When I was kid I wanted to be a doctor because I thought my father was. But at that time I didn't know that he actually was a physiotherapist. I remember that I grew up observing how my father helped different persons. I remember playing with his tools and hearing him to have conversations with patients.

Now, as a designer, I had the amazing chance to work within this field. Suddenly, and almost by coincidence, I'm working in the same field as my father did, but from another perspective. I'm not as expert as him, but I have learned a lot.

Through this project I want to make a contribution to rehabilitation and to Sunnaas hospital as a leading hospital in the field. A contribution that shows how rehabilitation services can put more emphasis on supporting the patients' lived experience while they navigate the complex journey of overcoming a disability.

Supporting the journey of recovery.
A service & systemic design diploma project, Autumn 2017.

Institute of Design,
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and content
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Supporting

the journey

of recovery

Abstract

How can the rehabilitation service at Sunnaas hospital support the recovery journey of spinal cord injury patients today? This project identifies, develops and runs three design interventions with the objective of enhancing service delivery to support the patients' lived experience while they get better.

Through a service and systemic design approach, as well as by working as a designer inside the hospital in a co-creative process, three design interventions were developed: a system to gather and display messages to support patients, a new practice among the therapists to help patients acknowledge their progress through photographs, and a whiteboard to provide caregivers with an overview of the patients' progress.

Each intervention acts as a driver to enable the rehabilitation service to move from current practices to new practices. At the same time, each aims to generate ripple effects extending into the future to make the service more supportive towards spinal cord injury patients.

Keywords: designing for recovery, rehabilitation, spinal cord injury, service design, systems oriented design.

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Introduction

Project overview

A spinal cord injury could happen to any of us. It is a traumatic experience that shifts the course of life. Individuals are living a **journey of recovery**–their own lived experience of overcoming the challenge of their disability. At the same time, they are becoming inpatients and users of the **rehabilitation service** at Sunnaas hospital, which is the largest specialized hospital in the field in Norway.

This diploma project explores how the rehabilitation service at Sunnaas hospital can support the recovery journey of spinal cord injury patients today. It aims to develop interventions that can be implemented within the existing service with the objective of reinforcing patients' lived experience while being at Sunnaas.

This project has been developed by using a service and systemic design approach, by working as an embedded designer at the hospital, and by developing a co-design process with different caregivers and patients.

All of these aspects, together with the development of a broad research phase – covering different aspects and areas of the service – made possible to have a holistic picture of how rehabilitation works at Sunnaas, identifying it as a system of human relationships. Within this system, three main areas for intervention were identified as the most potential ones to develop further. Each one of them led to the development of a design intervention.

Therefore, this project develops and runs **three design interventions that support patients' recovery** from different angles of the service.

- **Leaving something behind** is a system that boost patients to be resources for each other. It invites patients that are going to be discharged soon to share messages to support or inspire others. These messages are displayed inside the unit as a source of inspiration to current patients.

- **Step by step** is a new practice among the therapists wherein they use photographs to capture patients' achievements in order to help them to acknowledge their progress, and through this, trigger their motivation.

- **All the pieces, in one place** is a whiteboard in the multidisciplinary meeting room that provides caregivers with an overview of the rehabilitation process of the 16 patients at the spinal cord injury unit. It aims to enrich the awareness and understanding that the different caregivers have of the patients they are working with.

Each intervention acts as a driver to enable the rehabilitation service to move from current practices to new practices. They aim to be projects that the spinal cord injury unit can take as starting points for future developments that are oriented to better support people that are living with a spinal cord injury.

The main contribution of this project has been bringing ***patients as persons*** within the service, and raising awareness and discussions about how caregivers are working around them and how they should do it in the future.

Background

In this chapter you will be introduced to Sunnaas hospital and to *rehabilitation* and *recovery* (key terms of this diploma project). At the end of this chapter the project brief is presented.

Sunnaas hospital

A way forward

Sunnaas hospital is the largest specialist hospital in the field of rehabilitation in Norway. It offers primary care, follow-up and assessment rehabilitation services. It provides therapy for complex illnesses or injuries, covering patients with spinal cord injury, severe multi-trauma, acquired brain injuries, severe burn injuries, neurological illnesses, and rare diagnoses. All of them are treated through multidisciplinary teams of caregivers.

Einar Magnus Strand, CEO of Sunnaas hospital, mentions that the hospital has strengthened its position as one of Europe's largest and most forward looking specialist hospitals in the field of medical rehabilitation. He also mentions that Sunnaas has to be qualified for the future they want and that they need to dare to be innovative (Sunnaas rehabilitation hospital, 2012).

Within this vision, Sunnaas has established an innovation department which is constantly looking for opportunities to develop new patient-centered products and services, and to develop or acquire new technology.

The collaboration

During the spring semester of 2017, I participated as a student of the "Service Design 2" master course at The Oslo School of Architecture and Design (AHO), in a project developed in collaboration with the Innovation unit at Sunnaas hospital.

Through the research of patients' experiences and caregivers' workflows, a design opportunity to work further as a diploma project was identified. After discussing it with the Innovation unit, a partnership was made to develop this project.

The link to the Centre for Connected Care

Sunnaas hospital is part of the Centre for Connected Care (C3), which is a research initiative that aims to accelerate adoption and diffusion of patient-centric innovations within the health industry in Norway (Centre for Connected Care). This diploma project is also linked to C3, as it looks for how to develop rehabilitation services that are more centered on the patients' experience.

"Sunnaas Rehabilitation Hospital is a guiding force in the acquisition of knowledge and expertise concerning rehabilitation, and hopes to take a leading role in future development in the field of rehabilitation."

(Sunnaas rehabilitation hospital, 2012).

Figure 1. **Virtual rehabiliation at Sunnaas hospital [Photo: Nordic Network of Testbeds, 2017].**

Rehabilitation & recovery

Rehabilitation as a service

Rehabilitation–rather than being an isolated medical intervention–is a process that develops over time, and wherein different caregivers assist individuals who have (or are likely to) experience disability to achieve optimal functioning when interacting with the environment (World Health Organization, 2011). This includes persons that have experienced severe or minor accidents, people that have congenital/chronic conditions, among others.

Rehabilitation is about helping people to be able to participate actively in society. It does not only bring benefits for the people that are in need of it, but also to their families and to the health, social, educational and labour sectors (World Health Organization, 2016).

We can understand **rehabilitation as the service** that is available to disabled persons in order to help them to adapt to their world (Deegan, 1988). And at Sunnaas, it is a service where persons will interact with caregivers and they will do plenty of activities to regain or maintain their functioning.

Recovery as the lived experience

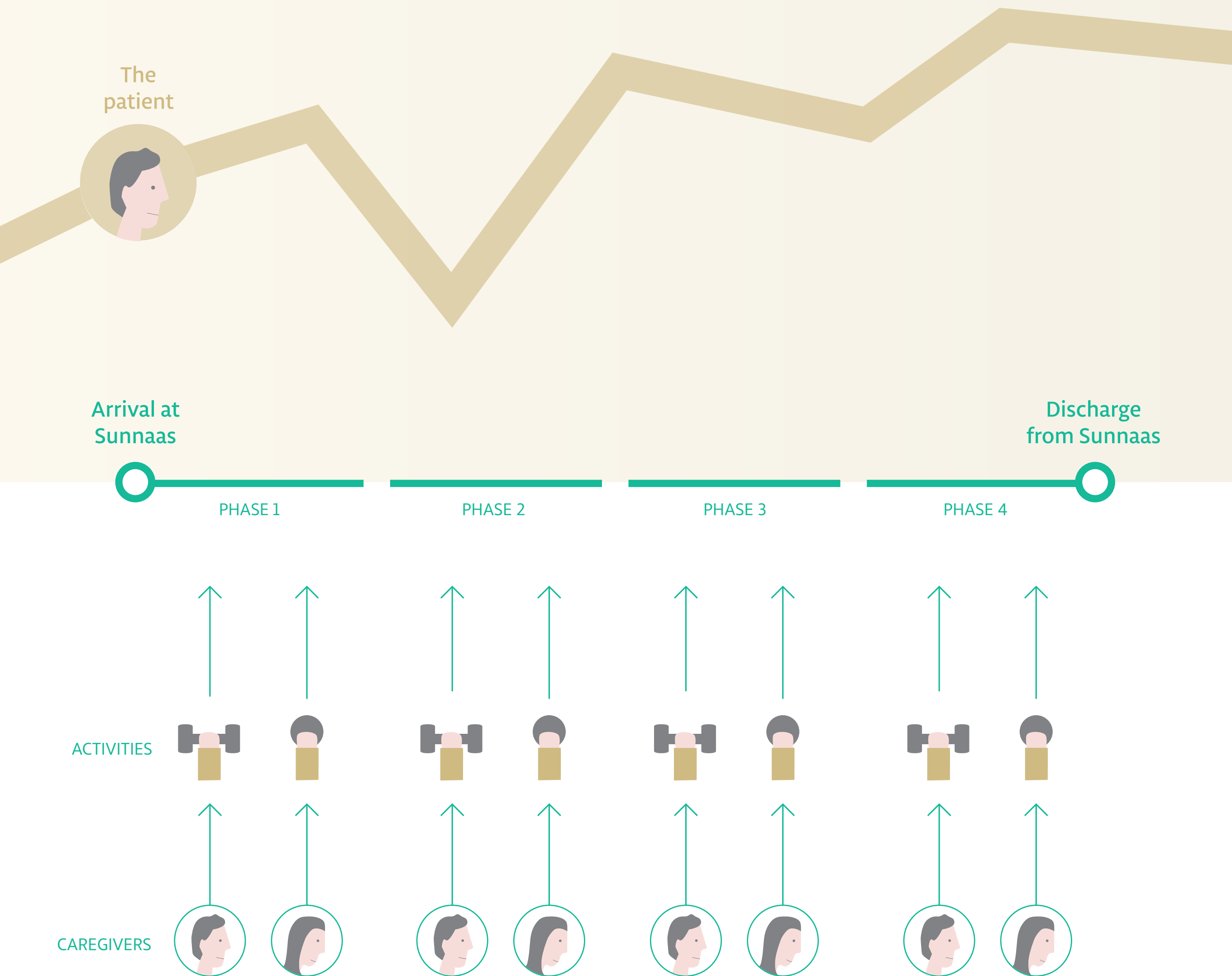
People using rehabilitation services are experiencing a complex situation of life. This is recognized by Deegan (1988) with the word **recovery**, which is the lived experience of persons as they accept and overcome the challenge of the disability.

Recovery is key for rehabilitation services, because during the process patients are suppose to be active agents. They are not lying in bed waiting for the doctor to come and heal them (for example). Patients have to train, they need to have a certain degree of motivation, and they need to accept the situation in order to have a good outcome. **How successful rehabilitation will be for a patient depends on his/her recovery journey.**

"We see then that recovery is an important and fundamental phenomenon upon which rehabilitation efforts depend."

(Deegan, 1988, p. 12).

Recovery as the lived experience



Rehabilitation as the service

Having a spinal cord injury

A spinal cord injury is usually the result of an accident and it **mostly affects the physical functions of the body**. These functions can be affected to a greater or lesser degree depending if the injury is incomplete or complete. An incomplete lesion is one in which certain amount of functions below the level of the injury will be intact; whereas, in a complete lesion, function loss is total below the level of the injury (Trieschmann, 1988).

This project goes beyond the physical aspects of the injury and focuses on the recovery experience of this group of patients, who have two particular dimensions that are interesting and challenging for this project to address:

- Spinal cord injury patients often do not present cognitive problems, the problems are mainly physical. They are conscious and aware about what is going on in their lives.

- They are living a complex scenario of recovery. All of a sudden they are confronted with a unexpected situation which they have to accept and overcome.

Spinal cord injury patients in the context of Sunnaas

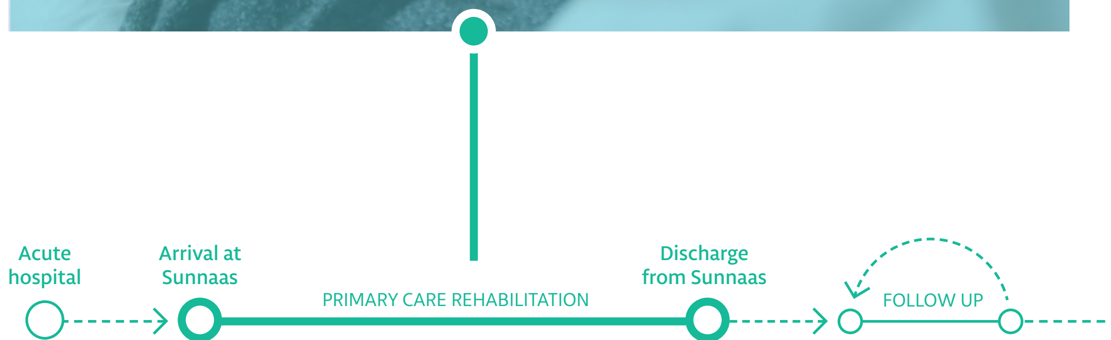
Sunnaas hospital is the only hospital in the south east region of Norway treating persons that have suffered an accident in their spinal cord, and it has responsibility for the individuals throughout their entire life span.

So, an individual that has suffered a spinal cord injury in Norway, afer being in an acute hospital for some weeks (depending on the gravety of the accident) will most probably go to Sunnaas for primary care rehabilitation (the first phase where they become in-patients for 3 or more months) and they will probably go back for follow-up (shorter stays) or assessment (specific rehabilitation programs).

Spinal chord injury patients are one of the critical groups of patients at the hospital. **This project focuses on the primary care rehabiliation phase.**

Persons with a spinal cord injury become inpatient at Sunnaas for approximately 3 months.

Figure 2. Patients' rooms [Own photo].



FOCUS AREA OF THE PROJECT

Project brief

In collaboration with the spinal cord injury unit at Sunnaas hospital, this project explores how the rehabilitation service can support the recovery journey of spinal cord injury patients.

It focuses specifically in the primary care phase of rehabilitation, which is the first time when individuals come to Sunnaas directly from an acute hospital after they have suffered the accident. In this phase persons become in-patients at the hospital for a period that could be up to 3 months or even more, and it is a period where they are starting this long journey of accepting and overcoming the challenge of the disability in their lives.

How can the rehabilitation service at Sunnaas support the recovery journey of spinal cord injury patients?

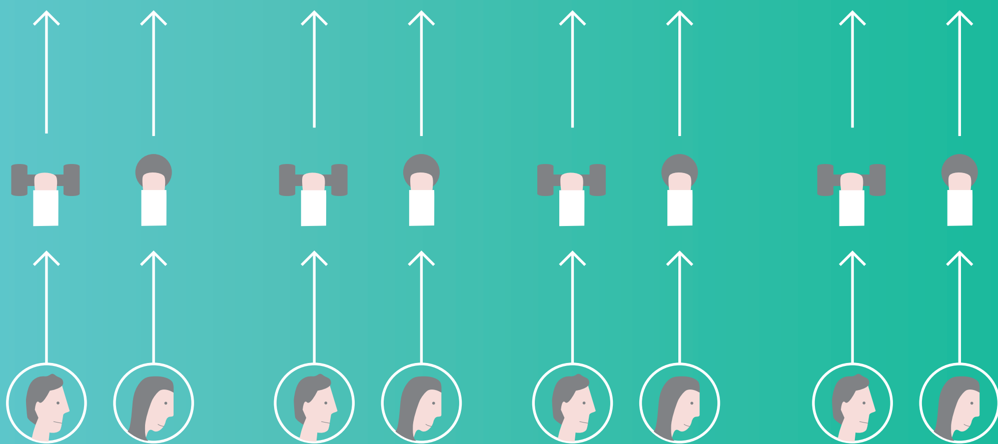
Main goal

This project aims to reinforce patients' recovery journey during their stay at Sunnaas, and through this, help them to be more committed, involved, and active in their own rehabilitation projects.

"Something more than just 'good services' is needed, e.g., the person must get out of bed, shake off the mind-numbing exhaustion of the neuroleptics, get dressed, overcome the fear of the crowded and unfriendly bus to arrive at the program, and face the fear of failure in the rehabilitation program. In essence, disabled persons must be active and courageous participants in their own rehabilitation project or that project will fail. It is through the process of recovery that disabled persons become active and courageous participants in their own rehabilitation project."

(Deegan, 1988. p. 12).

How can the rehabilitation service at Sunnaas **support the recovery journey** of spinal cord injury patients?



Approach, process & methods

This chapter addresses how this project was developed. It explains the approach taken, the design process and the methods used during the entire project.

Approach

A service and systemic design diploma project

This is a diploma project within the fields of Service Design and Systems Oriented Design. Thus, it explores and addresses rehabilitation by using both Service and Systems Oriented Design methods, mindsets and approaches.

Service design approach: rehabilitation from a human perspective

This project explores how rehabilitation works as a service and **how it affects the lived experience** of spinal cord injury patients at Sunnaas in order to design concepts that reinforce that experience.

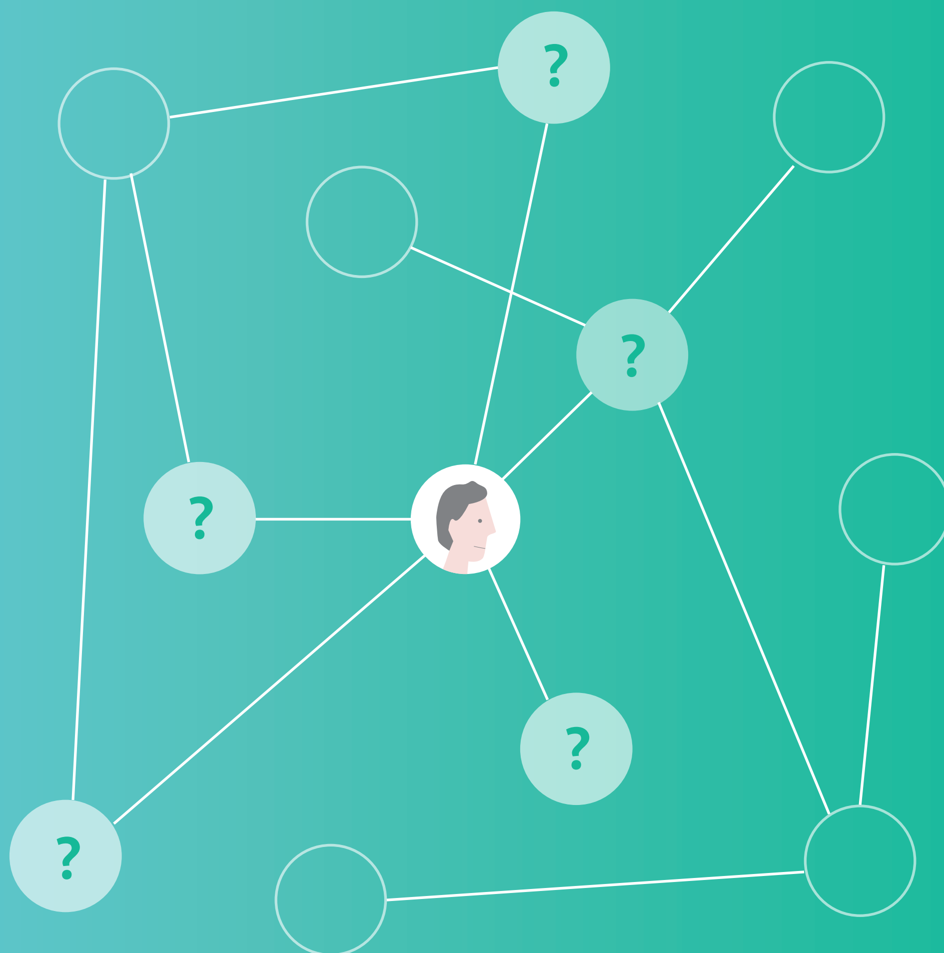
It is framed under the 5 service design principles described by Stickdorn, M., Schneider, J., Andrews, K. & Lawrence, A. (2011):

- **Human-centered.** The project focuses on the human experiences of patients and caregivers inside the hospital.
- **Co-creative.** It involves different relevant actors within the spinal cord injury unit.
- **Sequenced.** It focuses on the different interactions patients have with the service on an everyday basis and how they all build an overall experience.
- **Visual.** Visualizations, diagrams, maps, photographs, and sketches are strongly used to represent situations, convey findings or concepts.
- **Holistic.** Understanding the rehabilitation service holistically is key for this project.

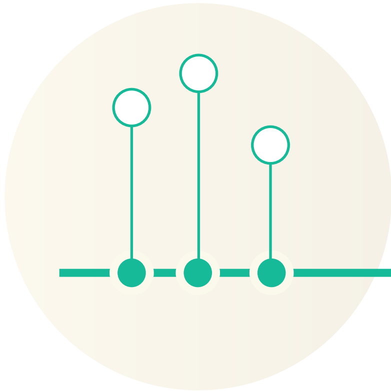
Systemic approach: designing to intervene the system

Systems Oriented Design methods aim to create holistic overviews of complex problems and align valuable insights from different stakeholders and users within a project (Paulsen, Romm, & Sevaldson, 2014). Different systemic methods (described later in this chapter) have been used to address the complexity of rehabilitation.

This project understands rehabilitation as a service and as a system. **It seeks to identify areas for intervention in order to support the recovery journey of spinal cord injury patients from different angles of the service**. The goal is to develop design interventions that support patients' recovery and that have the potential of triggering ripple effects in the system.



This diploma project seeks to identify areas within the service that can be intervened in order to **support patients' recovery through different angles of the system.**



Can we develop interventions within the existing rehabilitation service in order to reinforce patients' recovery today?

Designing for today

This project is about designing for today. It aims to explore, identify and develop designs that can be implemented today at the spinal cord injury unit at Sunnaas. Because of this, two main decisions were taken:

- To build a **strong network of stakeholders** in order to involve them through the design process, enabling them to participate, be familiarized and have a sense of ownership with the resulting interventions.

- **To work as an embedded designer** inside the hospital in order to be closer to people and get a deeper understanding of the context.

Building a network of stakeholders

This project built a network of stakeholders within the hospital (specially with people at the spinal cord injury unit).

It was compose by the innovation advisor of Sunnaas, the leaders of the spinal cord injury unit, and one entire multidisciplinary team of caregivers (8 persons, with one representative from each field) and different patients. **The key stakeholders were the innovation advisor, the lead nurse of the unit and different patients.**

High power

Leader of the SCI unit

Doctor

Lead nurse

Team coordinator

Innovation advisor

Physiotherapist

Low interest

High interest

Psychologist

Occupational therapist

Social worker

Nurse

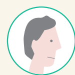
Assistant nurse

Patients

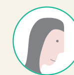
Low power

Designer (me)

Different patients participated by having conversations with me, giving me feedback and testing different prototypes through the process.



The lead nurse was the main co-design partner through the process. He was constantly giving me feedback on findings, ideas, prototypes and concepts.



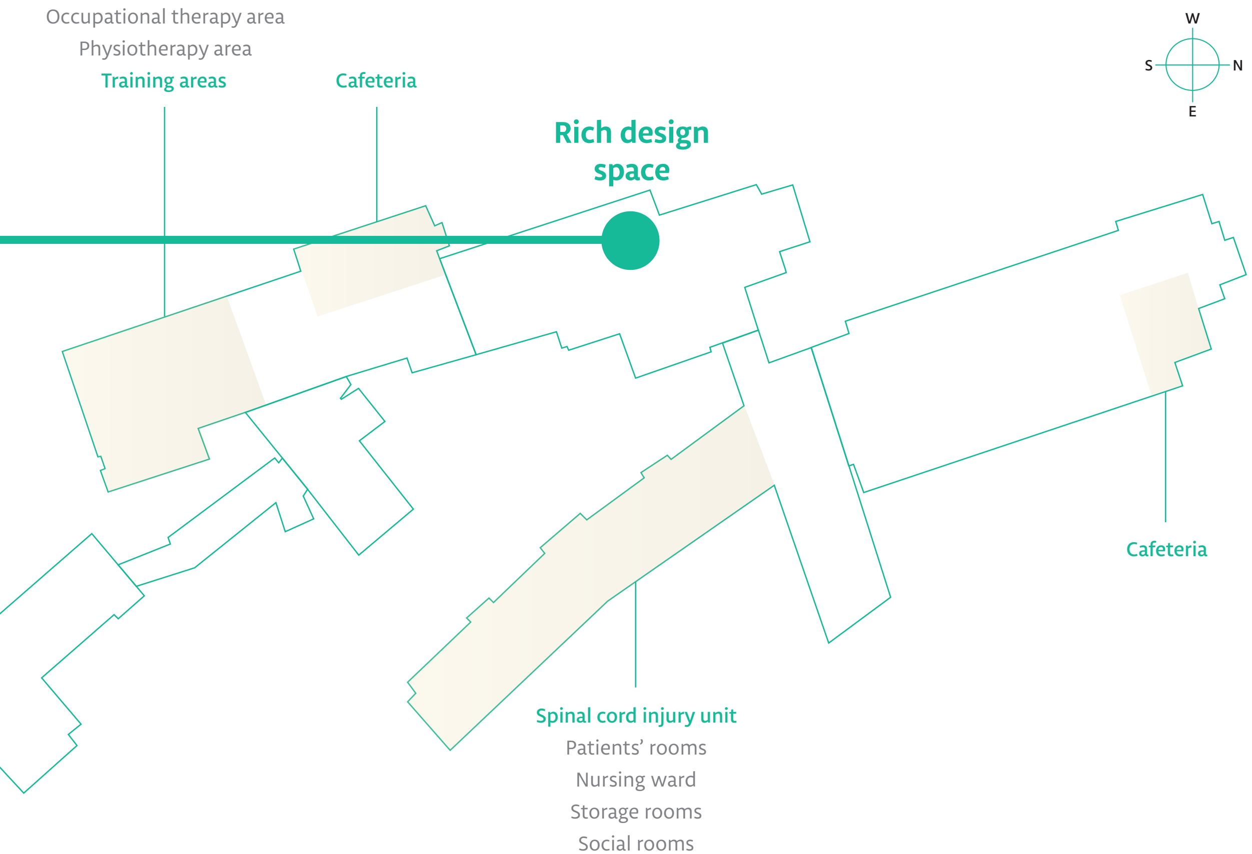
The innovation advisor acted as a translator between me, as a designer, and the leaders of the unit during the whole project.

Figure 3. **Rich design space [Own photo].**

Working as an embedded designer inside the hospital

Freire and Sangiorgi (2010) recognize that designers have been using two approaches to innovation in healthcare, one where designers are working inside the organizations to suggest new service configurations, and other were they are working outside the system to generate more radical solutions.

In this project, I took the first approach. I have been working as a designer inside the hospital throughout the entire process in order to suggest, design and develop interventions in the existing service. I had a space to work in the Innovation department where a rich design space was built–a method for reflection and analysis and for making research results explicit (Sevaldson, 2008). This was mainly used to analyze, map and visualize the different findings, prototypes and concepts and to use them to communicate with the different caregivers and explain them my findings through visual information.

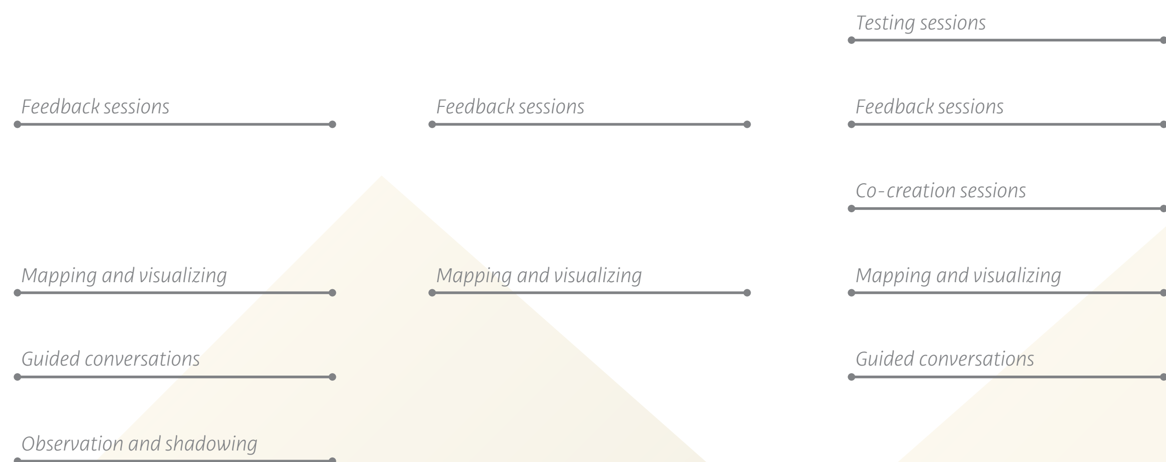


But more than being in the room (especially in the research phase of the process) I was often around in the different areas where rehabilitation happens for spinal cord injury patients: such as the training areas, the spinal cord injury unit where patients' rooms are located together with the nursing ward, and also the cafeterias and different hallways.

The most valuable aspect of working inside the hospital was being able to build a strong network of stakeholders.

By being close to the people I was designing with and for, I could get a deeper sense of how rehabilitation worked in an everyday basis. I got a deep understanding of caregivers' routines and workflows, and of the dynamic of rehabilitation for patients. These insights, among many others, were only observable by being at the hospital on an everyday basis.

Design process



Researching & analizing

How does rehabilitation work holistically?

The beginning of the process was focused on creating a holistic picture of the service and of the patients' recovery experience.

Defining & reframing

What to intervene?

This phase aimed to define what were the key findings and opportunity areas that could be intervened.

Ideating & prototyping

How to intervene the service?

During this phase, the project was focused on finding out what concepts should be developed. Different ideas and prototypes were developed, tested and iterated.

CO-DESIGNING

CO-DESIGNING ADOPTING ADAPTING

This project uses a co-creative process to develop interventions that can be adopted and then adapted by Sunnaas. **This project covers the co-designing and the early adoption phase**.

Testing sessions

Feedback sessions

Co-creation sessions

Mapping and visualizing

Testing sessions

Feedback sessions

Feedback sessions

Guided conversations

Observation and shadowing

Concept development

How should the interventions work?

Once the final interventions were defined the focus was on how they should work, with what touchpoints, with whom, when, and so on.

Designing & detailing

How is the shape/form of the interventions?

In this phase, the emphasis was on working into the final details of the designs, such as taking decisions on materials, visual styles, tone of voice, and so on.

Implementing & observing

How are the interventions going to be implemented?

The last phase had emphasis on defining plans to run first pilots of the interventions together with gathering feedback and making first observations after their implementation.

ADOPTING

Design methods

Observation & shadowing

In order to understand caregivers' workflows and routines, as well as patients' everyday life at Sunnaas (specially during the field research phase) different shadowing and observation sessions were developed with caregivers and patients.

In each session I spent the entire day with the person being shadowed. I joined people in their normal days where my role was to be almost invisible. Lots of notes, sketches and pictures were developed in order to capture what was being observed. The main goal in doing these sessions was to get a deep understanding of how rehabilitation worked from different points of view and to gather as much information as possible.

