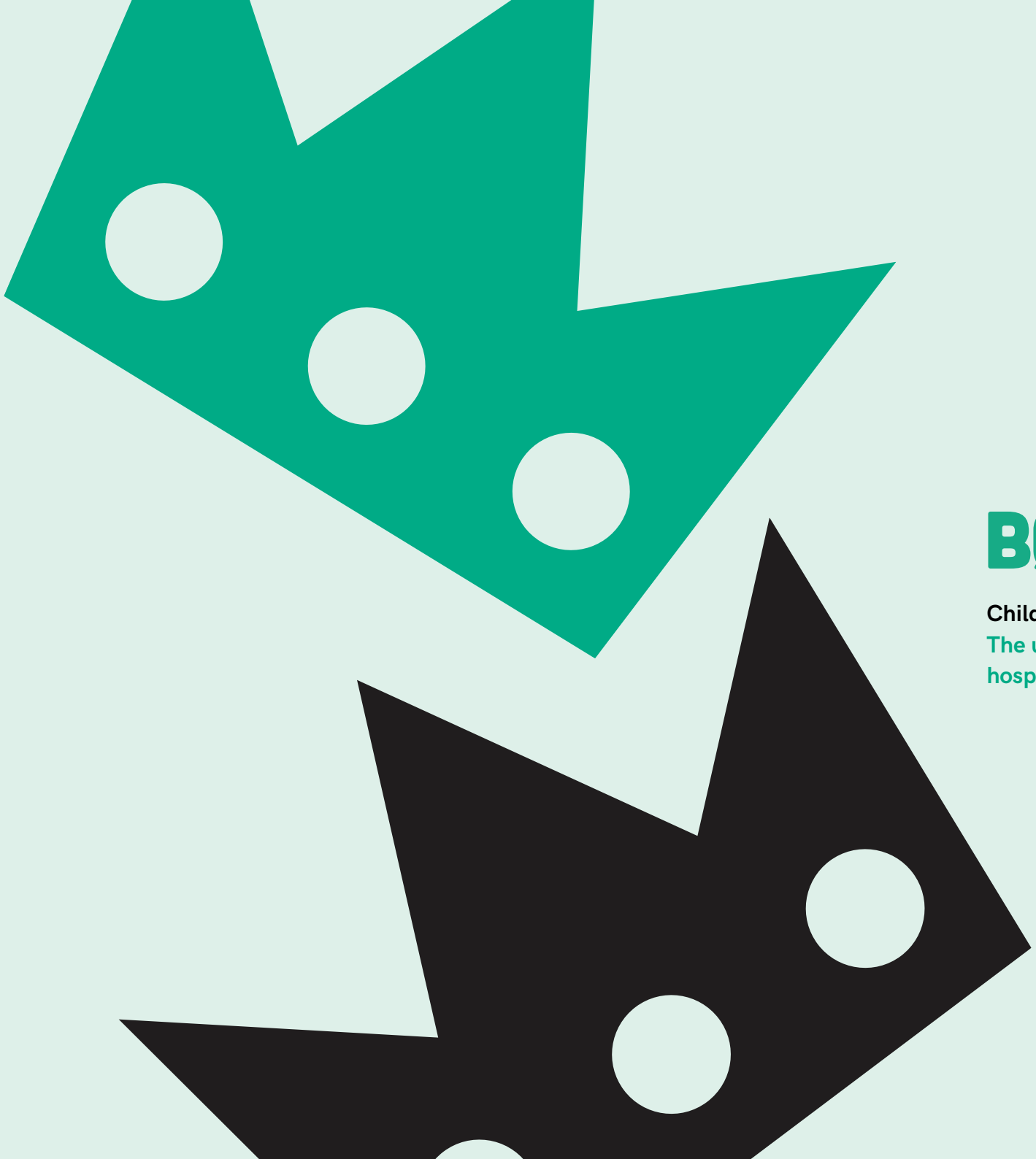

BØRNERIGET

Children's Hospital Copenhagen

The user experience at the world's best hospital for children and families

Children's Hospital Copenhagen
The user experience at the world's best hospital for children and families

November 2014

Translated by inenglish.dk

A special thanks to the staff and users of the Juliane Marie Centre – without their assistance this booklet would not have been possible.

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The booklet

This booklet sets out the vision and five pivotal design principles for the user experience at the new hospital for children, adolescents and pregnant women. The working title of the new hospital is Children's Hospital Copenhagen (in Danish: BørneRiget). The vision for the new hospital evolved in a partnership between Rigshospitalet's Juliane Marie Center (JMC), its users and the consultancy firm ReD Associates.

The strong focus on the user experience at the new hospital follows naturally from JMC's 2020 Strategy: "It's the outcome for the patient that counts." Besides focusing on professionalism, expertise and excellent standards of patient treatment and care, the strategy underlines the importance of the overall experience of the patients and their relatives.

The purpose of presenting the insights and design principles in this booklet is to inspire and guide the architects, designers, staff and users who, over the coming years, will work to create a new hospital in a league of its own.

The booklet presents the five design principles one by one, each of which is built around a core insight and illustrated through ideas for solutions. The examples of solutions are exactly that and no more. They are not proposed as finished ideas, but have been included in order to breathe life into the design principles and to show potential solutions.

Building a new hospital offers a unique opportunity to enhance the user experience to a much greater degree than would be possible within the framework of the current JMC. Our ambition is no less than to create the world's number one hospital for treatment of children and families.

Happy reading!

