No man is an island, entire of itself

JOHN DONNE
DESIGN FOR ALL THESIS, 30 ECTS
MASTER IN INDUSTRIAL DESIGN
MID SWEDEN UNIVERSITY
PERCIEVED ISOLATION
MUZAMMIL ASLAM

Photo source: www.bellethreesixfive.files.wordpress.com/2016/03/wp-1459155234893.jpeg
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The Etymology dictionary identifies the origin of isolation as the Latin *insula*, or “made into an island”.

Source: www.etymonline.com/index.php
BACKGROUND

ISOLATION CONCEPT

The concept of isolation has been used throughout history and has a negative connotation for humans. Isolation was often used for years, exemplified by tuberculosis sanitari-ums and leper colonies which meant social stigmatization.

Humans are social animals whose behavior is determined by their needs and reactions to other people. This social aspect of human existence is nowhere more evident than when he or she is isolated from others.


TYPES OF ISOLATION

Sensory deprivation
Social isolation
Physical confinement

There is a difference between isolation and solitude where the first-named is enforced whereas the second is usually self-chosen.

Extended hospital stays tend to be very lonely experiences for any patient, but perceived isolation also has measurable physical health repercussions such as worsening the state of patients with dementia or prior mental illness. The level of depression owing to their injury, may be more significant to them than their isolation experience.

Danderyd Hospital’s infectious diseases ward is designed around the physical isolation of patients for reasons of contagion. Its architecture and restrictions come together to exacerbate the isolation that patients might feel. As new developments in healthcare are increasingly favoring single patient rooms new challenges arise.

This project is carried out in collaboration with CTMH, Center for Technology in Medicine and Health, a cooperative body between KI, Karolinska Institute, KTH Royal Institute of Technology and SLL, Stockholms Läns Landsting.
WARD SPECIFICS

There are 36 beds on three floors, two of the wards having opened recently. The infectious diseases clinic is run by 100 co-workers. Out of these 20 are doctors specialized in infection and around 40 nurses and assistant nurses. Medical staff is not allowed in the kitchen so there are kitcheners present during the day.

Other professions are secretary, counselor, physiotherapist, occupational therapist, dietist and staffing assistants.

Source: Danderyd Hospital, infectious clinic 2017
PRECAUTIONS

Every room has an air-lock in order to contain communicable diseases. Staff need to put on protective equipment prior to work with each patient. Medical staff enters and exits through here, but relatives of the patient are told to enter from the outside of the room. Patients are not allowed to step outside the room into the corridor of the ward. During hospital stay, the patient is limited to the room except going out for fresh air once in a while.

Average length of hospital stay is 5-6 days but there are also patients staying for a longer period of time. Patients with endocarditis (infection in the heart valves) have to stay a minimum of 4 weeks and tuberculosis patients usually stay for months, if bacteria are resistant, as long as 9 months.

Source: Danderyd Hospital, infectious clinic 2017
CONTACT ISOLATION

Swedish law requires isolation of patients with infectious conditions, under the Communicable Diseases Act, involving multidrug-resistant organisms (MDRO) such as MRSA, ESBL, VRE etc. To prevent transmission, contact isolation is recommended and widely used in healthcare institutions.

Not only is this a precaution for carriers to transmit an infection but is also used to protect patients susceptible to infection from contracting it.

Isolation care is given at burn units, infection wards and intensive care units. Nevertheless, it occurs in many other wards as well, including oncological wards or general wards where immunosuppressed patients are given barrier nursing.

Source: www.folkhalsomyndigheten.se/smittskydd
Although essential for infection control, patient perceptions of these strict regulations has an adverse impact on their mental well-being. Healthcare workers tend to spend less time with patients in isolation, which affects patient satisfaction and safety leaving both sides uninformed of the current status. The lack of support and human interaction can leave patients feeling ignored and stigmatized, causing stress, depression, anxiety, boredom and anger among isolated patients.


According to a study, nurses avoid going into the isolation room of a depressed patient because they feel inadequate to deal with their psychological needs, thus exacerbating the patient’s depressive condition.