Small observation sessions were also developed at the end of the project in order to gather some insights after the different interventions were implemented.

Physiotherapist

Occupational therapist

Lead nurse

Nurse

Assistant nurse

Patient

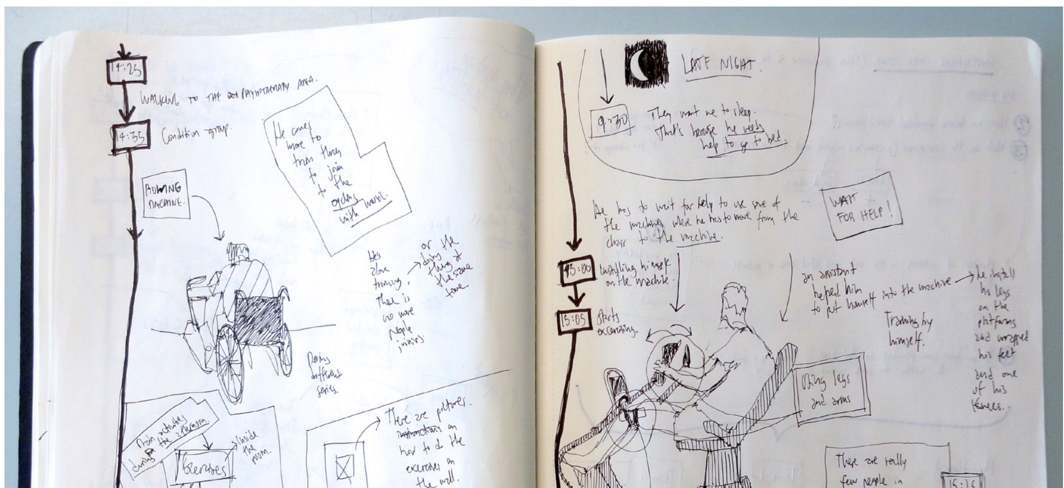


Figure 4. Pictures of different shadowing sessions. A therapy session (at the top), morning routines (two pictures in the middle), and notebook with sketches and notes of the different sessions, (at the bottom) [Own photos].

Guided conversations

Guided conversations were semi-structured interviews developed with caregivers, patients, and staff/experts in the field in different parts of the design process.

With the caregivers, the conversations aimed to capture their point of view on rehabilitation, on their work as professionals, on their thoughts, on things they thought could be developed better, and reflect together with them on their role towards the patients.

With patients, the conversations were planned with individuals in different parts of their rehabilitation process in order to gather insights and perceptions from people experiencing different moments of the journey. These conversations aimed to reflect together with persons on their recovery journey (since the accident until the actual moment), understand their struggles, the things that help them, and hear their thoughts or insights on what could be better at Sunnaas.

Extra conversations were carried out with staff (at the learning and copying center) **and with experts** (a PhD researcher, looking at rehabilitation) in order to get a better understanding of the field and of the backstage processes of the hospital in general.

Physiotherapist

Occupational therapist

Lead nurse

Nurse

Assistant nurse

Doctor

Psychologist

Social worker

Team coordinator

Leader of the SCI unit

2 patients recently arrived

2 patients in the middle of their process

2 patients at the end of their process

Resources secretary

Anne-Stine Bergquist, PhD at Sunnaas working on rehabiliation practices

Jan Egil Nordvik, expert psychologist on rehabiliation

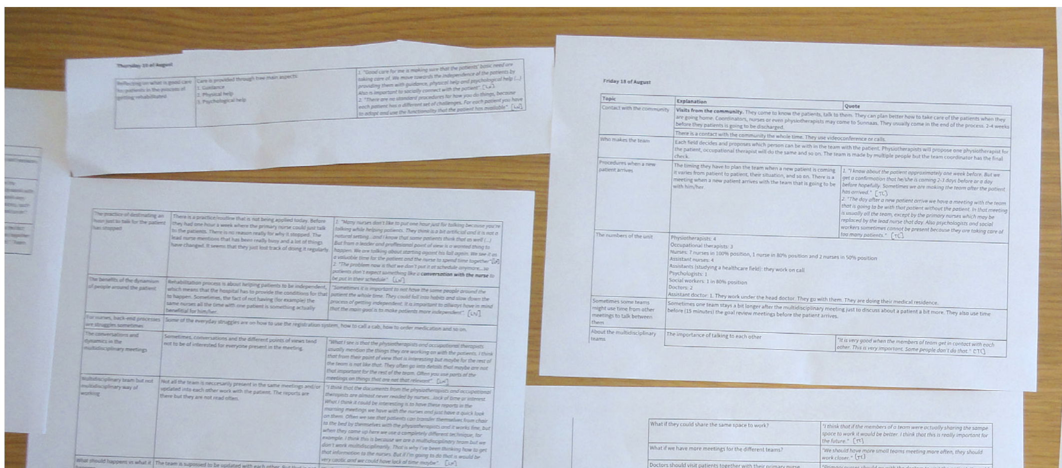
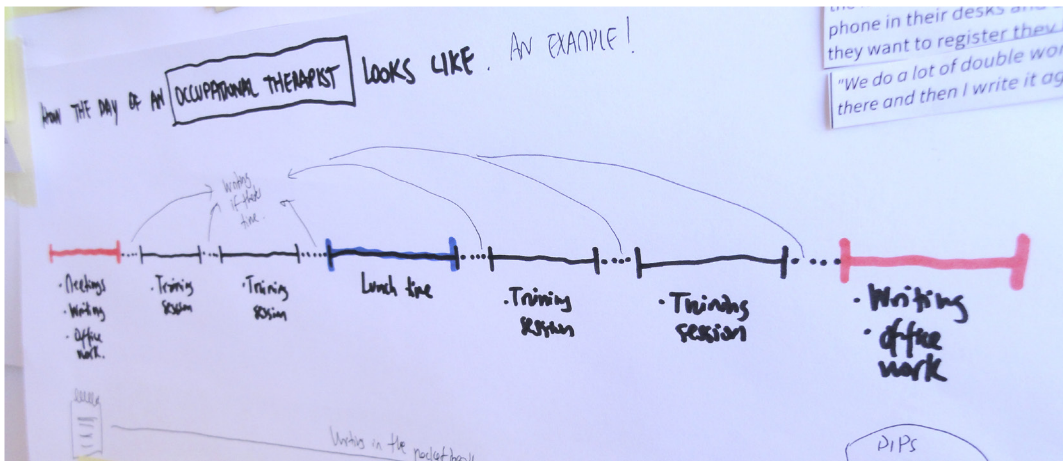


Figure 5. Pictures of different guided conversations. A patient's room (at the top), the gifts and messages that the relatives leave inside rooms (in the middle), and the notes of the different sessions (at the bottom) [Own photos].



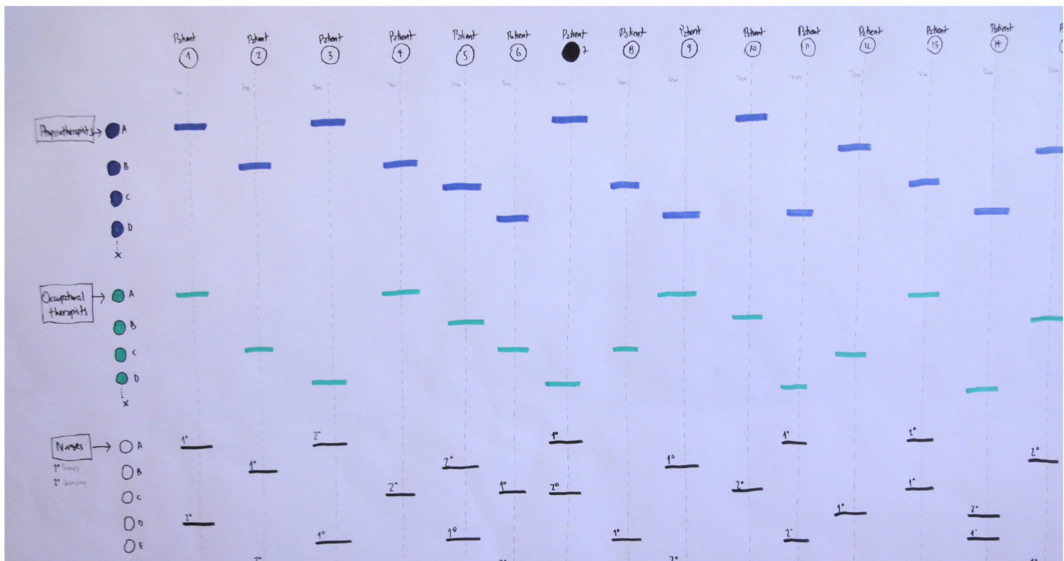


Figure 6. Different maps developed. A timeline showing how a therapy session works (at the top) and a visualization showing how teams are divided per patient (at the bottom) [Own photos].

Mapping & visualizing

Mapping and visualizing was something used almost during the entire design process of this project. Journeys, diagrams, visual models, data visualizations, and/or sketches were used to analyze and dive into the complexity of rehabilitation, but they were also used to convey ideas and to facilitate conversations with caregivers, patients, staff and experts.

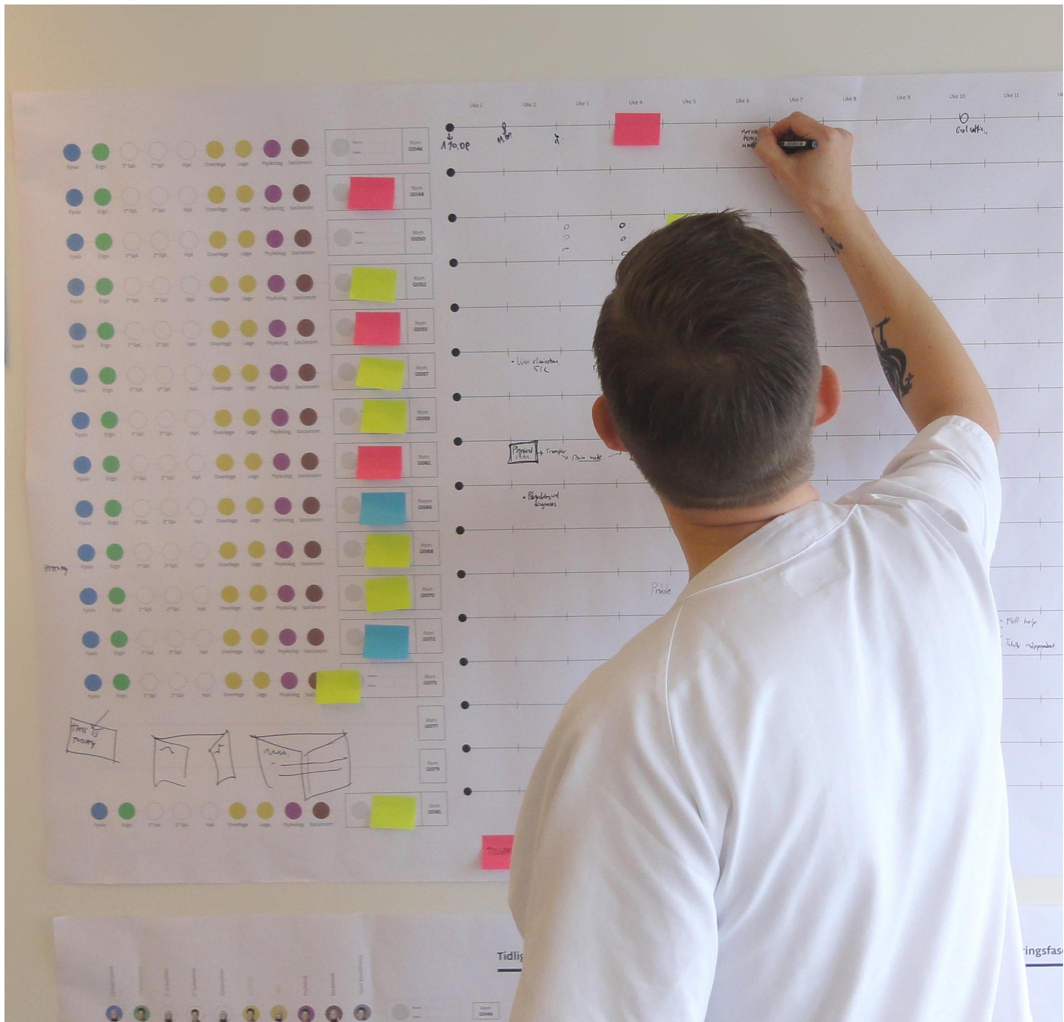


Figure 7. A co-creative session with the lead nurse of the uni about how to visualize the patients at the unit for the caregivers [Own photo].

Co-creation sessions

Mapping and visualizing was something used almost during the entire design process of this project. Journeys, diagrams, visual models, data visualizations, and/or sketches were used to analyze and dive into the complexity of rehabilitation, but they were also used to convey ideas and to facilitate conversations with caregivers, patients, staff and experts.

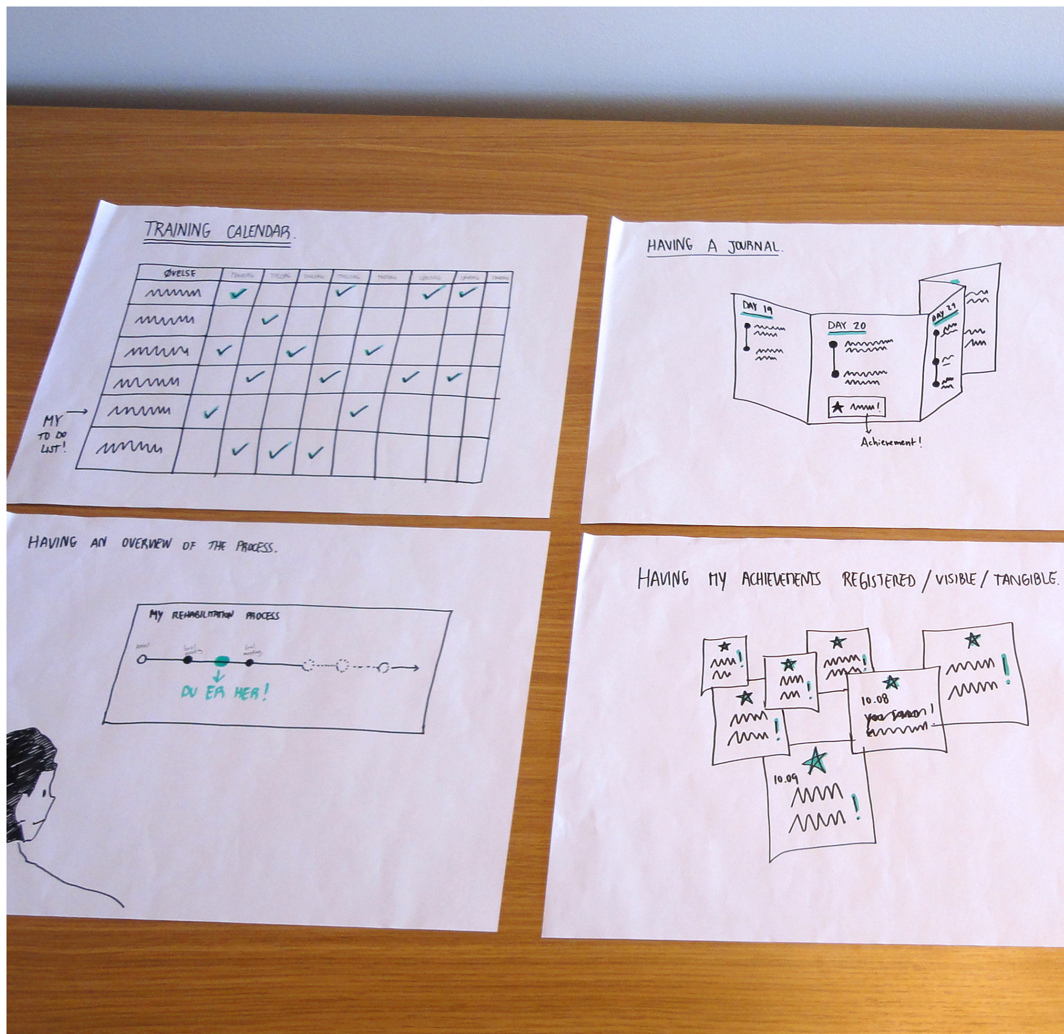


Figure 8. An example of how ideas were presented to caregivers or patients in order to make them understand the concepts and get accurate feedback from them [Own photo].

Feedback sessions

Feedback sessions were usually short sessions (10-20 min) were I presented thoughts, ideas or concepts to the different stakeholders that could be possibly involved in them in order to gather feedback as soon as possible.

The rule I established for myself was: "As soon as I have an idea or prototype that I think could be a potential thing to develop, I have to get feedback from the people that would be involved on that idea to happen".

Figure 9. Examples of how some ideas were tested. Testing different graphic styles and presenting to patients (at the top) and testing different ways of using colors with the lead nurse (at the bottom) [Own photo].

Testing sessions

On testing sessions different stakeholders were exposed with prototypes and concepts that they had to make use of.

On this instances the focus was more on the details (touchpoints, interactions, look and feel) of different the different prototypes.

Research & findings

This chapter covers the key aspects identified over the research about the recovery journey of spinal cord injury patients and the rehabilitation service provided at Sunnaas. It finishes by explaining the three areas of the service that were chosen to intervene.

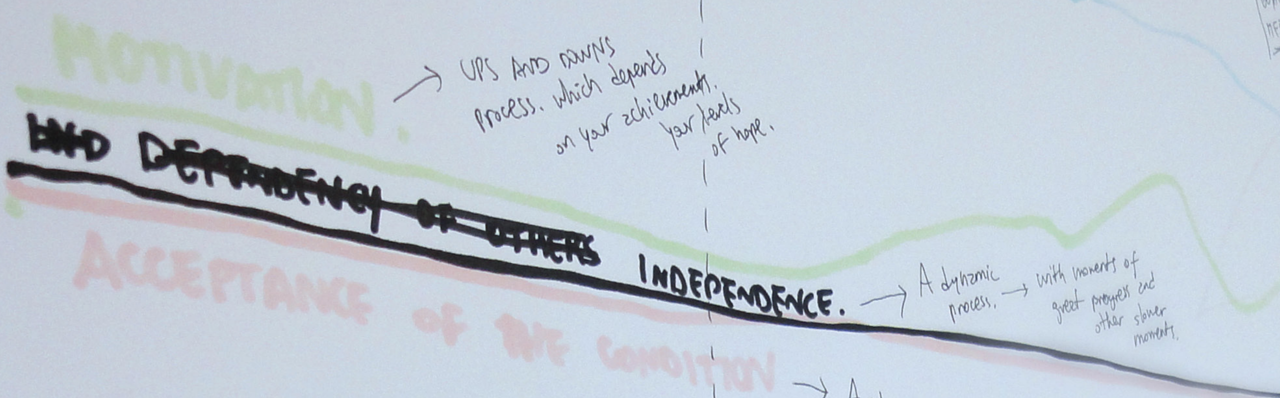
Recovery: a journey of dynamic trajectories

The journey of recovery is not a process where people go from point A to point B in a straight, progressively evolving direction. It is a highly dynamic experience where people are primarily going back and forth trying to overcome their new life situation. **The lived experience of each person is different**, and they have their own ways of facing, approaching and coping with the challenge of being disabled. Each recovery experience is unique and particular.

"Recovery is not a linear process marked by successive accomplishments. The recovery process is more accurately described as a series of small beginnings and very small steps. To recover, psychiatrically disabled persons must be willing to try and fail, and try again."

(Deegan, 1988. p. 16).

However, there are some aspects which are more or less common for all the individuals going through this experience, which were identified after different conversations with patients and with the psychologist at the spinal cord injury unit. These aspects can be seen as the trajectories individuals are on their journeys, the key challenges they are trying to overcome and that should be taken into consideration when designing for a rehabilitation service that supports better the recovery of patients.



→ A slow process over time.

FEELING LOST. WHAT JUST HAPPENED.
BLURRY PERIOD. AFRAID. of the future.

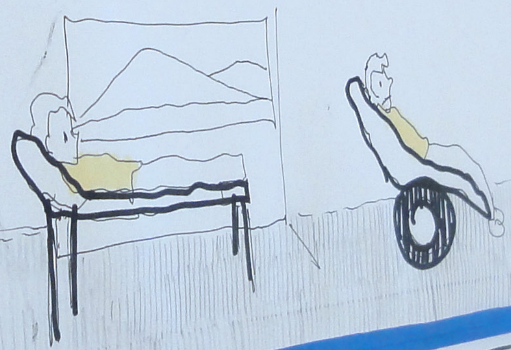
Patients are experiencing an often BLURRY PERIOD. They are in stabilization in an acute hospital.

PEACE.

Arriving to [illegible] feels different than being in an acute hospital.

WHAT IS IT GOING TO HAPPEN NOW?

Patients are dependent on caregivers for almost everything (depending on the [illegible]



EARLY PHASE: The main focus is on BODILY FUNCTIONS AND STRUCTURES [ICF].

Figure 10. Map of the patients' recovery journey [Own photo].

The key trajectories in the journey

Acceptance

From the moment individuals have their accident they are starting a process of accepting what has happened, accepting that life has changed and that it could be irreversibly. This is the most common trayectory people are on, and it is important to understand that every person has a different way of dealing with it. Some people might accept the situation faster than others, whereas other persons might present chronic distress regularly, or others might have a delayed reaction to the situation, among many other possibilities (H. Høye, personal communication, August 30, 2017).

Motivation

At Sunnaas, patients are starting their own rehabilitation projects. These projects depend on their levels of training, effort, motivation and commitment. However, patients' motivation today is something that usually varies from one day to the next and it depends heavily on how the patients themselves perceive their own progress. Aspects such as feeling that they are not progressing enough, or the fact of not reaching a goal they have previously established for themselves, or having a bad week (due to family issues, personal concerns, among many others) are all things that affect their motivation levels.

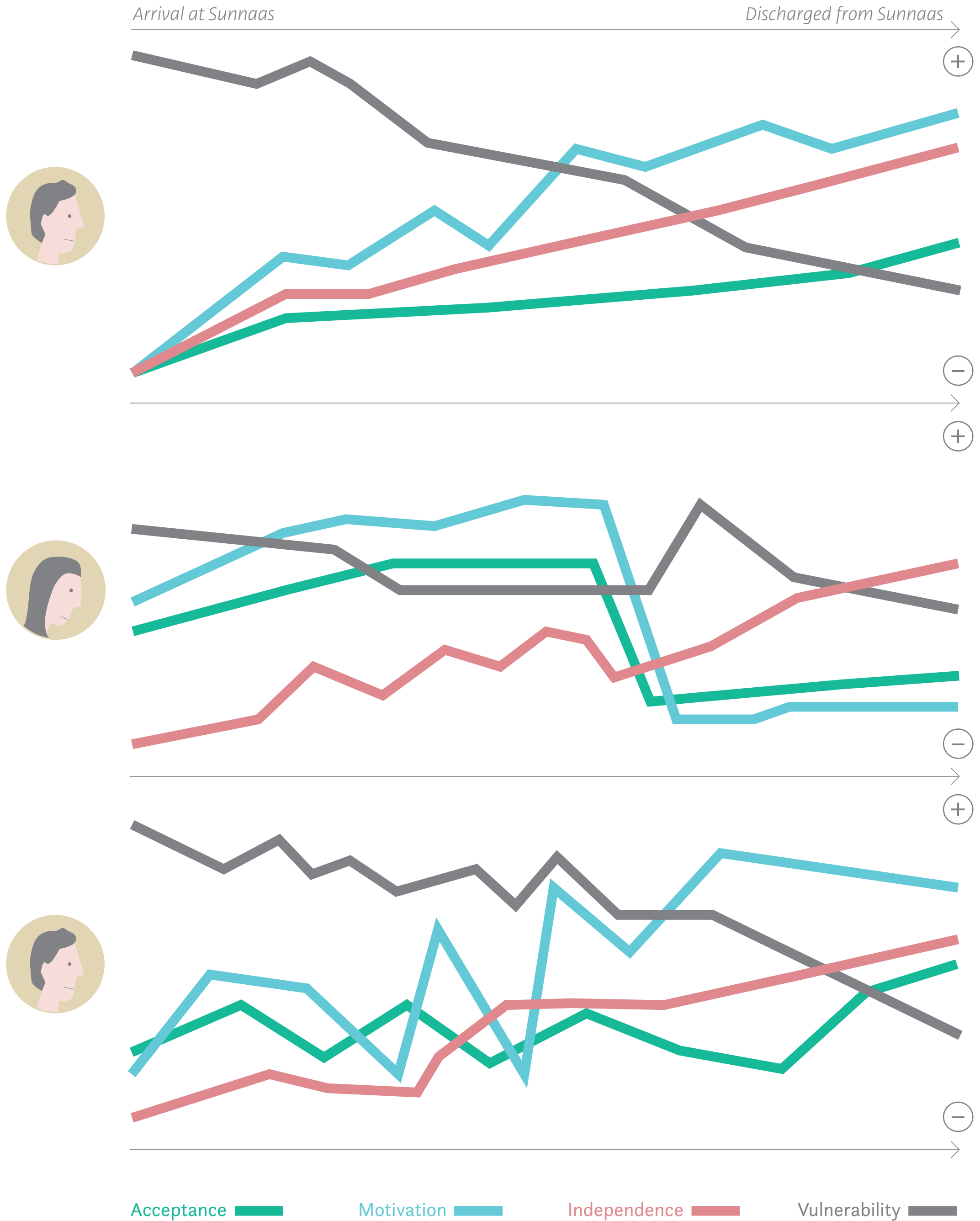
Independence

Recovery is a journey where people are going from not being owners of their own body to being captain of their own ships again. Thus, for patients it is extremely important to progress; to see that they are better than they were one week ago. Usually, for most of the patients reaching their final goal (such as walking again, or going back to work, for example) is one their biggest concerns throughout their journey.

Vulnerability

This radical turn of life usually provokes that people are really vulnerable, especially in the beginning of their journeys. Sometimes even small things affect patients strongly. How vulnerable a patient is at Sunnaas varies from person to person, but is a key aspect to consider when designing for a rehabilitation service that is centered on the patient because it is a situation that most patients will confront at some point in their journeys.

Each journey of recovery is unique



Rehabilitation at Sunnaas: a system of human relationships

Sunnaas hospital is a microcosm of the world. It is a world where the patients didn't choose to be and where they have to live for some months (up to 3 or more). Patients are adapting to a new life, to new routines, to interact with other people in a similar situation, and to interact with the different caregivers that will take care of them during the process.

Rehabilitation is a system of human relationships. It is a service that is provided in its core through the continuous interactions between caregivers and patients through the entire length of the rehabilitation process. Spinal cord injury patients have a multidisciplinary team which is responsible for them throughout their entire process. Also, unlike a normal hospital, patients' life inside Sunnaas goes beyond their rooms. They have to go out to different areas of the hospital to do different activities with the different caregivers (and on their own) on an everyday basis. They also are surrounded by other patients in similar situations and they often receive visits from their relatives.

So, though their process, spinal cord injury patients are having multiple interactions with different caregivers, other patients, and their relatives. All of these relationships shape and affect their lived experience at Sunnaas.

"Provision of rehabilitation is an interpersonal process".

(Bergquist, 2017. p. 195)

“We need to have conversations. We are not training just the physical functions with the patients. We need to know what they want and what they need. We need to know the patients because we are helping them to get back to society.”

Occupational therapist at Sunnaas hospital.

Figure 11. **Pictures of occupational therapy sessions [Own photos].**

The system of human relationships

A spinal cord injury patient at Sunnaas hospital interacts with:

- **Physiotherapist.** Approximately once a day to train strength mainly focused on legs.

- **Occupational therapist.** Approximately once a day to train everyday tasks of life. Mainly focused on arms.

- **Primary nurse** (the patients' main nurse during the entire process). On a relative basis (depending how many times the nurse is assigned to the patient during the week) to receive medical assistance and help with the daily routines of life.

- **Secondary nurse** (the patients' secondary nurse during the entire process). On a relative basis (depending how many times the nurse is assigned to the patient during the week) to receive medical assistance and help with the daily routines of life.

- **Assistant nurse** (the patients' main assistant nurse during the entire process). On a relative basis (depending how many times the assistant nurse is assigned to the patient during the week) to receive help with the daily routines of life.

- **Other nurses** (who are not part of their multidisciplinary team). On a relative basis (depending how many times the nurse is assigned to the patient during the week) to receive medical assistance and help with the daily routines of life.

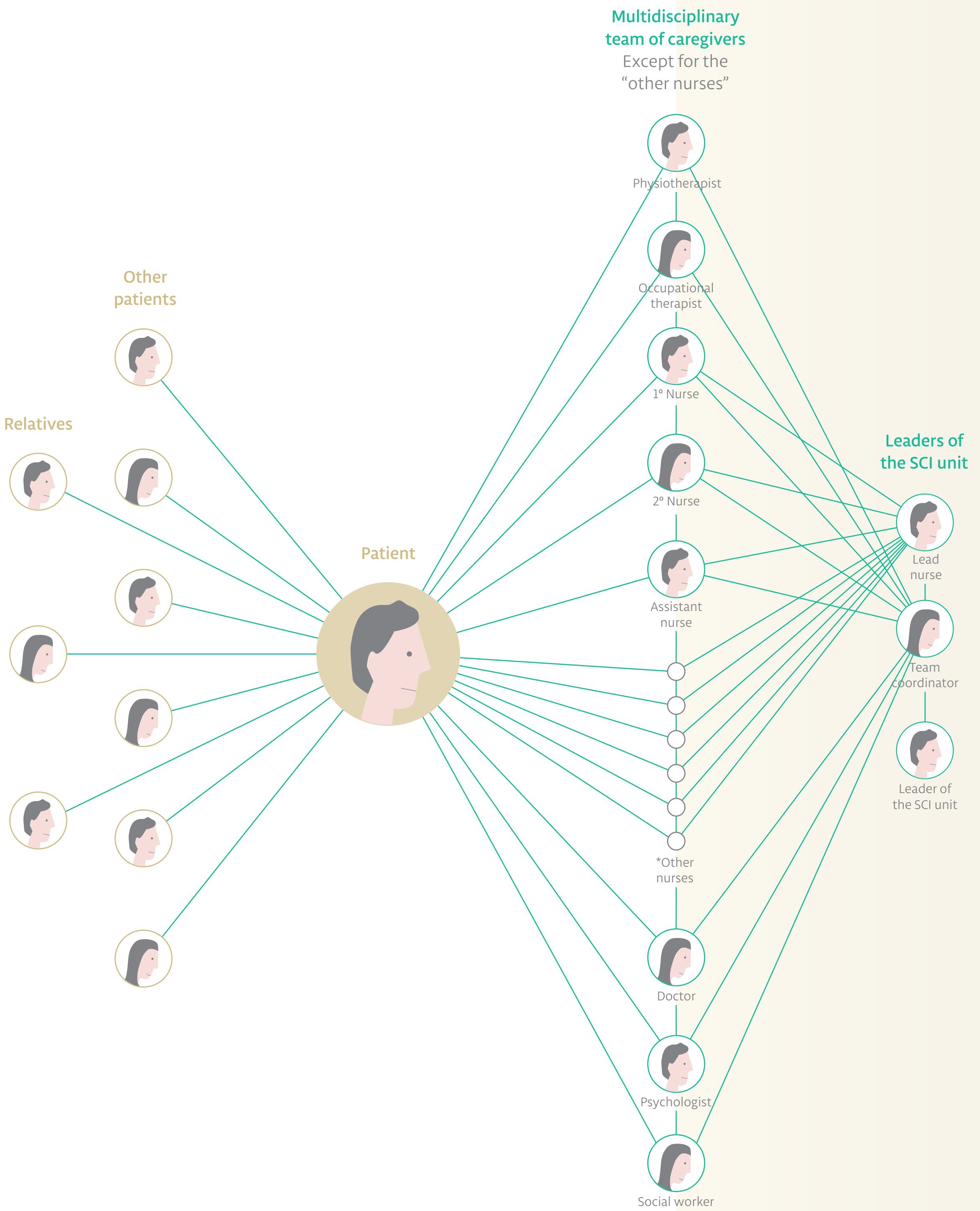
- **Doctor.** Approximately once a week to talk about general progress, prescribe medication, talk about doubts/questions the patient might have.