Bent Ottesen
Project Director, Children's Hospital Denmark

Mikkel B. Rasmussen
Partner, ReD Associates

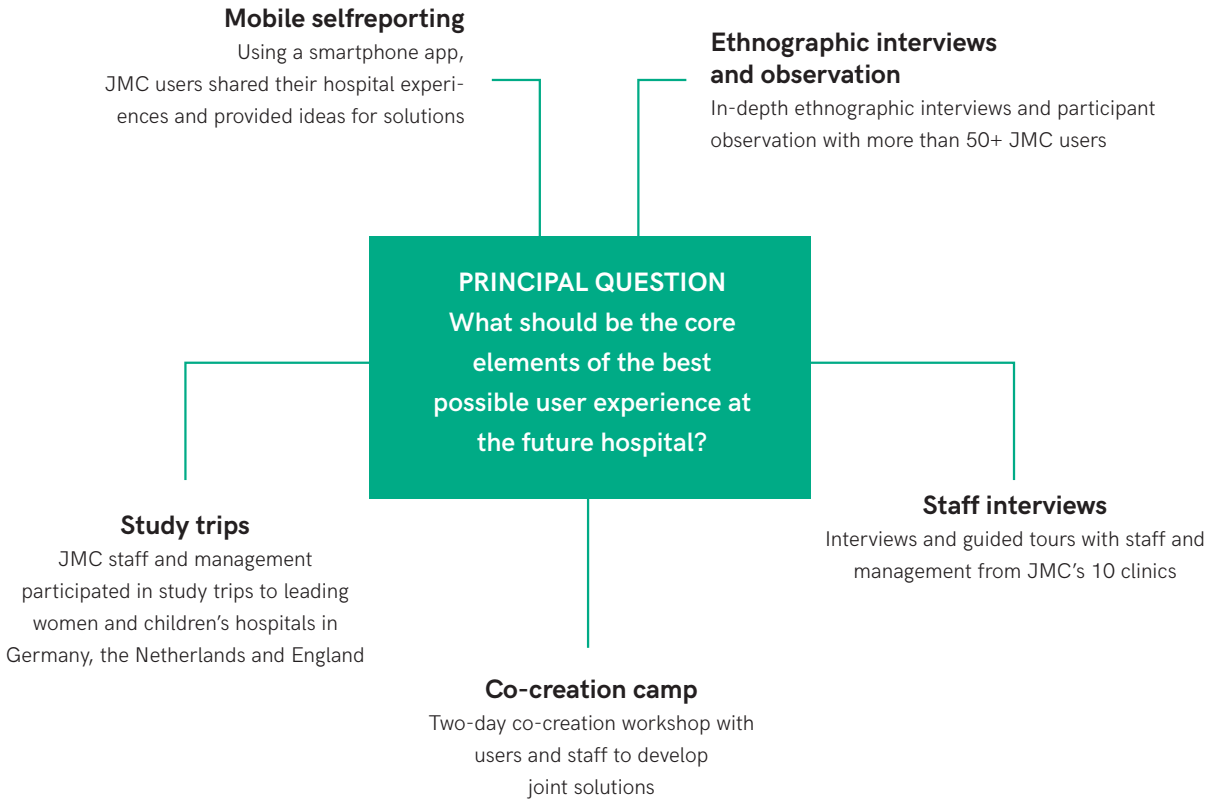
The study behind the booklet

This booklet is the result of a four-month study that ran from August to November 2014. For the study, a team of anthropologists and designers worked jointly with patients, relatives and staff from JMC. The process consisted of thorough research and analyses, followed by the development of the vision, design principles and example solutions.

The four main phases

1. Research
2. Analysis
3. Vision & design principles
4. Examples of solutions

The study addressed the principal question using complementary methods

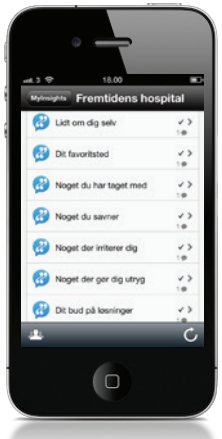


Study trips

On the study trips we learned from the experiences of architects, medical staff and management.

Interviews

Interviews in the home created a safe atmosphere, allowing researchers to compare disease management at home vs. the hospital.



"Not only that, it would be really great if you could borrow a bike …"

Mobile app

The app also allowed users to contribute ideas for solutions.

Co-creation camp

Mixing users and staff at the camp led to solutions that work well for both groups.

Participant observation

Researchers were able to experience the hospital from the vantage point of users, for example, by letting the children show them around.

First-hand experience

As part of their research, the team behind the study were also "admitted to hospital" for overnight stays at various clinics.

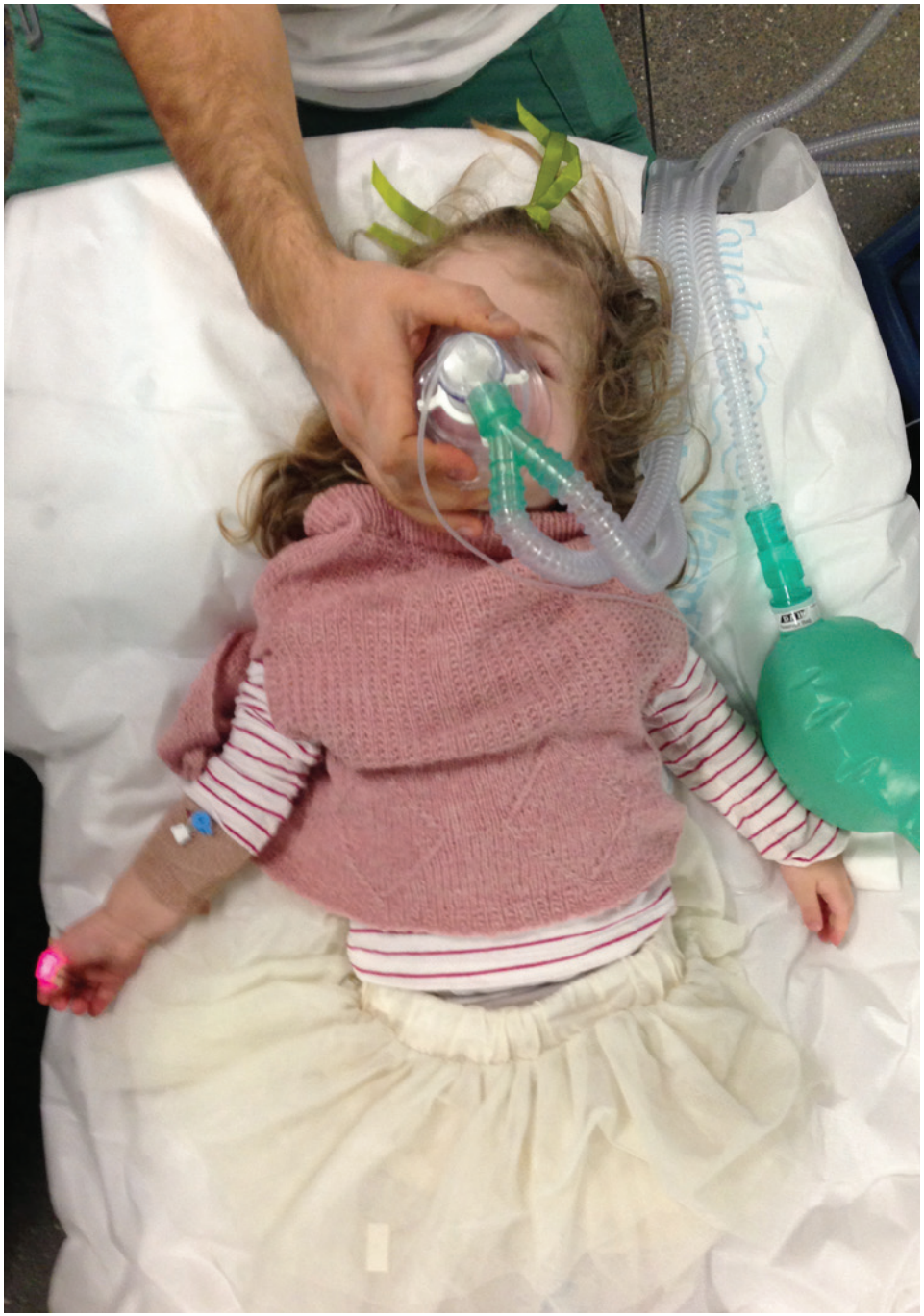
Two fundamental observations

"Bows and ballerina skirts on the operating table. A real hospital princess."