PROBLEM DEFINITION

Health care in the age of quality is safe through ensuring infection control practice. But the care of isolated patients is not balanced to meet their individual needs. This bears great significance for the patient experience during hospital stays.

GOAL

To improve patients’ experience at the infectious diseases ward, with particular attention to perceived isolation, by using a service design approach.

CHALLENGES

To stay cost efficient creating maximum and lasting change with minimal resources. Not stepping on anyone’s toes.
EXISTING SITUATION

Isolated patients receive less health care worker contact

Produces delays of medical progress and discharge

Increased symptoms of depression and anxiety

Decreased patient satisfaction with care

PREFERRED SITUATION

Better care-giving through communication

Better coordination between involved parties

Improve wellbeing during treatment

Better patient satisfaction

PROCESS

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Source, double diamond-model: http://www.cruxproductdesign.com
METHODOLOGY

Source, double diamond-model: http://www.cruxproductdesign.com
EMPATHIZE

To attain a deeper understanding of the stakeholders for whom the re-design concerns, knowing their environment, goals, motivations and physical/emotional needs were a great help to reach the core issue. Maslow’s hierarchy of needs was a big inspiration in this discourse. Observations and interviews was a good introduction and way into the project, detecting a few problematic areas.

Alongside empirical insights, a literature review was undertaken in order to take part of scientific results, both qualitative and quantitative, that could facilitate making the questions and spare repetitions. Some interview questions were not asked to the patients in the interviews since answers could be found in scientific journals.
The spider diagramme shows how Danderyd Hospital’s infectious clinic is doing nationally and regionally towards other clinics. It is doing well in comparison but still there seems to be tendencies for all infectious clinics to score low on both “participation & involvement” and “information & knowledge”.

One possibility is that isolation affects the results due to similar architecture, guidelines and clientele. The parameters measured could be considered symptoms of the isolation phenomenon. A question about perceived isolation is not asked since it’s not a ward specific survey based on general comparable parameters.
The health care sector tends to focus mostly on the medical treatment, managing the basic physiological needs. As a result this is given priority in the medical journal, leaving other things for the patient wellbeing less easy to overlook and thereby tend to.
OBSERVATIONS

Existing staff, spaces, equipment and healthcare procedures in different situations were observed and considered in the re-design of the patient experience. The point of taking part in the observations was to see the daily work of different health care professions including nurses, assistant nurses and doctors. This would help obtain indications of problematic areas that could be further dug into. Lots of scenarios emerged but only the most important ones are presented.

The first thing observed stepping into the ward was that there were a lot of calls on the nurse button for the smallest of things. While tending to a call, one nurse was standing in the doorway talking through the crack and avoiding stepping into the room, this leaves the airlock open and possibility for bacteria to get out into the ward.

It was clear the staff avoids touching things in the room, sometimes even the patient if not necessary. Not many of the staff shook hands, or they might have done it prior to the observation.

When a patient needed to change room for logistical reasons they were sometimes not informed about why, only the fact that they needed to change room. It might be clear to the staff who discussed it outside, but not for the patient.
PROBLEM AREAS

FOR PATIENTS
• Suboptimal communication and information provision
• Environment, life within four walls, clinical look
• No socializing, no dayroom nor corridor access
• Being understimulated leading to inactivation
• Boredom, no occupation or time-pass

FOR STAFF
• No time for quality conversation with patients
• Hard for the staff to remember all that patients ask for
• Many nurse calls since patient is dependent
• Staff doesn’t know if the call is an emergency or not
• Patients with dementia are hard to handle
I didn’t know I’d be placed in an isolation room.

I enjoyed the single room in the beginning when most sick, but then feeling better I was more conscious and critical...

I feel like a burden calling for help...
INTERVIEWS

Semi-structured short interviews were undertaken which were valuable for getting insight into the life of the isolates (see appendix). Starting out with broad, basic questions and easing into more specific and emotionally charged topics, such as loneliness. Interviews were carried out with different health care professions including nurses, assistant nurses and doctors to some extent.