- **Psychologist.** Approximately once a day (if the patient wants and needs) to talk about the situation, and how the psychologist can help and guide the patient.

- **Social worker.** On a relative basis (as necessary) to talk about social issues related to the patient's condition, such as sick leave, insurance, life outside the hospital, going back to work, among many others.

- **Other patients.** On a relative basis (depending on the patient's personality). They could take lunch together, go to train together, talk in the living rooms or hallways around the hospital.

- **Relatives.** On a relative basis (depending on the patient's family/social reality). Relatives are one of the strongest support for patients during the journey.



FRONT-END OF THE SERVICE. The visible layer for patients

The interactions between patients and caregivers, patients and other patients, and patients and their relatives shape the lived experience of spinal cord injury patients.

BACK-END OF THE SERVICE

The interactions among caregivers and their interactions with the leaders shape to the way rehabilitation is provided.

Defining where to intervene the service

An overview of the process | *You can see more in the appendix*

1. Identifying patterns and relations

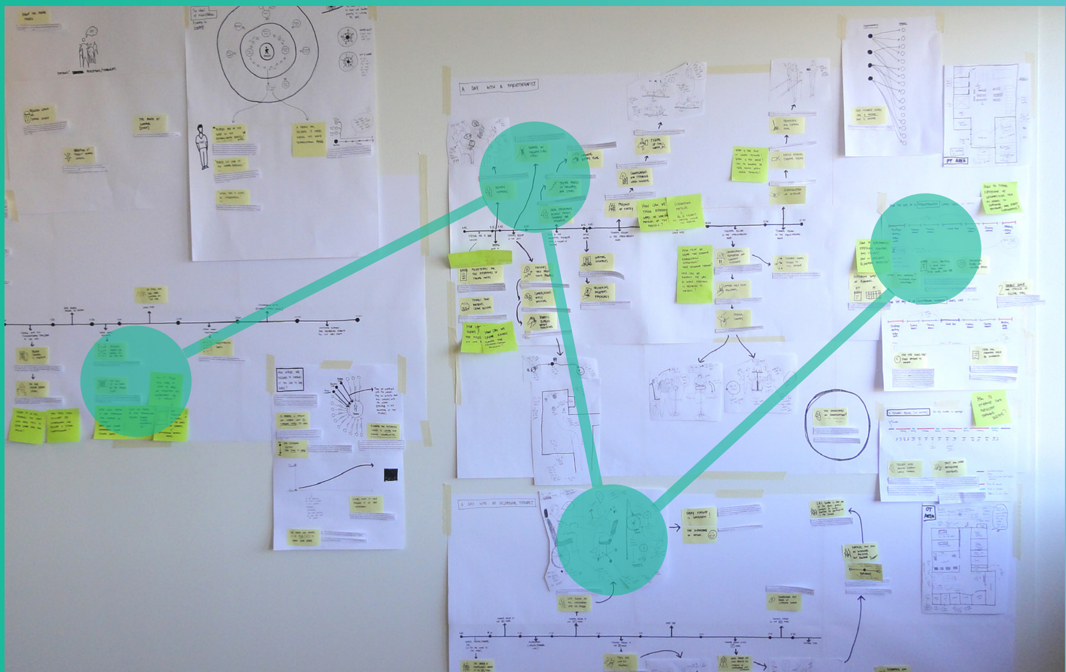


Figure 12. Making relations between different maps and visualizations [Own photo].

Making connections between situations, that were happening in different parts of the service was key to identify relevant findings and insights.

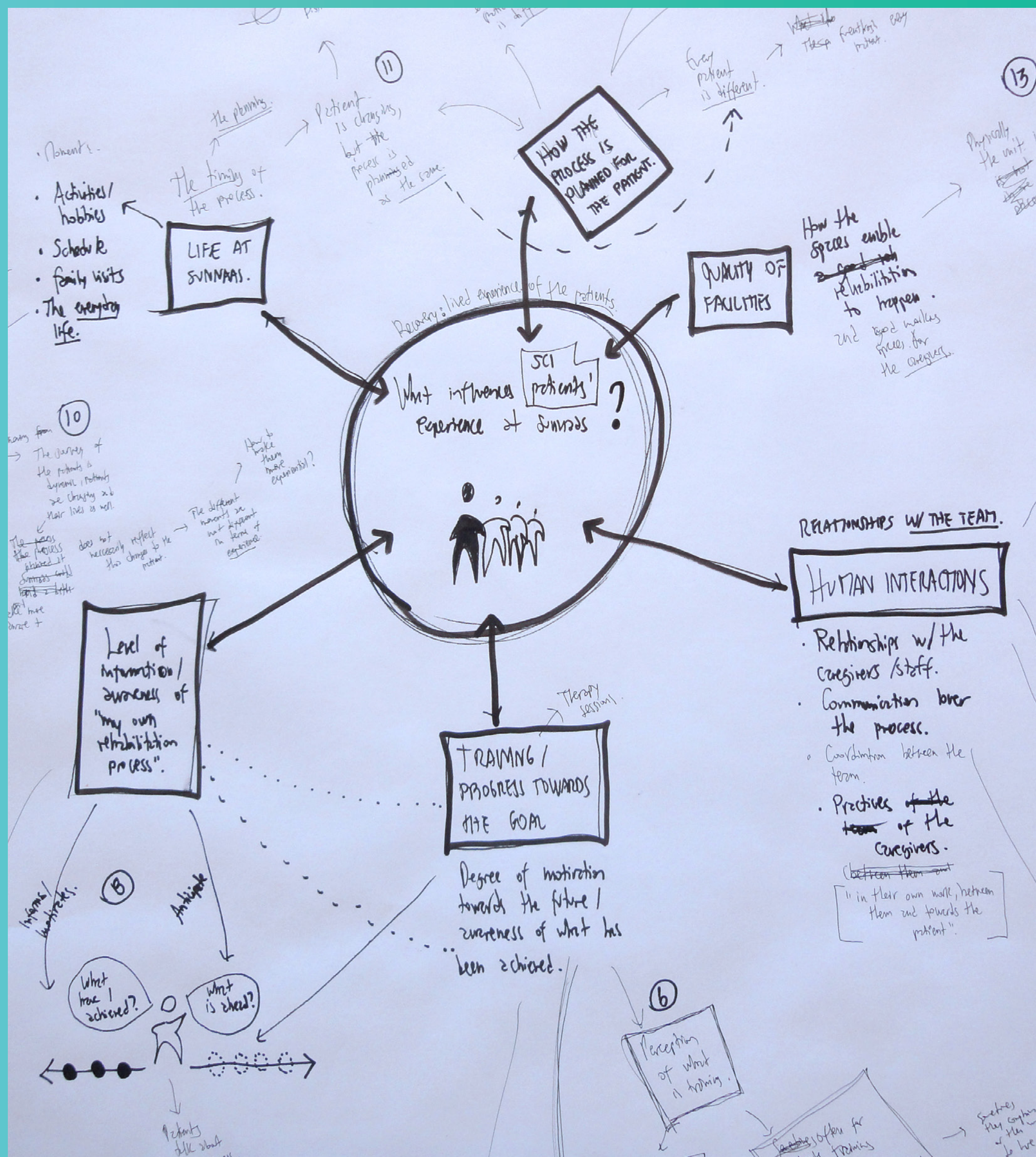


Figure 13. Maps where information was clustered on categories or themes [Own photo].

Categorizing information into themes, through time. This part of the process was about finding out how to communicate the findings and which of them were the most relevant ones.

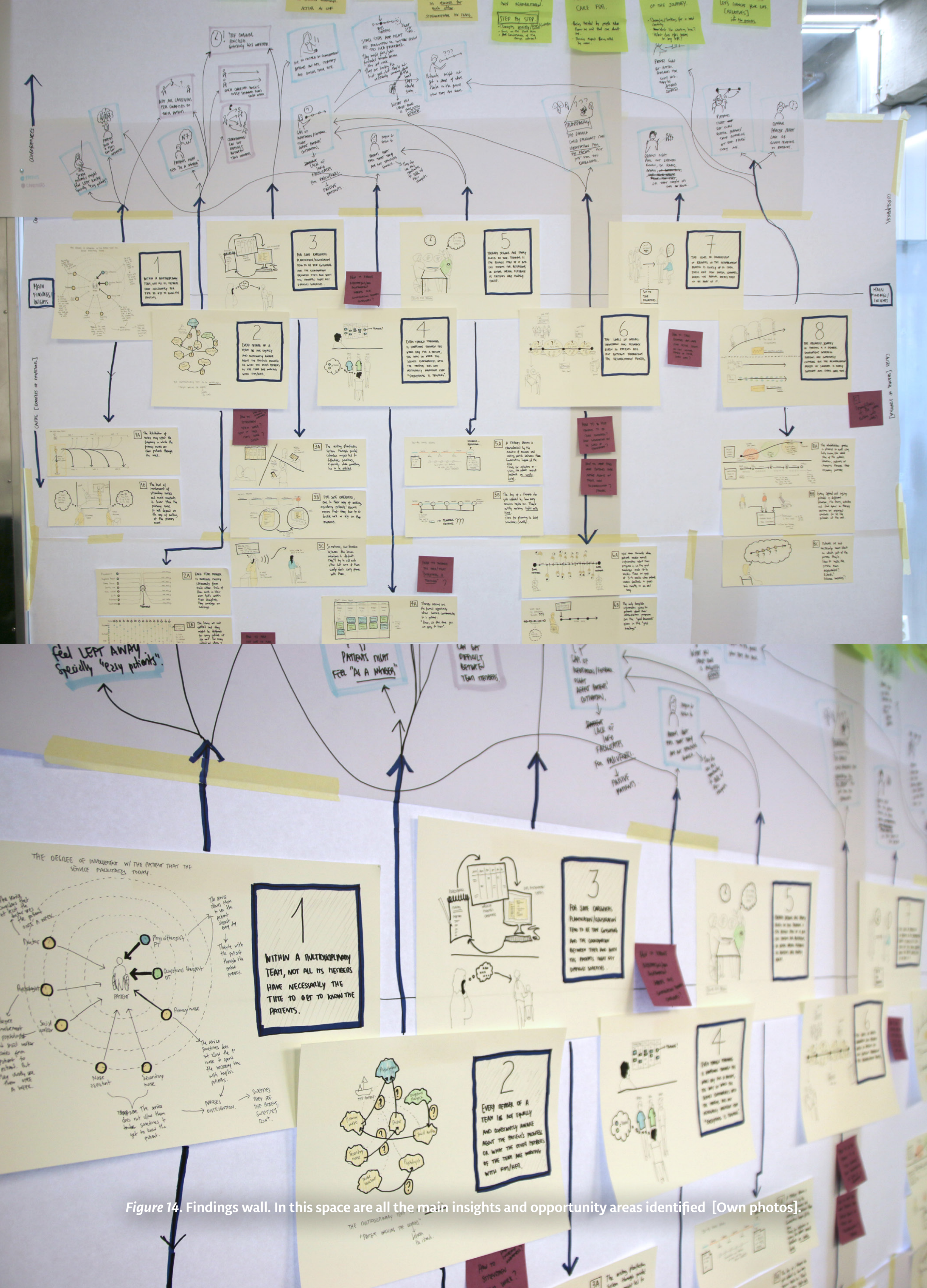


Figure 14. Findings wall. In this space are all the main insights and opportunity areas identified [Own photos].

3. Identifying main findings and defining the most potential areas to intervene

8 main findings were identified and presented to the leaders of the SCI unit:

- Not all the caregivers have necessarily the time to get to know the patient.
- Caregivers are not necessarily aware about the patient's progress or about each other's work.
- Sometimes, planification, registration, and coordination tend to be time consuming.
- Although training occurs through the whole day, the communication with the patients does not necessarily highlight that "everything is training".
- Therapy sessions are mainly ruled by time. Training is the biggest part of it and the moments for reflections or giving overall feedback to patients are usually brief.
- The overall information and feedback given to patients are not constant throughout the rehabilitation process.
- The involvement of relatives in rehabilitation is mostly up to them.
- The patients' recovery journey is a dynamic process wherein individuals are constantly changing. But the rehabilitation service is mostly constant/static over time.

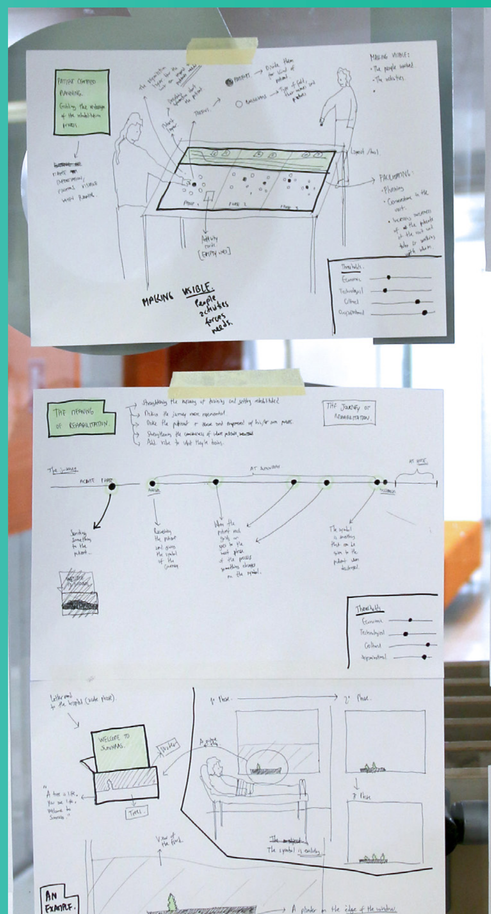


Figure 15. First ideation process [Own photo].

By analyzing, reframing and doing a first ideation process, **finally three main areas were chosen to focus on**. They were selected because of their potential and also because for the unit was important to work in the chosen areas. So, it was a process that was developed together with the leaders at the spinal cord injury unit.

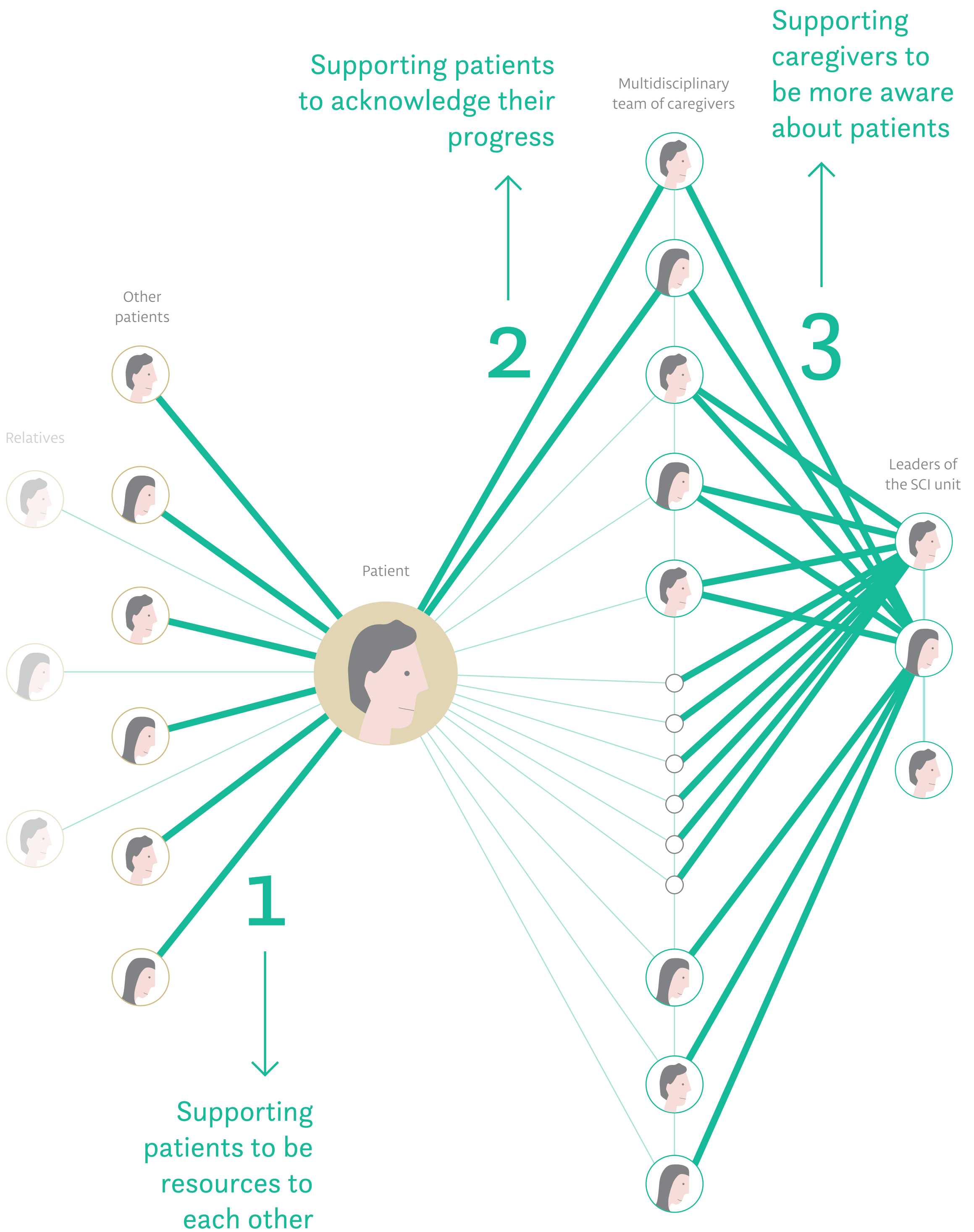
Intenvention areas

What are the intervention areas where the service could better support the lived experience of spinal cord injury patients?

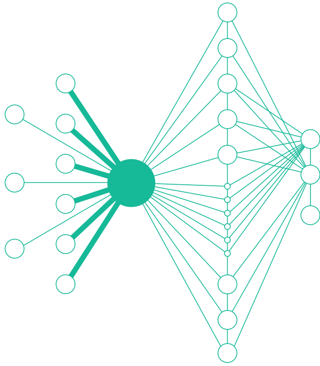
Three main areas within the existing rehabilitation service were identified as the highest potential locations to intervene in order to reinforce patients' recovery journey.

These areas are located in different parts of the system of human relationships; in-between human interactions.

1. Supporting patients to be resources for each other
2. Supporting patients to acknowledge their progress
3. Supporting caregivers to be more aware of patients



3 intervention areas in the service



1 Supporting patients to be resources for each other

Patients are trying to overcome an unexpected challenge

Persons that have suffered an accident in their spinal cord have to face and accept a life that they were not expecting. When they arrive at Sunnaas, they are often full of questions, uncertainties, and concerns about the future.

Today, the main sources of support for the patients are their relatives, with whom they talk and share their experiences with on visits (which vary in frequency from patient to patient). **But on a day to day basis, many patients (especially the most social) use each other for support.**

"Spinal cord injury (SCI) could happen to any of us. It occurs primarily to people like you and me who are in the prime of our lives and in the midst of mapping out a course of action for the future. Suddenly and dramatically an accident interrupts this flow of life, causing trauma, turmoil, and a churning to rechannel the direction of basic life energy".

(Trieschmann, 1988. P. 1)

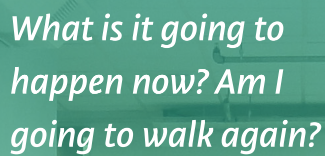


Figure 16. Moving around Sunnaas hospital [Own photo].

Figure 17. Patients talking while training in the physiotherapy area [Own photo and illustrations].

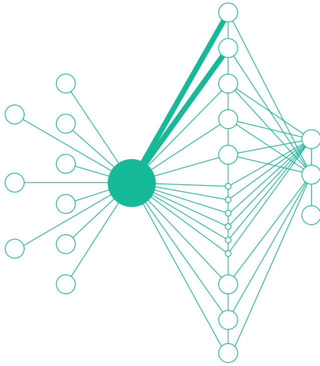
Patients can inspire and support each other

At Sunnaas you can often see patients taking meals together, talking in hallways or in social areas. They share experiences, give advice to each other; talking about their injuries and life in general. The fact that they are living similar experiences makes them feel understood.

Patients can inspire and support each other. However, this situation does not happen with all patients. Some of them don't want to talk about their injury, some of them might not be ready to talk about it, some persons might not be that outgoing to talk to other people about it, among many other reasons.

All the experience patients gain through their recovery journeys can help others in a similar situation and it could be spread to more patients.

How can the service **boost the idea of patients as sources of inspiration** among them, so they can help each other to overcome the challenge of the disability? How to use the knowledge and experience patients have to make it **reachable and accessible for more patients**?



2 Supporting patients to acknowledge their progress

The invisibility of information today

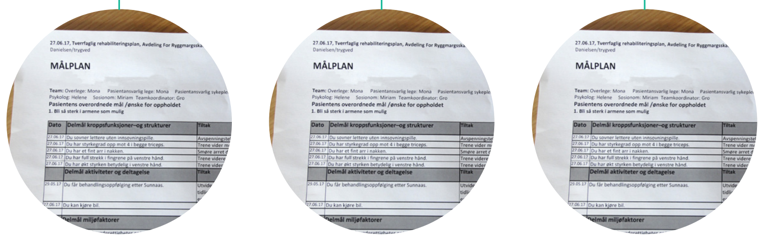
The rehabilitation service provided to spinal cord injury patients uses a goal setting approach. So, during their stay at the hospital, patients will be training to achieve their final goal, which they set themselves together with their multidisciplinary team. The same team will help the patients by establishing subgoals during the process.

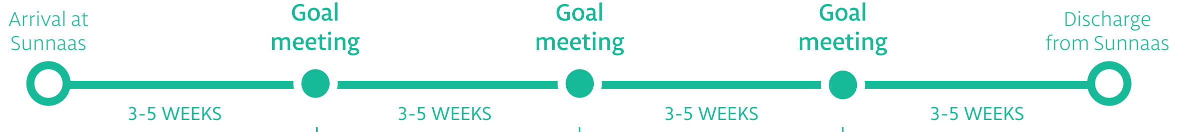
Therefore, during the rehabilitation process, patients have goal meetings where they review their progress and next steps with their multidisciplinary team. In each of these meetings patients get a subgoal plan, which is the only tangible information they receive regarding their progress through the entire process. It is a document that contains all the subgoals for the next period of time. However, often **the subgoals document is an invisible piece of paper kept by patients together with a ton of other papers inside their rooms**.

"I think that often the subgoals are sort of a dead document. Maybe this kind of information should be more present for the patients through their process."

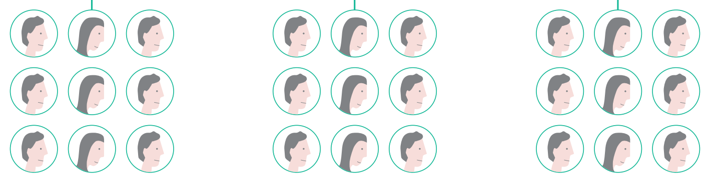
Physiotherapist in the spinal cord injury unit at Sunnaas hospital.

SUBGOALS DOCUMENT





CAREGIVERS



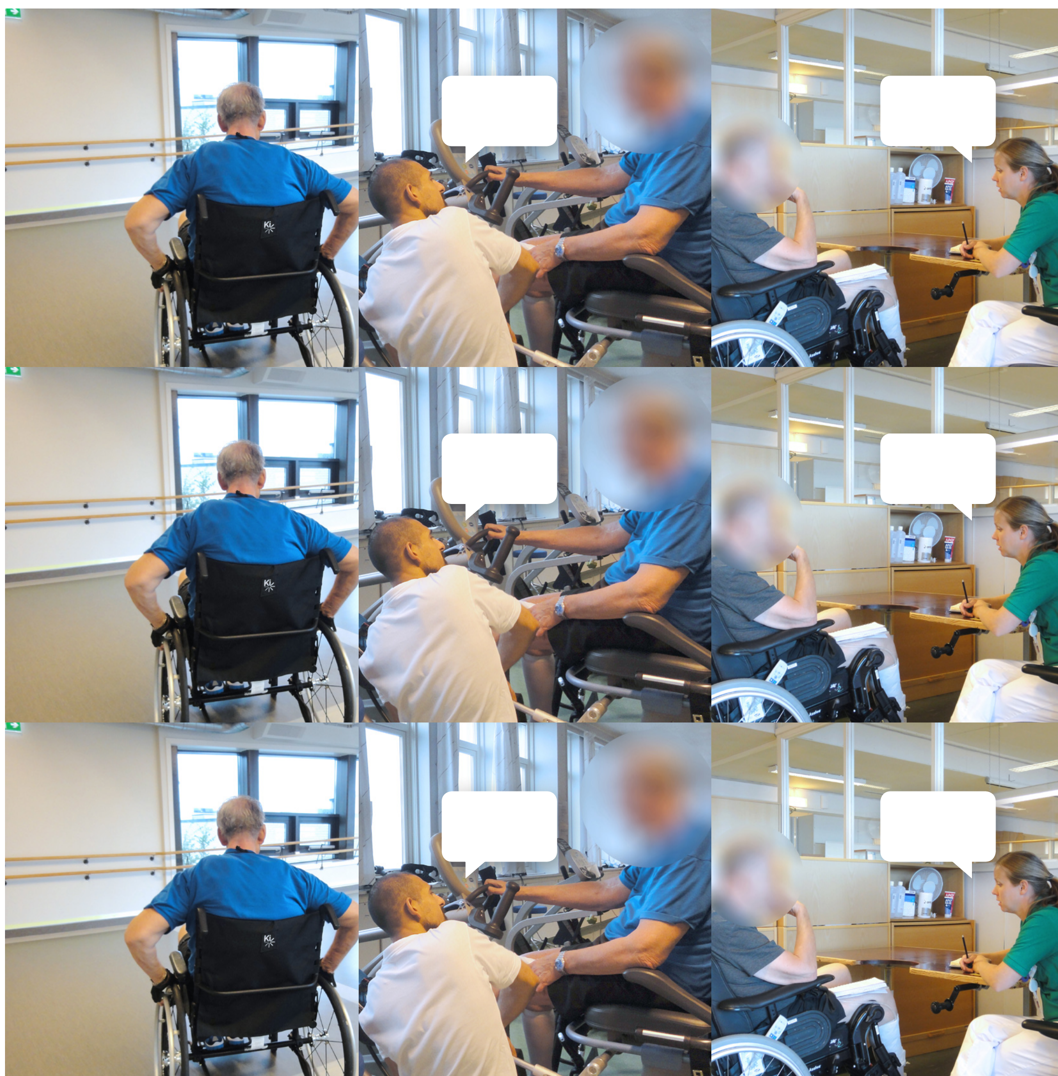


Figure 18. An example of the dynamism of the training sessions and how feedback is given to patients [Own photos].

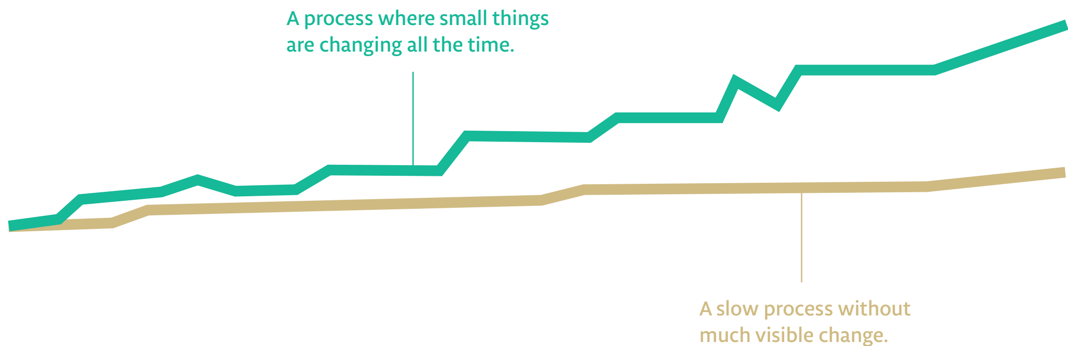
Receiving oral feedback for weeks

On an everyday basis, patients are receiving mainly oral feedback when they are going to train with the physiotherapist and with the occupational therapist. This situation is repeated for a period that can go from 3 to 5 weeks (between goal meetings), where they are training with no other measurement than words and their own perception of their progress.

Figure 19. An example of how patients are mostly focused on the future [Own photo].

Focusing on the future

Because of this lack of structured feedback, patients are often mostly concerned with their final goal as they navigate their journey of recovery. For many patients, this goal seems far away. At the same time, patients often don't see all the small steps they have accomplished so far.



How patients often see their own progress over time

How the caregivers often see the progress of patients over time

Patients are not necessarily aware of their progress

Patients are not necessarily fully aware of their progress. Often, they don't acknowledge their own achievements, which affects their levels of knowledge and motivation within their own rehabilitation project.

Even though therapists often see the patients' progress as a a process of many small, important achievements, patients see it as a slow process where not much changes.

"I think a problem patients often have is that they don't necessarily acknowledge their progress, even sometimes they just see they are going backwards."

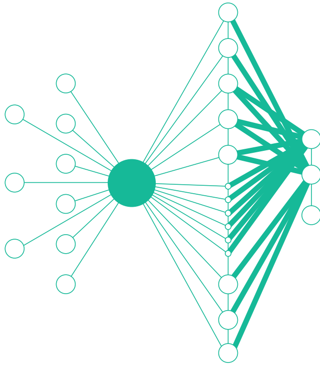
Occupational therapist in the spinal cord injury unit at Sunnaas hospital.

"I think patients do a lot of steps they are not aware of."

Physiotherapist in the spinal cord injury unit at Sunnaas hospital.

