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Main job is to transport patients safely to and from appointments at Sunnaas Sykehus. Completes extra tasks through out the day to stay busy. Reasons for running late is normally due miscommunication, issues with moving into the chair, or elevator issues.

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Some therapist enjoy being able to transport patients, but some do not enjoy it. It causes some issues with whether they are able to plan their schedule to be able to allow time to transport patients

Interviews

Not the main mode of transport support, but can transport patients if is needed. Issues arise when time does not allow for nurses to transport patients. They have other tasks to perform.

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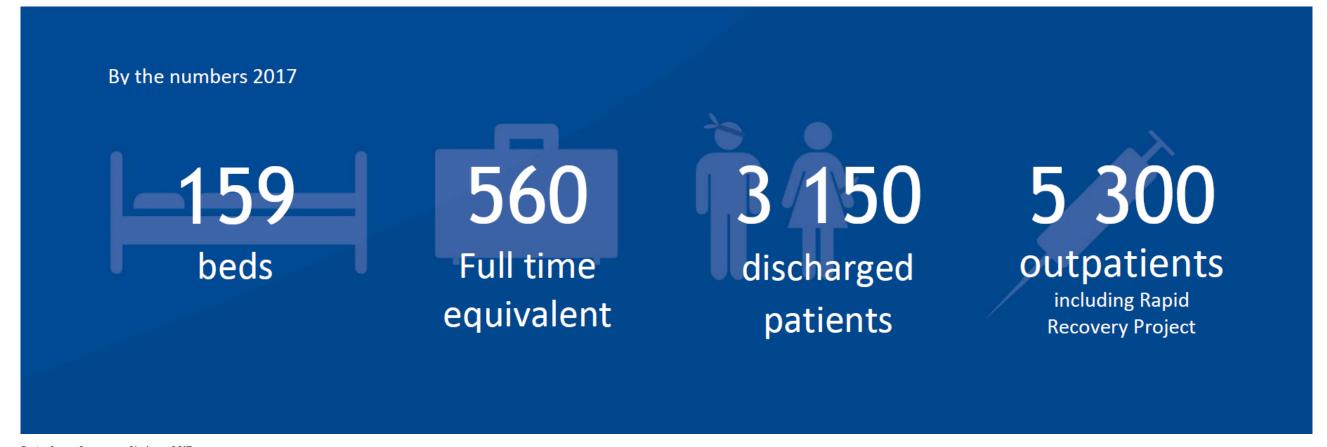


Sunnaas Skyehus

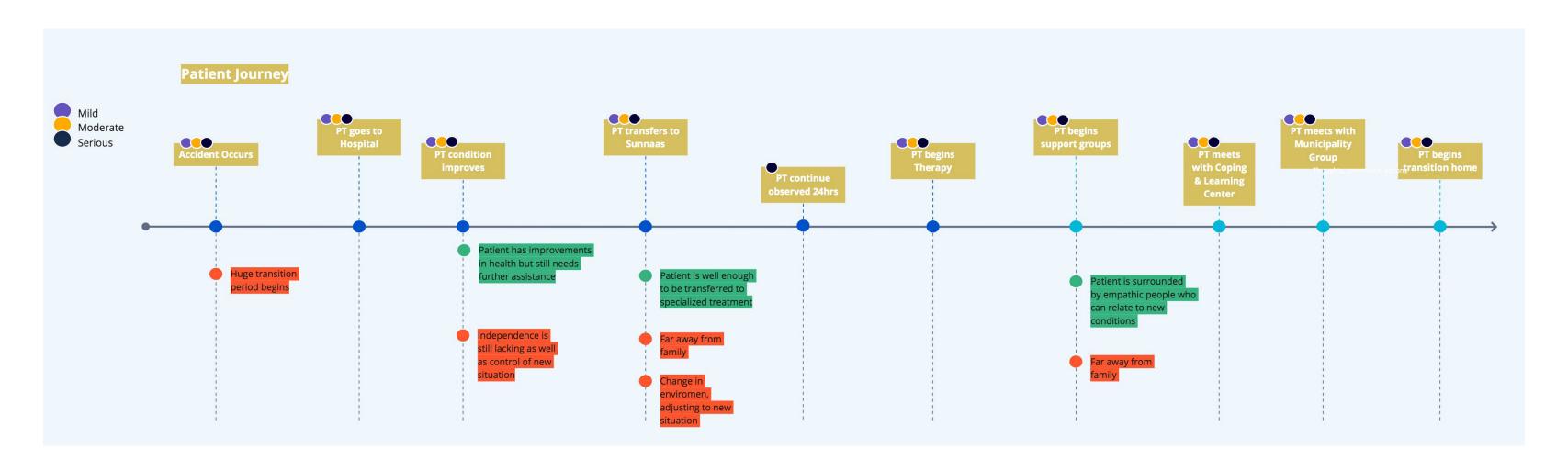
Overview

Sunnaas Skyehus is a rehabilitation hospital that specializes in innovative techniques to ensure the best possible outcomes for patients with spinal cord, neurological trauma, rare disorders, strokes, burns, and multi-trauma disorders. While delivering the superior care to the many patients at Sunnaas, the hospital also participates in latest research in technological advancements as well as innovative treatment plans.

Sunnaas = "healthy hill"