Pictures and comments from mother of a little girl at JMC

Kids will be kids – even in hospital

Even though she is in hospital and undergoing complicated surgery, the little girl in the picture is wearing a fairy skirt and bows in her hair, just like any other four-year-old who dreams of being a princess. The diverse data collected during the study showed a clear pattern: A child may be ill and admitted to hospital, but kids will always be kids. Together, parents and staff struggle to maintain the children's experience of normal childhood. Or the young people's experience of adolescence. The user experience at the world's top hospital for children and families allows kids to be kids and young people to be young people – right throughout their treatment.

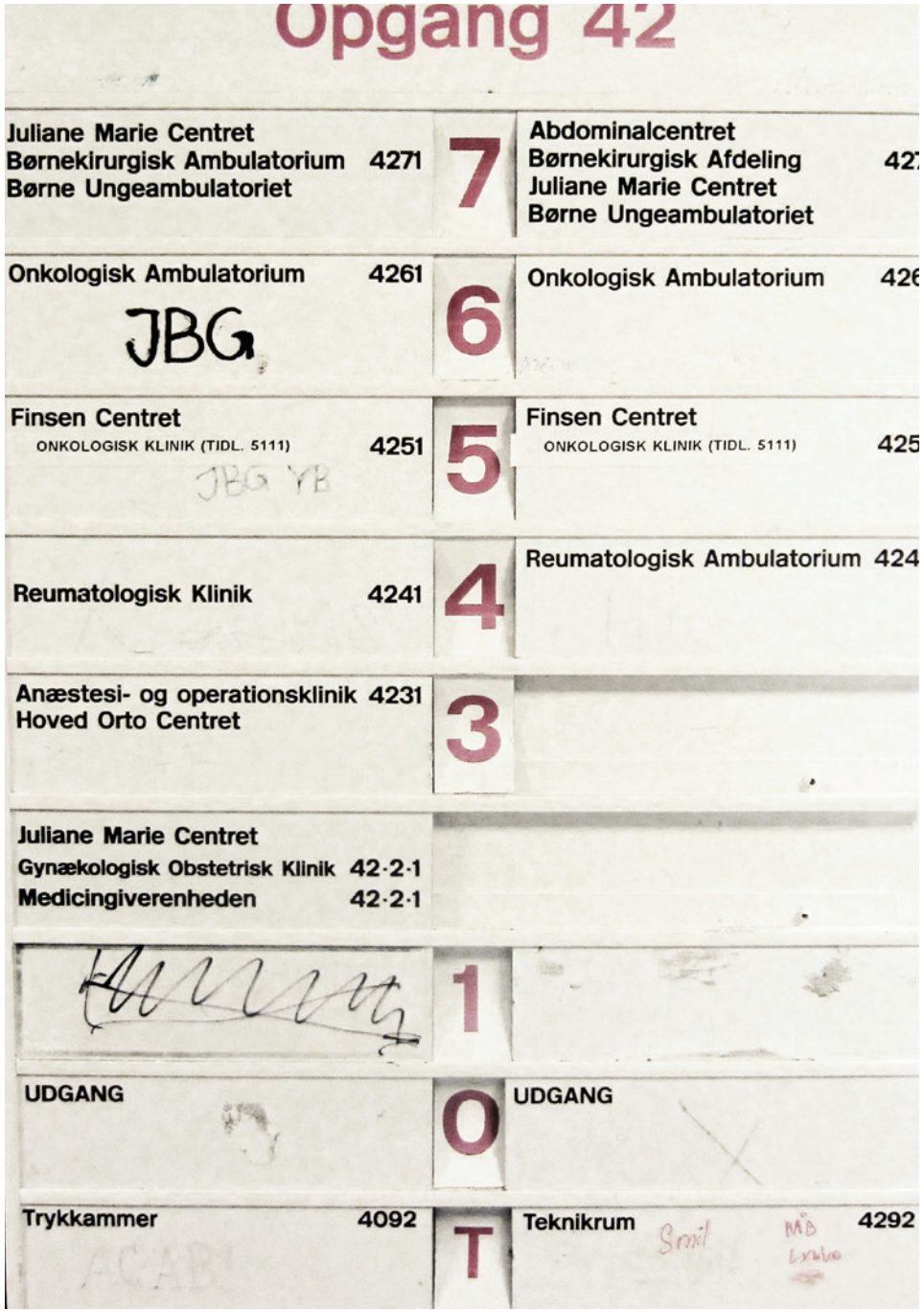


“When they move you from one ward to another, it’s like arriving in another country.”

Comment from an interview with
father of a newborn at the JMC

From 10 kingdoms to one

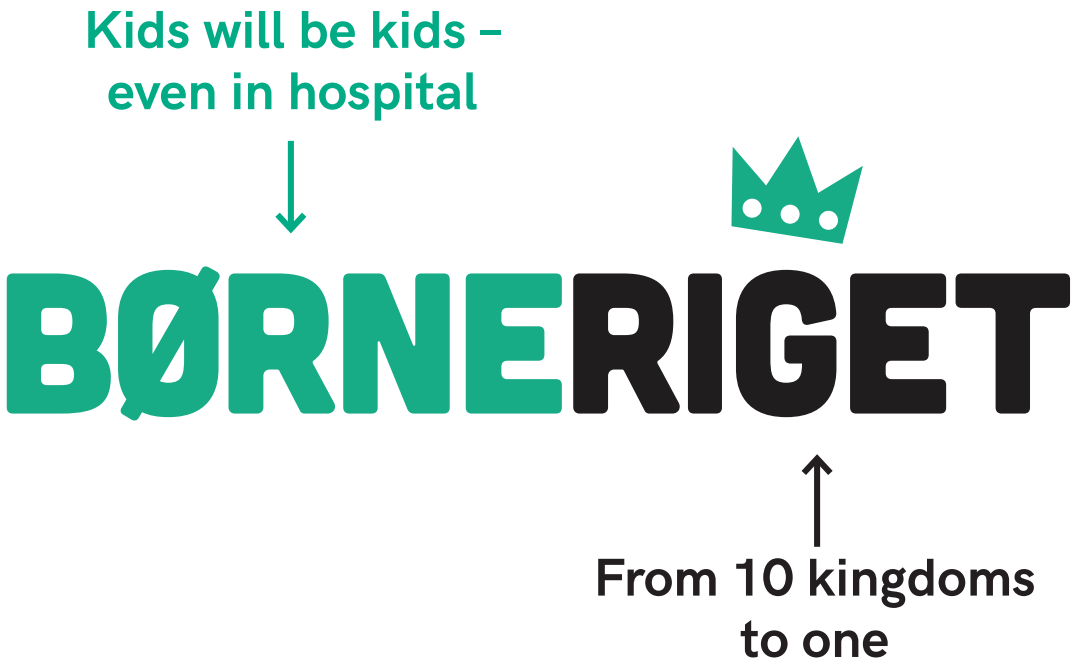
The father describes the difference between two wards as so extreme that it is like being in two different countries, something he could clearly do without in his situation. In general, data showed that users today experience JMC as a collection of small, independent entities (”10 small kingdoms”). On the one hand, a high level of medical specialisation is the absolute prerequisite for world-class treatment; on the other, users very much need to be met with one language and one best practice. At the world’s top hospital for children and families, the patient pathway will be seamless, across wards and treatment situations.