By making patients more aware of their progress they could be more motivated, empowered and committed with their own rehabilitation project.

How can we support patients **to acknowledge their progress** and help them to be more aware of all their small achievements, and through this, trigger motivation?



3 Supporting caregivers to be more aware of patients

Caregivers are not necessarily aware of and/or updated about patients

As mentioned earlier in this report, during their stay at Sunnaas, spinal cord injury patients interact with different caregivers. All of them approach patients in different ways, all of them do different activities with patients, and all of them are taking care of patients in their particular ways.

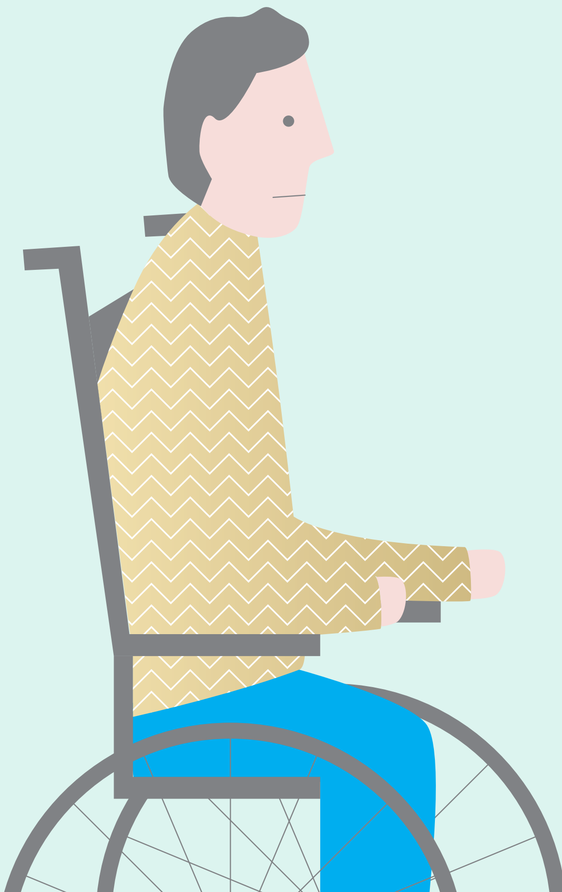
Even though caregivers at the unit work as a team, patients sometimes feel that caregivers are not necessarily aware or updated about their progress or about what they have being doing with the other members of the team. Some patients feel that they have to update each member of the team about what they have been doing.

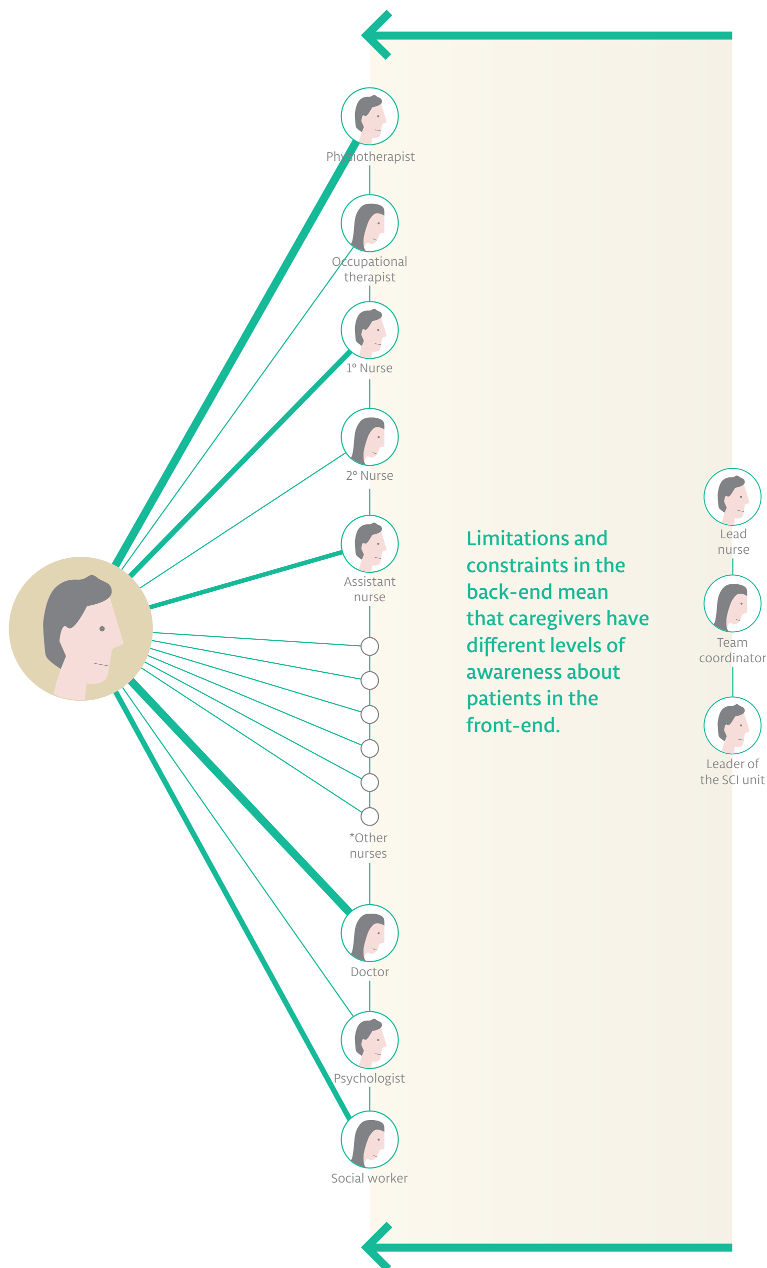
This can affect how cared-for patients feel by the team. Sometimes they feel like a number, or just a patient, but not necessarily as a person, which affects their experience of being at the hospital and their social environment.

Patients really value when the caregivers call them by their name, when they are aware about them and what they have been doing, and also when they recognize their progress if they have not seen each other.

“The physiotherapist is in an island, then there is a small bridge to the island of the occupational therapist, and then more bridges to the rest of the team. Sometimes I feel I have to walk over the bridges.”

Patient in the spinal cord injury unit at Sunnaas hospital.

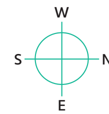


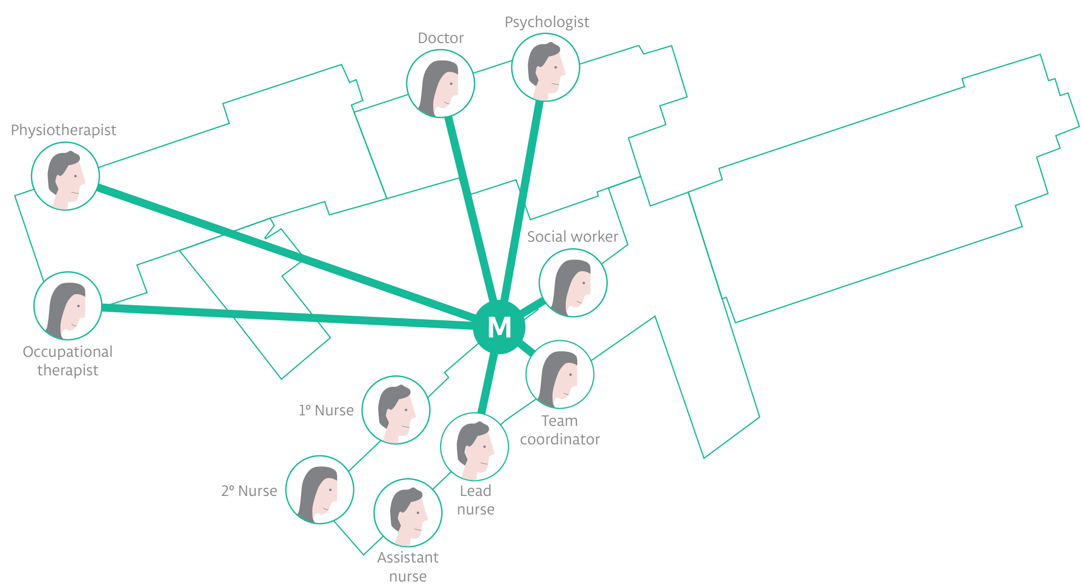


The constrains and limitations that affect caregivers' awareness today

The situation previously described in the front-end of the service (between caregivers and patients) is highly influenced by what is happening at the back-end of the service (between the caregivers and unit leaders).

There are **three main limitations and constraints** within the existing service that affect how aware the different caregivers are of patients and of each other's' work with patients.





M Multidisciplinary meeting

- **1. Caregivers work in different areas of the hospital.** The different members of a multidisciplinary team are often hard to reach for each other. They do not always know where to find each other.

- **2. Not all caregivers participate in the same meetings.** Nurses and assistant nurses do not join the multidisciplinary meetings. They only participate in their own meetings (which the rest of the team does not participate in).

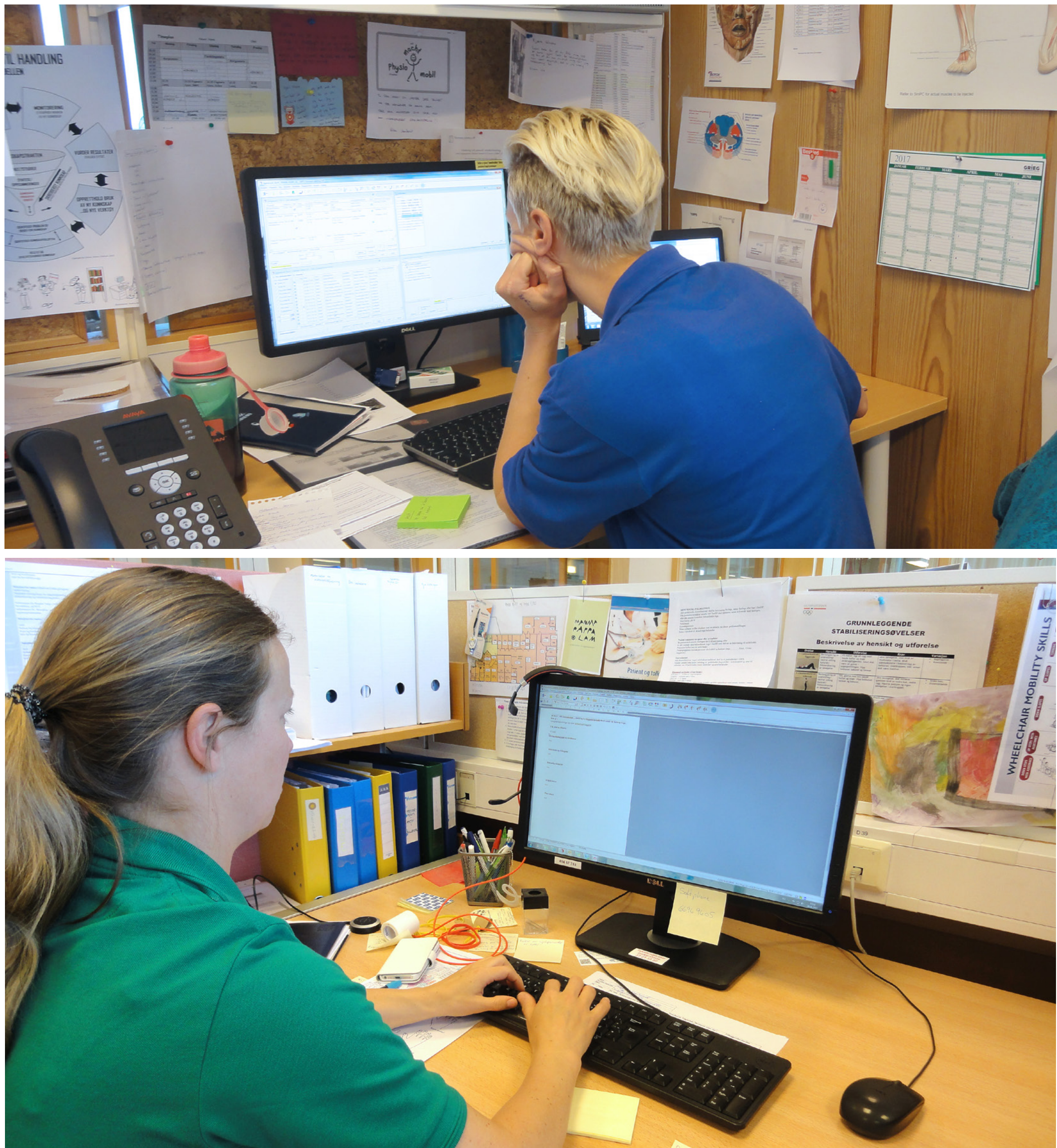


Figure 20. Caregivers writing their own reports in their offices [Own photos].

- **3. Patients' information is spread across different documents.** Caregivers write their own reports, but they don't have necessarily the time to read each other's reports.

Enriching caregivers' awareness of patients could enhance the way caregivers approach, interact and work with patients.

How can we provide caregivers in the unit **a better understanding of patients**, so they can be more aware and informed when approaching them?

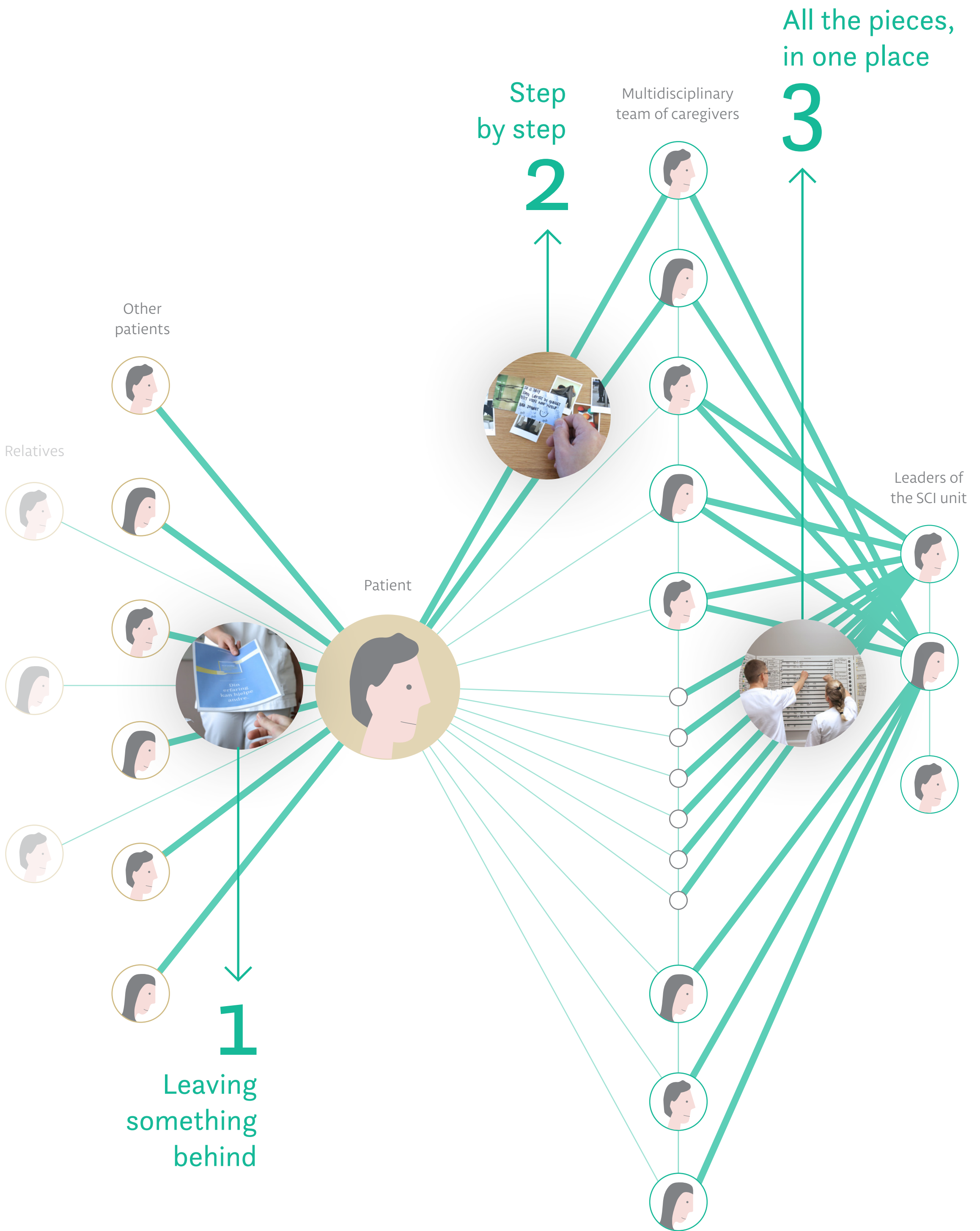
Design interventions

This chapter shows the three different interventions designed and ran at Sunnaas hospital. You will get to know how they support the lived experience of spinal cord injury patients. At the end, this chapter addresses the impact the interventions have had so far and the possible ripple effects they could trigger into the future.

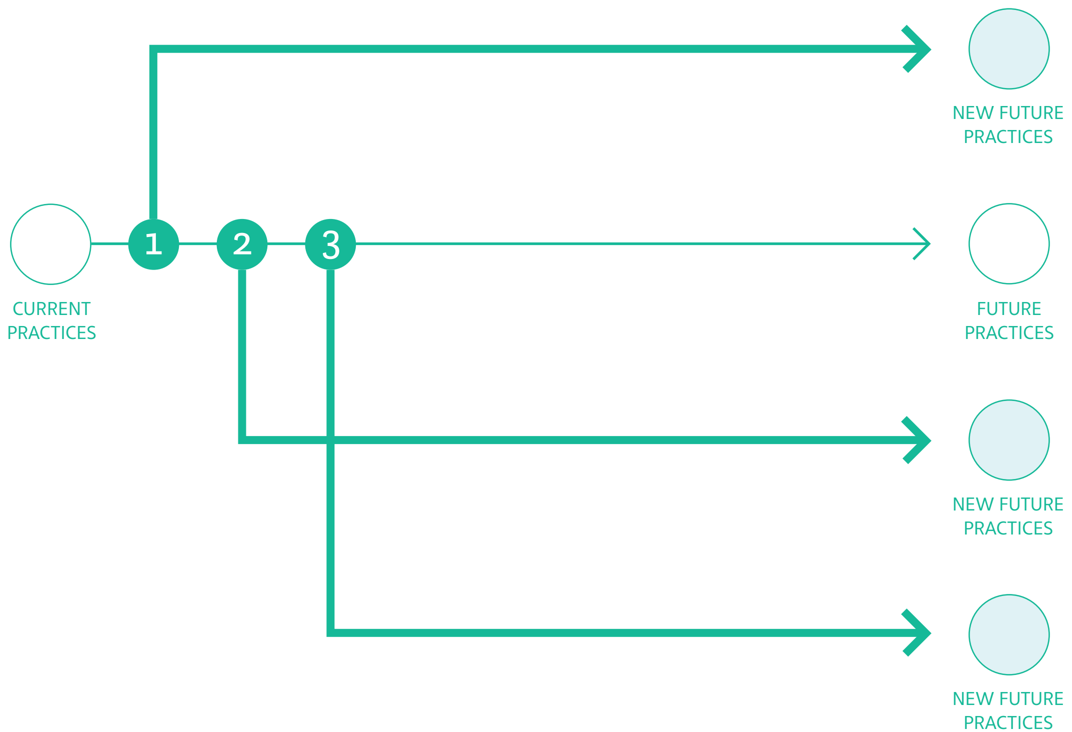
3 interventions in different areas of the service

BRIEF FOR EACH INTERVENTION AREA			INTERVENTIONS
1	How can the service boost the idea of patients as sources of inspiration among them, so they can help each other to overcome the challenge of their disability?		Leaving something behind
2	How can we support patients to acknowledge their progress and help them to be more aware of all their small achievements, and through this, trigger motivation?		Step by step
3	How can we provide caregivers in the unit a better understanding of patients, so they can be more aware and informed when approaching them?		All the pieces, in one place

Each intervention area identified led to the development of an intervention. Thus, three interventions were designed and ran within the existing rehabilitation service provided to spinal cord injury patients at Sunnaas. They aim to support patients recovery journey from different angles of the service.


All the pieces,
in one place
3
Step
by step
2
Multidisciplinary
team of caregivers
Other
patients
Relatives
Leaders of
the SCI unit
Patient
1
Leaving
something
behind

Design guidelines



The interventions are transitional objects

The interventions are transitional objects that support a change from current behaviours to new behaviours (Coughlan, Fulton, Canales, 2007. p.10). They act as drivers to enable the rehabilitation service to move from current practices to new practices. They are first steps and experiments that can drive the spinal cord injury unit towards a direction where it develops more services to support patients' recovery.

The interventions are designed to be implemented right now

The interventions are designed to be implemented within the actual service, context, and internal processes at the spinal cord injury unit.

What were the main challenges in order to design meaningful interventions within the limitations and constraints of the actual system?

- Being able to design interventions that can be developed **with existing resources/ tools or with minimal additional expenses** that could be afforded by the spinal cord injury unit considering their actual budget.
- Being able to design interventions that **fit into the existing system** and that do not require considerable organizational, cultural or physical changes.
- Being able to design interventions that can be developed **within existing work models and routines**.
- Being able to make the **disadvantages of the existing service into opportunities**.

The interventions build upon existing practices and design

The interventions build upon existing practices at the the hospital. During the project different behaviours, routines and ways of working or living at Sunnaas informed the design process.

Together with this, the interventions build upon existing designs inside Sunnaas. Caregivers are designing things in order to work more efficiently and to communicate information to patients, for example.

This project recognizes that at Sunnaas there is silent design, which is a term that Dumas and Gorb (1987) defines as the design activity that goes on in organizations which is not called design, and that is carried out by individuals who are not called designers and who would not consider themselves to be designers.

The interventions are visually designed within Sunnaas brand framework

The interventions aim to be projects that the spinal cord injury unit at Sunnaas carries further. Projects that Sunnaas owns, evaluates, and adapts over time. In order to do this, it was key that the design characteristics of the three interventions were coherent and that they were related to Sunnaas brand.

It was decided that the interventions should show that they belong to Sunnaas, but also show that they are a new kind of project that is being developed at the hospital. So, they have a slightly different visual character that makes them stand out from the rest of the touchpoints (documents/platforms/digital presentations, etc.) where Sunnaas' visual styles are applied.

Therefore, **the visual styles for the interventions are designed based on Sunnaas graphic styles, but using them in different ways in order to design appealing and meaningful touchpoints for patients and caregivers.**

SUNNAAS VISUAL GUIDELINES

1° TYPOGRAPHY: CALIBRI *TITLES AND CONTINUOUS TEXT*

Sunnaas hospital

Sunnaas hospital is the largest specialized hospital in the field of rehabiliation in Norway.

2° TYPOGRAPHY: CAMBRIA *IN CONTINUOUS TEXT*

Sunnaas hospital is the largest specialized hospital in the field of rehabilitation in Norway.

MAIN COLORS

SECONDARY COLORS

1° TYPOGRAPHY: CAMBRIA *TITLES AND CONTINUOUS TEXT*

Sunnaas hospital.

Sunnaas hospital is the largest specialized hospital in the field of rehabilitation in Norway.

2° TYPOGRAPHY: CALIBRI *CONTINUOUS TEXT*

Sunnaas hospital is the largest specialized hospital in the field of rehabilitation in Norway.

MAIN COLORS

C:100, M:69, Y:O, K:11	*USED IN TITLES AND CONTINUOUS TEXT*
C:55, M:19, Y:O, K:O	*USED IN TITLES AND CONTINUOUS TEXT*
C:16, M:614 Y:71, K:1	*USED IN CONTINUOUS TEXT AND ILLUSTRATIONS*

Figure 21. Examples of how the styles are applied in different touchpoints of the interventions [Own photos].

Supporting patients to be resources for each other

1

Leaving something behind

Enabling patients to share messages to support each other

Din
erfaring
kan hjelpe
andre.

Leaving something behind. What is it?

***Leaving something behind* is a system that boost patients to be resources for each other**. It uses the knowledge of more experienced patients to help other individuals in the same situation who are earlier in the rehabilitation process.

This intervention invites spinal cord injury patients that are going to be soon discharged to share messages to support or inspire others. These messages are then displayed on a TV inside the unit as a source of inspiration to the current patients at the hospital.

Through this intervention, two new moments are being introduced during the stay of patients at Sunnaas. A new way of ending the journey at the hospital and a new element present in the everyday context of patients while being at the unit.

A first pilot of this project was run at the hospital.

Main goals

To add a new meaning to the end of the stay at Sunnaas by giving patients the opportunity to leave a message for other patients inside the hospital. It wants to make patients reflect on their experience so far and share a piece of it back to others before leaving.

To provide patients at the unit with a source of inspiration within their everyday context and give them a nudge that can help them in their process of overcoming challenge of the disability.

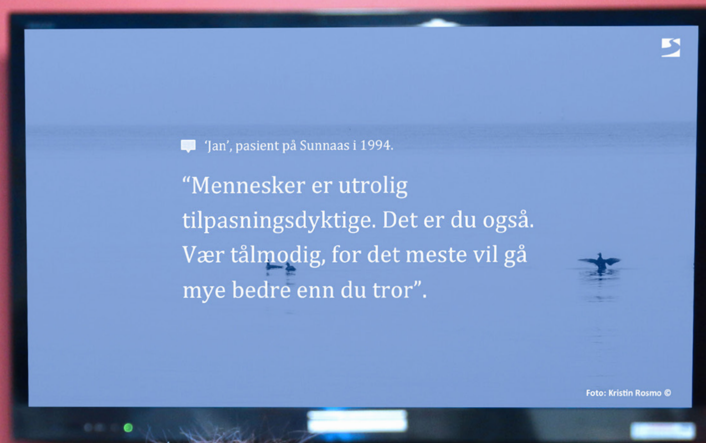


Figure 22. Invitation to leave a message before leaving the hospital (at the top).
Messages from former patients displayed at the spinal cord injury unit (at the bottom) [Own photos].

How it works?

A new way of ending the stay at Sunnaas

After being at Sunnaas for months, leaving the hospital is often an emotive moment for patients. They are grateful to caregivers, which they usually express by leaving gifts for them.

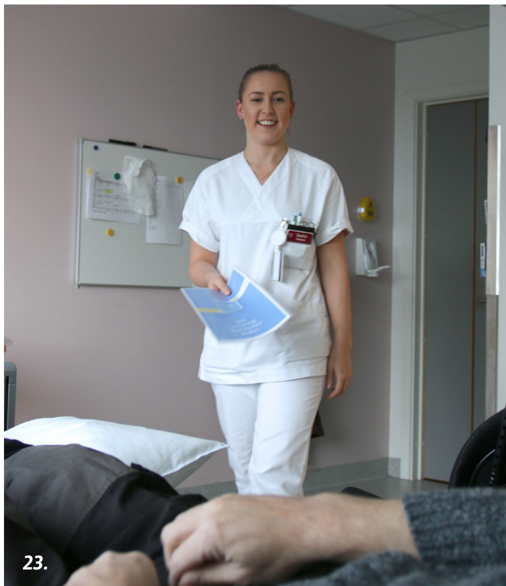
This intervention proposes to take this instance of "giving something" further by formally inviting patients to leave messages for other patients, who are persons they might not know but who could learn from their experience so far. It seeks to make patients to have a reflective moment before they leave, where they can take the best things from their own experience and share them back to other people who might need it.

Therefore, one week before a patient is going to be discharged of the hospital the team coordinator will deliver a document that invites the patient to share a message to support or inspire other patients. He/she can take the document, read it, and reflect on something he/she would like to write for other people that will experience a similar situation.

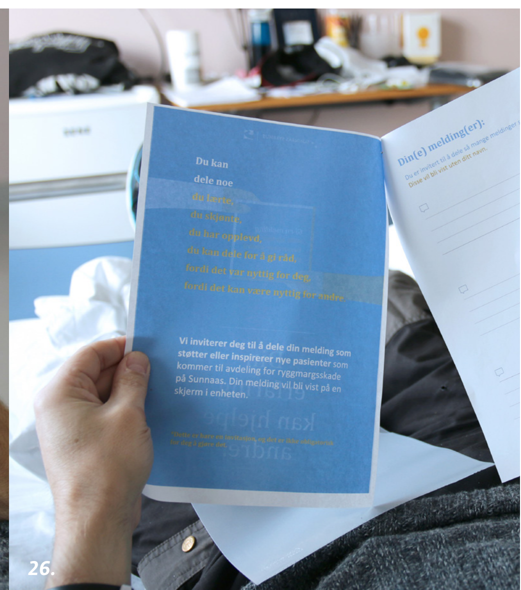
By doing this, this intervention seeks to give a new meaning to the moment of leaving the hospital. A moment where patients understand that they can actually help other people and where Sunnaas recognizes them as strong resource for other patients. So, the institution is taking a role of facilitating for the knowledge that patients have to be spread to others.

With this intervention, leaving the hospital is not just a moment of being grateful, it is also a moment where patients can give a contribution. It is a moment of giving back, a moment of leaving a message to support other people.

Figure 23. The invitations patients receive one week before leaving the hospital [Own photos].



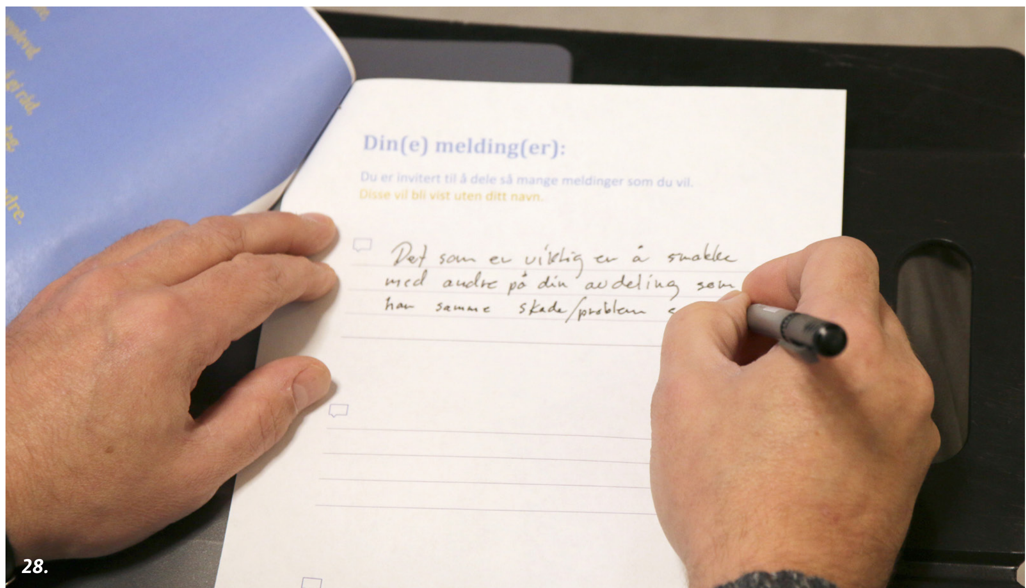
The **team coordinator** goes to the patient's room to deliver the invitation.