Data from Sunnaas Skyhus, 2017



Navigating the Hospital

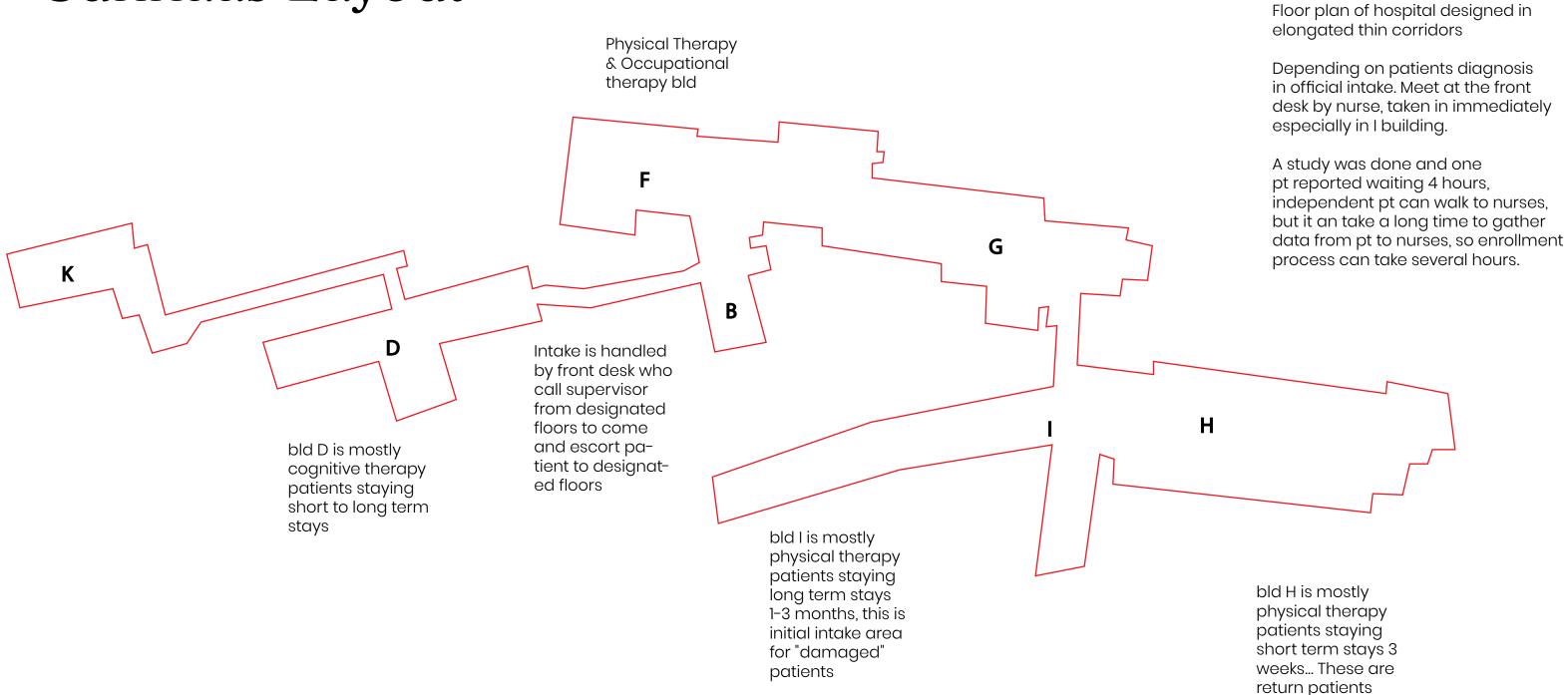
Winding corn maze

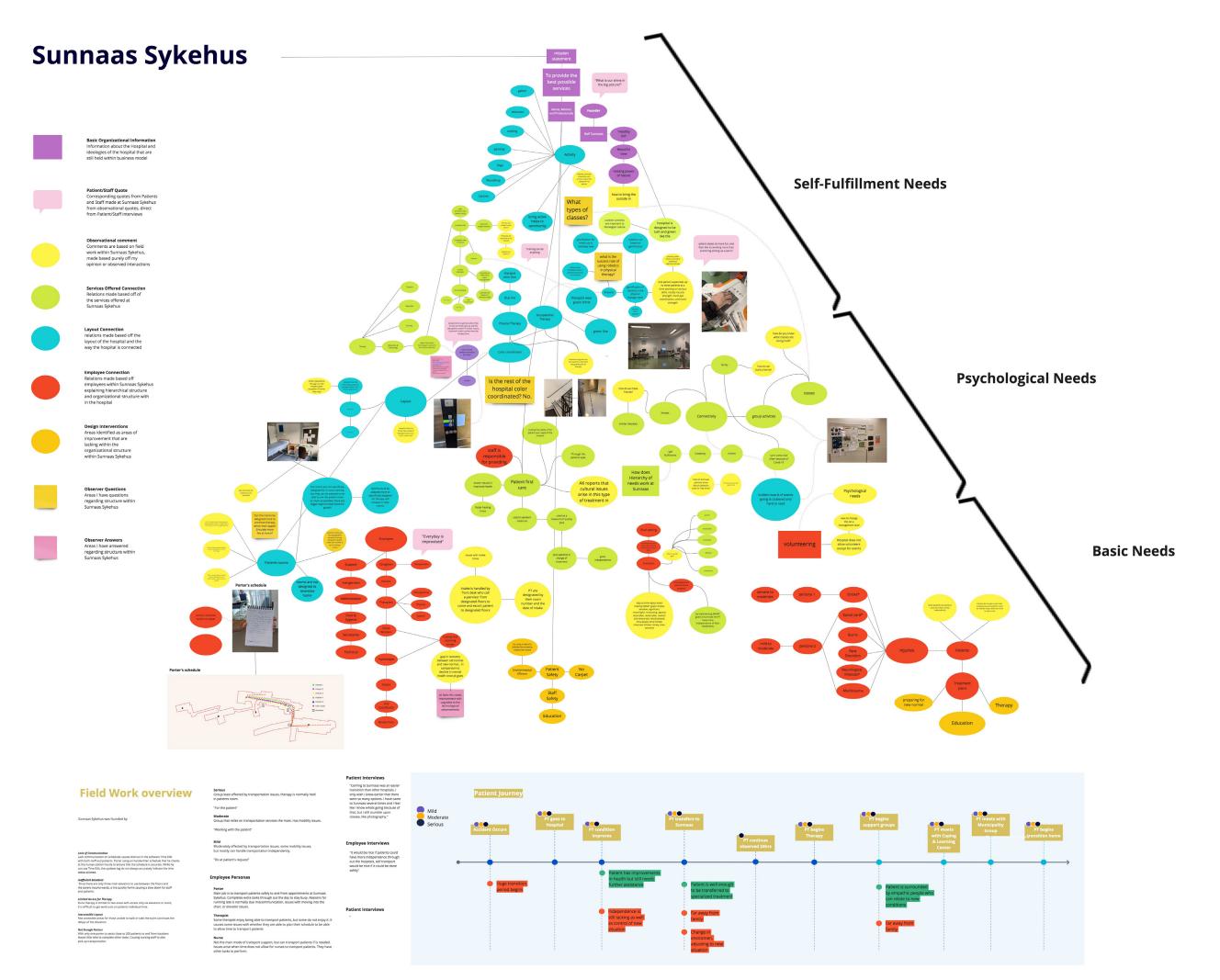
Navigating through Sunnaas Skyehus is like making it through a winding corn maze. It is easy to get disorientated and turned around. While in the hospital I often found myself using the art work within the hospital to make sure I knew where I was going.