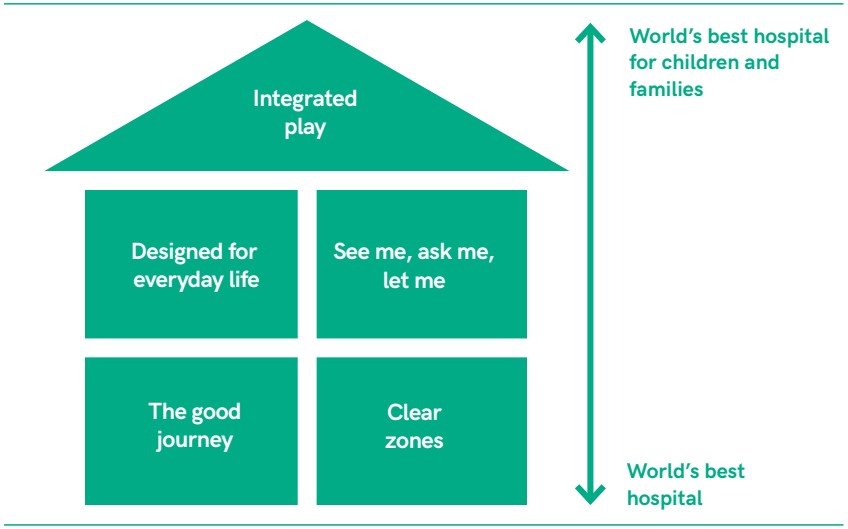
Example of a current, somewhat confusing, sign indicating the location of various clinics, centres and wards.

Vision

The vision behind the user experience at the world's number one hospital for children and families is encapsulated in the hospital's Danish name, BørneRiget, which translated directly means Children's Kingdom. The emphasis is on the first part of the name, Children (Børne), since the overarching theme of the user experience at the hospital will be the insight that kids will be kids. And, on a more general level, that users, whatever their age, do not stop being who they are when they step over the threshold of the hospital. The emphasis is also on kingdom (Riget), since the users should find themselves in one kingdom, rather than a collection of small principalities. And lastly, of course, because BørneRiget (Children's Hospital Copenhagen) is part of Rigshospitalet – known colloquially as Riget. On the next pages, we will present the five design principles that we believe should guide the creation of Children's Hospital Copenhagen.



5 design principles



The design principles cover both elements specific to hospitals for children and families and general hospitals with all kinds of user groups.

#1 Integrated play

Make play an integral part of the hospital's design, life and processes

#2 Designed for everyday life

Put the world inside and outside the hospital in sync

#3 See me, ask me, let me

Give back patients the feeling of control by letting them manage the small things

#4 The good journey

Create a patient journey that starts well, is coherent and celebrates progress

#5 Clear zones

Create an intuitive building that is easy to navigate and guides user behaviour

Reader's guide

Each of the following five sections in the booklet contains:

One insight
The five insights distill the most important realisations and knowledge derived from thorough analysis of the collected data.

One design principle
Each insight has been translated into a design principle that takes the most important aspect of the insight and makes it operational. Written to provide inspiration and guidance for the diverse expert groups who will work to create the new hospital, they read overall as a manifesto showing how the vision of user experience at the hospital will be implemented.

Examples of solutions
The booklet provides examples of solutions to illustrate each design principle, but they are in no way final. They have been included to make the design principles come alive and to give readers an idea of what concrete solutions might look like.

Integrated play

Insight
Design principle
Examples of solutions

Integrated play

Insight: For younger children, play stretches beyond the waiting room and the playroom. It's part of their entire stay

The hospital playrooms and waiting rooms offer all sorts of opportunities for play and games.

The hospital clown provides a welcome distraction from an imminent blood test.

Play can be used to kill tedious waiting time and distract the children to calm them down and cheer them up in otherwise uncomfortable situations. There are many instances of the use of play at JMC and the rest of the hospital.

However, in a child's world, play is not confined to certain times and places. Younger children in particular (between the ages of two and ten) engage in play activities throughout their entire hospital visit. One example is of a four-year-old dubbed "Princess of the Kingdom" by her mother. The girl loves being at the hospital, which feels like home – she has undergone surgery 30 times and been hospitalised for lengthy periods.

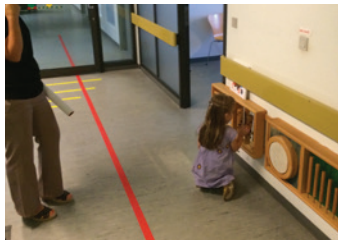
There is a flow of play and games in this little girl's experience of Riget, flowing from the lobby to the elevator, to the hallways, to the playroom, to the consultation room, etc. This play sequence occurs naturally and is only interrupted if others disrupt it.

For other children who feel less at home than the little girl, the flow of play can easily be broken. If play is incorporated into the design of the hospital building from start to finish and children are supported in their creation of a continuous flow of play activities, the many advantages of play could be utilised more effectively.

The visit starts with playing in the lobby by climbing and jumping off a couple of bears.

In the waiting room the little girl plays games and rides in a police car that she uses as an ambulance.

The ambulance drives directly to the doctor, who plays along.



In the hallway she encounters some musical instruments right at her height.

The game continues in a waiting room familiar to the girl from a previous hospital stay.

The girl visits a friend staying in a room with wall bars and quickly beings to climb.

In the elevator on the way home she continues to play and gets to press the button.

Example of the role of play observed during a four-year-old girl's visit to the hospital.

Play as a tool

Play can do much more than entertain and distract. It can be used as a tool in at least four additional areas at the hospital.

Movement

Play can be used to activate children physically, for example with motion games.

At the Royal London Hospital, Kinect cameras are used in play and games to encourage the children to jump up and down and move around.

Instructions

Children learn what to do during procedures, making it possible, for example, to avoid sedation.

During a study-related visit to Holland, a medical equipment manufacturer demonstrated its Kitten Scanner, which demystifies the process of scanning by letting the children scan a cuddly toy.

Socialisation

Play can be used to establish contact between children, especially if they are shy.