The **patient** reads the invitation.

Figure 23, 24, 25 & 26. Examples of how the invitation is delivered [Own photos].

During the week, the **patient** can pick the document when he/she feels ready to leave something. The fact of having the document for one week give patients time to reflect on their learnings and experience so far.



The **patient** writes a message on the the invitation and delivers it to a nurse.

Figure 27 & 28. A patient leaving a message [Own photos].

The invitation to leave a message: structure

Figure 29. Cover of the invitation [Own photo].

1. Cover. The invitation is titled: **"Your experience can help others".** It emphasizes what is the value of leaving a message. The illustration is also designed to convey the meaning: giving a message to others that can take it.

Figure 30. Second page of the invitation [Own photo].

2. Introduction. The invitation explains with more details what the patient could share and it gives examples of things they could write about. It gives guidelines for the patient to reflect upon.

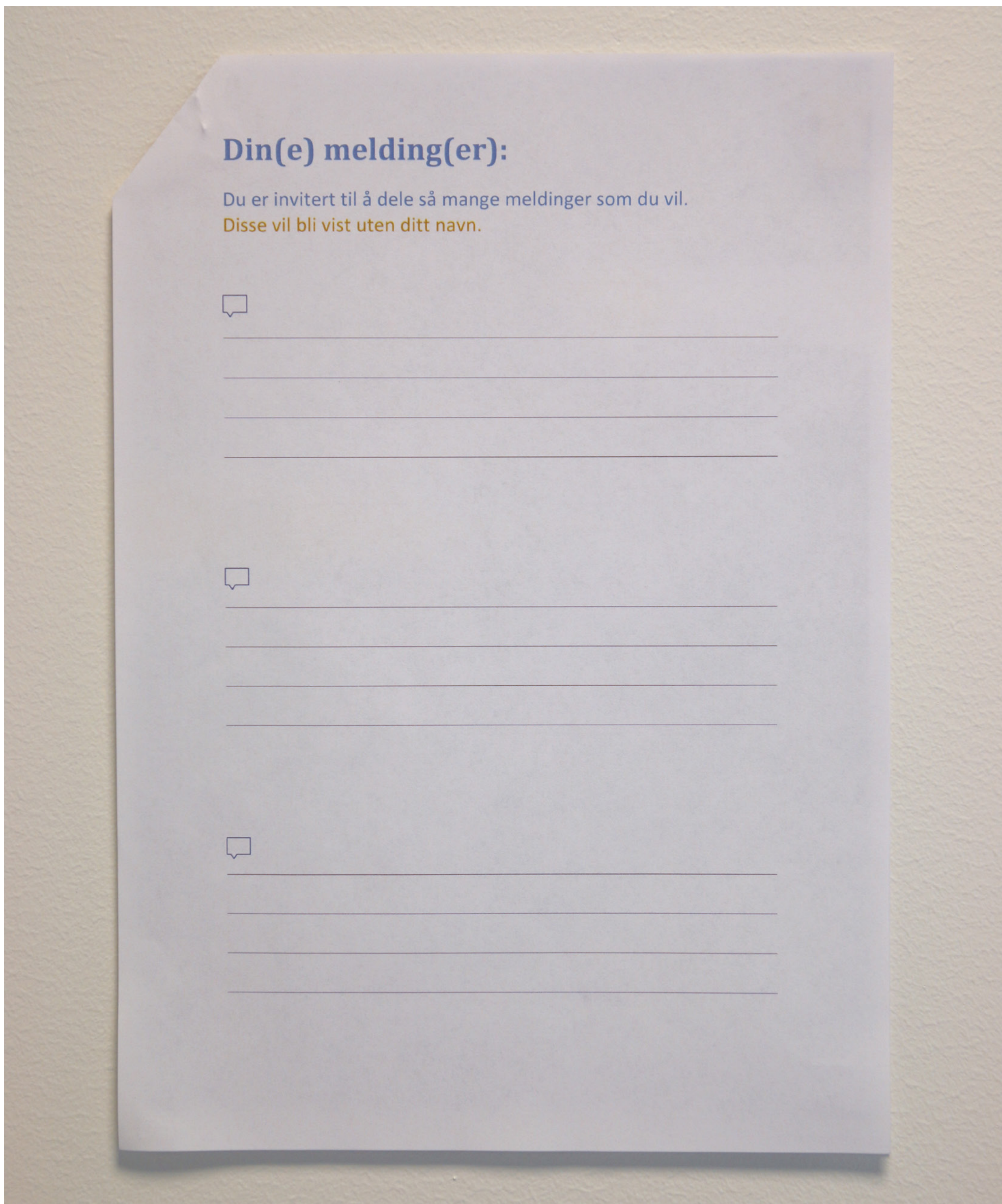


Figure 31. Third page of the invitation [Own photo].

3. Space to write messages. The document has a layout that invites patients to leave short messages. They could leave one or many if they want. It is also decided to invite patients to share messages anonymously in order to include all kinds of people.

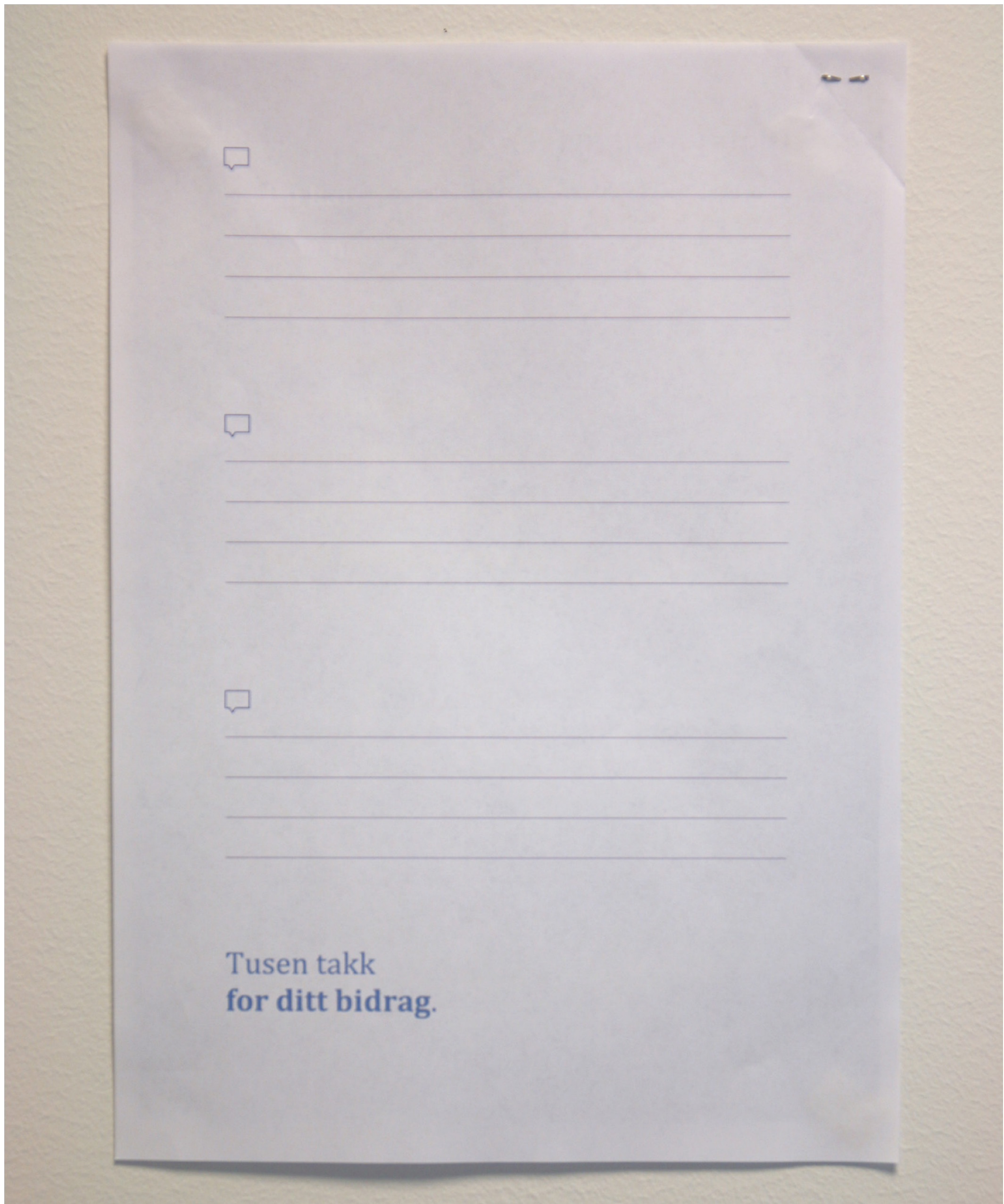


Figure 32. Fourth page of the invitation [Own photo].

4. Space to write messages. The invitation finishes with an acknowledgement to the patient for his/her contribution.

The invitation to leave a message: main characteristics

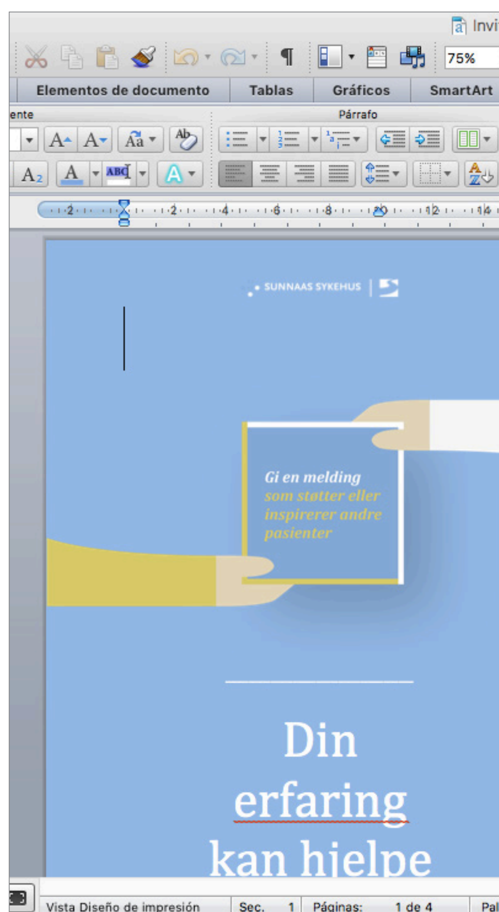


Figure 33. Invitation on microsoft word [Own photo].

Figure 34. Handwritten name of the patient [Own photo].

The document is familiar and easy to handle for caregivers. Together with being a document which is visually different, it is designed into a format which is familiar for nurses and that is easily to handle for them. It is an A4 designed into microsoft word, which are the format of paper and the software that are used at Sunnaas.

The invitation is directed personally to each patient. Each invitation has the name of the patient hand written in the cover (it was the easiest thing to do for the staff, less time consuming that editing the document and printing it different times). The idea is to make it a special document that is directed to the patient as a person and not as one patient more.

Brown color is introduced to give a warmer look to the document.

The document is deliveres on a transparent folder, so it can be seen inmediatly and stand out for its visual characteristics.

Figure 35. Fourth page of the invitation [Own photo].

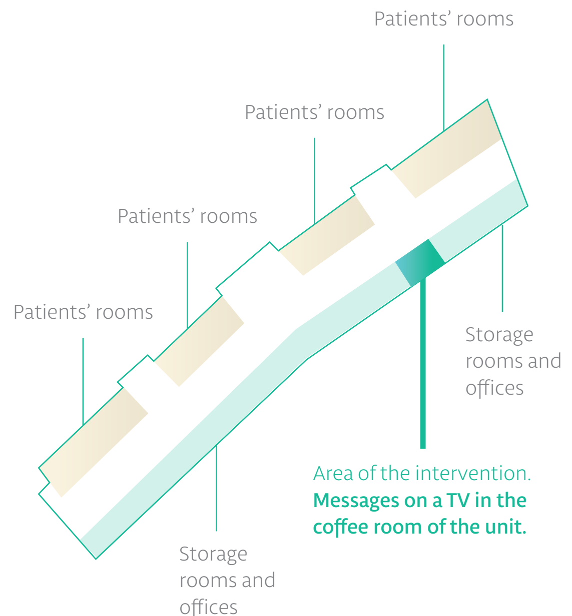
The document aims to stand out and be visually warmer. Patients today receive plenty of papers from the the hospital. All of them often in the same format, usually white, with important amounts of texts, with few use of visual content.

This invitation has been visually designed to be different to the documents patients usually receive, it wants to catch the attention as soon as they receive it. Together with this, it is delivered into a transparent folder, so patients can see directly the content (they don't have to open anything to see it). In order to make the document a bit warmer than the rest of the papers received, the brown color was introduced to the color palette, which is a warm color that contrasts with the cold range of colors Sunnaas usually uses (blue, light blue and green).

Encountering messages in the everyday context

How to deliver the messages gathered was something discussed and explored with different patients and caregivers. Finally, the approach taken was to display the information within the physical context of the unit in order to make it reachable for patients, who are often persons that are in the start of their recovery journey. They are trying to accept their new life situation, so looking for information about spinal cord injury in an active way is not necessarily something they will do at this moment of their journey. Also, some of them are not ready or don't want to talk to other people about their situation.

Considering this, the intervention proposes to display the messages on a TV inside the spinal cord injury unit. The idea is to create an experience where patients encounter the messages within their everyday lives and routines. In order to do this, **it was decided to place the TV in a coffee room next to the patients' rooms,** which is a place where patients (and caregivers) usually go quite often to pick up coffee/tea or beverages, or prepare their food, for example. The fact that the room is a space where people usually stop but not stay there, made it perfect to install the TV, because it allowed the messages to be displayed in a non-invasive way: they have visibility in the unit but they are not being interrupting people's activities or spaces (for example, putting the messages inside patients' rooms or in the living rooms could be too invasive for some persons).



So, patients could be going for training or to eat something in the evening and they can encounter different messages from previous patients every time they go to the area. These messages can give them new insights or perspectives, they can give patients a nudge if they are having a bad day or if they are feeling not motivated, for example.

Figure 36. The messages on the TV in the coffee room at the spinal cord injury unit [Own photos].

The **patient** could be going to train and on the way he goes to grab a cup of coffee first.

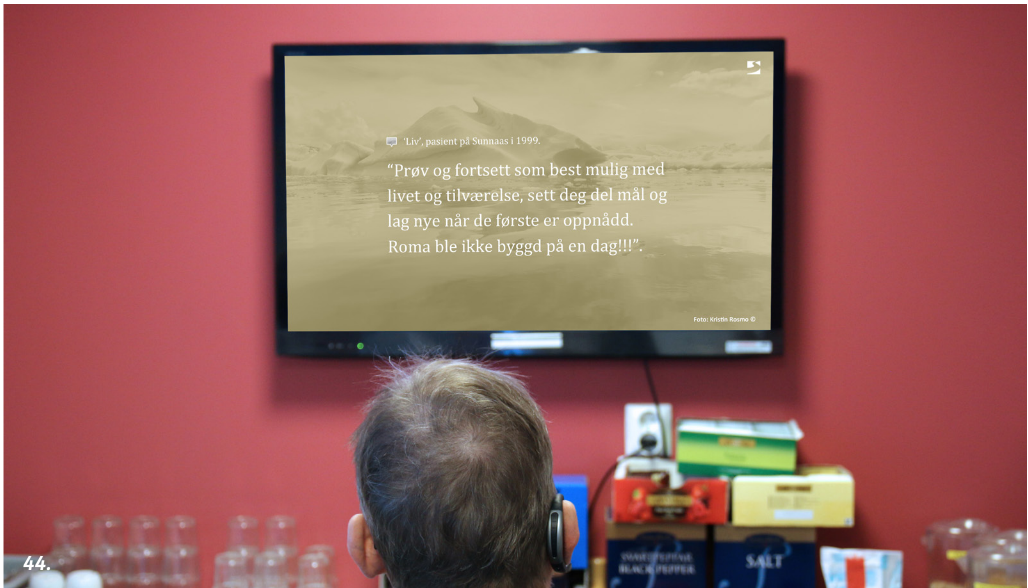
The **patient** goes to the coffee room in the unit and prepares himself a coffee.

Figure 37, 38 & 39. Examples of how a patient can encounter the messages [Own photos].

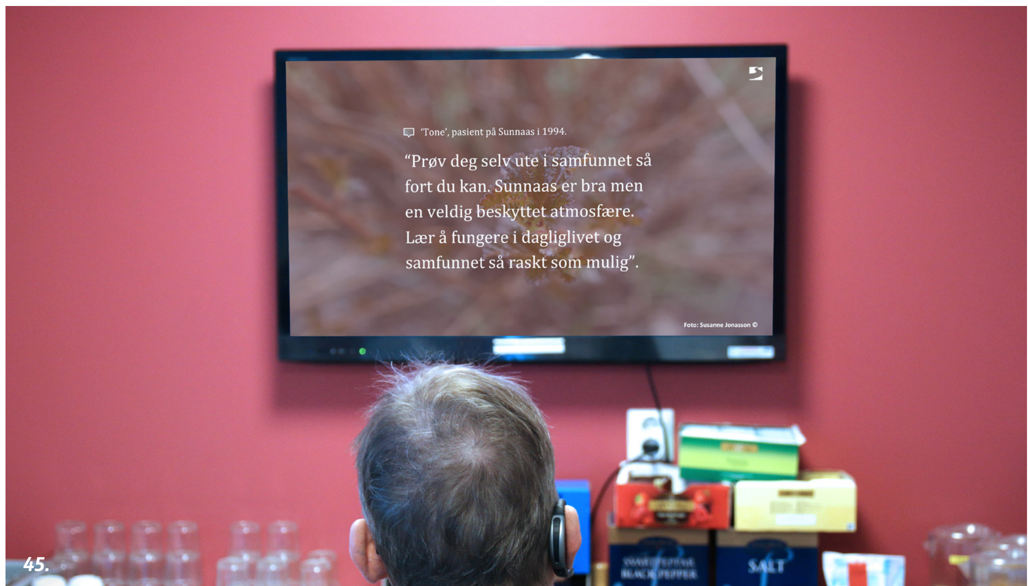
While waiting for the coffee, he enjoys looking outside to the backyard of the hospital. He is not having a good day. He is just bored of being inside the hospital and he feels that he is not progressing physically to be outside in real life yet. He feels stuck. When the coffee is ready, he grabs it, turns around and he encounters a message on the TV.

The **patient** reads the message and founds it interesting. He decides to leave the room and he notices that the slide changed. He stays and reads the next one.

Figure 41, 42 & 43. Examples of how a patient can encounter the messages [Own photos].



The **patient** reads the next slide while he drinks his coffee.



The **patient** reads the next one and he feels that what the message is saying is something he should do maybe. He could go outside and test himself in order to push his boundaries.

Figure 44 & 45. Examples of how a patient can encounter the messages [Own photos].

After reading the last slide, the **patient** decides to go to train.

The **patient** keeps thinking on going outside and he decides to ask to the occupational therapists if he should do that now or wait more time.

Figure 46 & 47. Examples of how a patient can encounter the messages [Own photos].

Figure 48. Examples of an slide on the TV [Own photo].

The messages on the television

Why to put the messages on a TV? The decision of displaying the messages on a TV responded to three main factors:

- **TVs are an element currently used in the hospital**. A TV is not something foreign inside Sunnaas. Televisions are used in plenty of areas to communicate activities and news. So, this intervention decided to build upon this practice and it proposes to use the TVs for something else.

- **Maintaining and updating the TV is easy and fast to handle**.

- **It allows for dynamism**. Due to the fact of being an interactive tool, different messages can be shown through time automatically.

How are the slides designed

- **The slides are in a format and software that is familiar to caregivers**. The slides are designed on microsoft powerpoint, which is a software that most caregivers know.

- **They slides are easy to handle.** Aspects such as the layout, the use of pictures and colors have been designed to make the job of handling the document easy.

- **The interface design aims to stand out and to be visually warmer.** The slides are designed to be different to all the slides in all the other screens around the hospital. They are serving a special purpose and they are in a particular context. Working under the Sunnaas guidelines, the slides are designed with three elements: the messages (sentences), colors and pictures.

Author of the message and year of stay. The name given is fake but it was included on the slides in order to make them more human and personal. So the message does not only come from a patient, but from a person, someone with a name.

It is decided to make Sunnaas **brand visible in a discrete manner** (just the isotype is shown), because the most relevant aspects on the slides are the message and the author.

Each slide has a different color and uses a photography as a background. It is decided to work with photographs of landscapes to add another layer of meaning to the slides by using photos taken by former patients of the hospital as well. So, **both messages and pictures are from former patients of Sunnaas** (All the pictures gathered for the slides are photos taken from former patients that participated in the photography workshop at Sunnaas).

The message is the protagonist element of each slide.

The name of the photographer is included on the slide if is requested so.

The powerpoint presentation is designed with 5 master pages. **Each master page has a different color applied to the photo.** The colors act as layers on the pictures, so the lead nurse doesn't need to edit the pictures. He/she just can use the colors instead.

The layout is designed to be as easiest as posible to use. **All the content of each slide is centered on the page**. So, if the text is longer in one slide, the only thing the lead nurse needs to do is rearrange the elements and put them on the center again.

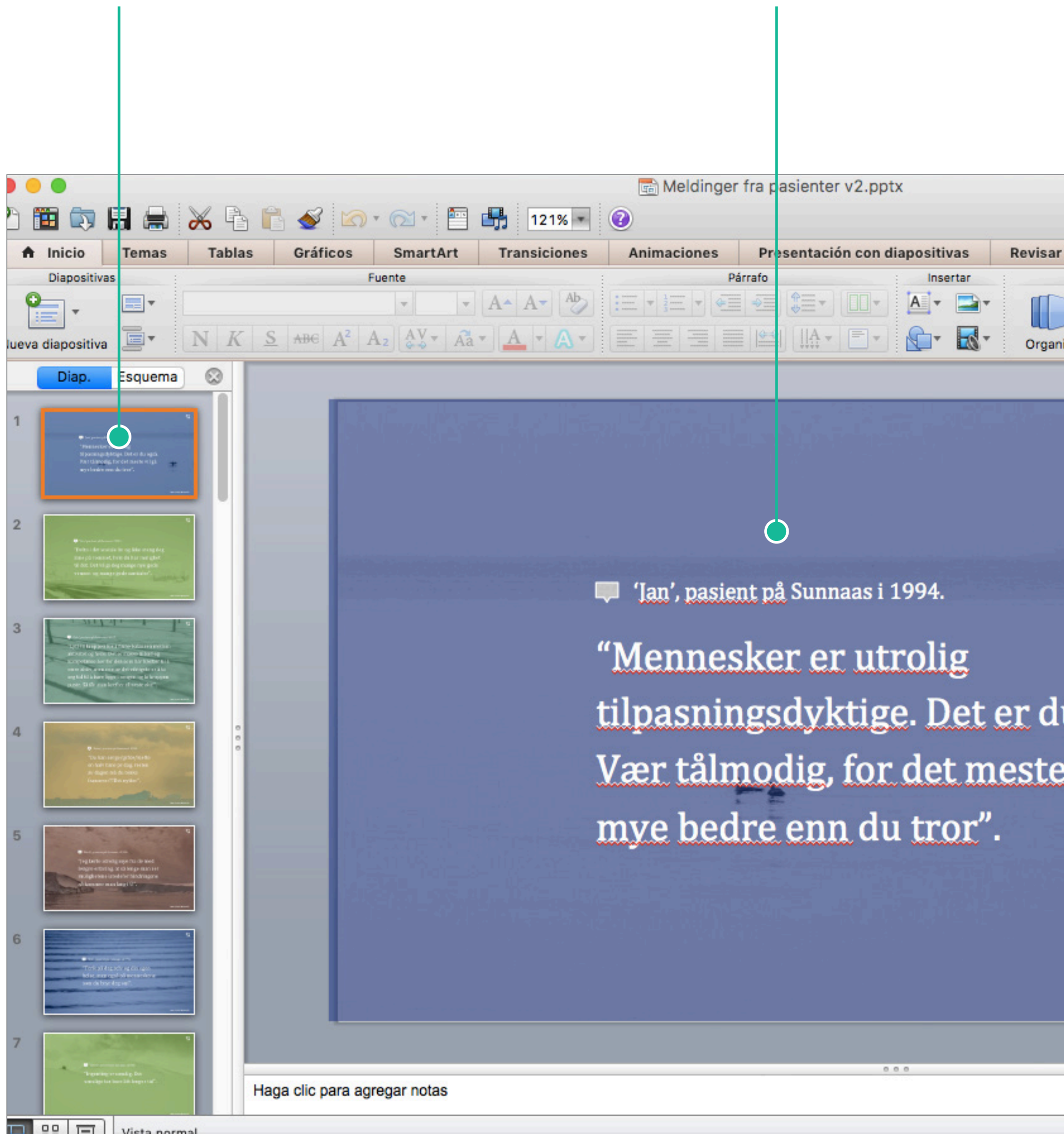
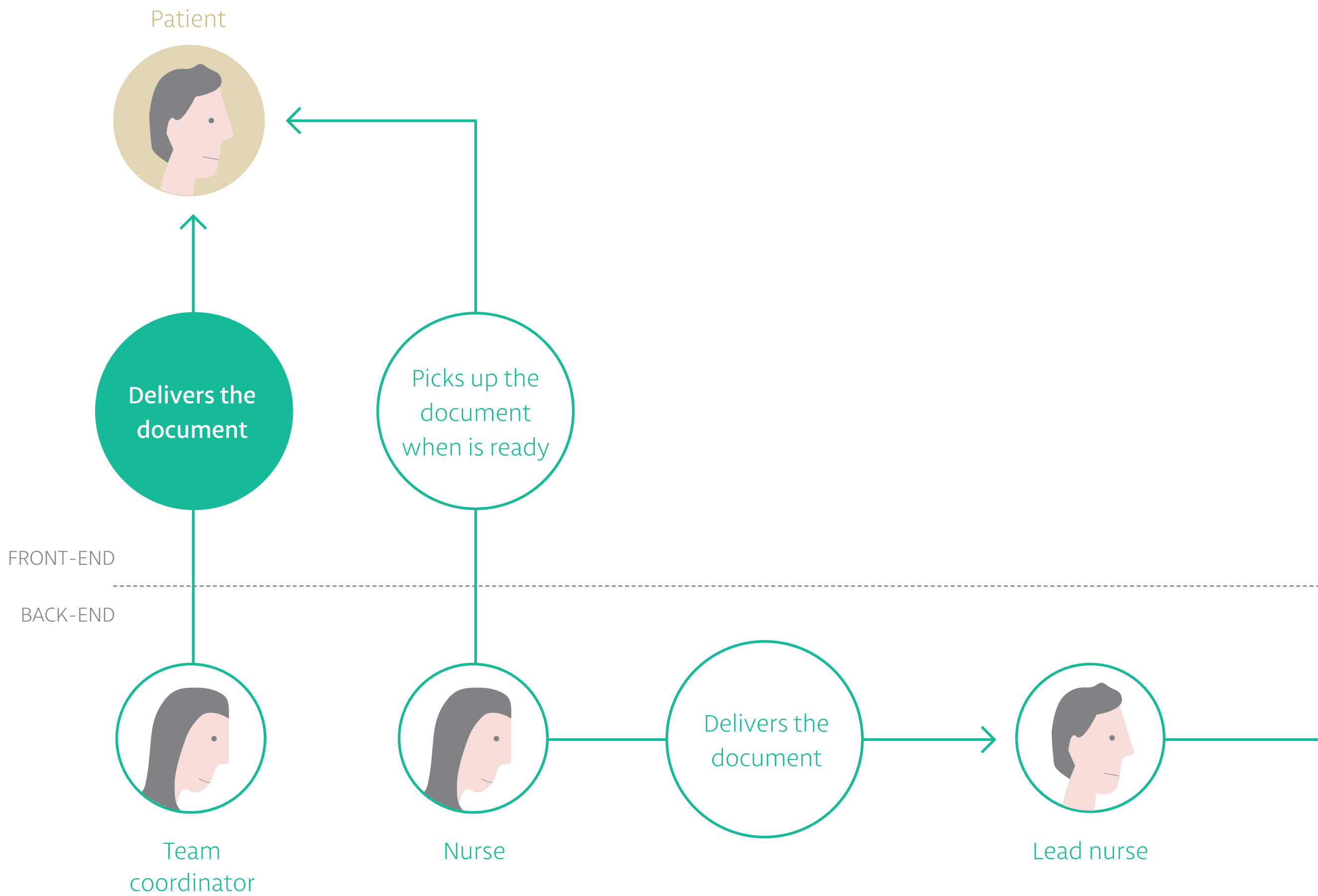


Figure 49. Example of the powerpoint file where the slides are designed [Own photo].

These slides are changing
approximately **every 30 seconds.**

Figure 50. Example of different kind of slides (with its different colors) on the TV [Own photo].



Gathering and displaying the messages: the back-end process

The intervention has been designed for the backstage process to be something that fits into the existing service, and into the existing routines and practices of the different caregivers.

Thus, as it was explained before, the format and shape of the two main touchpoints (the invitation and the messages on the TV), the moments where these are introduced, and how these are updated and handled have been designed to be familiar, easy and fast to do for caregivers.

Patient

Plugs the presentation on the TV

The TV is updated when new messages are gathered.

FRONT-END

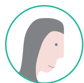
BACK-END

Selects sentences

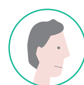
Updates powerpoint presentation

Once the lead nurse transfer messages to the presentation the documents are eliminated (by law).

The **team coordinator** is reponsible for delivering the invitation to patients and for printing documents when necessary.



Nurses are responsible for getting the documents from patients once they are ready.



The **lead nurse** is reponsible for receiving the messages, selecting sentences to put on the slides, and updating the slides on the powerpoint presentation and then on the TV.

Implementation & early reactions

Running a first pilot

A first pilot of the intervention was ran in the unit. In order to have a first prototype with information it was decided to gather messages from previous spinal cord injury patients at Sunnaas.

With the help of a Yvonne Dolonen, patient advisor at Sunnaas hospital, an invitation to share a message was sent online. Around 22 persons sent messages to support patients that are now at the unit (all the messages shown in previous slides are real messages).

The invitations that patients are going to be delivered before being discharged were printed and located into the documents section in the nursing ward and they are ready to be used.

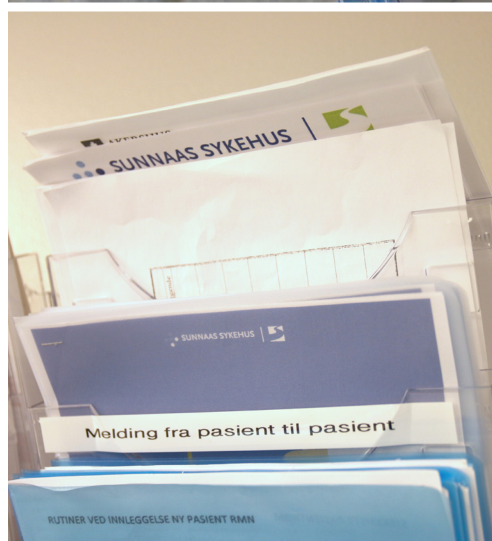


Figure 51. Invitations put in the nursing ward [Own photos].