Many of the patients have felt similarly when self navigating through Sunnaas. Especially patients with cognitive troubles. Nursing staff is aware, but do not believe it is the major issue facing transportation delays within the hospital.

To assist with the confusing sprawling layout of the hospital, there are breadcrumb markers throughout to help assist getting to the various therapy rooms. A solid line of blue leads to physical therapy, and the green dotted line leads to occupational therapy.

Sunnaas Layout





Hierarchy of Needs

I set my gigamap up to help me understand how to best design an intervention that would fall under Sunnaas's mission statement to provide the best services. To ensure that I could accomplish this goal, I first had to define what services were at Sunnaas and how to quantify them as the best possible solutions.

A good services at Sunnaas must be an insight to the values, mission, & professionalize. Ensuring safety for patients, as well as hospital staff, combined with environmentally friendly techniques. All services must be evidence based, and supported in educationally productive means.

I divided my findings into three sections to support Sunnaas's mission statement. These three sections are interpretations of Maslow's Hierarchy of needs diagram.

Self-Fulfillment, psychological, and basic needs are represented in the order of importance. Basic needs on the bottom because they are the first to be fulfilled. Things like patients safety are represented in this section.

As you move up the pyramid the needs represented shift from something that can be easily grasped to concepts best represented by Sunnaas' desire to bring the mindfulness of nature into the hospital, through art, installations, open layout concepts, and large scenic walkways.

Pain Points

Lack of Communication

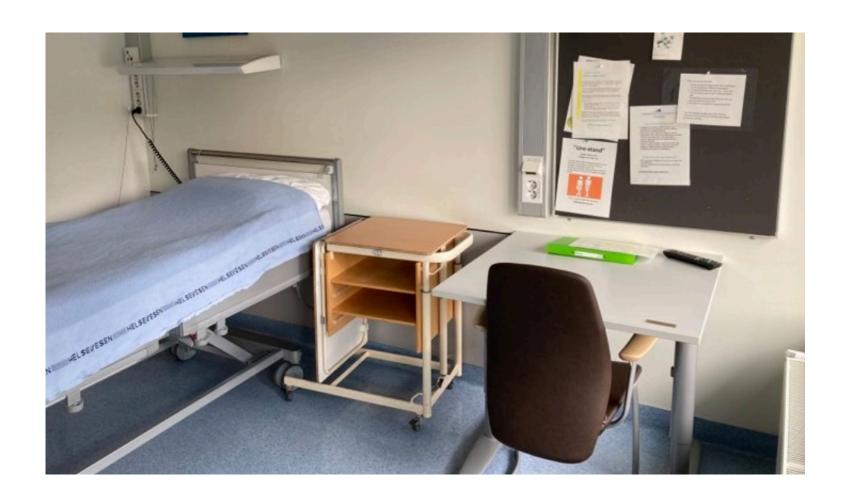
Lack communication on schedules causes distrust in the software Time Edit with both staff and patients. Porter using an handwritten schedule that he checks at the nurses station hourly to ensure that the schedule is accurate. While he can use Time Edit, the updates lag do not always accurately indicate the time tables allotted.

Inefficient Elevators

Since there are only three main elevators to use between the floors and the severe trauma wards, a line quickly forms causing a slow down for staff and patients.

Inflexible Schedule

Management is unwilling to hire right now due to Covid-19 and other extinguishing circumstances, there is an inability to hire more porters to assist with transportation of patients. Transportation assistance falls on nurses and other staff.

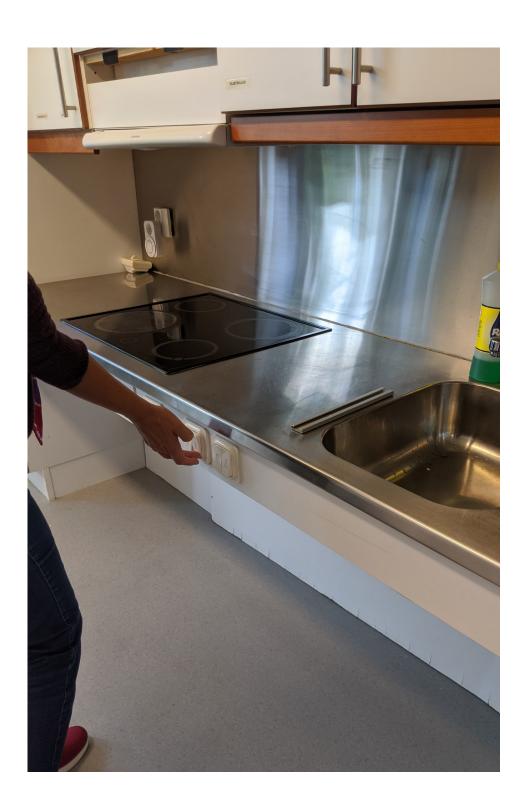


Patient's rooms

Patients rooms are designed to be able to fit mobility equipment. The tables are adjustable to better fit patient needs. While the rooms are up to compliance to the Rights of Persons with Disabilities act, but the rooms are lack luster and lack personal touches that would make the rooms feel more inviting to patients.

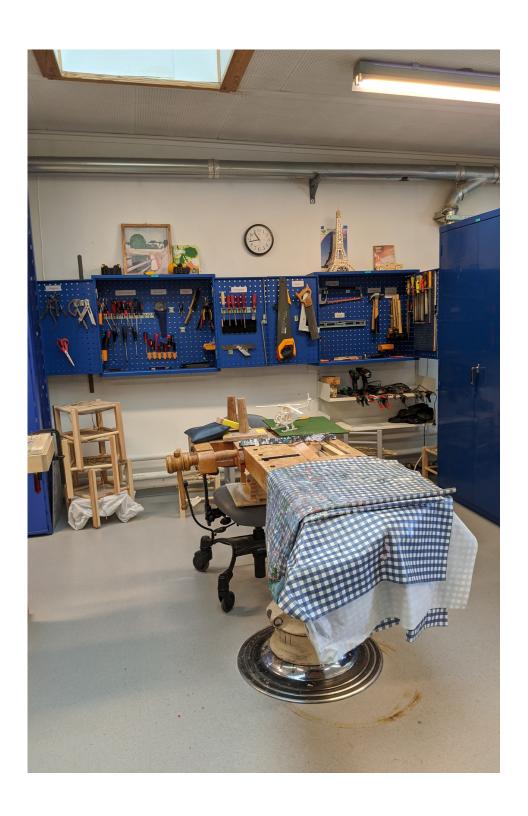
Because of concerns of covid-19, I was not allowed to survey the rooms closer to be able to adequately intervene in redesigning rooms to be more adept in creating an environment that will enforce more self-sufficient in therapy.