The father of a chronically ill child explains in the app that playing has helped his child to find friends at the hospital. When children play, their illness fades into the background.

Speeds up coping and acceptance

Play helps children better accept that they are ill and must undergo treatment, for instance through games where children play doctor or nurse.

Play therapy is already a recognised form of therapy for children. It is currently underutilised at the hospital.

Design principle #1

Make play an integral part of the design, life and processes

Challenges

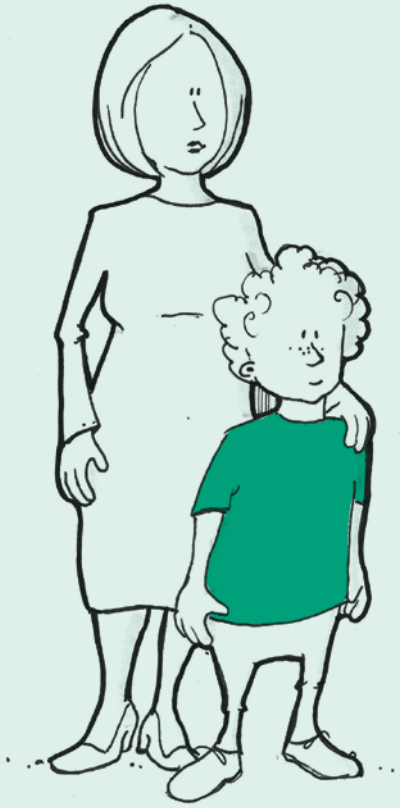
- Can treatment at the hospital become the world's most child friendly by using play to prepare and instruct children on their care and while undergoing care?
- How can play be integrated into the user experience to more quickly foster friendships among the children and young people affiliated with the hospital?
- How can the hospital's design and architecture ensure an uninterrupted flow of play?
- What steps and partnerships will it entail to make the hospital the world-leading institution for play in care and treatment?

Integrated play

Examples of solutions

Matt

Matt is a seven-year-old boy. He is going to start treatment at the hospital and has been called to his first appointment. In the following pages we zoom in four times on Matt's visit.



At home

The child's first encounter with the hospital is at home.

Reception

The child's play and experience at home is continued at the reception desk in the lobby, which helps to reassure him.

Hallway

The hospital is designed to facilitate the flow of play, which also has implications for the design of the hallways.

Treatment

Making play an integral part of the treatment process provides the staff with an additional tool and completes the user experience for the child.

At home

For the hospital's youngest users, play starts at home

Matt is going to his first hospital appointment tomorrow and he and his mother are preparing for it with the help of the hospital app. Neither Matt nor his mother has been to the hospital before, so they are curious as to what awaits them. Matt has fun playing with the app and is looking forward to his appointment more and more. Matt's mother is generally feeling nervous, but she appreciates being able to sort out some basic things at home, such as how they will get to the hospital, whom they are supposed to see at what time, what information the doctor will need about Matt, where they can have lunch and what they should do if there is a long wait.

At the hospital most visits are prepared for at home by the users, including by the children. This preparation saves the staff time during the consultations. At the same time it is reassuring for users to be able to play an active role and to know that the hospital is informed about them beforehand.

The hospital does its utmost to involve the children and uses play to do this on their terms. By starting the play at home, the hospital also allows the children to enjoy a continuous flow of play from the moment they enter the building.

Like the other patients, the children are not in hospital by choice. The hospital gives back users some control by giving them choices right from the start. As a general principle, the hospital makes sure that the first thing users encounter is a choice, never a demand or an order. In the case of children, play is used to make that choice meaningful and at the same time fun: What should I pick – the pirate ship or the racing car?

1 **The hospital provides choice**

In the first step on the app Matt is asked to choose which Transporter he would like to use during his visit. He chooses the pirate ship.

2 **Children play an active role**

Matt has to take a picture of himself and write his name and age. Using the app, he adds a pirate hat.

3 **The hospital already has the information**

Before arriving Matt's mom gave the hospital some information and checked in. She talked to Matt about his examination and wrote a brief note to the doctor about what made him feel most insecure.

Reception

Using play to make the first 5 minutes a fun and reassuring experience

Matt and his mother arrive at the hospital. Matt's pirate ship is waiting for him in the lobby, along with a friendly, smiling member of staff, who greets them and helps them to check in. After being given his hospital passport and choosing his hospital avatar, Matt shows his mother the way to their first appointment.

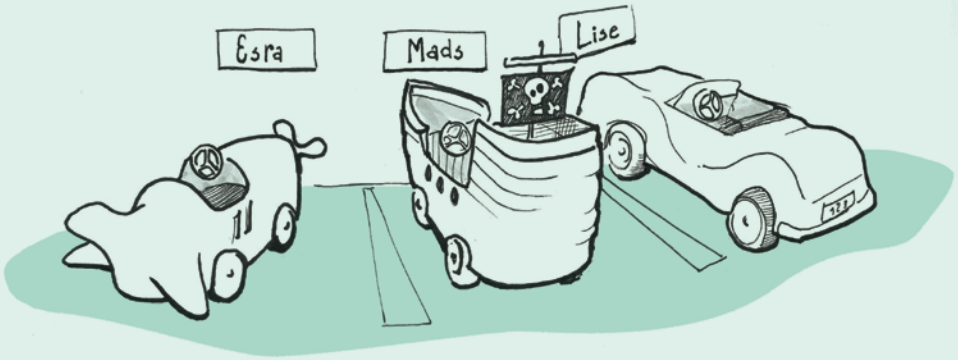
At the hospital the new user's first personal encounter is with a flesh-and-blood member of staff – not someone parked behind a desk, but a person who moves around the lobby. Although most of the users are relatively young and familiar with apps and smartphones, the staff member introduces them to the technology and self-service system at the hospital, which is akin to the system at airports.

To lessen the feeling of being in a strange place, the first thing the children encounter when they arrive is something they have seen before and chosen from home. A mobile play element, such as the hospital Transporter, provides the child with a safe haven to take with them wherever they go. The vehicle and its navigation system also allows the child to show the grown-ups the way and to sit in the driver's seat – quite literally.

The hospital works in collaboration with top universities and businesses on the use of sensors and robot toys. The children will have the opportunity to look after a 'fellow patient' avatar and they can use the game to prepare for and process the many impressions. By helping others, the children learn to look after themselves.

1 **Children feel at home right away**

The pirate ship Matt ordered ahead of time is waiting for him when he arrives. Like all children, he gets a **Transporter**, a personal vehicle for transport, navigation and exploring.