PROBLEM AREAS

There was a lot of silence in the patient interview situations; revealing something personal takes time to articulate. The need for emotional support was not expressed but the being lonely was, and that is an expression for needing comfort. Assessing this need is difficult today since a conversation calls for fully devoted attention. Giving this amount of time is hard as staff at the infectious ward, where getting disrupted is common. There was no consensus among the staff about which level to give information to the patient, whether it be a change of treatment or lab results.
JOURNEY MAP

To confirm thoughts and prioritize which problem is more urgent, journey mapping was the logical next step. It was done both by patients and staff at Danderyd hospital. They got to fill in a journey map ranged after a scale (VAS), widely used within health care, to find touch points in their daily work regarding the most frequently occurring scenarios that arise with isolated patients. This gave insights about how key touch points affects the whole experience. One patient was mapped from start of symptoms until follow-up, and it showed that the feeling of isolation was already present at admission. Knowing what has foregone the current situation could help better meeting the timely needs of the patient.

PROBLEM AREAS

In order to map out the total patient experience, understanding the whole before-during-after scenario was paramount. The findings confirm the results of the patient survey, the difference being that the journey map clearly shows wherein the problems lie. The touch points indicate that this patient was under-informed about her condition, what doctors were investigating and procedures that were planned ahead. She felt burdensome having to call for assistance when in need of something she could easily fetch herself. Later, when feeling better, this patient also expressed dissatisfaction with care. This is partly a result of not being able to see work done backstage. This is a clear example of inadequate communication, giving a guiding direction in the project.
<table>
<thead>
<tr>
<th>SYMPTOM ONSET</th>
<th>CONTACT HEALTH CARE</th>
<th>DIAGNOSIS</th>
<th>TREATMENT</th>
<th>OUTCOME</th>
<th>FOLLOW-UP</th>
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<tr>
<td>Fever</td>
<td>Referral to gynaecologist</td>
<td>Worsened condition</td>
<td>Admitted, ISOL</td>
<td>No infection focus</td>
<td>Good enough to go home</td>
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<tr>
<td>Reoccuring fever</td>
<td>Direct line to specialist</td>
<td>Ultrasound shows abscess</td>
<td>Try to remove IUD twice</td>
<td>Operation</td>
<td>Cause of infection remedied</td>
</tr>
</tbody>
</table>

**SYMPTOMS**

- Fever
- Diarrhea

**CONTACT HEALTH CARE**

- Referral to gynaecologist
- Direct line to specialist

**DIAGNOSIS**

- Worsened condition
- Ultrasound shows abscess

**TREATMENT**

- Admitted, ISOL
- Try to remove IUD twice

**OUTCOME**

- No infection focus
- Operation

**FOLLOW-UP**

- Good enough to go home
- Cause of infection remedied

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**PATIENT JOURNEY MAP**

- "It might pass"
- "Oh, isolation"
- "Feeling better"
- "Difference between night and day"
- "I had so much to do at work"

- "Painful but not acute"
- "So bored now"
- "What’s taking so long?"
- "Feeling helpless"
- "Feel run over"
WORKING AS A NURSE

To work professionally as an hourly employed nurse at the infection ward has offered a great possibility to observe the patient first hand from a staff point of view. It is also a natural way to come closer to the patient and have the vote of confidence to share emotions and feelings. The same goes for interacting with staff, who can speak more freely about what works and what not when they are used to having you around.

Working as a nurse has entailed being more active in asking questions and get a picture of how patients regard their perceived isolation. This can be a sensitive issue since taking a more active part might change patterns of behavior which will need to be taken into account. One needs to give the observation proper time for patterns to emerge. Although, to be working as a nurse and at the same time observing both patients and staff became somewhat challenging in matter of staying objective.
I am allergic to double-work!

Staff about documentation -

There is mostly no extra time to spend with the patient, only when performing a task and then you are bombarded with questions.
LEARNINGS

Through observation, interviews and own work experience, one insight was that the patient and hospital staff are at each end of the experience spectrum, with their own point of view. When a patient is feeling forgotten, it is usually because they have not gotten meaningful time for conversation with the staff. This is something the staff feel they would need time to rectify. Besides lack of time, there was also a factor of avoidance of approaching patients with anxiety since there is no specific staff support given. And there is obvious lack of time for staff to perform other duties than the “must ones”. This means that in practice, there is not much done to alleviate the patient from these feelings.