I would like to further investigate how to adapt rooms to help patients feel more comfortable in their rooms. Many patients in interviews reported that this is something they would be interested in investigating to help integrate from Sunnaas Sykehus.wW



Occupational Therapy

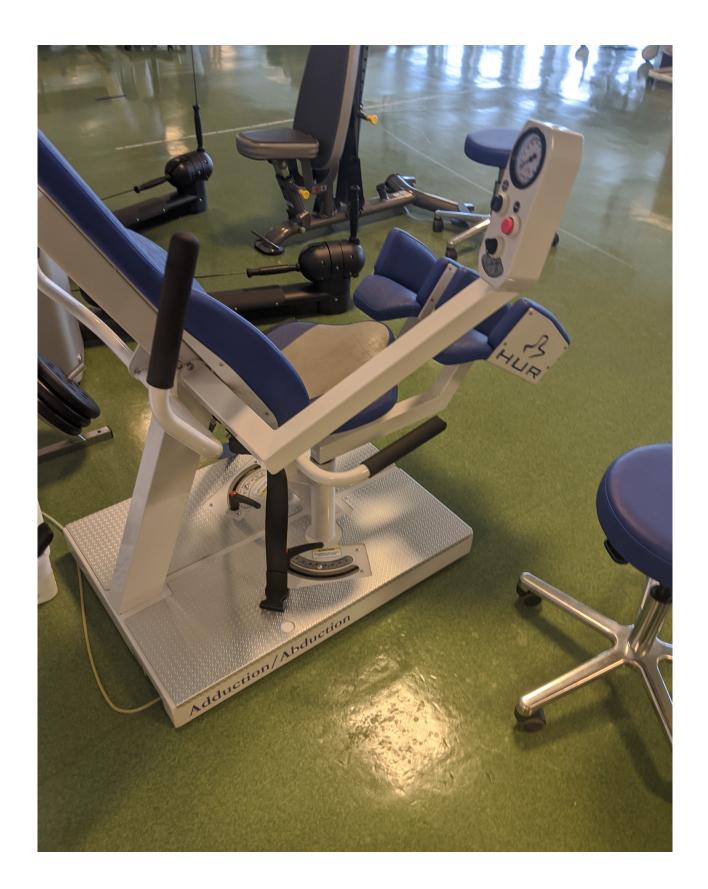
"Everything can be therapy"
With the mind set that everything is therapy, Sunnaas uses innovative exercises to seamlessly integrate the patients into life outside of the hospital by offering unique classes that teach patients coping skills that are needed to navigate their new world. Simple things like cooking, have been made simpler with height adjustable stove tops.



Occupational Therapy

Hands on Classes and exercises

On top of practical skills, used to help patients learn skills that will help assist in adapting to life after their accident, Sunnaas offers classes that help to build mobility, and hand eye coordination. One example is their fully functional wood shop and corresponding classes These classes forward the thought process of do it for yourself.