2 **Citizens of the hospital**

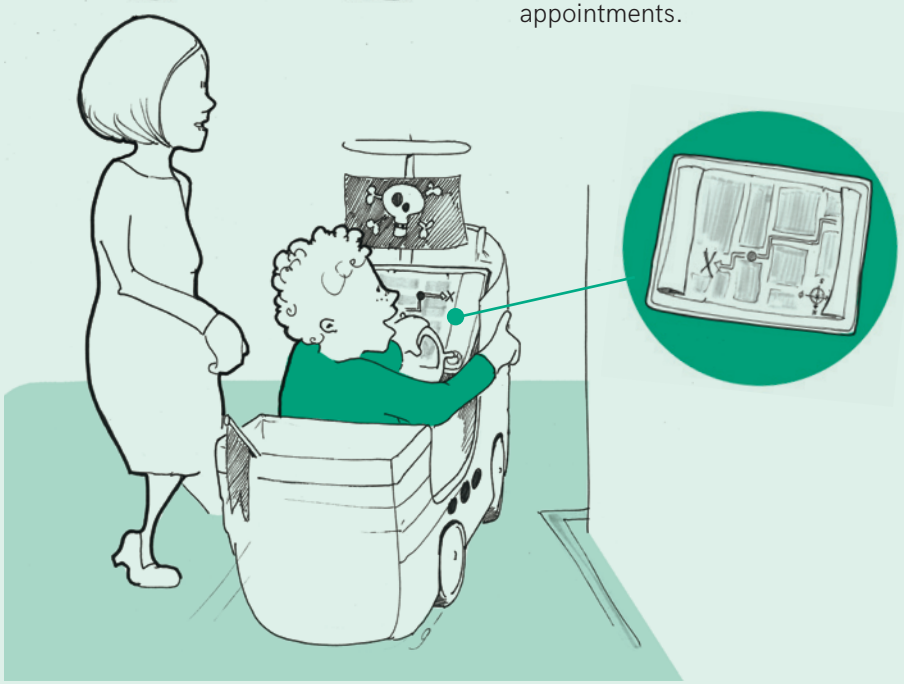
When admitted, Matt is given his Children's Hospital Copenhagen passport, which is designed to make the hospital a coherent, livable place to be, but also serves as a practical tool with access cards and for appointments.

3 **The hospital avatar**

The hospital assigns all children an **avatar**, to play with and to use to practice different kinds of treatment at the hospital.

4 **Navigation from a child's perspective**

Matt's pirate ship already knows where his first appointment is and uses the indoor navigation system to calculate the easiest route, which is then shown on the screen.



Hallway

At the hospital play is not confined to the waiting room or playroom. It is an element throughout

Matt and his mother arrive in good time. Matt's screen indicates that he has half an hour before his first appointment, so on the way to the outpatient ward they explore the hospital. Matt has great fun driving along the hallways, where he continues the game he started in the lobby. He is curious about some of the other children he sees, but also a bit shy.

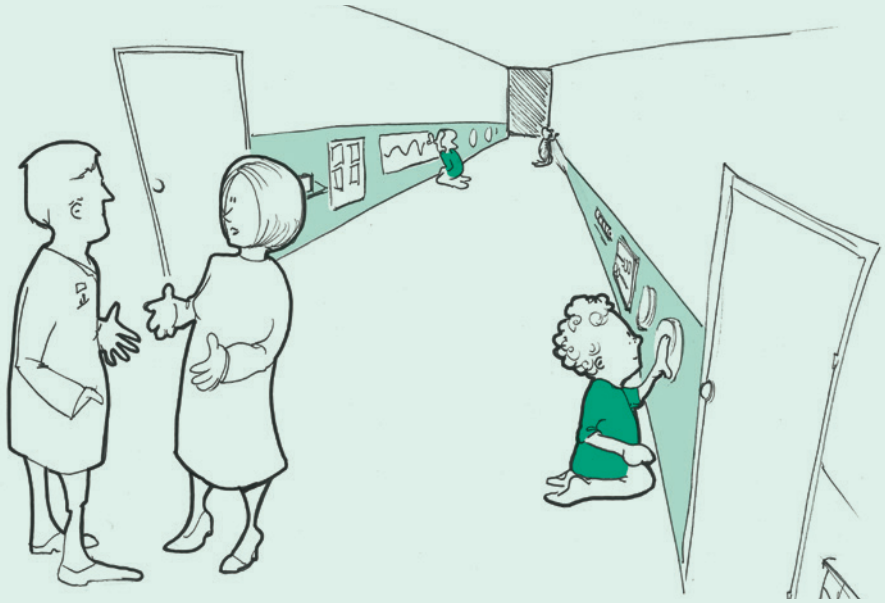
It can take a long time for children to approach other children, especially if they are in strange surroundings. At the hospital the meeting with other kids is built into the user experience as a so-called 'play starter' that triggers contact between two or more children. It lowers the barriers for taking the first step and provides a common activity for all to join in.

Play can be initiated by the staff, built into the room design or created through technology, such as an avatar. As the hospital gradually gets to know each user, it is able to match the child with other, similar children. For example children who are visibly ill can meet others in a similar situation.

Instead of confining play to specific rooms or situations, the hospital architecture and design will incorporate it as a recurring theme that extends through e.g. the hallways and elevators. This play theme features both figuratively and literally at the child's level, so that it is easily accessible by the child, while on the edges of the adult's field of vision. The hospital is thus child-friendly without creating a Disneyland ambience.

1 **Meeting other children is easy**

Matt drives past another child in the hallway. They stop and let their avatars connect wirelessly. By simultaneously pressing a button on the avatar they add each other as friends, allowing them to hook up later.



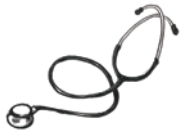
2 **Children's territory at eye level**

Hallways at the hospital invite children to play by reserving everything at a height of 40 to 80 cm off the ground solely for them. This **Play Ribbon** makes getting around the hospital a fun adventure.

Play clarifies things throughout the hospital **3**

On the way to the clinic Matt goes past the radiological ward, where he stops and scans his avatar. Matt can zoom in on the resulting image to see what his avatar looks like on the inside and learn more about how people are scanned.

Treatment



The hospital offers the most child-friendly treatment in the world, using play to prepare, carry out and guide treatment situations

Matt manoeuvres the pirate ship from the hallway directly to the doctor. The doctor greets him with "Ahoy!" and continues the game, weaving it into the consultation. Matt thinks it's fun and doesn't feel at all frightened. When Matt has to do something, the doctor demonstrates it on the robot so Matt understands and is prepared for what will happen next.