Figure 52. The TV running in the coffee room at the spinal cord injury unit (at the top). Several invitations printed and ready to be put together with all the other documents in the nursing ward [Own photos].

Figure 53. The brochure of the intervention. Cover (top) and introduction to the concept (bottom) [Own photos].

Material for implementation & evaluation

A brochure was designed in order to communicate the intervention to all the caregivers in the unit, to show the project to other units, or to interested stakeholders.

The lead nurse of the unit was defined as the project leader. He will be the responsible for the development, evaluation and continuous improvement of the project.

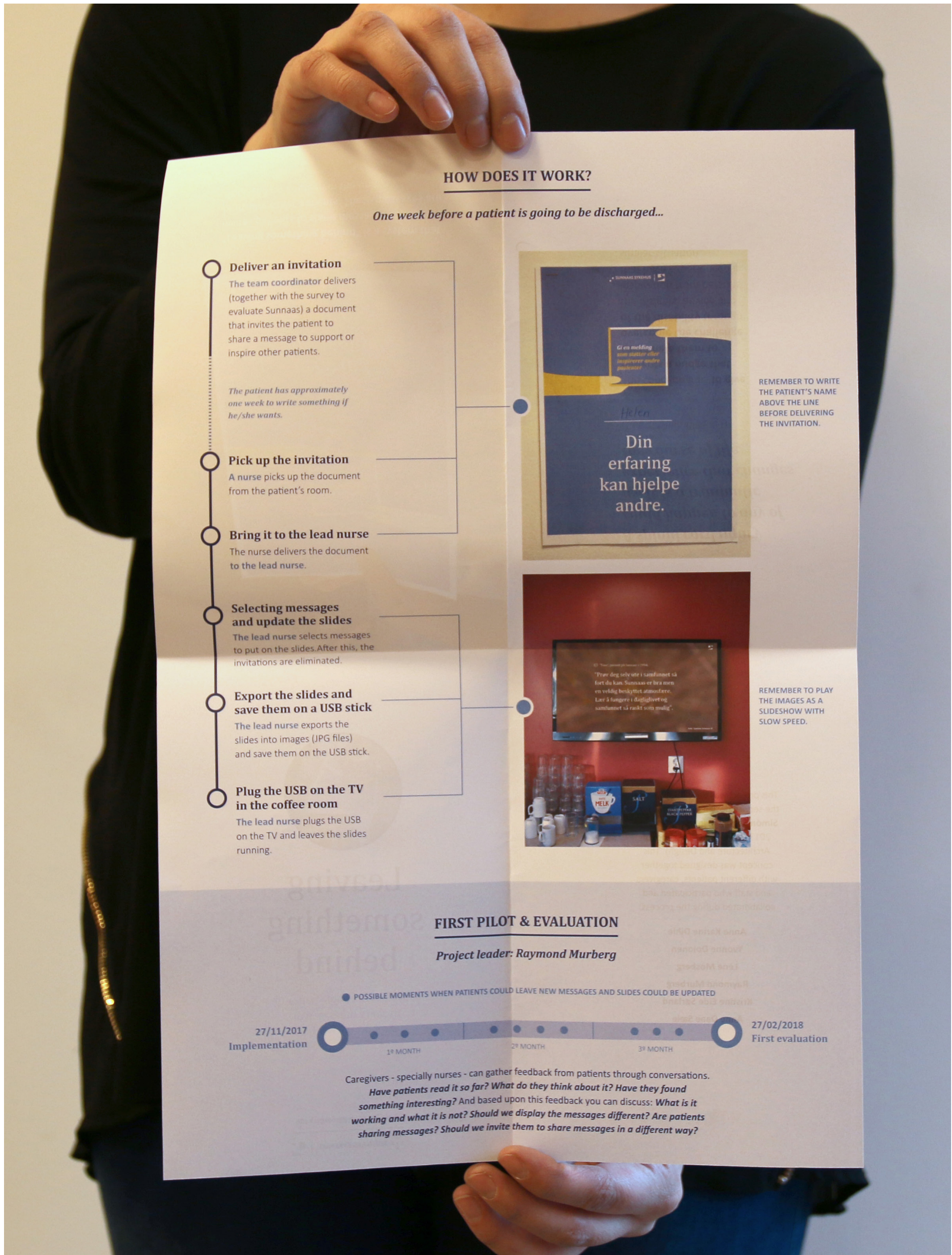


Figure 54. The brochure of the intervention. Explanation about how the intervention works, and first plan for evaluation [Own photos].

Early reactions after implementation

In a period of one week, some early reactions about the intervention were gathered from patients and caregivers.

In general, the reactions have been mainly positive. The leaders of the unit have received constant positive feedback from nurses and patients, such as: “That was nice, that was clever, that was a good idea, that it will be helpful for some of the patients”. Nurses have observed patients staying in the room for longer times to read the slides. They say that the fact that the messages are rotating catches the attention of people.

Also it was mentioned that the TV has changed the vibe and the mood of the coffee room and that the messages are not just interesting for patients, but for caregivers they can also be quite relevant, because they are bringing the human aspect of rehabilitation.

“As all the messages are related to rehabilitation, they can also be relevant for the staff to read. When you see them you start thinking about how you work.”

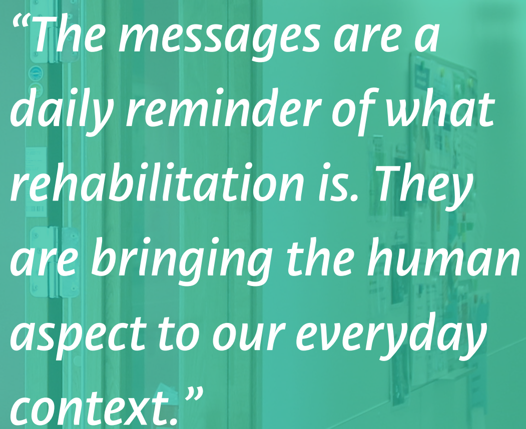
Lead nurse in the spinal cord injury unit at Sunnaas hospital.

“In the beginning I didn’t understand why the TV was located in that area. But then I understood...I think is really interesting that you can see the TV from far away when you are moving through the hallway.”

Patient in the spinal cord injury unit at Sunnaas hospital.

“In general people think is a nice addition. It is not revolutionizing everything at all, but it is adding something positive to the context. The room has a different vibe now”

Lead nurse in the spinal cord injury unit at Sunnaas hospital.



"The messages are a daily reminder of what rehabilitation is. They are bringing the human aspect to our everyday context."

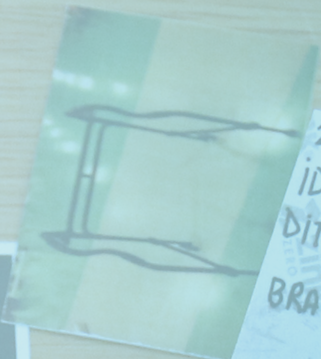
Lead nurse in the spinal cord injury unit at Sunnaas hospital.

Supporting patients to acknowledge their progress

2

Step by step

Using photographs to capture milestones during the rehabilitation process



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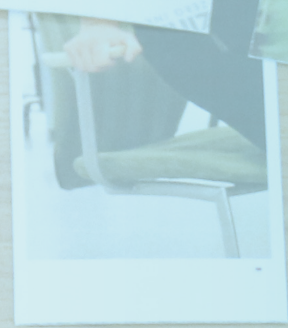


Step by step. What is it?

***Step by step* is a new practice among the therapists wherein they use photographs to capture patients' achievements** during their rehabilitation process in order to make them visible for the patients themselves.

This intervention introduces a new moment during the therapy sessions; a moment where therapists give information to the patients about their own progress in a meaningful way for them and where the idea that every step matters is enhanced by the therapists.

A first pilot of this project was run at the hospital.

Main goal

This intervention aims to make therapists to help patients to see and acknowledge their progress and enhance the milestones they have during their process, and through this, trigger motivation.

It seeks to change the overall experience of training by transforming it into a journey wherein patients are more conscious and aware of their small achievements, and where they have a more measurable and tangible way of understanding their progress.

Figure 55. Therapist taking picture of an achievement (at the top).
Therapist writing a message for the patient (at the bottom) [Own photos].

How it works?

A new interaction between therapists and patients

This intervention shapes an interaction about recognition. An interaction where the therapist recognizes the patients achievements in a tangible way.

Whenever therapists observe that patients are doing something for the first time, the therapists will pick up a polaroid camera and will capture the moment for the patient. Once this photo is printed, on its backside they will write a message for the patient about what has been achieved.

Through this new practice, therapists are having a new role as well. A role where besides assisting, guiding and training with the patients, they are helping them to understand what is it happening with them. It is an act of empathy, where therapist help patients to see all the things they do during the rehabilitation process.

This practice also gives space for creativity. This intervention provides therapists with the tools and guidelines on how to help patients, but they have to use their own creativity to take the pictures and write messages. Every photo can be different; every situation as well.

Figure 56. Polaroid camera printing a picture [Own photo].

The tools: a polaroid camera and a pen

Therapists capture patients' achievements by using a **polaroid snap touch camera**, wich is a digital polaroid camera that is simple to use, it is digital (so the pictures don't need to be covered or wait until they dry), it is fast to use (pictures are printed instantaneously after they have been taken) and it is fun for people to use.

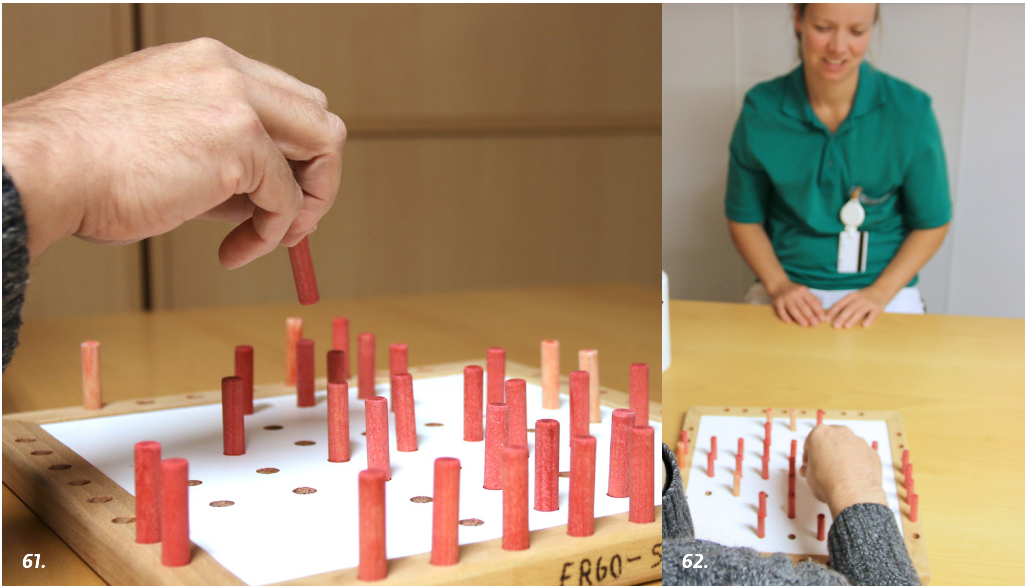
The other tool therapist need is **a pen to write the message** in the backside of the photo, which is a tool they are carrying with them all the time.

Figure 57. A key moment in the new practice: where a therapist gives the picture to the patient [Own photo].

The patient goes to the occupational therapy area to have his training session.

The session starts with a conversation about what they are going to do today. Then the **occupational therapist** sets he tool they are going to use.

Figure 59, 60 & 61. Examples of how the the practice of capturing patients' achievements work [Own photos].

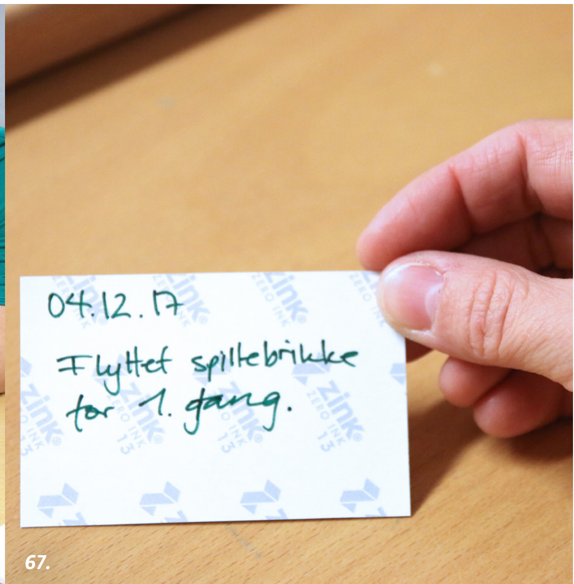


While the patient trains, the **occupational therapists** observes that today he is doing it quite better than the last time they did the same exercise. She decides to pick up the polaroid camera.

The **occupational therapist** explains to the patient that he has done a really good job today and that they are having a new project about capturing these moments of achievement. She asks the patient is she could take a picture of the exercise and he agrees happily.

Figure 62, 63 & 64. Examples of how the the practice of capturing patients' achievements work [Own photos].

The **patient** is curious about how the camera works and he wants to see how the picture is being printed. She explains shows him (the picture is printed in 10 seconds approximately).



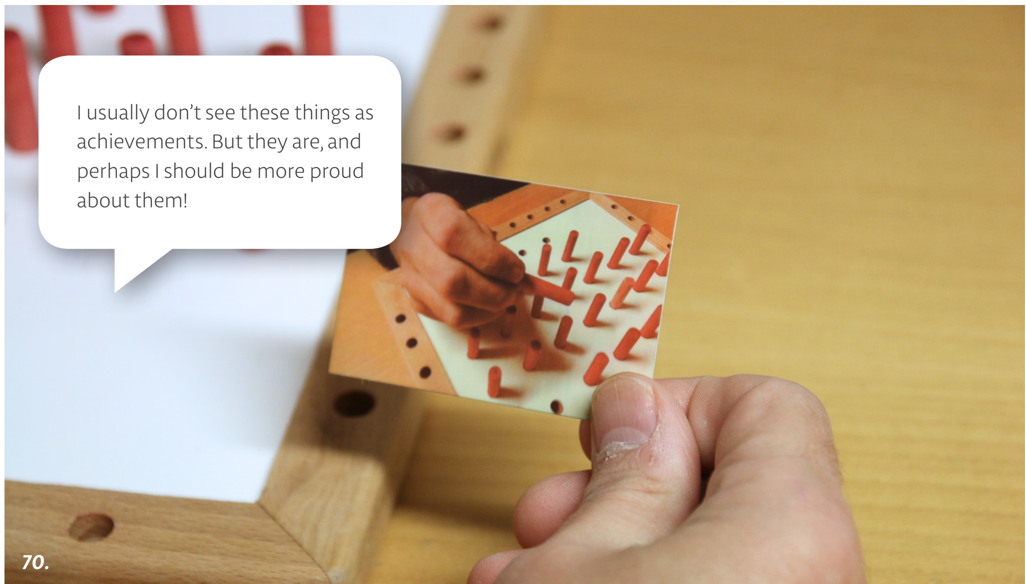
After the photo is printed, the **occupational therapist** writes the date and a message about what the patient achieved today.

Figure 64, 65, 66 & 67. Examples of how the the practice of capturing patients' achievements work [Own photos].

68.

69.

The **occupational therapist** gives the picture to the patient.He is grateful and happy for his achievement. He says that he normally would not recognize this as something g



70.

The **patient** mentions that he usually doesn't see these things as achievements, but that they are and he should be more proud about them.

Figure 68, 69 & 70. Examples of how the the practice of capturing patients' achievements work [Own photos].

Figure 71. An occupational therapist writing her report at the end of the day [Own photos].

An adaptable and flexible practice for the therapists

The intervention is designed to be done in few minutes at the end of each training session in order to fit in the actual schedule that therapists have, which is ruled by time. They have just 30-45 minutes with each patient and the times between sessions are short or there is no time at all.

Thus, the intervention is adaptable and flexible. It is designed to be developed in other settings. For example, **if therapists forget to take a picture during a training session because they were having a really busy day, they could also do it while they are writing their reports at the end of the day.**

The occupational therapist could take a picture at the end of the day if she didn't have time before or if she forgot to do it.

For example, the occupationtal therapist can take a picture of a tool that the patient was using. Then, she can write a message and give the picture to the patient in the next training session.

Figure 72, 73 & 74. Examples of how the the practice of capturing patients' achievements work [Own photos].

Patients could accumulate many pictures during their stay Sunnaas. They could display them and use them to see hw much they have progressed. They **could have a measure of how much they have done so far.**

Each picture gives information about the date and what was achieved. So, **the patient can see time in relation to progress.**

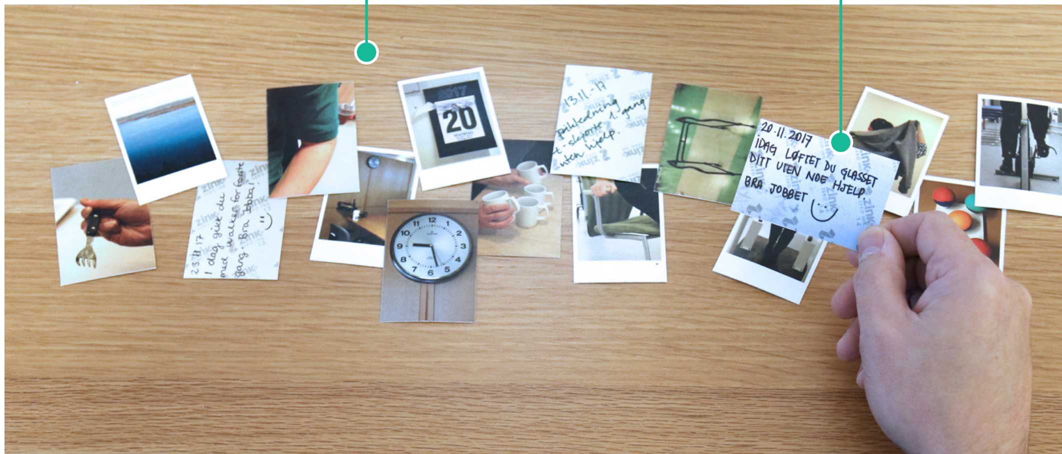


Figure 75. A patient with all his pictures on the table [Own photos].

The pictures as measurement and information

By giving pictures to the patients over time, they will start to collect different moments. Moments which have been milestones during their rehabilitation process. For the patients, the pictures can represent physical evidence and measurement of all the things they have achieved so far. They could act as a trigger of motivation, even in those moments when they are not having too much progress they could look to the past and take some energy from it.

Pictures are also a way of giving information to patients where the data is not treated as static information but as an activity (Jones, 2013). Information is given to patients through a meaningful way through a series of encounters between the caregiver and the patient. Thus, step by step does not give information to patients, but informs them.

Thus, having the pictures allows patients to be more aware and conscious about their own progress. Individuals could have a more informed experience, where the photos remind them where they are in the process.

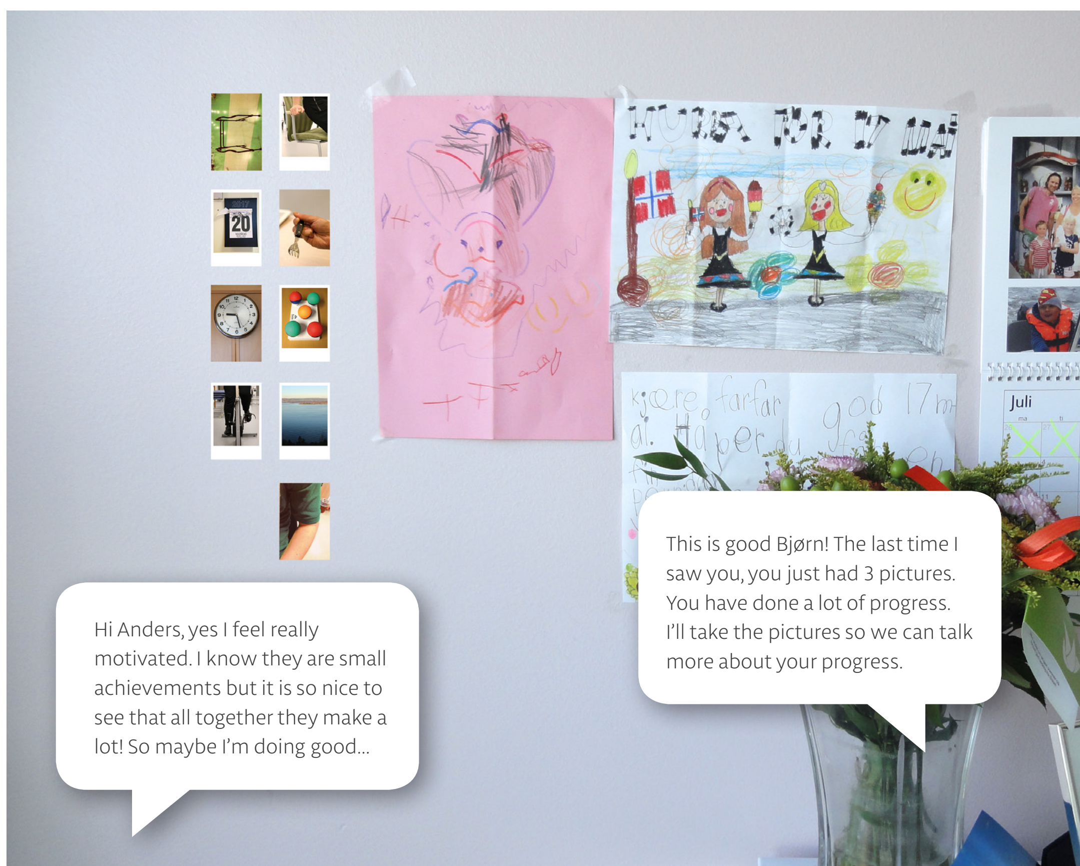


Figure 76. A patient with all the pictures on the wall inside the room [Own photos].

The pictures as triggers of conversations and reflections

Patients could put the pictures on the wall inside their room, or keep them on a book, or a shelf, etc. They could use the pictures to talk to their relatives and show them their progress.

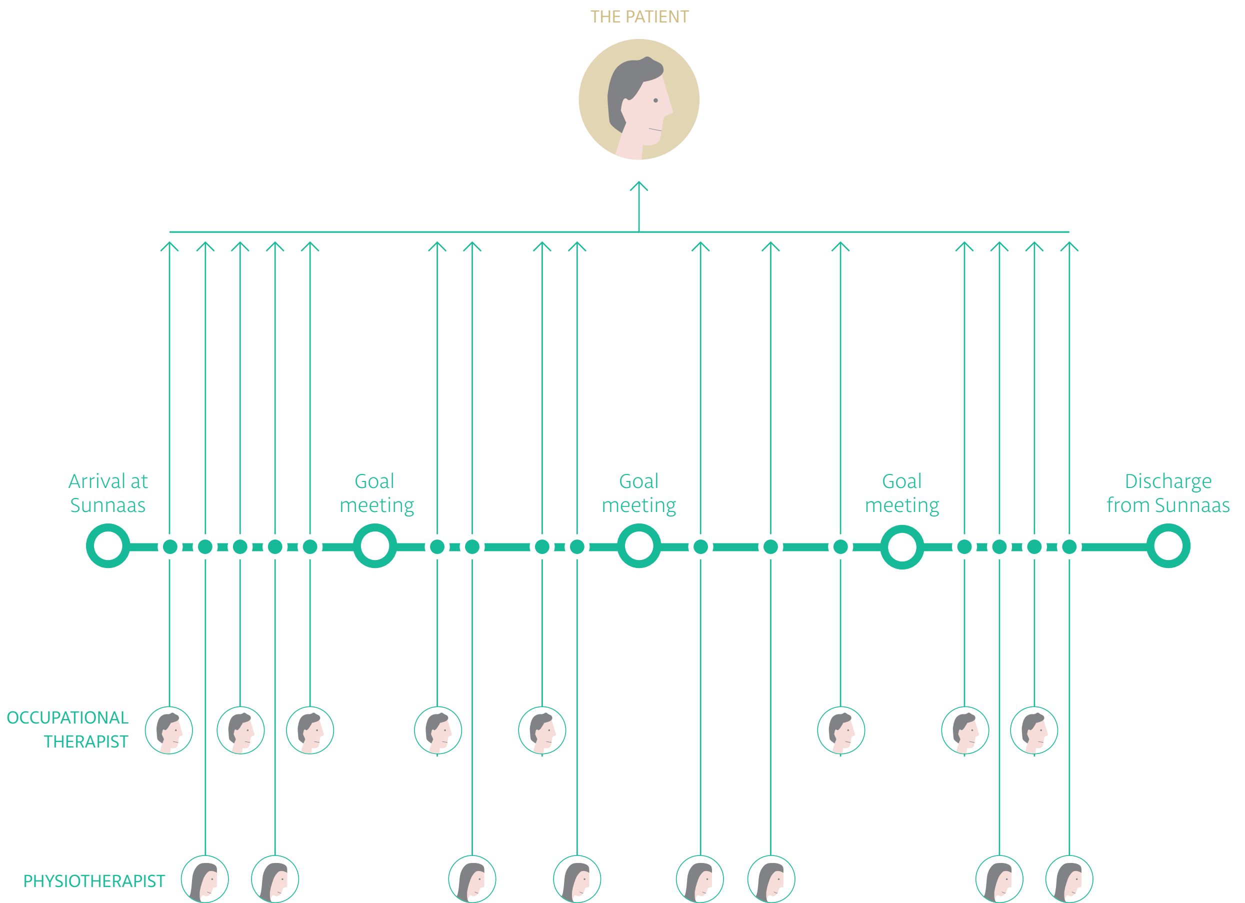
Together with this, the caregivers could ask the patients to bring their pictures to the goal meetings or they could to the patients' rooms to see their pictures with. Together, they could discuss and talk about the patients' progress with evidence on the table. **Everyone–the patient and the caregivers in the meeting–could get a better understanding by having tangible information in the room.**

Also, years later persons could go back to the pictures and read the messages on them to reflect, remember or have conversations about their stay at Sunnaas.

Figure 77. Navigating the journey more focused on the small steps [Own photos].

Navigating the journey step by step

The photographs support patients to navigate the complex training journey step by step. **It helps them to understand that all the steps they do matters and are important**. It enhances the idea that progress is not just reaching the final goal.



A practice that constantly informs and empowers patients

By giving more information to patients through their process, the service is being more transparent. It is giving more information back to the patients, information that today is kept on the backstage of the service (the caregivers access to it/are aware of it, but not necessarily the patients). **By doing this, it is gradually making patients more informed and empowered agents in their own rehabilitation.**

Building the atmosphere for this practice to happen

The isotype was designed to convey the idea that every photograph represents an achievement, something positive during the process. The colors and typography are chosen to create a sense of belonging with Sunnaas brand.

Figure 78. The logo of the intervention applied in different elements [Own photos].

Creating a sense of belonging

For this intervention it was designed a logo in order to build a strong identity with which therapist can identify with. The logo is a visual evidence that something new is happening among them and it aims to build a sense of belonging between the therapists that are participating in the project. The logo was printed and put on the polaroid camera, on some of their notebooks, and their identification cards from Sunnaas. It serves as a reminder for therapists during their everyday work.

Figure 79. The logo of the intervention applied in different elements [Own photos].

Figure 80. The poster located in different areas of the occupational therapy area [Own photos].

The poster

A poster was designed in order to convey the concept in a clear way to the therapists. It is placed in their offices and it emphasizes why they should take the pictures (what is the value for patients) and how they could do it.

It was placed in the therapists' office in visible positions for them. One poster was located next to the camera's placeholder (explained in next page) and other on a shelf just next to the therapists' desks.

The main sentence of the poster is a call to action for the therapists through the sentence: **"You can help patients to see and acknowledge their progress."**

The poster has been designed to explain how to do the practice through two main steps: **taking the picture and writing the message.**

Short explanation about why is important to help patients.

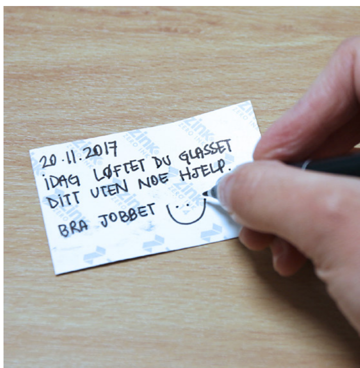
Pictures are used to give visual examples that they can familiarize with.

Husk at pasienter ikke nødvendigvis er klar over alle de små forbedringene de oppnår.
Som terapeut kan du gjøre noe med det.

1

Når du ser fremgang, ta opp Polaroid kameraet og fang øyeblikket.

Du bestemmer hva du vil ta bilde av, selve øvelsen pasienten utførte, rommet, fjorden etc. **Bildet printes med en gang.**



2

På baksiden av bildet skriver du hva som skjedde/ble gjort, og gi det til pasienten.

Skriv datoen og en beskjed om hva som er viktig å bemerke eller anerkjenne.

Du kan hjelpe pasientene med å se og anerkjenne sin egen fremgang

Bruk bilder til å markere milepæler underveis i rehabiliteringsprosessen

Figure 81. Camera's placeholder [Own photo].

The camera's placeholder

It was important to give the polaroid camera a place inside the therapists' office, in order to make it more visible and also help therapist to know where to find it and where to put it back when it has been used.

Therefore, it was decided to place the camera on a wooden object. This object was originally designed by Ehlén Johansson, but for the purpose of this project it was changed and intervened. It was cut to make it more narrow (in order to fit better the camera) and it was intervened with information about why is the camera there and why it is supposed to be used for and it also has a wink which visually indicates that this is the place for the camera. So, **the object facilitates the use of the camera and also indicates that needs to be put back** (in case it has been left somewhere else or someone forgot to put it back, for example).

The camera's manual and film papers can be put on the inside section of the object, which is something mentioned by the information as well.

The camera's placeholder has a text that communicates what is the function of the camera: **"Patients are not necessarily aware about their own progress. Use me to capture the milestones in their process."**

Indication: **"The instructions of the camera and the paper films are in the back."**

Figure 82. Camera's placeholder with and without the camera [Own photo].

The reminders are examples of photos they could take to capture moments for patients.

Figure 83. A reminder located in a cork board that therapists have in front of their desks [Own photo].

The reminders

Different pictures were placed in the therapists' office in order to help them remember and adopt this new practice. Each picture is an example of photo they could take to capture moments for patients.

Each photo is accompanied with a sentence that is directed to the them, which says: **"Whenever you see progress, shoot me to capture it"**.

Figure 84. The different pictures used as reminders for the therapists in different places of their office [Own photos].