By evaluating a nurse’s typical shift, both by observing and working myself, many needs were identified to improve the employee experience that could go together with outcomes of the patient experience.

CONCLUSIONS

Some problems identified during the research stood out:

• patients hadn’t received adequate information regarding the isolation or hadn’t perceived it correctly
• communication barriers (confusion, language, hearing, eyesight) made it hard for some to comply with restrictions, leading to inadequate infection control
• staff experience lack of time and inadequacy

Patient needs that can be derived from the problems are:
• understand the information (treatment/precautions)
• communicate personal needs in a timely manner

Staff needs:
• to recognize patient needs, especially risk zones
• eliminate time-thieves leading to more coordinated workflow
• enable meaningful conversation with patient
INSIGHTS

At this point some needs had started to emerge and to better understand them in the right environment more discussions were needed as to what could be done. To get further insights there were monthly meetings with staff and some of them were recruited as test people. Stakeholders in the project were patients, medical staff and relatives who, after consent, were used continuously as test people for constant feedback.

Today, everything concerning the patient is documented inside the medical journals in a standardized way. The user interface is not designed according to how staff works around the patient. It doesn’t give an overview of the patient needs in a clear way. The hospital have standardized guidelines and are made to make work easier with so big volumes of patients coming inside the system. Instead of standardized it should be tailored.

Although knowing that patients can be in a non-preceptive condition, majority of information is given and retrieved from the patient at the first encounter upon arrival to the ward. Speaking out about personal needs is difficult in this stage. One notion of mine is that sometimes it might be easier to write than to speak out inner feelings to the staff. There should be an overview of the patients needs is to personalize the patient data into a profile.
IMPACT ON LIFE

In order to understand the context of being isolated, one has to see which parts are affected and what it entails for the whole experience. Being isolated is considered a disruption in everyday life and is usually not welcomed since everything else in life gets on hold. All of these can create a certain kind of behaviour, clearly seen in patients hospitalized for a while.

Social context is changed completely, not being able to work and maintaining interpersonal relationships.

Individual perception is based on personal needs, expectations and previous experiences.

Situational dimension in this case consists of systems creating the involuntary limitation and not offering a way to tackle the situation.
BIO-DESIGN APPROACH

In order to follow a co-design approach, medical personnel was involved from the beginning to act as a sounding board for thoughts and reflections that arose during the project. They were also helpful in giving feedback during the iterative process and the implementation of any changes. These ideas were evaluated to find out whether a solution could work in reality or not.

Then the solution was to be implemented and re-iterated. In order to make changes that will last, the staff and patients will be co-designers. The best solutions will entail they run smoothly with daily routines.

REFERENCE GROUP

Both clinical and administrative staff from the ward involved in the projects of the master students were gathered at two occasions to give feedback. A presentation of the work and findings at that point was held, once after the research phase and once after the ideation. This was done so that the design would correspond well to the patient needs and also to hospital policies. They provided the patient survey which showed tendencies and was a great help to decide which direction to take and what cues to focus on.

One of the feedbacks were that there could probably be simple solutions to the problems found, just that no one has the time to develop them.
Research

Insights

Ideation

 Brainstorm

Exploration

Multiple concepts

Narrow down

Prototype testing

Article research

Observations

Interviews

Journey mapping

Reference group

Test people

Workshop DS

Discussions

Define needs
IDEATION

Research was followed by ideation in order to explore various chains of thought. In order to find solutions to this challenge, a wide variety of directions were explored. This led to multiple concepts and with the help of test people it was narrowed down in a way to make it relevant as a solution.
EXPLORATION

One workshop was performed with 20 of the nursing staff shared the fact that it is hard to know what to do if patient has dementia. Involving the relatives somehow was considered to be the key. Keeping the patient busy was another issue. The possibility to use existing tools, like the VAS (Visual Analogue Scale) was discussed but should not be used in a way that increases the workload. They got to discuss freely around the problems, needs and other things that were not discovered during the research phase.