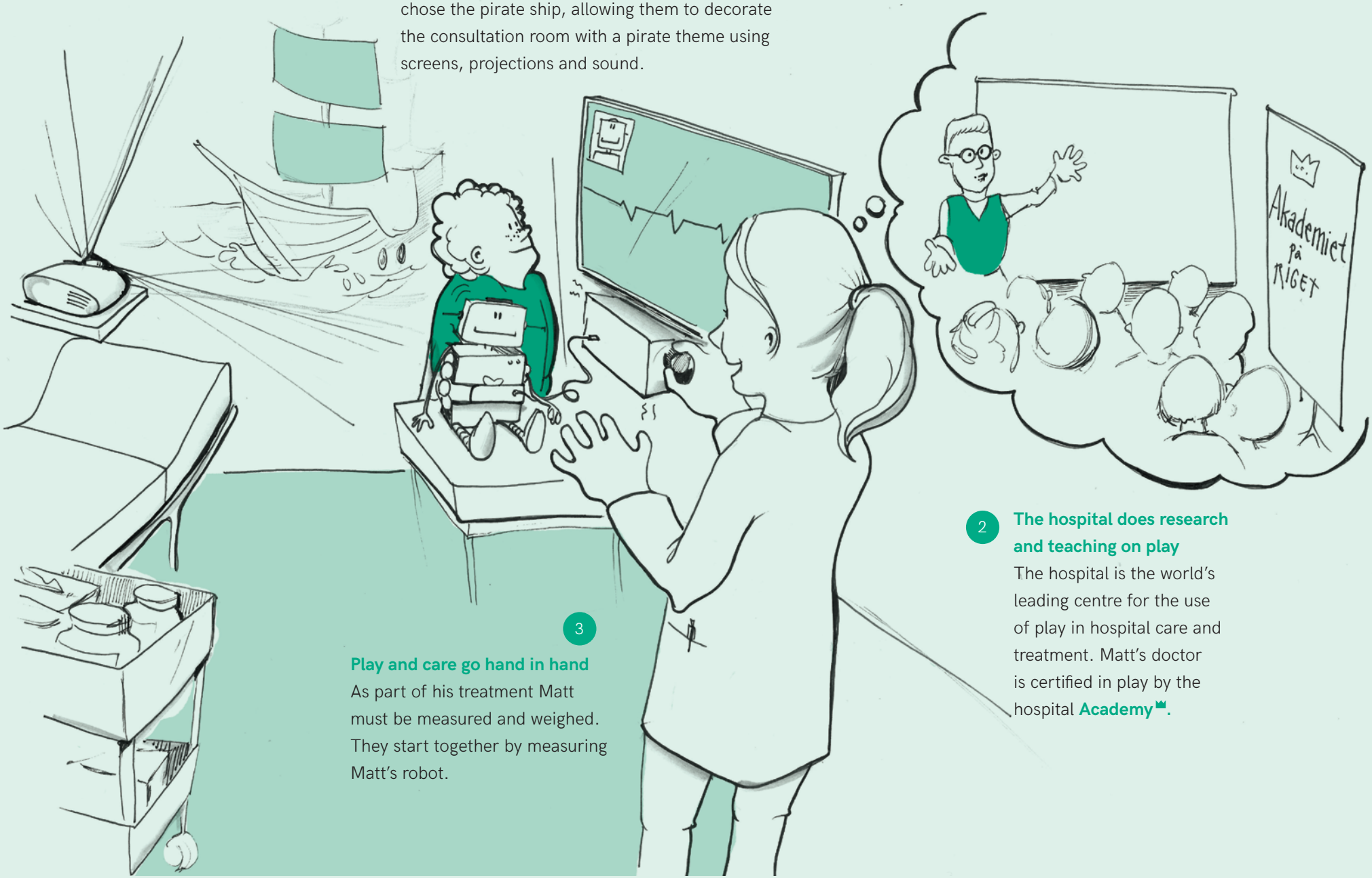
The opportunity for incorporating play into the treatment process is facilitated by the building design and architecture, for example interaction between the avatar and the medical equipment or mirroring the game using sounds and pictures in the treatment room.

Play at hospitals is not a novel phenomenon, but at the hospital the use of play in patient care and treatment is lifted to new heights. The staff regularly compare notes with each other internally through the hospital Academy, which also coordinates research into the role of play at the hospital. This research is cross disciplinary and brings medically trained researchers together with other actors from, say, DPU, MIT and play researchers from LEGO. The research continues the Danish and Scandinavian tradition of understanding and extending the role of play.

Three years after opening, the hospital has become the international leader in the use of play for therapeutic purposes and the various departments are a magnet for staff and researchers from all over the world.

1 **Recurring themes**

The hospital system lets the staff know that Matt chose the pirate ship, allowing them to decorate the consultation room with a pirate theme using screens, projections and sound.



2 **The hospital does research and teaching on play**

The hospital is the world's leading centre for the use of play in hospital care and treatment. Matt's doctor is certified in play by the hospital **Academy**.

3 **Play and care go hand in hand**

As part of his treatment Matt must be measured and weighed. They start together by measuring Matt's robot.

Designed for everyday life

Insight
design principle
Examples of solutions

Designed for everyday life

Insight: Patients and their families, when not immersed in the critical aspects of their treatment, feel that their lives are put on hold and that they are cut-off from ordinary routines and events

The mother of a 12-year-old boy recounts that her son, who is used to being boisterous and running around outdoors, doesn't like being confined to the ward. Her son is the first to complain about not even being able to open a window in the hospital. Children experience the inertia as a constraint and their parents worry that it will hinder their development. They have the feeling that their children are languishing inside a kind of prison – especially if they are being kept in isolation.

Inertia and the feeling of being cut-off have particularly critical implications for children and young people, as they are at a stage of accelerated development. Their isolation from the outside world is on several levels: They lose contact with friends, schoolmates and pastimes, they feel sad about missing school trips and events and they lose track of the rhythm of life, for example festivities and celebrations or football matches.

As a result these children and adolescents are out of sync with their peers. They often fall behind in their development, but equally, they can grow up too fast. During one interview a researcher complimented a mother on her 12-year-old son's advanced language skills. She replied that her son had spent so much time in the company of adults, often cut-off from other children that it had affected the way he talked.

"You become inactive and withdrawn. If you're used to being physically active then being here puts an extreme strain on your body – combined with a poor diet and poor sleep. I get restless and irritable … You turn into a vegetable."
Mother of chronically ill child

"You're completely cut off and isolated in the ward, very socially amputated, both as a patient and family [...] Like being in solitary confinement in prison." **Parental comment on mobile app**

"The afternoons are tedious. Most of the activities shut down: the clowns, the teachers, the library ... Life at the hospital is dominated by a typical 9 - 5 regime, but afternoons and evenings are precisely when the children need to be entertained. The mornings are taken up with doctor's visits and other practical matters." Mother of a seven-year-old

"If there was one thing I could change at the hospital, hmm, it would be more quality time with my family." **18-year-old, chronically ill**

"Sometimes when Viktoria starts to make a fuss and demand my attention, her big sister curls up in a ball on the floor."
Mother to two chronically ill siblings

The breakdown of family life and development is one of the most disrupting factors for hospitalised children and their relatives. Families recreate themselves again and again through rituals and rhythms, for example mealtimes. If parents cannot eat together as usual or spend time together as a family, their lives become disrupted at the hospital.