Implementation & early reactions

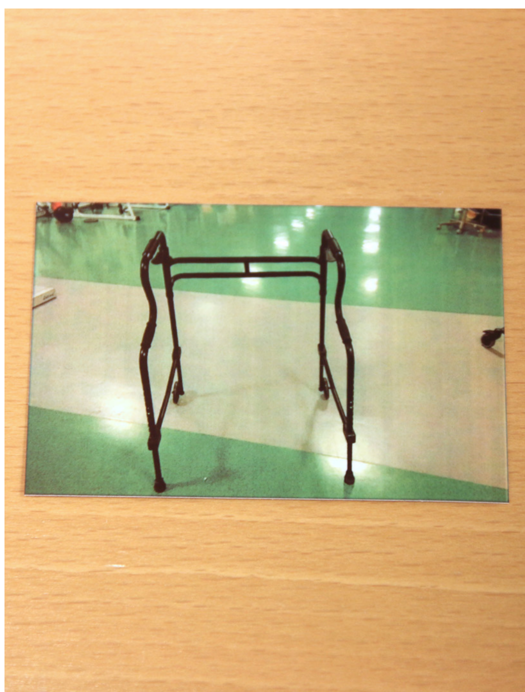
Running a first pilot

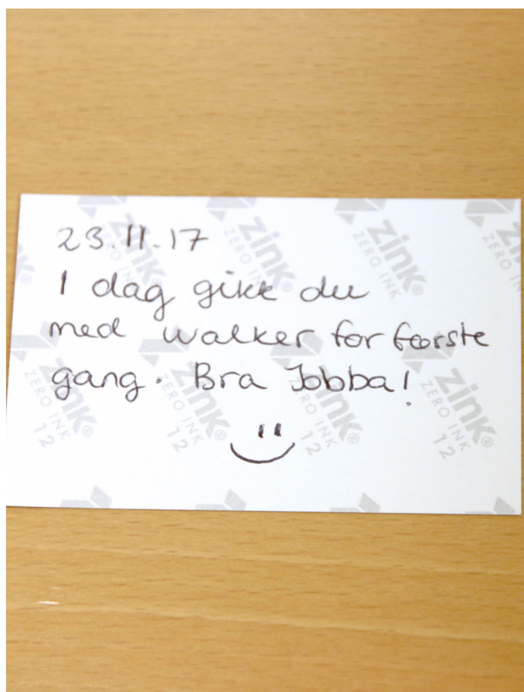
A first pilot of the intervention was ran with the occupational therapists. It started with just one occupational therapist doing it (the one that participated during the design process).

The objective of this was to introduce this practice gradually, first with one therapist that starts doing it and where the others are observers/learners of this. The idea was to spark curiosity from the other therapists, where they get informed more naturally about this new practice. After some weeks the project was formally introduced to the rest of the occupational therapists (3). After that meeting, all them started to try it.

All the different touchpoints designed (the camera's placeholder, poster and reminders) were located and put in their office.

Figure 85. The camera, the poster and reminders installed in the occupational therapy area [Own photos].





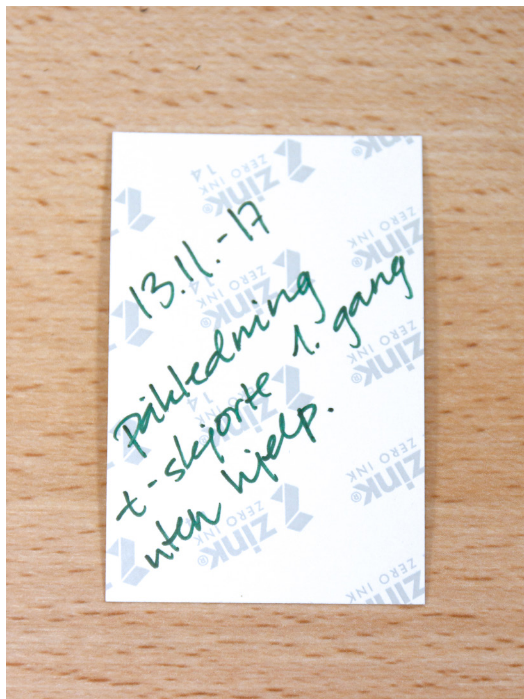


Figure 86. The first two pictures taken by the occupational therapists [Own photos].

Figure 87. The brochure of the intervention. Cover (top) and introduction to the concept (bottom) [Own photos].

Material for implementation & evaluation

A brochure was designed in order to communicate the intervention to all the caregivers in the unit, to show the project to other units, or to interested stakeholders.

One occupational therapist was defined as the project leader. He will be the responsible for the development, evaluation and continuous improvement of the project.

Figure 88. The brochure of the intervention. Explanation about how the intervention works, and first plan for evaluation [Own photos].

Early reactions after implementation

In a period of one week, some early reactions about the intervention were gathered from the occupational therapists at the spinal cord injury unit.

In general, occupational therapists have mentioned that patients have reacted happily so far and that the camera is also helping them to be more aware about the small achievements patients do.

One occupational therapist mentioned that she was still adapting herself to use the camera so she thought that she was using it too much. **When to use the camera (how often, in which situations) seems one of the aspects that will be learn and adapted by the therapists after a while.**

"Patients have reacted happily so far. Some of them have reflected that is true that they don't see the small things as a step forward."

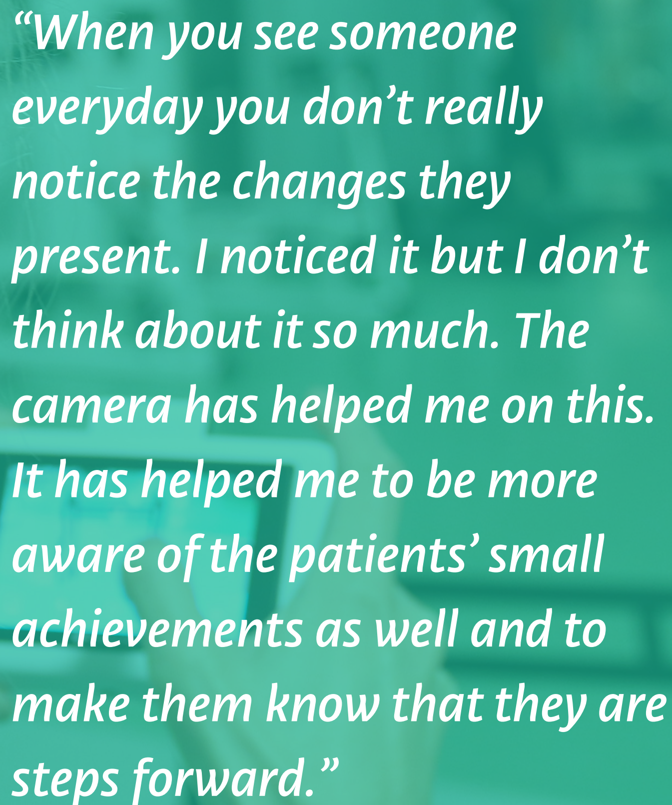
Occupational therapist in the spinal cord injury unit at Sunnaas hospital.

"For now, I'm taking pictures of every tiny step patients are doing just to make it an habit."

Occupational therapist in the spinal cord injury unit at Sunnaas hospital.

"I think this project is really important because it is helping patients to figure it out where they are in their own process. Through the photographs is easier for patients to grasp their situation."

Innovation advisor at Sunnaas hospital.



“When you see someone everyday you don’t really notice the changes they present. I noticed it but I don’t think about it so much. The camera has helped me on this. It has helped me to be more aware of the patients’ small achievements as well and to make them know that they are steps forward.”

Occupational therapist in the spinal cord injury unit at Sunnaas hospital.

Supporting caregivers to be more aware of patients

3

All the pieces, in one place

Building a whiteboard to provide caregivers with an overview of patients

All the pieces, in one place. What is it?

***All the pieces, in one place* is a whiteboard in the multidisciplinary meeting room that provides caregivers with an overview of the rehabilitation process of the 16 patients at the spinal cord injury**.

This intervention redesigned and transformed an existing whiteboard that contained just information about patients' medical status into a multidisciplinary tool that gathers different pieces of information, and which aims to give a quick, visual, clear, and holistic picture about the patients at the unit.

This project was implemented at the hospital.

Main goal

This intervention aims to enrich the knowledge, awareness and understanding that the different caregivers have of the patients they are working with. The whiteboard seeks to be a communication tool that bring the different caregivers into the same page and that updates everyone about what the patients are doing and where they are in their rehabilitation process.

By intervening the context where the multidisciplinary meetings happen today, the intervention also seeks to be a tool that is gradually used during the meetings, allowing the different team members to discuss and talk about the patients' progress with tangible information in the room.

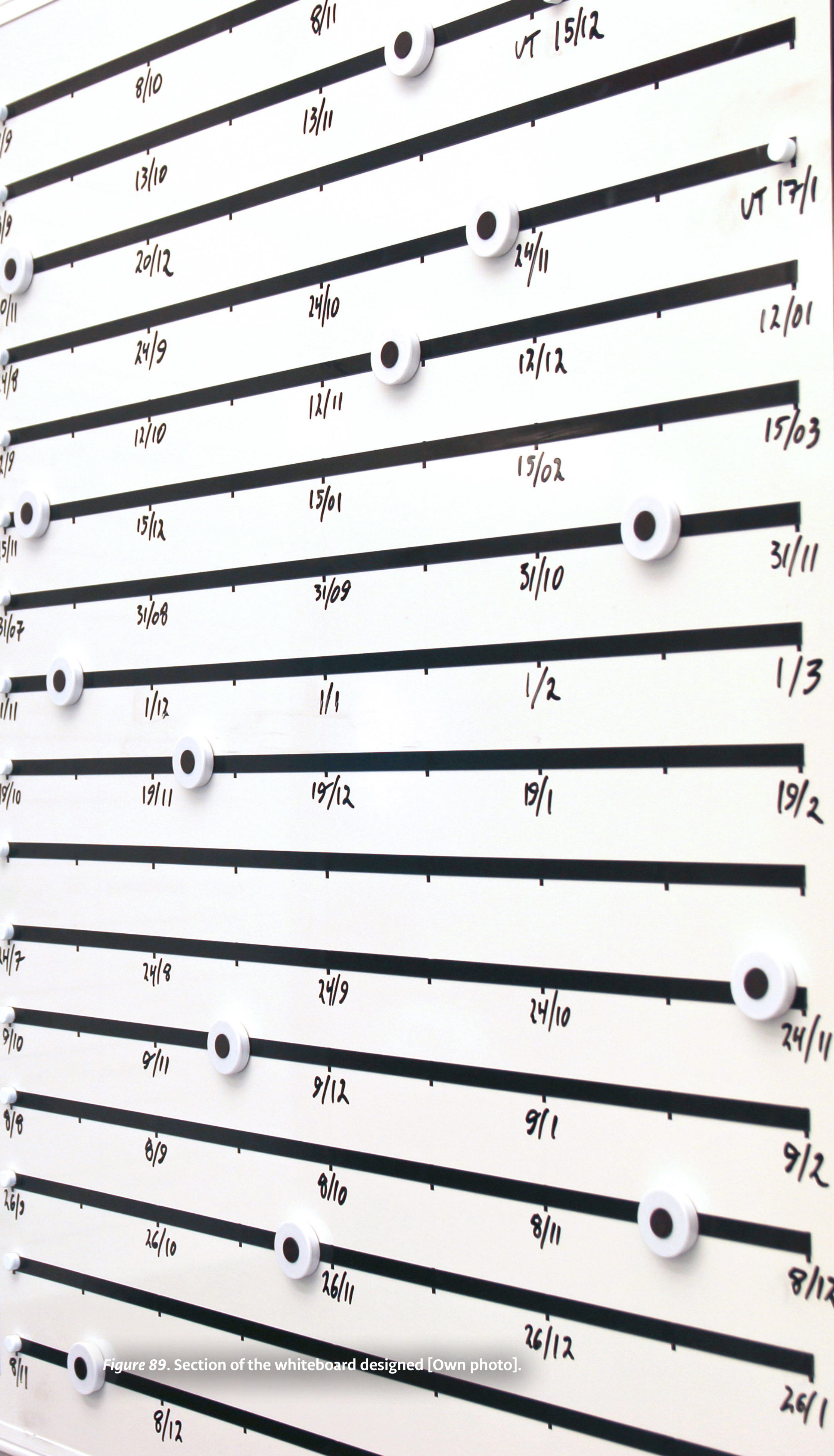
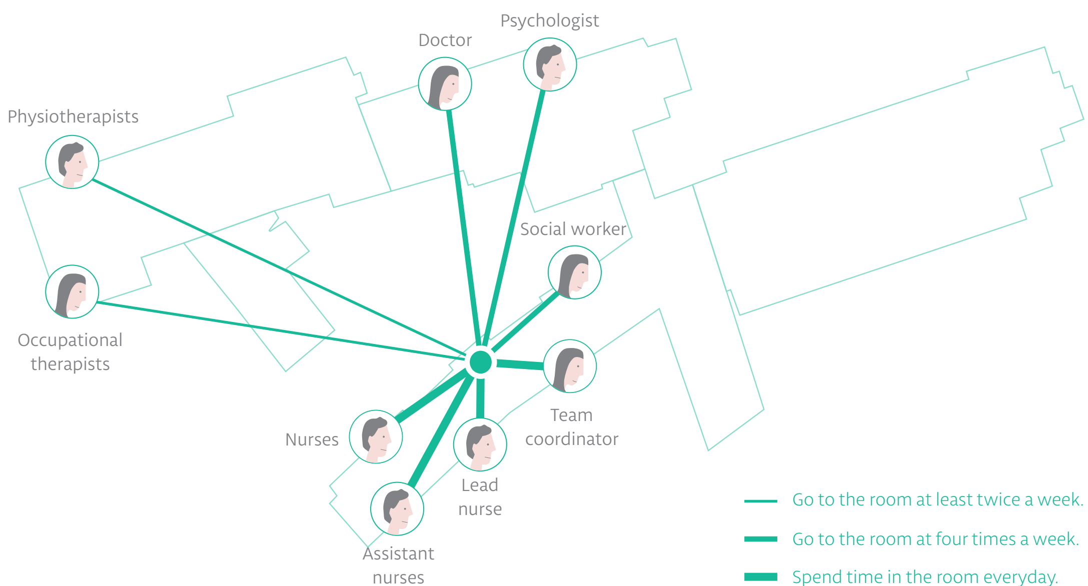


Figure 89. Section of the whiteboard designed [Own photo].

How it works?

Redesigning a tool in the place where everyone converge



The whiteboard that is redesigned is located in an strategic position. It is in the multidisciplinary meeting room, which is the room where nurses meet everyday and where the multidisciplinary meetings take place twice a week for one hour.

It is the only room where all caregivers converge. This is why it was decided to use this as an opportunity and replace the existing design of the whiteboard (that was only displaying the patients' medical status) for another that gives an interdisciplinary view of the patients and their rehabilitation process. **This intervention transform the previous whiteboard into a multidisciplinary tool that displays different pieces of information about patients.**

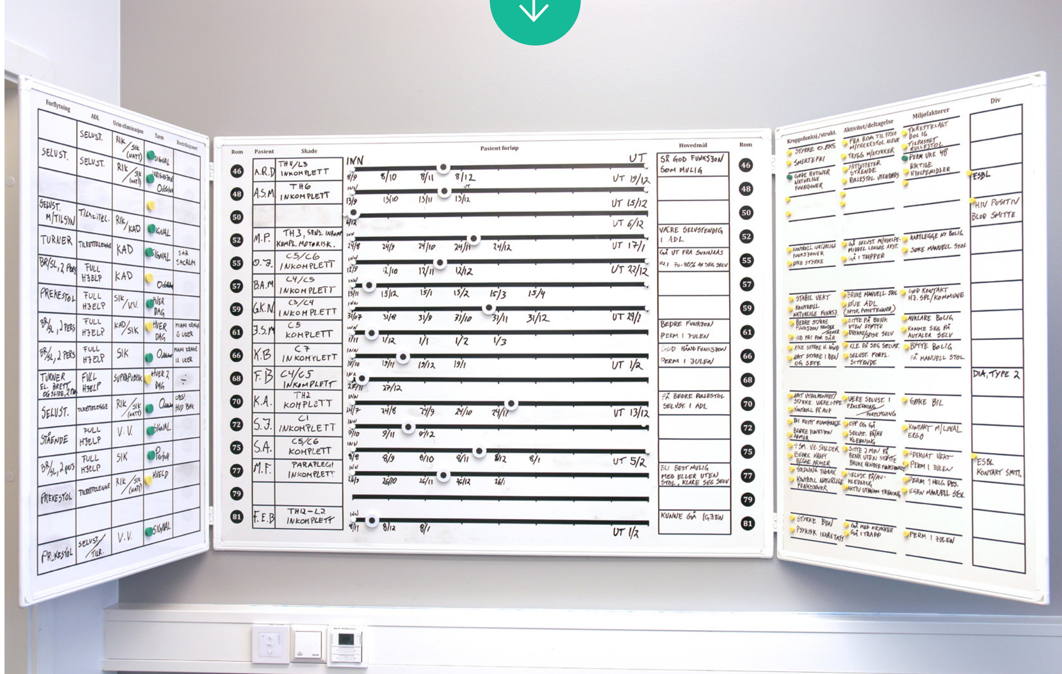
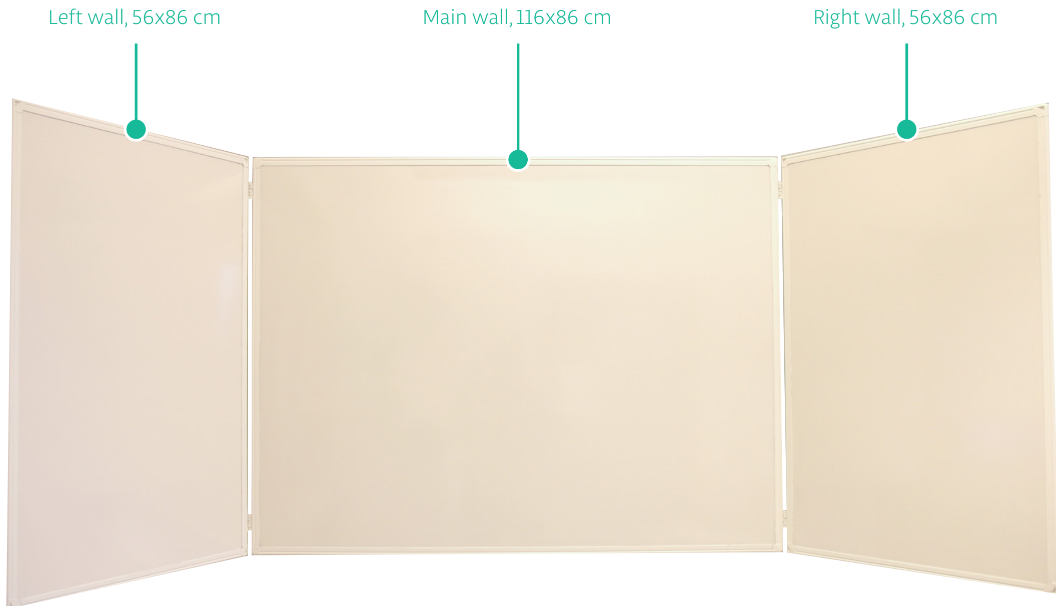


Figure 90. The whiteboard before (at the top) and the redesigned whiteboard (at the bottom) [Own photos].

A clear, structured, and appealing tool to use



Structure and moments

The whiteboard has been designed considering the limitations of the existing object: a board with 2 doors that can be closed. A board that has a limited space.

Even though this limitations can be seen as a disadvantage when designing, in this case they were an advantage because they facilitate the process of deciding what information should be put on the whiteboard, ending with a tool that displays accurately just what is needed, and that is balanced in terms of how much information shows.

The whiteboard has two main moments: when is closed and when is open. These are the two main moments in the experience of reading it as well, and both moments contain different information with different purposes.

One of the main aspects that affected on the decision of what information to put in the outer walls (when the board is closed) and what to put on the interior walls (when the board is open) was the fact that no patient information can be exposed directly, so all the data concerning patients had to strictly be on the interior walls.

Figure 91. All the pieces, in one place. The whiteboard closed (at the top) and open (at the bottom) [Own photo].

Illustrations that introduces the whiteboard and its different sections.

The structure of the whiteboard when is closed

When the whiteboard is closed it presents the tool and it displays the multidisciplinary teams working with the different patients at the spinal cord injury unit. This is information that caregivers, especially nurses, are often looking at in order to planify and assign nurses to patients on a daily basis.

The title of the tool. It was decided to give the tool a title in

Logo of the hospital

Box with all the magnets that can be used in the whiteboard

PRESENTATION OF THE WHITEBOARD

Multidisciplinary team of the patients. The 1º nurse, the 2º nurse, the assistant nurse, the occupational therapist, and the physiotherapist are displayed because they are different for every patient.

Patients' rooms

General status of patients

Rom	1º Sykepleier	2º Sykepleier	Hjelpepleier	Fysioterapeut	Ergoterapeut
46	SIGRUN	ANNE	BENTE	TONE / REBECCA	HEGE
48	JEANINE	SIGRUN	BENTE	TONE	HEGE
50	ANNE	FINN	KRISTINE		HANNA
52	ANNE	NINA	RUSSEL	TRYGVE	MARIANNE
55	SIGRUN	PETER	PETTER	ARIF	HANNA
57	PETER	MARIANNE	KRISTINE / PETTER	ARIF / TRYGVE	MARIANNE
59	K-J	JEANINE	SARAH	TRYGVE	HANNA
61	NINA	JEANINE	RUSSEL	TONE	HANNA / MARIANNE
66	MARIANNE	SIGRUN	BENTE	TRYGVE	MARIANNE
68	SIGRUN	MARIANNE	SARAH		
70	FINN	SOPHIA	RUSSEL	ANNE BIRGITTE	HEGE
72	NINA	ANNE	RUSSEL	ARIF	HEGE
75	SOPHIA	PETER	KRISTINE / PETTER	HEGE	ANNE BIRGITTE
77	JEANINE	FINN	BENTE	TRYGVE	MARIANNE
79					
81	SOPHIA	NINA	SARAH	ANNE BIRGITTE	HANNA

MULTIDISCIPLINARY TEAMS

The structure of the whiteboard when is open

When the whiteboard is open presents the patients' status, an overview of the rehabilitation process, and the goals that patients are working at the moment.

PATIENTS' STATUS

PATIENTS' REHABILITATION PROCESS

PATIENTS'
GOALS

Transfers

Activities of daily life

Urine elimination

Bowel

Restrictions

Figure 92. Left side of the board [Own photo].

Goals related to bodily functions and structures

Goals related to activities and participation

Goals related to environmental factors

Space for notes and comments

Figure 93. Right side of the board [Own photo].

Patients' status

The left side of the whiteboard comprises all the information about the patients' general status. This is basically all the information that was in the previous board, which was narrowed it down to five aspects. It informs caregivers about how much help patients need and how is their status on daily activities.

Patients' goals

In the right side of the board are all the goals patients are working at the moment and what their status is. Through the use of colors (green, yellow and red) caregivers can get an idea of how patients are progressing on the things that are important for them to train. **This part of the board brings to the table what is important for patients.**

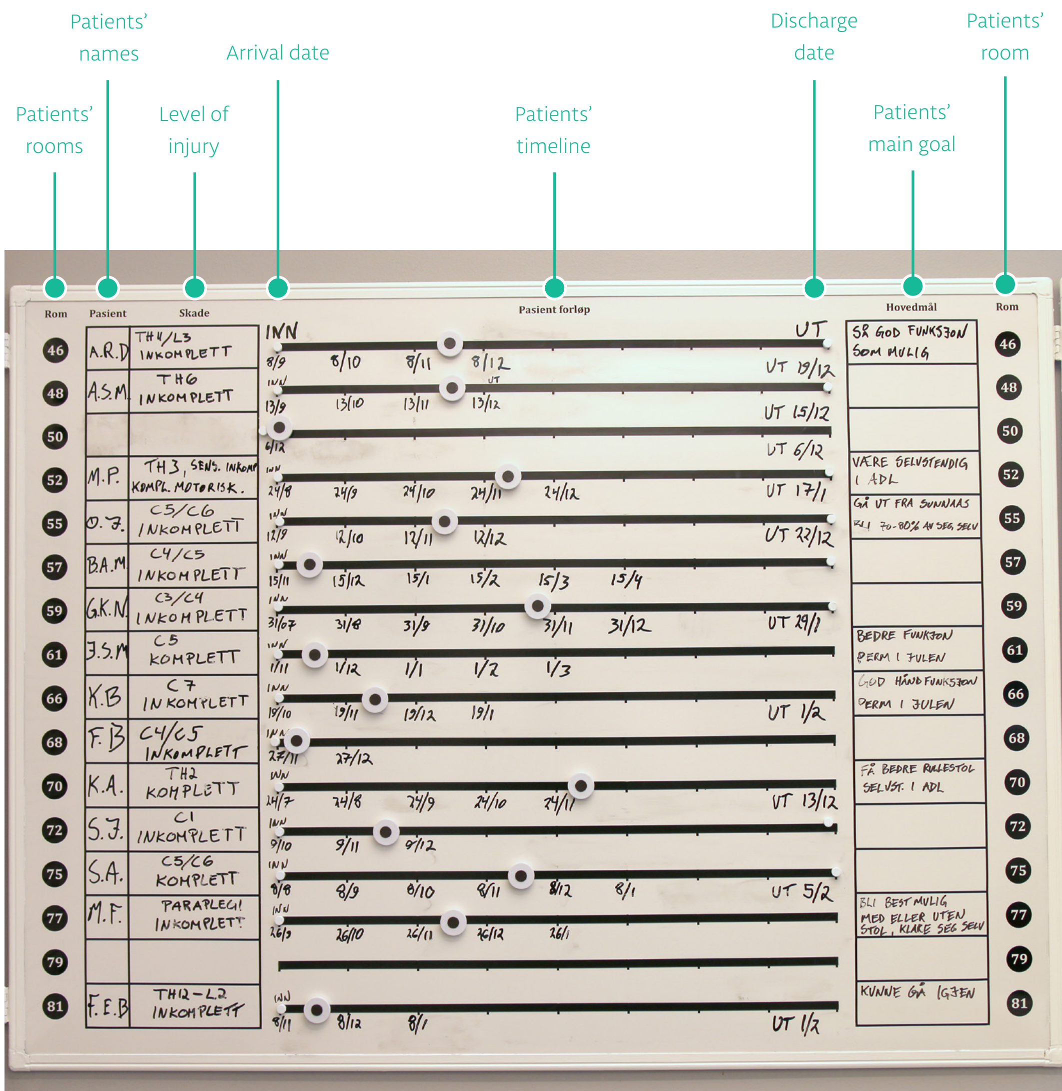


Figure 94. Center of the board [Own photo].

Patients' rehabilitation process

The board makes visible the process of the different patients at the spinal cord injury unit. Through a timeline, caregivers can quickly see how much time patients have been at the hospital, when is the next goal meeting, when was the previous meeting, and when is the discharged date.

Together with this, in this section of the board is also displayed the level of injury and the main goal of each patient.

Materiality and visual characteristics

The materiality and the visual aspect of the whiteboard were considered key to create a tool that is appealing and easy to use, a tool that catches the attention of the caregivers, and a tool that displays eloquently the information through clear visual hierarchies.

1. Big white magnets with a black inner circle indicates the position of the patient in the timeline.

2. Small white magnets are milestones in the patient's process, such as: goal meetings, arrival date, and discharge date, for example.

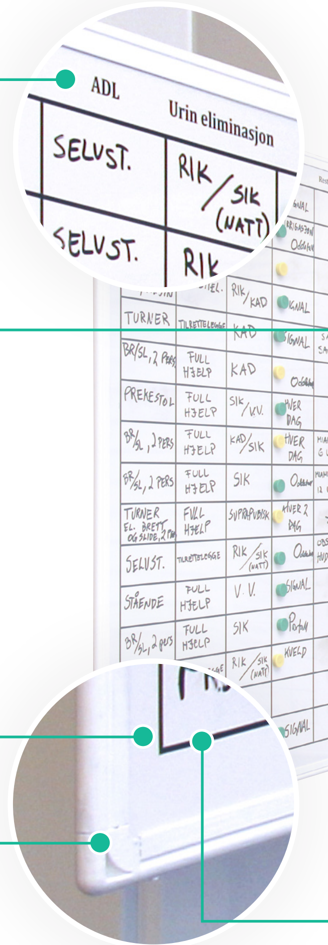
3. The green, yellow, and red magnets (big and small) represent the status of the patient.

All the labels at the top of the whiteboard (which are aspects that won't change often) **are designed digitally and using typography** in order to make them have a different hierarchy than the rest of the content–which is handwritten. They were printed in foil and then pasted on the board.

Patient's rooms were designed to be the elements that guides the lecture. This element is highlighted by being the only part of the whiteboard with black background and white typography. They were printed in foil and then pasted on the board.

The whiteboard designs carefully the distances between the different sections and all the elements of the board, all of them have certain proportions which are equal through the entire design. It also incorporates an overall margin, so all the content has a certain distance to the border.