Another brainstorm was made with classmates and a few others. The ideas were prioritized for further development according to the importance they play for the test people.

Here the focus was more on going outside the box and thinking big and not so realistic. These two brainstorm completed each other in a good way but also made decisions more difficult to make. Creating a design that was different from today but is also implementable was the objective during the ideation.
Inspiration from other areas

- children infection - how to feel safe
- Mini-life-islands: Isolate body part – bubble (vacuum within ulcer treatment)
- Robinson: talk to an imaginary friend
- Robot – multiple personalities
- Airplane entertainment system - chatting with co travelers
- Visit a random patient (call a random Swede)
- Global patients – share stories, learn language

Entertainment

- Netflix
- Skype, short movies, series, youtube clips
- VR Glasses – help to for demented to relax, sleep
- Good night tale
- Ipad
- Radio
- Librarian
- Red Cross-volunteers, offer to read a book/poem, sing

Stimulate brain – healthy faster

- Prison break = hospital break
- Crossword puzzle, quiz
- Debates, discussions

Body exercise

- Training facilities, equipment
- Gym cords, elastic bands
- Wii

Relaxation

- Tennisballs, massage for feet
- Bed yoga
- Pilgrimage for introspection (positive and non-imposed)

Leave the room

- Roll in a giant ball
- Hospital-leave
- Sun chair on sun deck (same temperature)

Wellbeing

- Knowing who will be the caretaker
- Print a photo of the staff, See through masks
- Other ways than words: body-language, silence, behavior
- Feel-good-coordinator!
- Information for staff (think about)
- Post box – letter from mm, paintings from grandchildren
- Plan of the day- common checklist
- Reminder calendar – connect to daily life
- Application – informative videos, happy stuff
- Score the Daily experience (Smiley) – shows a graph with trends

Develop a hobby

- Take care of plants
- Make money while in the hospital
- Need of speaking, someone to listen
- Crossword, quiz

Activation

- Level of energy – activities accordingly
- Activated by chores r/t the disease
- Gather around bonfire
- Learn to play an instrument
- Learn to draw
- Learn to do craft
- Sewing-kit
- Celebrate birthdays, singing
- Choir song – calms the patient
- Bring favorite tea, Beer
- Kitchenette with timer

Motivational

- What would you like to do today?
- Have a goal, celebrate progress
- Reward system – pleasant surprise
- Competition – patient of the week
- Sleeping/drawing competition

Express feelings

- Who wants to listen to my story?
- Writing memoirs
- Diary
- Paint your room, add to paintings
- Emotions from inside to outside
- DIY-corner

Feeling more “homey”

- 5 small things to bring from home (favorite pillow/case, blanket)
- Bathrobe, slippers
- Color! (study: makes healthy quicker)
- Lights instead of wall color
- Pet therapy
- Home care

Use time at ER

- Education prior to Isolation

Communication

- Changes during day (Google gmail)
- Siri
- Translation IRT (In Real Time)

Information

- Welcome brochure on the bed
- Checklist per patient, with place for notes
- Involve relatives

Nurses’ tool kit

- Feel needed-useful
- Teach and use skills – someone counts on you
- Increased involvement of social work
- Physio-/occupational therapy

BRAINSTORM DIVERGING
BRAINSTORM NARROWING

In order to work for the patient, the criterias should concur to patient centred care.

The solution should:

- enable information exchange when the patient is perceptive
- help overcome communication barriers
- provide ways for the patient to stay involved
- assist patient/staff in remembering what to say and to do
- help patient express needs and thoughts
Patients usually ask about the progress of their disease and the doctor doesn’t know about these questions. This becomes a problem when the doctor decides not to visit the patient that day. The patient needs to write down notes and questions that emerge.

