Enhancing Care Team Communication
What is the background?

Hospital units are dynamic environments in which dozens of care team members must coordinate their efforts to deliver high quality patient care.

Direct, face-to-face communication is a very effective method of care coordination, but is often difficult due to the size of teams and the scope of their responsibilities.

For this reason, HUP uses various forms of communication to connect care team members. These include: overhead pages, text messages, and mobile and land-line phone calls. Unfortunately, these fragmented methods of communication are not addressing the needs of care team members.

What is the goal of this project?

To understand communication barriers and needs for patient care teams, which include residents, nurses, social workers, CRCs, and unit secretaries.

What methods did we use?

We observed and interviewed care team members on two medical floors over a two-day period.
What were our key findings that influenced prototype development?

Over the course of two days we interacted with and observed several different staff members. From this engagement we have distilled our learnings into several key themes and have outlined them here, using examples and further explanation for context.

Providers spend a lot of time identifying other care team members.

CONTEXT:
Scott is a physical therapist who is unsure about a patient’s ability to attend her scheduled therapy for later in the day because of an aneurism that Scott read about in the patient’s chart. During Scott’s rounds, he speaks with the patient’s nurse, Diana, to identify the correct care provider to contact about this issue. Diana and Scott go to a nurses station and log on to Sunrise to access the patient’s information and identify the correct care provider. After searching for some time, they identify the provider and contact him using the landline phone at the nurse’s station. The provider tells Diana that he is with the patient now doing bedside rounding. Diana and Scott go to the patient’s room to speak with the provider. They interrupt the rounding group to ask about postponing the physical therapy for the patient.
Providers spend a lot of time trying to gather information from other care team members ("closing the loop").

**CONTEXT:**
One of the nurses we spoke with described her concerns about the time it takes to get the information she needs to answer patient questions. These questions range from medical concerns, such as questions about a medication, to basic logistical questions, such as “when will I be able to eat”?

The nurse told a story about a time a patient had questions about a medication that he was supposed to be taking. The nurse could not find the correct information in Sunrise using a computer in the patient’s room. The nurse then tried to contact the care provider using another computer at a nurse station because there were no phones for her to use in the patient’s room. She identified the care provider and contacted him on his mobile phone using a landline phone, only to discover that the physician was already meeting with the patient in his room. She then went back to the patient’s room to confirm that the questions were addressed.

This story demonstrates the length/steps, waste, and frustrations around the time it takes to make contact with the right care team member.

Communications are not always prioritized in terms of importance or urgency.

**CONTEXT:**
Not all communications are created equal. The types of information that are shared between staff vary in their level of importance and need for timely response. Currently, there is little or no means for differentiating and prioritizing information on both the sender and recipient end. As a result, all information exists on the same level, causing unnecessary interruptions and distractions - as well as delays - in acting upon more urgent needs.

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Patient-centric communication is the norm.

CONTEXT:
Through our observations, it became very clear that communication (such as verbal updates during rounding) was always patient centric, meaning the stories and instructions being conveyed began with the specific patient (often stating the patient name and room number as identifiers). This was also true for how team members and information was found in systems like Sunrise. From a philosophical and cognitive flow perspective, it seemed to make sense for any communication about a patient to begin with the specific patient rather than a specific care team member.

Staff and patients are frustrated with outdated communications tools.

CONTEXT:
The variety of limited and archaic communication tools (overhead paging, flip-phones that only receive information, desktop directories, and landline phones) frustrate the staff. Communication tools are also inconsistent among different staff: house staff are issued flip phones; attendings use blackberries; nurses, CRCs, and social workers have no mobile devices.

This lack of shared and consistent communication tools reinforces a siloed mind set and leaves some staff feeling left out of the loop and unimportant. This also affects patient perception of the care team. The time needed to answer simple questions such as “will I be able to eat today” is telling of communication barriers among staff.

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What were our initial prototypes?

We used simple, paper prototypes to further tease out what problems were most important, why they were important, and how they might be solved. We quickly sketched out several interfaces that possessed different qualities, and then showed the paper prototypes to several different care team members. We asked them to review the concepts and tell us what would be most beneficial to them. The individual concepts were not meant to be mutually exclusive but rather to address different, but interconnected, communications problems. Our goal was to better understand what the right blend of communications tools and interfaces based on staff needs.

We developed four prototypes:

• Prototype 1: Simple Communication
• Prototype 2: Advanced Search
• Prototype 3: My Patient Profiles and Updates
• Prototype 4: Setting and Understanding Priorities
Paper Prototype 1: Simple Communication

Description:

Although our initial research showed that a patient-centric interface would be optimal, we wanted to test our assumptions by showing people a more staff-centric model. In this version, the user begins with a staff contact list that is clustered by specific role. Upon selecting the necessary role, the user sees a list of staff members in a drop down menu and then sends a message to someone on the list.

Response:

Users were familiar with this type of interface for a “contact list” and text-based messaging and liked its simplicity.
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Paper Prototype 2: Advanced Search

Description:

This concept allows a user to perform an advanced search using identifiers such as patient name or room number. Once the user enters a search term, the program filters results to display the most updated care team, from which the user can choose a name and send a text message. A goal for this prototype is to increase accuracy and decrease the length of time to identify and contact the care team member.

Response:

The additional search criteria yielded a positive response; staff thought that it would improve their ability to identify the correct care team member to initiate a message and favored this concept over the first prototype.
Paper Prototype 3: My Patient Profiles & Updates

Description:
This concept is more user-centric. The first screen filters patients by unit/service. The second screen lists patients that the user is caring for, and any changes to the patients’ care plans are indicated by a status update. From this screen, the user chooses a specific patient and views his or her profile, which contains up-to-date information about medications, orders, etc. This final screen also displays direct communication from other care team members.

This model reduces the need for information requests from other care team members by providing a space for everyone to quickly document and view important patient information.

Response:
In general, staff liked this concept; however, a few people expressed concern about people’s willingness to use an iPhone application to enter detailed information frequently. One resident compared this model with MedView and thought that it would be beneficial for the two systems to communicate.
Paper Prototype 4: Setting & Understanding Priorities

Description:

This concept addresses the issues around setting and understanding priorities. Care team members may use any of the previously described prototypes for identifying the appropriate person to contact and then use this concept to set the importance of a message before sending:

- Urgent: Needs immediate response
- Important: Please respond ASAP
- FYI: Just a heads up

The sender then calls or sends a test message to the recipient, whose device vibrates and/or rings differently depending on the message’s level of importance. For example, an urgent message may not stop vibrating or ringing until the recipient answers while a FYI may only vibrate once.

Response:

Staff consistently responded positively to this concept. One suggestion for further consideration was including default communication modes (all urgent communications are voice to voice).
What are the recommended next steps?

- Decide upon a few desired outcomes that will drive the direction of pilot, such as:
  - Reducing the time to identify and find the person to contact
  - Reducing the time to “close the loop”
  - Increasing employee satisfaction

Determine easily-measured ways to measure these outcomes before and after each stage of the pilot and devote adequate resources toward measurement and evaluation throughout the pilot process.

- Choose a vendor that will continue to engage residents, nurses, social workers, unit secretaries, and CRCs throughout the development process.
  The vendor should start with quick prototypes that aim to address initial concerns and then be willing to quickly pivot if new issues or understandings arise.

- Many care team members indicated that they preferred a patient-centric model rather than one that is focused on the care team members. Consider starting with prototypes that address this desire.