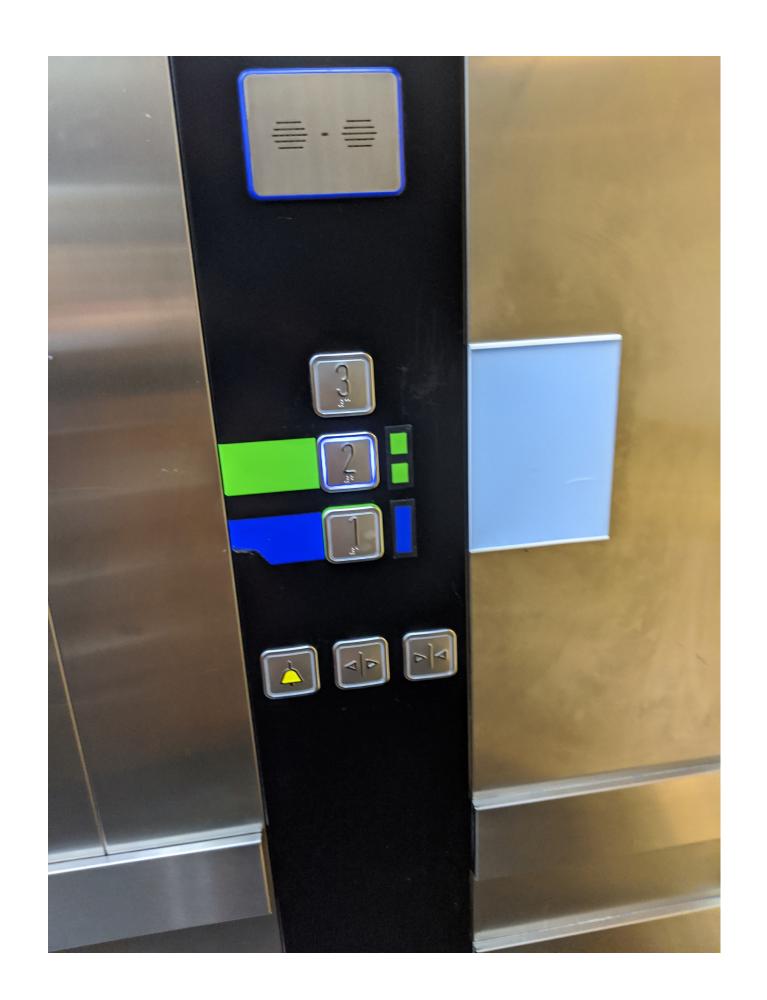
Color Coordinated

Green

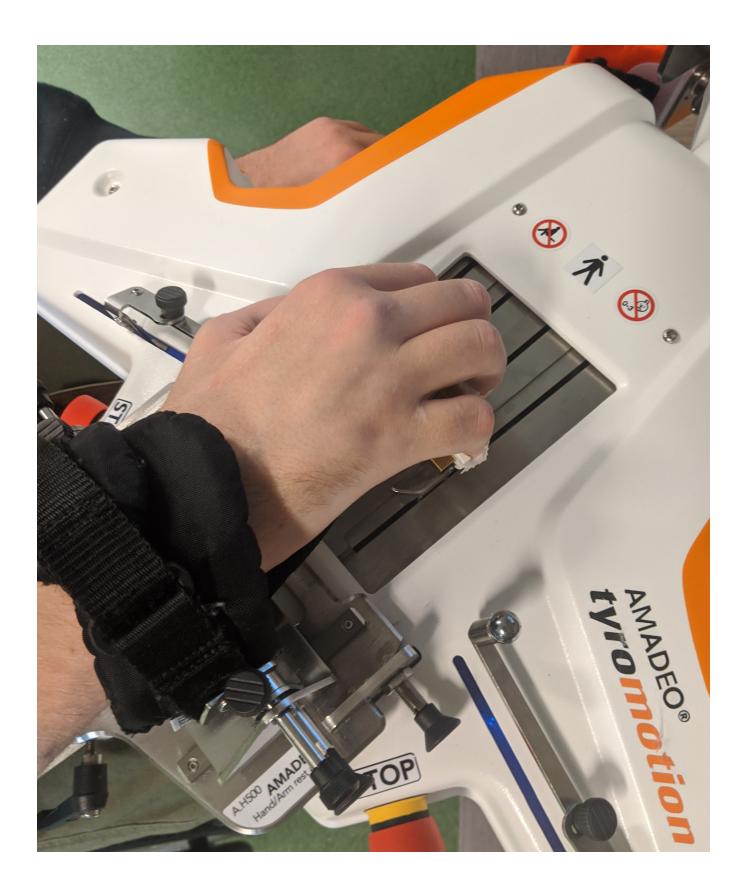
As stated earlier, the hospital is color coordinated in two ways. Green dotted line leads to the Physical Therapy room. The floors are color coordinated to reflect corresponding rooms. Staff wear shirts that further this navigational issue.

Blue

Blue line leads to Occupational therapy rooms located directly below the physical therapy rooms. Staff wear blue shirts to help indicate to patients they are in Occupational therapy in comparison to above stated statement.







Intentionally Advanced treatments

Robotics Therapy

Robotics therapy is a major hit at Sunnaas sykehus, where most patients prefer the robotic training over traditional occupational therapy. One patient quoted "its more fun, and feels like its working more than practicing picking up a pencil". The success rate of this equipment is highlighted by gamification and personal goal setting.

VR Therapy

Used mostly with children, Sunnaas has created a therapy treatment technique that utilizes VR to help with mobility issues. One of the exercises, includes a child in a wheel chair, to build up their muscles, they go through various obstacles that mimic what is like outside of the hospital.

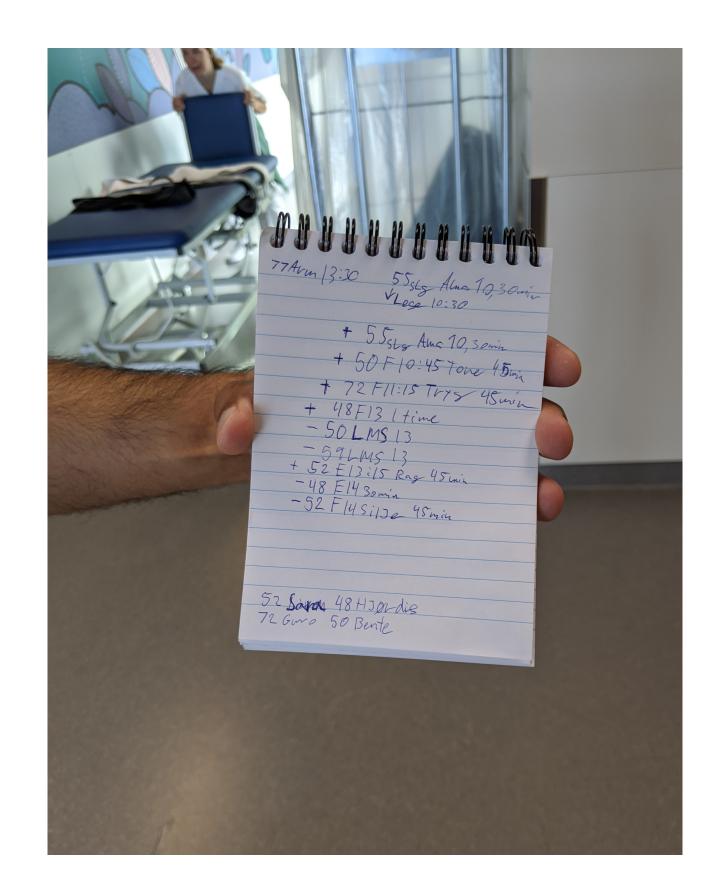
Porter Observation

I observed Porter at Sunnaas Sykehus for four hours, to observe the routes, and discover any inefficiencies that may arise during his day.

One of the first things I noticed was the way the Porter used a paper schedule that he constantly checked with the nurses station to ensure he was managing his day to the best of his ability.

Similar to the software the Hospital used, the Porter labeled patients based off of their room number and the week that the patients had checked in. This helps to keep anonymity of the patients, if the schedule is misplaced.

However, it is nice to see the porter improvise his schedule to make the job work for him, it is inefficient to use a paper notebook to track his daily tasks. Especially the unreliability of the schedule he writes daily, by taking multiple breaks to check his schedule with the schedule that is updated by the nurses, the porter loses valuable time and the nurses also lose time that could be spent doing their tasks.



Porter Daily schedule

Along side of the porter, I sat with him to map out his daily activities. I was surprised to find that he spends a good portion of his day assisting in extra tasks throughout the hospital. The porter spends most of his time running back and forth through out the hospital.

Interesting was that the porter felt he didn't have time to eat lunch so he skipped it daily to spend his time mostly working.

The porter reported that there use to be two porters but one left to expand his horizons whereas the current Porter preferred to stay and complete many of the certificate programs offered for employees at Sunnaas.