Surprisingly, despite both verbal and written information, the information in some cases is not understood by the patients. Repetitive communication with focus on the understanding of the information could be a strategy, and involving relatives in the communication might also help to gain understanding.
THE PHYSICAL ENVIRONMENT

There is a lack of color in the rooms and there is not much to give it a more familiar and homey feeling such as curtains and bed covers. Colorful blinds with motives could be one solutions that doesn’t have to cost much, especially considering that blinds usually break after some time of usage. The design of the ward and its visuals is a communicative way to reduce the negative impact from being in isolation.

A lot can also be done with lighting of the room since the patient doesn’t move so much outside the room. It is a cheap way of changing the interior without repainting in colors everyone might not like. This way the patient can choose color palette themselves.
HELP TO SELF-CARE

Turning introspect can lead to bad feelings if nothing is done. But it can also lead to a positive feeling if the positive sides are highlighted. Patients were found to have contradictory feelings about isolation, at one hand they can understand it, but the repercussions of it can be negative if the patient doesn’t get the sense of control over their health. So in the ideation a way is sought after to turn this experience into something positive and make it a stay to remember. This requires willpower and a nudge in the right direction.

For example, having a clock or a calendar in the room allows planning one’s daily routines and thereby exert some control over day-to-day living in isolation. Also practising meditation is a forgotten area inside the hospital. Being reflective and be able to perform self-care should be the goal, anything else is destructive.
THE NEW HEALTH CARE SYSTEM

Overall, hospitals are not a setting where one is supposed to enjoy, it’s more considered a necessary evil. And patients act accordingly assuming they are expected to stay in bed, which leaves the patient apathetic and resigned. This is an backward way of seeing it and a lot of studies encourage more use of technology where hospitals have fallen behind.

“Communication technologies through virtual means, such as smartphones or Skype, patients may also adjust to isolation more easily.”

“The use of technology may help /.../ hospital care through virtual connection between patients and families. Future research should evaluate the effectiveness of nursing interventions targeted to mitigate loneliness in isolated patients.”

Biagioli, V. et al. (2016) European Journal of Oncology Nursing 24 p. 80

Biagioli et al. (2016) The lived experience of patients in protective isolation during their hospital stay for allogeneic HSCT. European Journal of Oncology Nursing, p 84.
The virus will stay in the computer!

Michael Hardt
17.04.07
TURNING NEEDS INTO SOLUTIONS

Communication improvement
1. By technology or routines

Patients want to be involved
2. Show them the way

Give patients what they want, going home
3. Home care

Make the hospital stay something to remember
4. Feelgood (occupation)

Adapting to isolation by relating with themselves
5. Go introspect

There is a lot that can be done but considering the nature of the project and making changes in a resource friendly matter, point 3 was ruled out. Point 5 could be included in point 4. This decision left three needs that could be solved with one solution.
TOP THREE

Communication improvement
1. By technology and routines

Patients want to be involved
2. Show them the way.

Make the hospital stay something to remember
4. Feelgood (occupation)

2-IN-1 SOLUTION

1. Staff tool-kit
   *An analogue guideline that can be implemented today*

2. Software tool
   *A common digital platform for patients and staff*

The final solution should be able to support existing coping abilities of the patient and increase sense of control over their health during the course of their stay in isolation.
RAPID PROTOTYPING

To try out the ideas a tangible object that people could interact with was created. It helped communicate and further explore the basic idea.

TEST SOLUTIONS

The prototypes were then tested in their natural environments. Feedback of the idea and suggestions for improvement was gathered in order to proceed.
SOLUTION 1. STAFF TOOL-KIT

There are no existing guidelines how to tackle perceived patient isolation at the infectious ward. The reason this is not tested further is that guidelines must be revised by the head clinicians before it is used on patients. The way it was developed was through good examples within the staff, both in documentation but also in conduct towards the patient.

GUIDELINE FOR MANAGEMENT OF ISOLATED PATIENTS

Arrival note
1. Psychosocial/wellbeing, follow support words
2. Good to know: relatives can fill in
3. Put in to-do-list in medical journal
4. Hand out pen and paper. Welcome brochure on the bed
5. Encourage patient to write down questions

Risk assessment

2. Action taken
   • visit patient once an hour
   • confer with counselor how to meet anxiety
   • Feel-good-coordinator

3. Evaluation of action and updated condition

Information to patient
Bedside report
Plan of the day - have a common checklist

At discharge
Ask how the experience was according to VAS-scale. Document under “Wellbeing”
Parts of the interactive solution could be tested by discussing simple sketches and making adjustments to it during the test.

