

CO-DESIGNING DISCHARGE AFTER EMERGENCY CARE

(D.DEC) - Summary Report

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Abstract

Discharge information after emergency department (ED) care improves patients' ability to care for themselves, understand their health concerns, and informs the next steps of care. The majority of patients at St. Michael's receive only verbal communication despite many attempts at supplementing with written information. We used experience-based co-design, involving recent ED patients, ED physicians, nurses, and family physicians to develop a solution that integrates with current workflow, space, and technological constraints. This resulted in the development of a Patient-oriented chart (POC), a second page to the physician ED chart, printed with every patient registered. It contains customized information addressing 4 patient-centered outcomes and wayfinding for digital access to personal health information. It is also designed to coordinate discharge information across ED physicians and nurses and to facilitate follow-up of important results with their primary care provider.

Acknowledgments

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Background

Patients are usually discharged home after emergency department (ED) care with only verbal communication. This poses problems for recall and follow-up for patients, their care partners, and primary care providers. Despite many attempts at introducing written materials, the vast majority of patients at St. Michael's ED continue to receive only verbal information.

Challenge

We sought to design a patient-centred discharge information process that would be sustainable given current workflow and technological limitations and would consider the variability of ED presentations and practices.

PROM-ED Framework



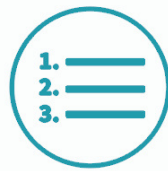
Symptom Relief



Understanding



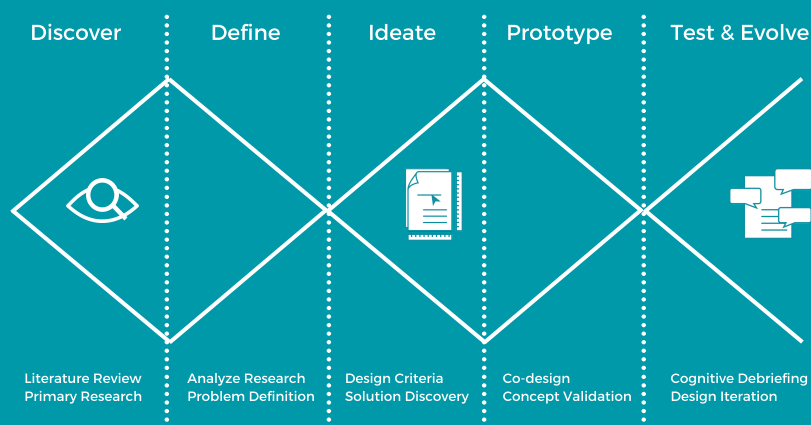
Reassurance



Follow-up Plan

We centered the design work on meeting patient's most important needs as defined in the PROM-ED study, which characterized four main outcomes of importance across a diverse group of ED patients: Symptom relief; Understanding their health concern; Reassurance; and having a Follow-up plan (SURF).¹

Design Methodology



Using an experience-based co-design approach, our team of designers and clinicians conducted a review of existing ED discharge tools, field observations, participative journey mapping, and multi-stakeholder virtual co-design sessions. A prototype solution was then developed and tested through cognitive debriefing and user feedback to support further design iterations.

¹ Vaillancourt, Samuel, John D. Cullen, Katie N. Dainty, Taucha Inrig, Andreas Laupacis, Denise Linton, Stéphanie Malherbe, et al. 2020. "PROM-ED: Development and Testing of a Patient-Reported Outcome Measure for Emergency Department Patients Who Are Discharged Home." *Annals of Emergency Medicine* 76 (2): 219–229. <https://doi.org/10.1016/j.annemergmed.2019.12.023>.

Process

Experience-based co-design (EBCD) is a methodology that allows the end-user to take part in co-designing interventions for improving experiences.²



Define | Discover

Literature Review



A review of the scientific and grey literature on ED discharge communication interventions published since 2005 was completed. We identified 41 relevant tools which were reviewed.

Field Observations & Interviews



The rapid ethnography method was used to gather field data and to help deepen our understanding of the users, behaviours, their activities and how it related to their experience as well as allow for greater empathy with the needs and limitations of patients and clinicians.

Prototype | Ideate

Co-design Journey Mapping & Prototyping



Early prototypes of the intervention were developed to elicit and capture feedback through virtual co-design sessions with the intended stakeholders. Journey mapping confirmed findings from field observations and interviews, emphasizing the perspective of patients, nurses, clerical, and family doctors and their design needs. Design criteria were then formed to refine the prototype over four iterations before field testing.