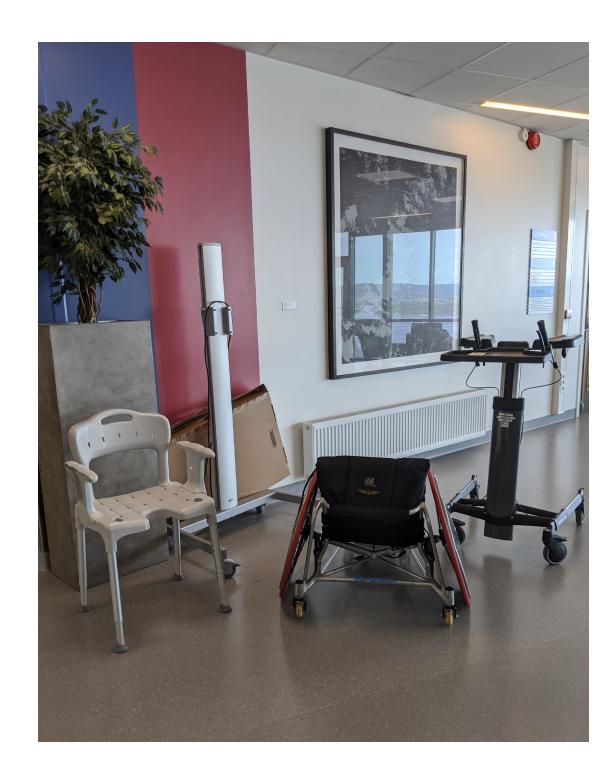
Looks through schedules Makes list of patient transport times Conveys message of which patients picking up to nurses 9;15 goes to stroke ward Get patients set up on equipment Assists in cardio group set up 9;45 rushes to spinal cord ward to bring test results for lab 9;55 goes back to cardio room 10;15 follow patient to physical therapy 10:30 runs errands for nurses 10;45 fills out paperwork

11;00 helps with IT if needed while waiting for patient
12;00 takes patient to lunch
1;00 takes patient to next appointment
1;30 removes pillows from wheel chairs to be clean
1;45 returns cleaned pillow from yesterday
2;00 sanitizes chairs
Assists w/ 1:1 therapy w/o infectious diseases
2;15 assists its with whatever need arises

Porter Observation



During my time with the porter we continuously used the elevators, which were usually occupied by patients, and hygiene staff. Because of Covid-19 restrictions we had to wait for the elevator to have less than five people in the elevator. Elevator wait times were on average 5 mins each elevator we took. The porter stated multiple times that he knows of extra elevators that other don't use, but every elevator we took during my observation we had to wait for an empty elevator.



Among the transportation tasks, the Porter is also responsible for various other tasks:

Putting away equipment

Equipment is sometimes held with in the hallways causing confusion and mobility issues within the hospital. The porter is often tasked with making sure the hallways are clear and the equipment is sanitized before returning it to storage.

IT assistance

When the IT team is busy with other tasks, the Porter is often asked by nurses to fix basic IT issues.

Cleanliness

Similar to being tasked with putting away the equipment, the Porter often helps make sure the cushions in the equipment are cleaned and sanitized. He does this daily, he gets all of the cushions and takes them to the laundry. He then replaces the cushions with clean ones from the day before.

Patient Interviews from current and past patients at Sunnaas Sykehus:

Patient Interview

What do you appreciate?

Very very appreciate, they take me to the rooms, enjoys going with the porter, I like speaking with them, the interaction with nice is very nice with me

What was it like when you first got to Sunnaas?

Was not as it should, it was okay. * ak asked was the hospital the way you expected it to be* he had wanted to would be told who hes primary care nurse, like who to be asking for when something was needed

How do you know what your daily schedule looks like?

I have a schedule on the room, paper stuck on the wall. Telling times where to be.

How much togetherness do you spend with other patients/staff/family/community?

We talk by video chat, and talk to the others during the meal. Thinks to have a good relations with the others. In the unit, I talk to some of the nurses, who are sitting out in the coordinators.

Family and friends visit often, I miss a place to be together with them, it is cold outside and rainy so it would be nice to have a warm safe place to sit together with your family.

How do you navigate Sunnaas?

By the chair, they taught me how to use and how to get around. I go my way around. Uses chair independently out in the hallway, and in my room. But with longer distances I need help. I am hoping for an electric chair to be able to use it outside. Wants to connect to the outside more.

When he is coming back, he lives in a small town, and is in discussion with getting one electric wheel chair. Is in training, but his wife is going to have to help drive the wheelchair.

What are some things you may or may not want to change about your experience at Sunnaas?

Who do I ask, and who do I connect with, just in the beginning. It is better now. So you know who to ask if you have any questions. Confusion about shift charges,, and who to ask when not on duty.

Patient Interview

What could you wish for differently?

Everything could be in the same level, up and down the stairs. It can be challenging to go from different rooms from training to the rooms that I live. Its not very logically designed. Built in different periods. The hospital has a challenge to keep it together. Maybe more easy to access. Maybe the training more together.

Maybe you don't have to go to another building. Maybe all exercising be in the same area. Maybe all the activities in the same place. I would also like to have a patient hotel. Not everyone needs to have nurses around us 24/7 just need access to the training facilities but not the nurses. For me I would like to be able to stay near by, and not in a patient room.

We are all so different. We have many challenges, but we are very different. For my need I really wish I could have my dog, I live alone so I miss my dog very much. With a patient hotel you would be able to bring your pet. Pets give a better quality of life.

What was it like when you first got to Sunnaas?

When I first got there I was in a wheel chair, then I was able to go about on my own. I needed help 24hr at first but it was terrible.

There is a gap between the caring and therapists. The nursing didn't know more about what we were doing in the therapy, and what were confused about the services they offered, only about primary health. The Caring people should be more interested in the other hospital.

How do you know what your daily schedule looks like?

I got a written schedule on paper, and it was hanging on the wall in my room. The last stay I got the schedule on the phone. I wish that more of the schedule was set before I came, the coordinator but it changes often. You have to check your schedule all the time, because it changes a lot. I wanted to know more about what my expectations. I don't know why they have to wait until I get there. More should be scheduled. I knew what I was coming for, why do they not know? Also when I come to sunnaas I know that there will be some training for everyone, like yoga climbing, but you get nothing of that before you know before you come. I also hope to have time for things like that as well but i don't know until I get there.

Clinical services at Sunnaas are organized into three specific rehabilitation programs:

Spinal cord injury and multiple trauma

Assessment and pain rehabilitation

Brain injury

Patient Personas

Mild

Moderately affected by transportation issues, some mobility issues, but mostly can handle transportation independently.