The concept became clearer to the patients when told how it would look on the staff end.
Patients at Danderyd Hospital during user test 2.
MODEL. USER TEST 2

The prototypes were made to stand disinfection since transmittable disease is a risk. They were then tested by patients in their natural environments foremost for its content and what they lacked in the information they’ve gotten so far. Feedback of the idea and suggestions for improvement was gathered in order to proceed.

Conclusions were that patients didn’t know enough about the ward they were in, visiting hours, meal times etc. One suggestion was to have notifications when something changes, such as room change and a medicine list update. They got to fill in needs themselves and confirmed the needs stated in the research phase.
The user interface was beginning to take shape with the help of patient feedback. Slides were made interactive to see how they responded. At each slide they were asked how they understood the content. Most seemed clear but a few things needed some minor improvements such as having less icons to not confuse the usage of the software. Input was noted directly on the slides so to show patients that it is still a working progress.

The biggest conclusion was to keep it simple and have icons inside others instead to make the startpage simpler to overview.
Patient at Danderyd Hospital during user test 3.
USER INTERFACE
TEST 3, STAFF

An additional element in shape of a spider diagram was added. This was to visualize the patients personal profiles so to better understand which parts and needs the patient needs more support.

The design was very much appreciated since it will be information they always carry with them. The diagram was instantly understood since it is familiar from the yearly surveys showing staff satisfaction, similar to the one showed in the patient survey earlier.

Conclusions of this test was to continue on this track and make it more refined and realistic.
The prototype was digitalized into a user interface intended for a tablet, both for the patients and staff. The staff size would have a smaller since it needs to fit inside the pocket of the work clothes.

The solution aroused interest for the patients with all possibilities available. One input was that it is good to have options when sick, since one doesn’t have the energy to find things to keep busy with. Apart from minor adjustments, such as more contrast in the icons, the idea was liked and with a final question: would it work? the answer was yes, from several participants.

In case of a continuation of the project with SLL Innovation it will be prototyped so to be tested inside a functioning device.
SOLUTION 2. SOFTWARE TOOL
Infectionous disease’s clinic

Wards: 4, 5, 6
Floor: 6
Co-patients: 8

Visiting hours:
3 pm - 7 pm, Mo-Fr
1 pm - 7 pm, Sa-Su
Infectionous ward
You are placed in an isolated room for hygienic reasons. Even if you are non-contagious, the staff will use protective equipment to avoid contagion transmission between patients.

Sometimes it can feel lonely - in that case let us know!
Help us in helping you
Please answer following questions
Question 1/6

How is your need for company?

The question is for understanding your social needs, if more visits are needed.
Question 2/6

How is your need of emotional support?

None  ❌  Big  ✔  Very big
Is there anything ‘good to know’ regarding your care?

Take my pills with yoghurt. I'm afraid of needles.
I like to chat, feel less lone.
Contact staff

Press the red button when it’s EMERGENCY!
Used if condition is worsened, quick pain relief etc.

WC has its own nurse call button.
# Calendar

Keep track of your daily schedule, upcoming tests and procedures.

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<td>7 PM</td>
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<td>l.v. antibiotics</td>
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<td>8 PM</td>
<td>Breakfast</td>
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<td>9 PM</td>
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<td>X-ray chest</td>
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**Breakfast**
Contact staff

Use voice command for Siri to help you or leave voice messages to your staff.

This is helpful when it's difficult to type/press.
Contact staff

Press the button that suits your request. Staff will come as soon as they can.
Contact staff

Press the button for live chat and communicate directly with the staff concerned.

It might take some time to reply, but you are not forgotten!
Contact staff

Use voice command for sending a message to your staff or dictate a note.

