Clinical Needs Identification

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Today we will cover three main areas to build your skills in clinical needs identification:

1. Identifying Clinical Needs
2. Converting Clinical Needs into Design Needs
3. Clinical Immersion in the Field
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Patient has a history of no one paying attention to their history.

See EMR for details...
Hear, Create, Deliver (HCD)

**Hear** – prepare for and conduct field research, interviews, observations in a community. Observe needs and desires.

**Create** – translate field research into ideas that may be prototypes, opportunities, other solutions that are technically and organizationally feasible to meet needs.

**Deliver** – realize solutions with financial sustainability in mind to launch tangible solutions in community.
There are many places to do ethnography for medical devices
Observation in the simulation lab or watching live interaction is important to see products in action.
To put your skills into action, we are going to watch a medical procedure and define needs

1) Watch the video
2) Take notes
3) Identify some needs that align with the concepts presented today
4) Submit needs to the form below

https://www.surveymonkey.com/r/SVYQ352

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Converting Observations to Needs Statements

**Users**
(Be very specific)

**Needs**
(verb)

**Surprising Insights**

http://joeyaquino.wordpress.com/
Converting Observations to Needs Statements
Converting Observations to Needs Statements

- USERS (Be very specific)
- NEEDS (verb)
- Surprising INSIGHTS

http://joeyaquino.wordpress.com/
Let’s go on a journey to Chennai, Southern India
They recently received a donation of the GE Vscan but are having some issues with it in the field.
You are able to interview a field ultrasound worker and she tells you this...

“I think it needs protective shields around the battery contacts”

“It shouldn’t matter if I take it to India in the rainy season, it should still work”

“I’d like to be able to charge it in my vehicle between sites”

“I drop it all the time”

“I hate it when I don’t know how much juice is left in the battery and it dies”
Converting Observations to Needs Statements

- USERS (Be very specific)
- NEEDS (verb)
- Surprising INSIGHTS

http://joeyaquino.wordpress.com/
Converting broad needs statements into needs for engineering specifications

<table>
<thead>
<tr>
<th>Customer Statement</th>
<th>Guideline</th>
<th>Need Statement - Wrong</th>
<th>Need statement - Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think it needs protective shields around the battery contacts</td>
<td>Focus on WHAT not HOW</td>
<td>The battery contacts are covered by a plastic sliding door</td>
<td></td>
</tr>
<tr>
<td>I drop it all the time</td>
<td>Be specific</td>
<td>The device is rugged</td>
<td></td>
</tr>
<tr>
<td>It shouldn’t matter if I take it to India in the rainy season, it should still work</td>
<td>Be positive, not negative</td>
<td>The device is not affected by rain</td>
<td></td>
</tr>
<tr>
<td>I’d like to be able to charge it in my vehicle between sites</td>
<td>Mention attributes of the product</td>
<td>An automobile cigarette lighter adapter can charge the battery</td>
<td></td>
</tr>
<tr>
<td>I hate it when I don’t know how much juice is left in the battery and it dies</td>
<td>Avoid “must” and “should”</td>
<td>The device should provide an indication of the energy level of the battery</td>
<td></td>
</tr>
</tbody>
</table>
Key insights into needs identification process

• Summarize the most important data gathered
  • Refine the Problem Statement as necessary

• IMPORTANT: It is too soon to begin thinking about solutions. Resist the tendency to allow solution biases to constrain your understanding of the problem
  • The problem statement should be a short narrative describing the problem, while staying free of solutions
Stakeholder Analysis

• Learn to identify important stakeholders.
• Understand each stakeholder’s perception of the medical need (initially) and the proposed solution concept (eventually).
• Recognize which stakeholders are in conflict and/or alignment with one another and for what reasons.
Types of Medical Stakeholders

- Patients
- Patient advocacy groups
- Physicians
- Professional associations
- Nurse practitioners
- Health care facilities
- Facility trade groups
- Private payers (Medicare/Medicaid)
- Government officials/legislators

Medical need
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The Value Proposition Canvas is a useful tool to determine if an idea really meets the need.

**Gain Creators** describe how your products and services create stakeholder gains.

This is a list of all the **Products and Services** a value proposition is built around.

**Pain Relievers** describe how your products and services alleviate stakeholder pains.

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**Stakeholder Jobs** describe what stakeholders are trying to get done in their work and in their lives, as expressed in their own words.

**Gains** describe the outcomes stakeholders want to achieve or the concrete benefits they are seeking.

**Pains** describe bad outcomes, risks, and obstacles related to stakeholder jobs.

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Use this idea evaluation framework to sort ideas based on important criteria

- Link to clinical need (1-5)
- Market Fit (1-5)
- Resources and subject matter experts on campus (1-5)
- Intellectual Property (1-5)
- Competition (1-5)

Total Score
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Follow hospital best practices and stay on task

- Meetings
  - Be patient
  - Be punctual

- Clothing
  - Always wear business casual, DO NOT wear scrubs

- Respect patients and caretakers

- Be mindful of Isolation – MRSA/Cdiff/Airborne/TB
Rules for the Passive Observer

• Don’t touch anything Blue
• Sterility maintained by controlling contact
• Ask where you should stand
• Hold you hands folded and in front of you
• Have ID badge visible
In the Clinics

• Keep experiences private and professional
  • Be prepared for what you may see or hear
  • Don’t share publicly (HIPAA)

http://www.endocrinesurgerync.com/Endocrine_Surgery_NC/ABOUT_US.html
Medical Culture

- Put the patient first and center – Mayo model
- “First do no harm” – Hippocratic Oath
- See one, do one, teach one
- Evidence Based Medicine – Lidocaine story, SGC in ICU
- Guidelines.gov
‘NY Med’ star Katie Duke speaks out on getting fired from NYC hospital for posting Instagram photo of trauma room

The Instagram photo that got Katie Duke fired from the hospital. (ABC News)
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