Medical needs are taken care of by a nurse when the patient is admitted. During leave, the patient mainly arranges this himself.

Transfer often takes place without aids or by independent use of a manual wheelchair or crutch. Patients use large parts of the hospital

In case of impaired memory or orientation in time, an electronic timetable and SMS reminder are used.

"Do at patient's request"

Moderate

Group that relies on transportation services the most. Has mobility issues.

Medical needs are taken care of by the nurse ensuring daily medicine handling, wound care and other things.

Transfer often takes place with the help of light transfer aids: manual wheelchair, walker, crutch, slide, etc.
The patient participates in whole or in part in the movement.

In the event of reduced orientation in time, place and person, timetables (paper) and reminders are used by the staff

"Working with the patient"

Effected Employees

These employees are most affected by transportation delays at Sunnaas:

Porter

Main job is to transport patients safely to and from appointments at Sunnaas Sykehus. Completes extra tasks through out the day to stay busy. Reasons for running late is normally due miscommunication, issues with moving into the chair, or elevator issues.

Therapist

Some therapist enjoy being able to transport patients, but some do not enjoy it. It causes some issues with whether they are able to plan their schedule to be able to allow time to transport patients

Nurse

Not the main mode of transport support, but can transport patients if is needed. Issues arise when time does not allow for nurses to transport patients. They have other tasks to perform.

"A successful rehabilitation requires strong contributions and involvement from the primary stakeholder, the patient. Patients at Sunnaas Rehabilitation Hospital participate in their own rehabilitation team as active and equal partners, thus ensuring ownership of their own rehabilitation process throughout the entire care pathway."

Collaboration

Personalized Transportation Support

What

A visual decision-making aid that allows nurses and hospital staff to use to spark a dialogue with patients about what support they need to manage their transportation needs.

Transportation Support Assessment

This assessment allows you to be in charge of your support needs while staying at Sunnaas Sykehus. On check-ins with support staff, this opens a dialogue between patient and support staff to understand where you are and what your potential goals might be. Please use this time to address any issues you are experiencing.

Who	Where	When	
Porter Family & Friends	Physical / Group Classes Occupational Therapy	Morning Afternoon	
Therapist Self Transport	Recreational Catina Rooms Appointments	Evening	
Other:	Other:	Other:	
Goals This is your space to create this framework to create	ate goals that are specific, measurable, achieva goals you develop attainable goals that are spe	ble and time-based. By using cialized just for you.	

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Friendly recognizable Icons

By using icons that are directly correlated to things patients seen daily in Sunnaas Sykehus, they are easily recognizable and easy to translate to various ages, and cognitive functioning abilities.

Other write in option

Having a write in option allows the patient to customize their needs in terms of transportation to directly effect their current state of being as well as to think about where they would like to be in the future. This allows opportunities to expand their independence to transportation but also allows staff to foreseeable to see opportunities to assist in expanding independence to other areas based on capabilities and safety.

Who Where When Porter Morning Afternoon Family Physical / Group Classes Occupational & Friends Therapy Recreational Catina Evening Self Transport Rooms **Appointments** Other: This is your space to create goals that are specific, measurable, achievable and time-based. By using

this framework to create goals you develop attainable goals that are specialized just for you.

Color and Type treatment

Color usage is designed to be similar to Sunnaas Sykehus' branding of light blue, saturated blue, and green. I chose to stick within these brand guide lines to help integrate the assessment to the previous ephemeral items handed out within Sunnaas.

Type treatment is done within the same thinking. I chose to use IBM Plex Sans to create a similar feel to the Calibri font used within Sunnaas' Brand guideline. Because of the closeness of the two font families it can easily be swapped out in the future.

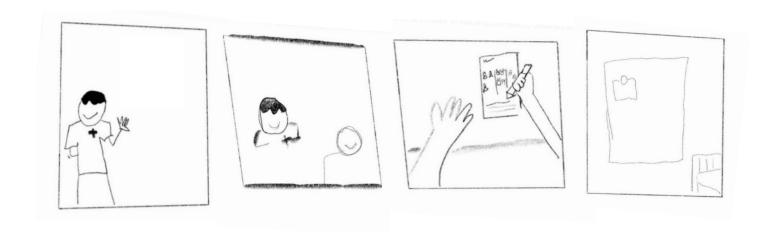
SMART Goals

By using the SMART goal template, patients are learn goal making skills that can be integrated into their lives post leaving Sunnaas Sykehus.

SMART stands for an acronym for Sensible, Measurable, Achievable, Realistic and Timely. This process works because it forces the goal maker to focus on what they can and cant achieve within a given period of time. This template is easily applied to with area of the goal maker's life, and can be used repeatedly.

Storyboard

To help understand why this design intervention works, I story boarded out the situation using this mapping concept by utilizing the method of asking the five W questions. This process allowed me to get in depth with the transportation system, and really conceptualize how using a Personalized Support Assessment would work and how it would be applied in action.



у . . .

Transportation times are long, and there isn't enough porters to transport everyone

What

Transportation needs to be efficient, and

How

By allowing patients to be more independent in transportation, you create a system that is efficient, cost effective, and goal oriented.

What if

Patients are given more independence by having control of their transportation

Who

Patients at Sunnaas Sykehus and the employees at Sunnaas Sykehus

Learning and decision styles

What is the balance needed between education and setting the scope for decisions to be made? How does this vary for the decision makers and their key influencers?

Audier

Patients are late going to therapy

Characters

Hospital employees : Nurses, Porter, Therapists, and etc.

Patients

Sense of urgency

To give patients more autonomy in regards to movement within the hospital, as well as to speed up the transportation process.

Delivery plan

Buy in with the ideation/innovation lab. Then user testing with patients & key staff members. Applied application of design intervention through out the hospital

Design

Apply an assessment during the goal setting discussion with patients which occurs biweekly. Hang the transportation assessment on patient's door to ensure no confusior with staff and patients. Develops interconnectivity, autonomy between patients, and staff to create an environment that is goal oriented and safe.

Test

Implementation and testing to be done at later date.

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Application

This intervention could be used during the patient goal discussion that occurs bi-weekly with the therapists and the patients. Then the assessment could be placed either on the door or on bulletin board in each patient's room.

Why it works?

Using this method of asking patients what their preferred method of support you create an environment that not allows but encourages independence, and self-Sufficiency.

By focusing on goals, the patients are encouraged to take an active role in transportation.