This is helpful if it’s difficult to type or press.
CONCLUSION

This solution offers an efficient platform for hospital patients to receive interactive information. It would enable them to participate more actively in their care. There would be a notable decrease in nurse button calls which is a measurable outcome.

Patients will hopefully experience better quality of care. A secondary benefit is better work flow for staff which would free up time for patients.

DISCUSSION

Designing in healthcare poses unique challenges. Common activities such as interviewing, observing and prototyping become more complicated when combined with specialized healthcare regulations, unfamiliar clinical protocols, sensitive subject matters and vulnerable participants. The phases of the following creative problem solving process is that of repetitive learning and refinement.

When the patient comes to the hospital his/hers life is temporarily put in the hands of the health care staff. This is something not to be taken lightly. The system today is good but it can be better.
PARTNER COMPANIES
CTMH Center for Technology in Medicine and health
SLL Stockholms Läns Landsting, Danderyd Hospital
Veryday User design expertise

DESIGN SUPERVISORS
Julien Mauroy Clinical innovation fellow at CTMH
Michael Hardt Professor at Mid Sweden University
Elisabeth Ramel-Währberg Consultant at Veryday
HOSPITAL WORKSHOP


Mål
Nöjd patient- och personalgrupp
God vårdupplevelse så att patienterna tycker det är tråkigt att lämna (sånt de inte kan göra hemma)
Mål att inte behöva kurator

Inledande fråga
Fokusgrupp – följdfrågor (?)
Er upplevelse av att ta hand om patienter i isolering? (Frustration, opportunity areas)

Hur veta?
Hur tror ni att en person i isolering känner sig emotionellt?
Hur vet vi vad patienten egentligen känner? Hur veta vilka som känner sig ensamma?
Hur vet vi vad patienten behöver? Skriftlig/muntlig info, hur har den förståtts?
Att patienten inte vill vara till besvär?

Hur göra?
Information: Baserat på vad patienten frågar om?

Barriärvård – pat har motstridiga känslor (tippa över)
Genomsnittliga masker/motiv

Autonomi (DIY) Hjälp till självhjälp

Socialisering/stigma

Ge känsla av kontroll och sammanhang? Mer makt till pat

Vad göra?
Behöver göras

Kommunikation
Voice command, kom-ihåg-notis (Siri)
Vad som sagt, vad som gjorts
Språkförbristning (translation IRT (In Real Time))

Välmående
Self-rated quality of life
VAS-skalan
Hospital Anxiety and Depression Scale (HADS)
Screening
PATIENTFORMULÄR

1. Hur började symtomen och hur lång tid tog det innan du sökte dig till sjukhus?

2. Hur tror du att du fick din aktuella åkomma/sjukdom?

3. Hur kändes det att vara på akuten? (Information om din åkomma, väntetid etc.)

4. Hur kändes det att komma till infektionsavdelningen? Förväntningar?

5. Visste du att du skulle bli placerad i ett isoleringsrum?


7. Skulle en checklista rörande din behandlingsplan (t ex frågor efter ronden) fungera för att ha koll och bocka av?

8. Hur kommer du ihåg att nämna saker för personalen (med hjälp av anteckningsblock eller annat)?


10. Vad skulle få dig att öppna upp dig för personalen om hur du egentligen mår?

Hur känns den stilla tillvaron på rummet och hur hanterar du den?

Var du medveten om att sjukhusvistelsen kan bli mentalt påvrestande?

Vad oroar dig mest?

Hur skulle man kunna bryta känslan av isolering? (ensamhet osv)

Känner du att du som patient förväntas bete dig på ett visst sätt? ( Vad du får/inte får göra)

Hur skulle det vara att skriva ett ”personligt vårdbrev” med önskemål och behov inför/under en sjukhusvistelse? (kan vara sällskap, bemötande, hjälp med stödstrumpor, rådslor)

Vad för roligt skulle få tiden att gå lite lättare? (sysselsättningar, spela instrument, stickning osv)

Om tiden i isolering kunde användas till något meningsfullt, vad skulle det kunna vara?

Vet du hur planeringen för din vård ser ut framöver?