Findings

Most tools addressed a follow-up plan alongside a focus on symptom-relief and an overview of the patient visit. Only two of the 16 tools analyzed addressed patient reassurance explicitly. Formats included verbal-only, paper, nurse or pharmacist phone calls, text messages, emails, and video.

Design Insights

- The intervention should integrate seamlessly with the existing workflow and systems in use.
- The intervention should be patient-centered and include a reassurance component.
- Increasing visibility of the tool increases the likelihood of its use.
- The intervention should support the patient and providers after the ED visit.
- Successful implementation of the tool requires an active role from multiple actors in the patient journey.

4
co-design sessions
(patients, ED nurses, family physicians, ED physicians)

57
patient scenarios
prototypes were used by physicians in 57 patient scenarios

Evolve | Test

Field Testing



A refined version of the prototype was further developed to reflect the insights and feedback from the co-design sessions. A further three versions of the prototype tool were developed over the course of field testing based on needs identified during these scenarios.

Feedback



Feedback received through cognitive debriefing was used to further refine and iterate the developed prototype.

² P. Bate, and Robert G. 2006. "Experience-Based Design: From Redesigning the System Around the Patient to Co-Designing Services With the Patient." *Quality & Safety in Health Care*. October 1, 2006. <https://pubmed.ncbi.nlm.nih.gov/17074863/>.

Design Outcomes

Patient-Oriented Chart (front page)

1 {

SMH Logo Patient name and date [auto-populated] Barcode **Bring this form to any follow-up appointments**

Information about your Emergency Department visit

Reason for your visit Doctor's assessment

2 {

What we Did **What was significant**

Lab tests _____

Diagnostic imaging _____

New medicine _____

_____ _____

Access MyChart online for test results – see back for instructions

3 {

Who to follow-up with **How to follow up**

Family physician or nurse practitioner You contact them for _____

Specialist or clinic They will contact you _____

_____ You contact them See referral sheet(s) _____

What you can do to feel better

Ibuprofen (Advil, Motrin)

Acetaminophen (Tylenol)

See back for instructions

Return to the emergency department if

Your symptoms get worse Your symptoms do not go away in days

V.7

"I want to make sure my worries are heard"
- ED Patient

"Now I have a basic idea of the patients signs and symptoms when they see me afterwards"
- Family Physician

"I know the basics of what happened and have a record I can refer to conversations with my physician and my family."
- ED Patient

"I know what happens next"
- ED Patient

"No-one will drop the ball"
- Registered nurse

1

Patient Information

Completed at triage by the registered nurse and attached to patient chart.

Supports capturing patient concerns and understanding of the subsequent tests/diagnosis process to rule out concerns without requiring physicians to indicate directly "what we ruled out"

Benefits patient and family physician.

2

Details of the Visit

Completed by the ED Physician.

Benefits patient/family and their family physician. It does not replace a referral, prescription, or test result sheet.

Supports capturing the patient journey through the ED and responds to the need for cognitive/memory support for the patient in their subsequent follow-up/self-care and access to care beyond the ED.

3

Follow-up & Aftercare

Completed by the ED Physician.

Benefits patient/family and their family physician. It does not replace a referral sheet.

Supports the need for reassurance and trust in access and continuity of care post visit as well as access to care beyond the ED.

Design Outcomes

Patient-Oriented Chart (back page)

1

Pain Medicine

*Pain medications to use only if recommended by your emergency doctor

Acetaminophen (Tylenol) For adults:

- Take 1 to 2 tablets of 325mg or 500 mg each at a time.
- Wait 4 to 6 hours between doses.
- **Do not** take more than 8 tablets over 24 hours.

Ibuprofen (Advil, Motrin) For adults:

- Take 1 tablet of 400 mg or 1 to 2 tablets of 200 mg at a time.
- Wait 4 to 6 hours between doses.
- **Do not** take more than 2400 mg over 24 hours.

2

3 Ways to see my results



Before you leave, ask one of the staff to print a copy of your results.



You can go to MyChart.ca using the information provided at registration.

Or Contact MyChart
(416) 864-5450
mychart@smh.ca



You or your doctor's office can contact Health Records at 416-864-5213.

3

Do you need a family doctor?