Time Cost Analysis

On average, the porter takes approximately thirty minutes per patient. Upon speculation about two-thirds of those interviewed would like to be able to transport themselves. If the porter on average transports 16 patients within the eight hours the porter works daily, then that would mean around 12 patients per day are interested in transporting themselves. With this logic, the porter would be saved to transport just the patients that absolutely needed transportation support, saving time to be able to assist more patients.

Engagement

Current Activity Board

Now

This is an image of the current activity board where patients can see what is going on within the hospital. This board is situated on the first floor by the elevators.



Visual Event Calendar

Pain point: Not knowing about events going on while at the hospital

What

A visual aid to show the individual schedule, as well as events and classes that are going while at Sunnaas Sykehus. This allows transparency about classes and events. This also allows for patients who are not able to access the browser app that displayed only on the mobile browser.

By using this approach the patient has a clear understanding of their day, and where they can explore other options.

Hospital Map **Activities** Schedule Co-choice: No decisions Yoga: Morning Vinyasa Flow 9:00 about me without me! Learning and Mastery Center, Room G 157 Learning and Mastery Center, Room G 157 **11:00** Make a Chair **11:00** Epilepsy and coping Learning and Mastery Center, Room G 157 Learning and Mastery Center, Room G 157 13:00 Spinal cord injury course 13:00 Bouldering Learning and Mastery Center, Room G 157 Learning and Mastery Center, Room G 157 13:30 Relatives' seminar **13:30** Water Aerobics Learning and Mastery Center, Room G 157 Learning and Mastery Center, Room G 157 **15:00** Department of **15:00** Photography 101 Multitrauma, Neurology and Learning and Mastery Center, Room G 177 Burns Learning and Mastery Center, Room G 177 Legend Blue Path

Catina

Bathroom

--- Green Path



Schedule

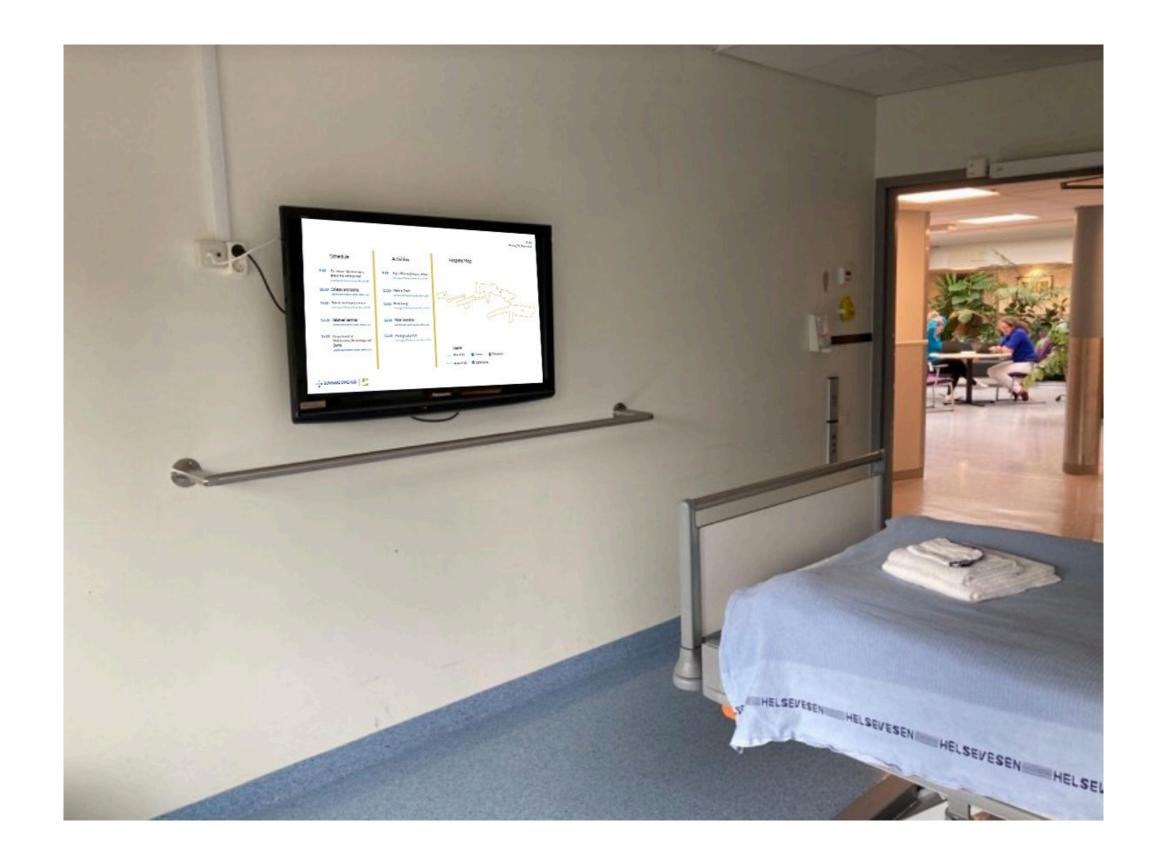
Many patients reported that they felt they did not know about what was going within the hospital, nor did they feel like there was transparency about classes that could be taken while staying at the hospital. By using a schedule that can be displayed on screens throughout the hospital as well as in the patient rooms, create transparency in things that happen within Sunnaas.



Layout and Way-finding

Since the hospital is confusing to navigate, a map is displayed on the screen to indicate where you are in the hospital but as well as how to get to where you are going.

In further explorations of the legend it would be nice to include key pieces of art, to help navigate so you have landmarks to look for while self transportation.



Cost Analysis

TV

Since there are already screens in place at Sunnaas, the only cost would be the cost of the developer to seamlessly arrogate data from Sunnaas' servers to be able to be displayed. This data could be pulled from Time Edit, the scheduling software currently in use at Sunnaas.

Initial Suggestions for creating more accessible self-transportation options

Orientation updates

Elevators

By changing the labels on the elevators to include the name of the important rooms on that floor, and not just include the color coordination tape, It would make it easier for patients to Navigate.

Map

By adding more maps around the hospital to help in advocating for self transportation, it would help with self orientating to the hospital. It would be interesting to add key landmarks to the map, like the art on the walls to help self orientate.

Couches

By adding couches to the walk way allows patients the ability to rest. The walk way is long and can be intimidating. This allows the entry level to be lower.

