average 6-10 participants
      - Consisted of a combination of former patients and family members

- Pilot Sample
  - > 250 interactions with patients and families during engagement rounds
    - » Version 1 - Intermediate Vascular Unit pilot trial
      - 44 patients engaged
    - » Version 2 - Medical ICU and Oncology floors pilot
      - 206 patients and family members engaged
    - » Version 3 – in process

Project Execution Timeline

Project Execution Timeline



Partners/BWH Governance and IT Infrastructure and Services

Clinical, Administrative, & Research Leadership Engagement and Support

BWH Innovation Hub (iHub)

BWH Patient and Family Advisory Council & Patient and Familiy Relations

Results

- Quantitative Pilot Data
  - » Pre-publication and will be included in live presentation

- Concerns Submissions
  - » Counts: comparable with Patient & Family Relations data
  - » Content: useful and unique
    - Example:
      - Patient perceived harm related to intravenous infection control was in reality a best practice.

- Interviews
  - » The majority of patients/families interviewed were unaware of the administrative 'chain of command' of the hospital and paths for reporting a safety concern in the hospital

Discussion: Safety reporting by Patients & Families

- Patient preferences
  - Anonymous concerns
- Patient perspective
  - Mitigate actual harms & perception of harm
- Patient engagement
  - Introduction to MySafeCare
  - Patient Population
- Patient education
  - Knowledge of the “chain of command”
  - Value of reporting

Current & Next Steps

- Expansion to other units to test level of use & planned outcomes across different patient populations
- Continue to test Patient/Family engagement strategies
  - Best process for introduction of MySafeCare
  - Refinement of terms
- Analysis of Patient/Family Willingness to Engage
  - Mixed methods: qualitative interview data & quantitative survey data
- Ongoing, agile revisions to MySafeCare content for improved user experience
- Intervention trial
  - Integration with other safety projects

Thank you & Questions

- **Acknowledgements:**
  - This work was funded by AHRQ 1P30HS0235335 Making Acute Care More Patient Centered.
  - Software development of MySafeCare was completed by OpenClinica, LCC.