Contact St. Michael's Family Health Team



(416) 864-3076

Contact Health Care Connect



www.ontario.ca/
healthcare connect



1-800-445-1822

Accessibility icons

4

Patient and family education resources



Visit our online health library for more health information at smh.andornot.com

St. Michaels Hospital
30 Bond St., Toronto ON
M5B 1W8, Canada
(416) 360-4000

St. Michael' Hospital address and Contact information

1

Pain Medication Reference

Emergency physicians can save time by directing patients here if pain medication is prescribed. These pain medications are very commonly prescribed in the ED so having this reference can be very useful to both patients and physicians.

2

Access to Test Results

This section directs patients to where they can access test results from their visit. It acts as both a reference and a reminder for the patient. Each option is supplemented with a contextualizing icon to increase accessibility.

3

Family Doctor Reference

Not all emergency patients have a family doctor with whom to follow-up. A question commonly asked is where and how can one find a family doctor. This stands as a quick reference to which hospital staff can refer the patient.

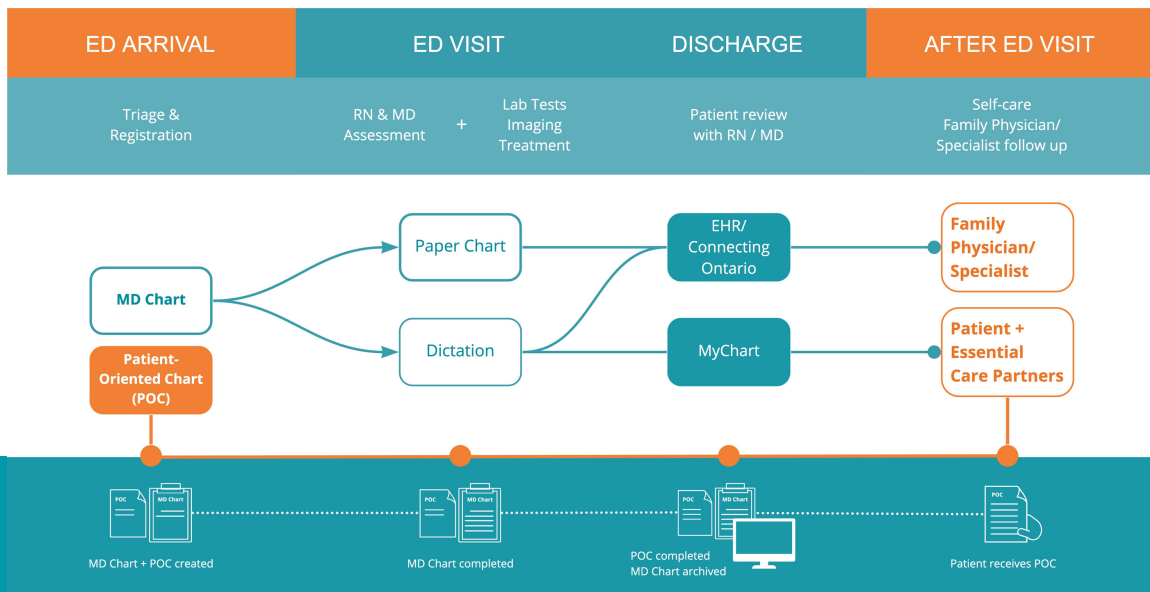
4

Additional Information

St. Michaels & Unity Health have a valuable online library of self-care sheets for common conditions. If the patient is looking for additional information, they can search for it here. This provides patients with a trustworthy source for health information.

Design Outcomes

Workflow

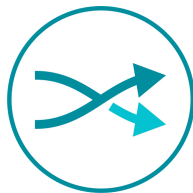


Initial insights identified a range of digital tools and potential long-term opportunities for digital integration of the Patient-Oriented Chart into the existing workflow. Considering current realities, however, the tool is paper-based. The tool is completed by hand but is initially printed at triage including demographics, the reason for visit, and a patient barcode for scanning into the electronic medical record. Prompts to MyChart and supplemental resources are included but not digitally integrated into the current workflow.

Core Principles



Patient-centered



Workflow Integration



Bridging Digital and Paper Tools



Integrated Care Approach

Implementation

The project team included three graduate design students, one design professor, two ED physicians, one medical student, and one research coordinator. At each step of the project journey, the team interacted with a number of roles in the ED including patients, nurses, ED physicians, and clerical staff, and outside the ED including family physicians and a homecare coordinator.

The team used strategies including direct observations, interviews, and virtual co-design workshops to understand current challenges in the discharge process. Having input from multiple users increased the odds of improving patient outcomes and achieving ED workflow integration.