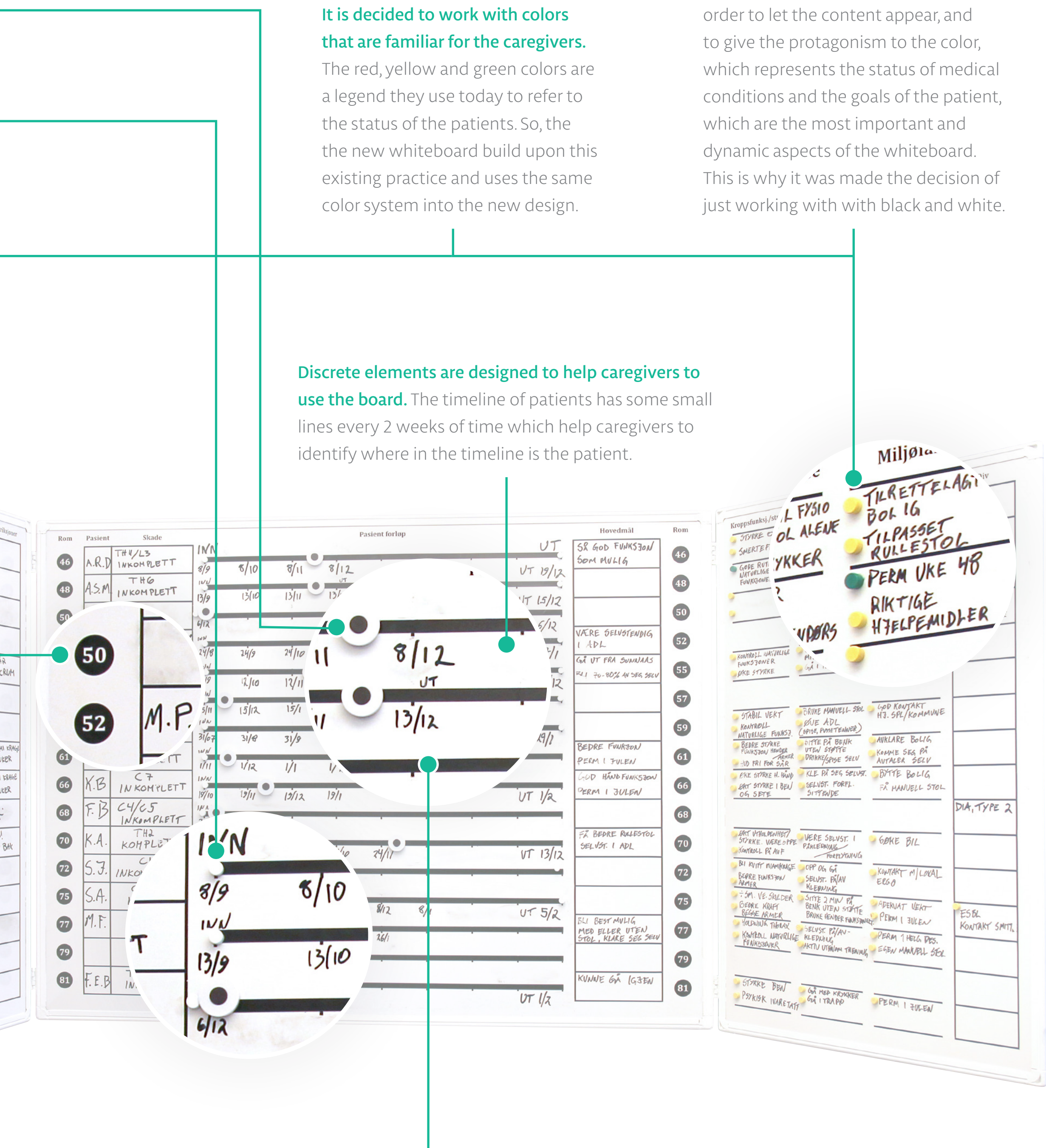
The aluminium borders of the previous whiteboard were painted white in order to give more continuity to its different walls and more protagonism to the layout and content of the board.



The board is designed to make the color protagonist. All the visual design aims to be as discreet as possible in order to let the content appear, and to give the protagonism to the color, which represents the status of medical conditions and the goals of the patient, which are the most important and dynamic aspects of the whiteboard. This is why it was made the decision of just working with with black and white.

It is decided to work with colors that are familiar for the caregivers. The red, yellow and green colors are a legend they use today to refer to the status of the patients. So, the the new whiteboard build upon this existing practice and uses the same color system into the new design.

Discrete elements are designed to help caregivers to use the board. The timeline of patients has some small lines every 2 weeks of time which help caregivers to identify where in the timeline is the patient.



A divider tape specially designed for whiteboards of 2.5 mm wide was used to build the grids and cells. This one was used because it was thin enough to make the content of the cells to be protagonist.

A wider plastic black tape ("Tycko" tape of 9 mm) was used to create the patients' timeline in the middle of the board in order to give it another character to that line, and more importance and protagonism in the whole picture.

A tool that enables caregivers to:

Get informed fast and easily about patients during daily routines

If you are a nurse and you have assigned a patient during the day and you just have 5 minutes before you visit the patient you have asigned, you can go to the whiteboard and get a good and quick overview of him/her in less than 5 minutes.

You don't need to open a software, turn on a computer or log-in into a system to access this information.

By doing this, **nurses (for example) can be more informed before approaching patients and they can adapt their tasks according to what the patients are training for. For example if a patient is training how to move his shoulder they can purposely make him/her to train that while doing daily tasks.**

Have an overall understanding of the patients' rehabilitation process

Having different information together allows the caregivers to see things in relation to each other and understand things more integrally.

Being able to relate how much time a patient has been at the hospital in comparison to how/she is progressing on his/her goals could lead to caregivers making questions such as: **Why a patient that has been here for 3 months still doesn't have goals regarding his/her environment? Should we work different with this subgoal in order to progress better?**

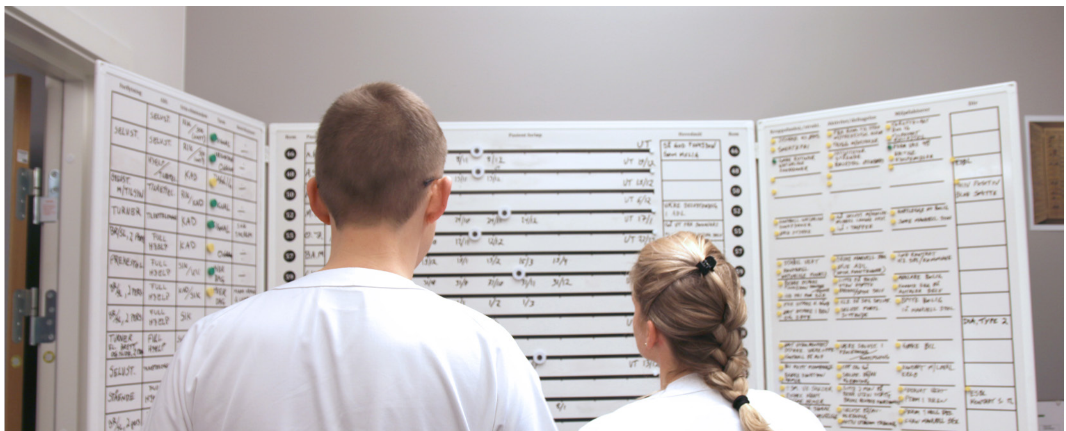


Figure 95. Caregivers discussing and writing information about patients in the tool [Own photo].

Shape discussion around visual/ tangible information

The whiteboard is a tool that can be used actively in discussions about patients, in the nursing meetings, or in the multidisciplinary meetings. It has the potential to facilitate a discussion around the patient with visible information, which could give more structure to the meeting and it also could help the team members to have a better picture of what they are talking about. They could also update the indicators of progress on the wall during the meeting.

The tool could facilitate a common understanding of the patients during the meeting.

After the new designed was installed, the caregivers that lead the meeting started to plan how to use the whiteboard actively in the multidisciplinary meetings in an ordered and efficient way.

Figure 96. Whiteboard in the multidisciplinary room [Own photo].

Pasient forløp
Hovedmål
Rom
Kroppsfunksj./strukt.
Aktivitet/deltagelse
Miljøfaktorer
Div
INN
UT
SR GOD FUNKSJON SOM MULIG
VÆRE SELVSTENDIG I ADL
ESBL
HIV POSITIV
BLOD SMITTE
DIA, TYPE 2
SØKE BIL

09:04

Implementation & early reactions

Implementing the whiteboard

The whiteboard was implemented in the multidisciplinary room at the spinal cord injury unit. The structure, the layout and the different elements of the board were the first things to be implemented.

After this was done, the lead nurse gradually (during a period of 3 days) started to put the content, updating each field with the correspondent information.

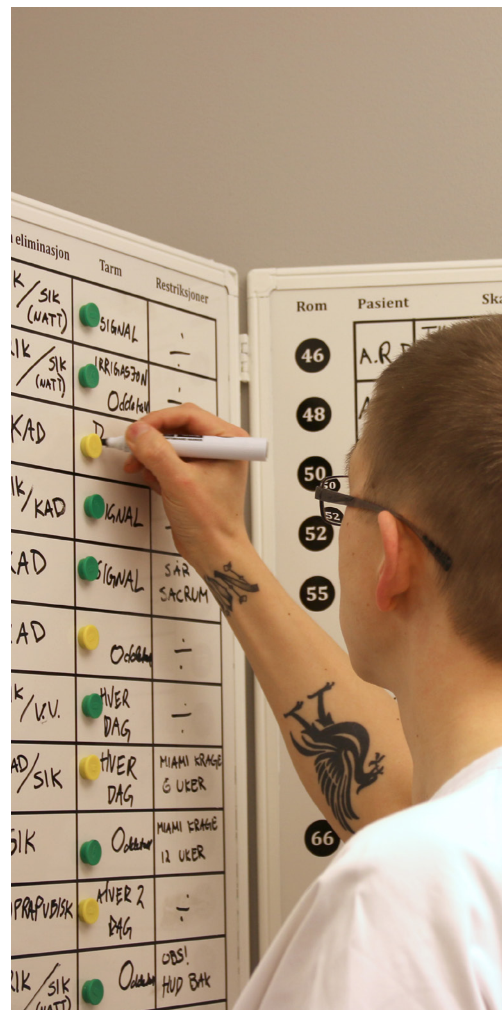


Figure 97. Lead nurse writing information [Own photo].

Figure 98. The process of implementation of the whiteboard. [Own photos].

Figure 99. The brochure of the intervention. Cover (top) and introduction to the concept (bottom) [Own photos].

Material for implementation & evaluation

A brochure was designed in order to communicate the intervention to all the caregivers in the unit, to show the project to other units, or to interested stakeholders.

The lead nurse was defined as the project leader. He will be the responsible for the development, evaluation and continuous improvement of the project.

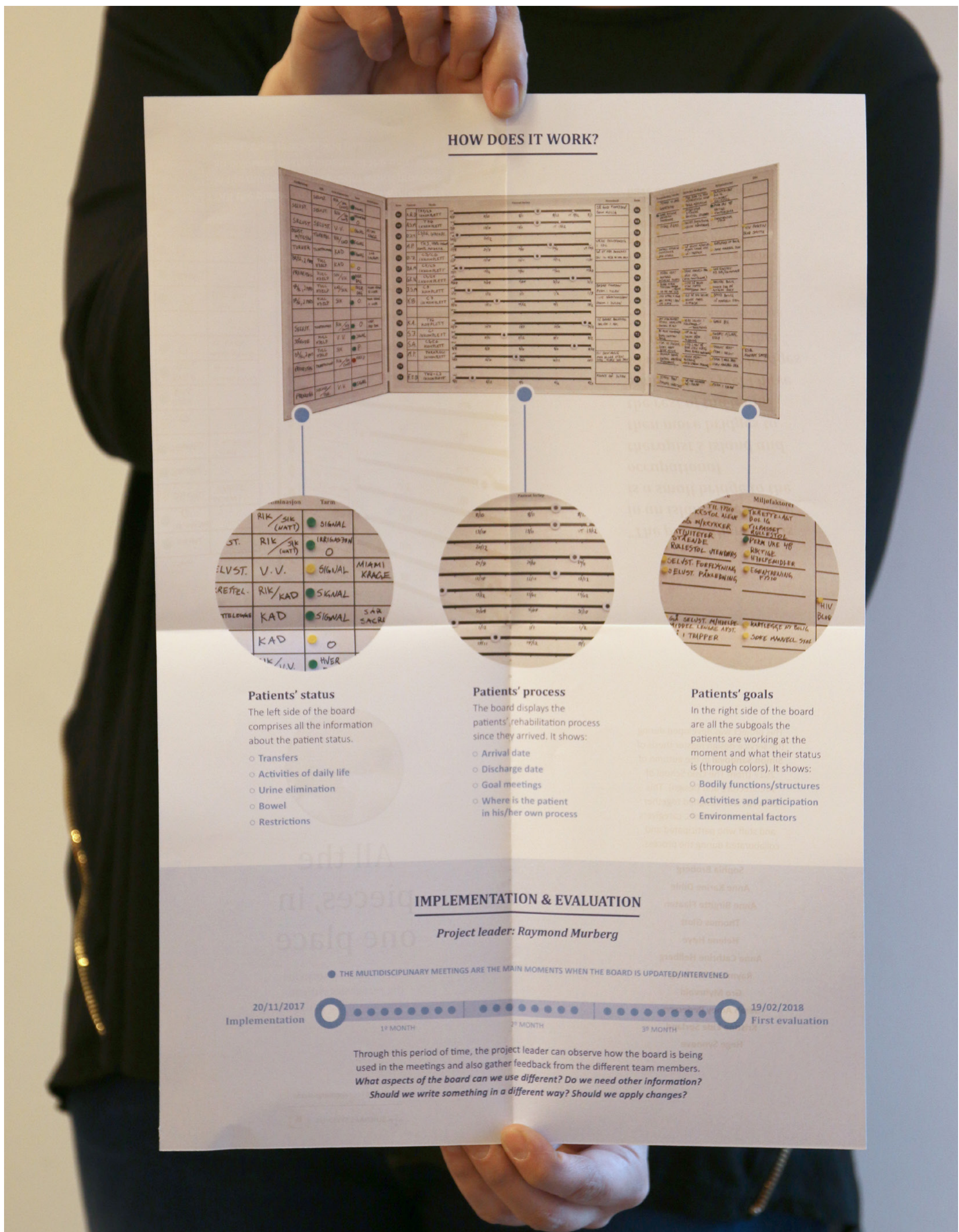


Figure 100. The brochure of the intervention. Explanation about how the intervention works, and first plan for evaluation [Own photos].

Early reactions after implementation

In a period of two weeks, early reactions about the intervention were gathered from caregivers (specially the lead nurse) at the spinal cord injury unit.

In general, positive feedback has been received since the moment the whiteboard was implemented. It has been observed that caregivers often come to read the board or to look at it.

So far the tool has trigger curiosity and interest from caregivers and the leaders of the unit, which are now starting to plan how to use the whiteboard in a strategic way during the multidisciplinary meetings, so they can take full advantage of it.

"Just because of the good design the whiteboard is more important now. It demands more attention in a whole other way than it did before."

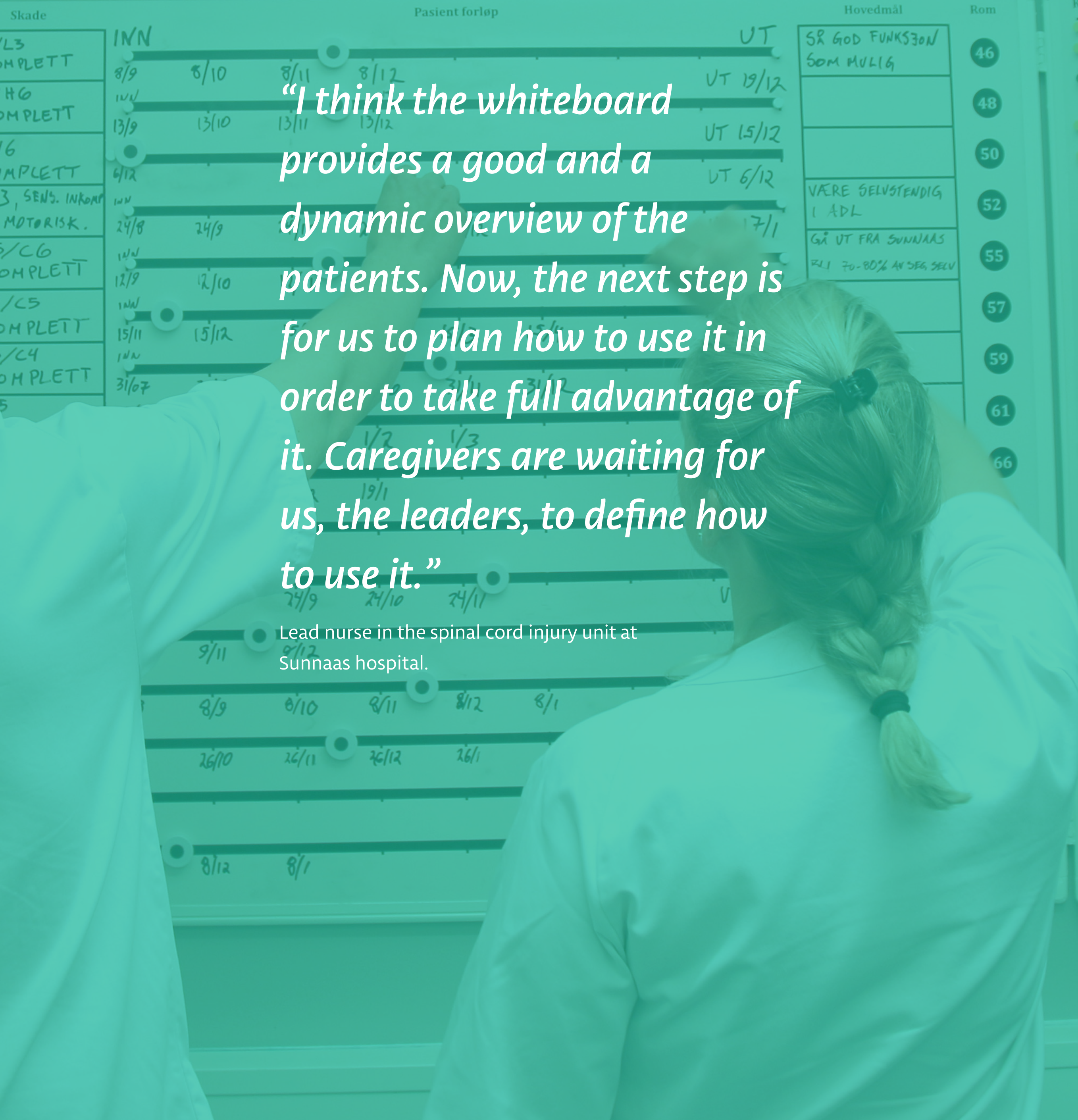
Lead nurse in the spinal cord injury unit at Sunnaas hospital.

"I think the whiteboard has found a way of bringing teams more together. I think this also think it could be used in other units. I think patients need the teams working closer together. I think the staff perspective of the patients can change."

Innovation advisor at Sunnaas hospital.

"I noticed that I've even changed my handwritting because of the design. I'm more careful."

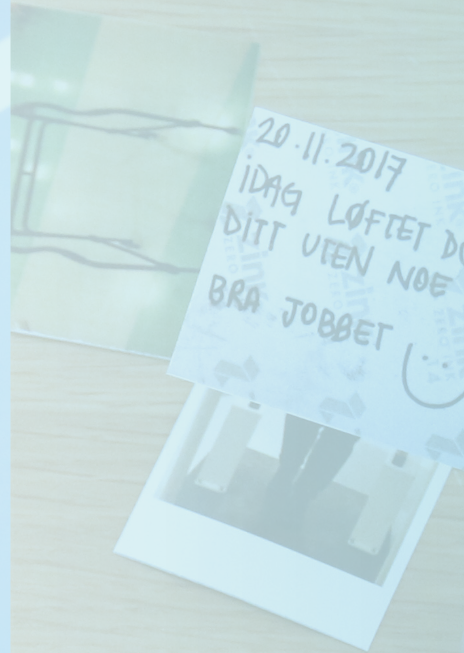
Lead nurse in the spinal cord injury unit at Sunnaas hospital.



"I think the whiteboard provides a good and a dynamic overview of the patients. Now, the next step is for us to plan how to use it in order to take full advantage of it. Caregivers are waiting for us, the leaders, to define how to use it."

Lead nurse in the spinal cord injury unit at Sunnaas hospital.

Impact & potential ripple effects



GLASSET
HJELP

Impact

So far, the three interventions are impacting the service by changing the context where rehabilitation happens through the introduction of new artefacts and practices in different areas of the service.

The interventions are starting to act as reminders for caregivers. They remind caregivers that patients have more needs than just regaining or mantaining physical function, and that they could do small things to help them. At the same time, they are starting points for the service to support better the recovery journey of spinal cord injury patients. The interventions can trigger caregivers to see the value of doing projects that support patients' experience, and in consequence, they could carry them into the future as part of their daily routines.

"Hopefully, we will be able to implement the projects in a way that they become a natural part of our everyday lives."

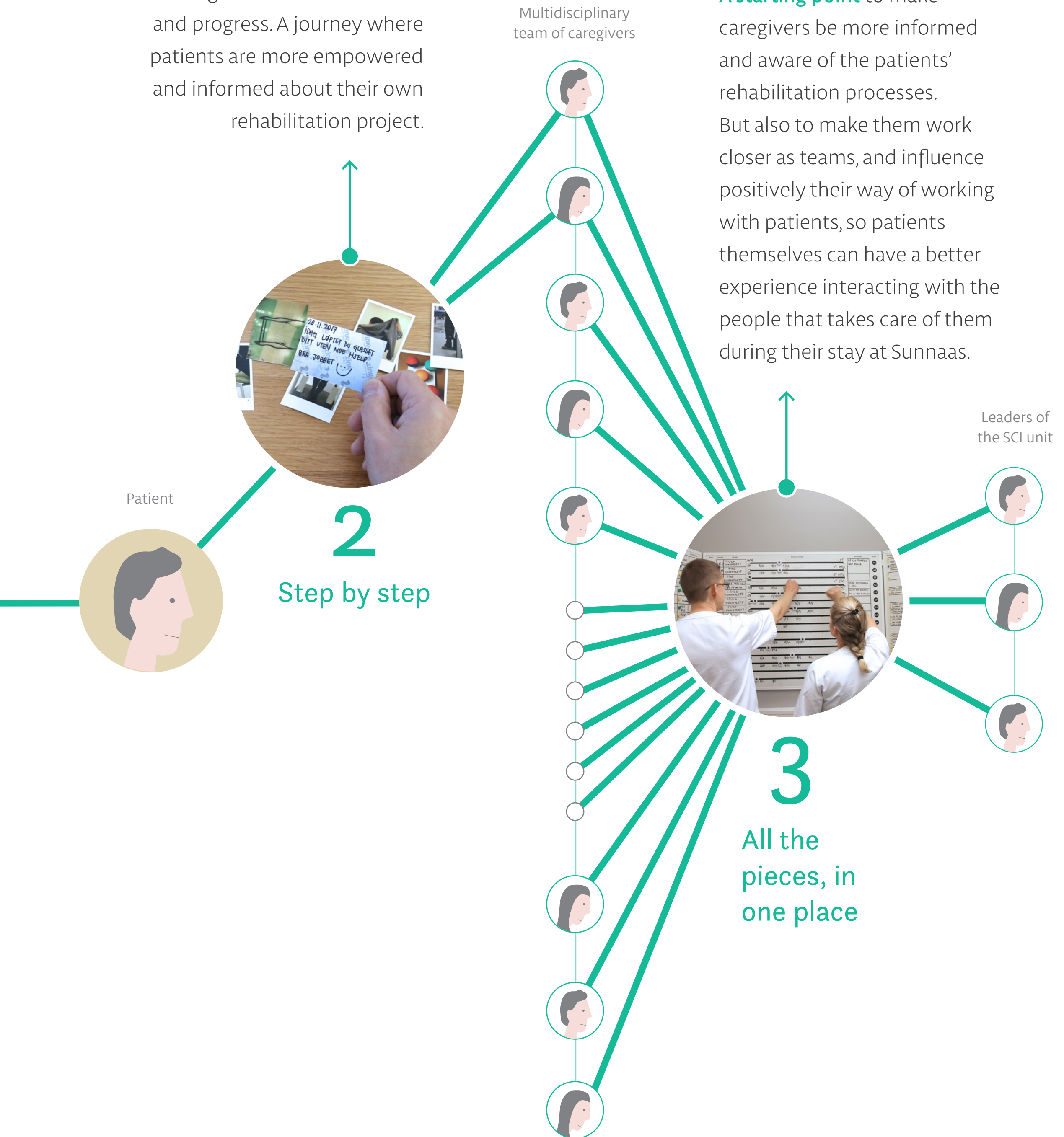
Leader of the spinal cord injury unit at Sunnaas hospital.

Other patients

A starting point for the service to be an agent that enables the exchange of knowledge and experiences between patients in order to make them help each other.

A starting point to help patients to have a recovery journey where they acknowledge with more degree their achievements and progress. A journey where patients are more empowered and informed about their own rehabilitation project.

A starting point to make caregivers be more informed and aware of the patients' rehabilitation processes. But also to make them work closer as teams, and influence positively their way of working with patients, so patients themselves can have a better experience interacting with the people that takes care of them during their stay at Sunnaas.



Potential ripple effects into the future

As it was mentioned earlier in this report, the interventions aim to be drivers that enable the rehabilitation service to move from current practices to new practices in the future. **What could be some possible ripple effects this project could boost?**

The tool could trigger the transformation of the multidisciplinary meetings into instances where everyone could get a better overview of patients.

Patients could be more empowered. They could ask more questions and be more motivated with their process.

Caregivers could be more informed and have a better teamwork towards patients.

The whiteboard could be developed in other formats and with other thecnologies to make it even more reachable and accesible for all caregivers.

Goal meetings could be re-structured around pictures in order to help patients to understand better their evolution and progress.

This could be the start of process where caregivers are constantly working to make patients more active agents in their own process.

New projects could emerge in order to inform, motivate and empower patients.

Conclusions & reflections

This chapter provides reflections on the interventions designed, on the process developed at the hospital, and on the main contribution of this project.

About the interventions

We all live in systems. Sometimes, we can make small changes in the way we behave that can actually have an impact on ourselves and/or on someone else. This project has been about designing for these small changes to occur in the existing rehabilitation service at Sunnaas: **small changes that could trigger bigger ones into the future.**

Thus, the three interventions designed and ran at the hospital aim to be projects that the spinal cord injury unit can take as starting points for future developments or practices that are oriented to support better persons that are living with a spinal cord injury.

Through the design of new artefacts and practices, this project has been focused on making caregivers see the value that these new elements can have in rehabilitation, so they can have a sense of ownership with the interventions and incorporate them as a part of the service they provide.

"Often people are scared of doing huge changes. I think specially in healthcare often is better to start small. I think everyone needs something they can start with. Something they can put into action. If people see value on small things they can start to build upon that."

Innovation advisor at Sunnaas hospital.

Further work

This project spent most of the time on identifying and designing meaningful and implementable interventions that together can generate a holistic impact. Due to the project frame (designing from different angles of the service) and time, some aspects could have been developed further in the project, such as:

- **Envision the development of each intervention into the future.** Designing a plan or future possibilities for the interventions to occur with more resources, new techonology and more investment. What would they look like if the hospital wanted to invest more resources? How could the different interventions be developed in the future?

- **Spend more time designing and exploring how the interventions could generate bigger changes.** For example, testing, designing, and planning how the whiteboard could be used in the multidisciplinary meetings.

- **Developing an accurate plan for implementation and follow-up for the leaders of the unit.** Due to time constraints, this would have been the next step of this project. The brochures designed for each concept are just covering an early implementation phase and they are not detailed. With more time, I would have sit together with the leaders of the spinal cord injury unit and co-create a detailed plan for the future.

About the design process

Small things can make a difference

When I started this project I found many opportunities where Sunnaas could support patients, and I was especially interested on generating changes on the cultural level of the service.

Through the design process, I discovered and learned that in order to enable cultural changes to happen sometimes it is better to start small.

So, I took the approach of looking for those small things that could be done differently today and that could enable caregivers to support better patients' recovery: **small things that can make a difference on how the service works today.**

Designing with limitations as a resource

One of the main challenges about designing to intervene the existing rehabilitation service was to understand and deal with all the limitations that this decision implies.

I had to be able to design meaningful interventions that could be developed with limited resources, be adopted within existing workflows and routines, and that were not too time consuming for caregivers.

In many moments during the project I felt that these limitations were being obstacles for me to design valuable interventions. But after an intense iterative process, and once I understood and internalized the limitations I was able to use them as aspects that actually propelled the creative process of the project. They offered a well defined framework to work with and they helped me to better address the context I was designing for.

Conversations as a contribution

Working as an embedded designer at Sunnaas has been a process full of conversations with different caregivers and patients; conversations that I believe have also been a contribution to the hospital. The fact that I was someone trying to understand rehabilitation at Sunnaas meant that people had to explain things to me they do not often reflect on. I think there was an interesting exchange of perspectives between between myself, as a designer, and the caregivers. They were bringing all their expertise, knowledge and thoughts about how rehabilitation works or should work, and I was bringing a human and a reflective perspective on why things work the way they work.

"I think this project has provoked a lot of interesting discussions on what is the patient's place in rehabilitation among us."

Lead nurse in the spinal cord injury unit at Sunnaas hospital.

Building trust with stakeholders

A good network of stakeholders was built with caregivers and patients, but I should have put more emphasis on explaining the project to the leaders of the unit when starting the project.

Even though I did this, I think it could have been more deeply explained (by talking more about me, about design, about how we think, for example). Only after several conversations with the leader of the unit did she mention that she really understood my intentions and the project after a while.

I think I should have work more on explaining myself in the beginning of the project, in order for them to get a better idea of what I wanted to do.

About the contribution of this project

The main contribution of this project has been bringing ***patients as persons*** throughout the entire process. Persons with problems and difficulties that go beyond the physical aspects. Persons that are coping with a traumatic situation, persons that need to understand their progress. Persons that need help answering lots of questions, and persons that need to feel cared.

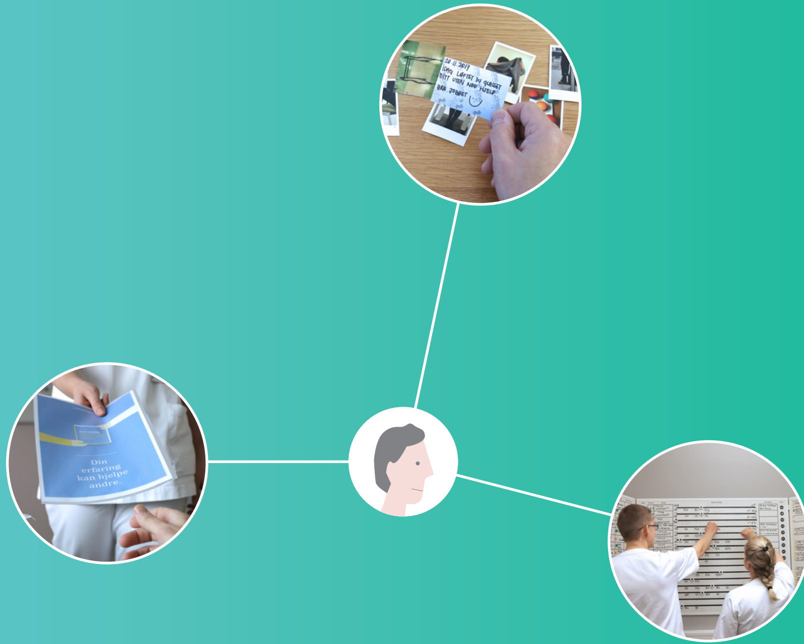
The project has raised awareness among caregivers and leaders about how they are working around patients. It has triggered discussions and has put important questions on the table; questions about how the unit should work around patients and about what should be the patients' role in rehabilitation.

"I think that through the project, we have become more aware about how we work towards our patients and how we work together as a group."

Leader of the spinal cord injury unit at Sunnaas hospital.

"We say that we work in teams, but I think that is mostly theory. This project made us see how we are really working. We have a long way to go towards a rehabilitation service where the patient is really in the center and where we work multidisciplinary."

Lead nurse in the spinal cord injury unit at Sunnaas hospital.



"I think the screeen with the messages, the board with the goals and the photos highlightning the achievements are reminders that patients are persons and not just patients. ***I think, as a whole, the project has brought patients as persons".***

Lead nurse in the spinal cord injury unit at Sunnaas hospital.

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