Fathers can become sidelined, as they often cannot sleep or eat with their child at the hospital. Frequently there is a division of labour within families, with the father taking care of the siblings and going to work, while the mother dedicates her time to the ill child. In many families the situation with siblings can become problematic, as their needs get pushed into the background. At best, the hospital is boring for siblings, at worst, it can be frightening.

"There's no space in the room to romp around. It was stressful for me having the boys in for a visit and difficult getting them to feel like big brothers. We used to pop down to the nearby park. Although that meant leaving William [new-born] alone..." **Mother of new-born with complications**

Design principle #2

Put the world inside and outside the hospital in sync.

Challenges	
• Can we create an environment at the hospital that allows families to continue their outside lives here? • How can the hospital help users to stay connected with the people outside and to continue to be a part of the rhythm of life during their stay?	• How do we ensure that users in isolation are given the opportunity to take a small mental break, as if far from the hospital room? • What does it take to make a visit to the hospital such a positive experience that siblings, friends and the extended family want to come back often?

Designed for everdyday life

Examples of solutions

Mia and her family

Mia is nine and undergoing a lengthy treatment programme. Her parents and two siblings are staying with her in the room: her eleven-year-old sister, Julie, and her five-year-old brother, Tim. In the next pages we zoom in four times to take a closer look at specific aspects of Mia's stay at the hospital.

In the room

Ensuring that users do not experience complete disruption to family life starts with re-thinking the hospital room.

The Square

The Square allows users to be part of general goings on and offers services needed to recreate normal everyday life.

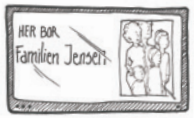
Visiting guests

The hospital helps users to keep in touch with life outside the hospital, partly by making it easy and enjoyable to have guests visiting.

In isolation

The hospital is only too aware that life should not come to a standstill for users who are isolated for a prolonged period of time.

In the room



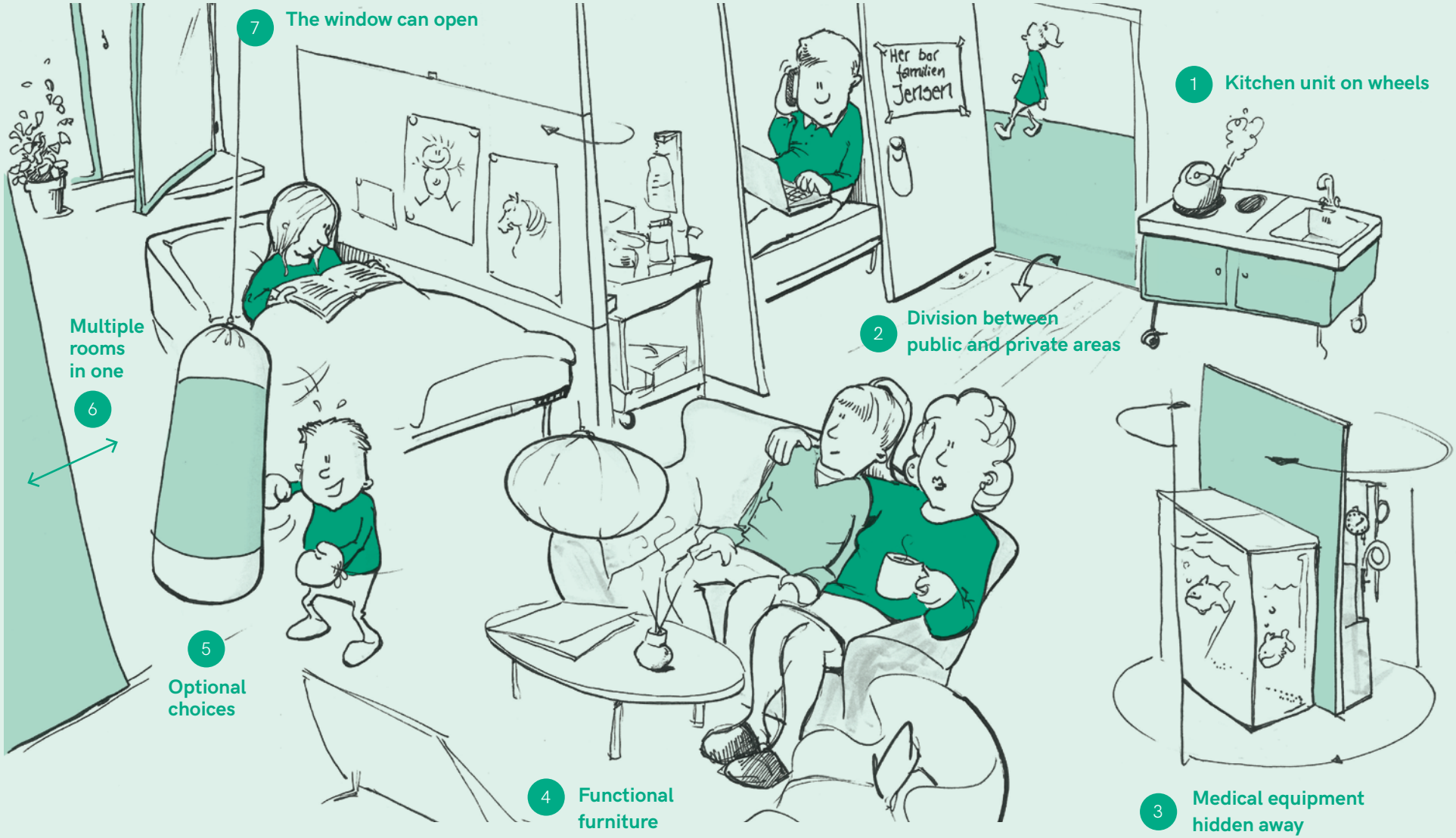
The flexible rooms at the hospital enable different kinds of families to get on with their normal everyday lives, routines and activities

The family has been given a room where they will stay over the coming weeks. At home Mia's parents chose what type of room they wanted using the hospital website. They picked a room large enough to accommodate Mia's siblings throughout her stay. While Mia's father unpacks her things, the rest of the family visits the hospital depot to choose things for the room.

The family rooms at the hospital feel like home, with all its normal features, e.g.: living space, bedrooms, study area and kitchen. The rooms are compact and multifunctional, rather like a mobile home. During the day the centre of the room is a living room, during the night, sliding panels are put in place and the living room turns into a parents' bedroom.

When you step inside the room, it feels like entering a home rather than a treatment room. When not in use, medical equipment is stowed in drawers, cupboards and units that can be folded into the wall. The lighting is pleasant (no strip lights) and the flooring is imitation wood. At the depot you can choose scent sticks so the room does not have a hospital smell.

The room's residents can give it their own personal touch by choosing add-on modules, such as a mobile kitchen unit on wheels. On one wall there is also a magnetic drawing board for the family to decorate as they like. When the family moves in, they are given a blank sign to fill in with their names, decorate with drawings and pictures and hang on the door to the hallway.



1. The family has chosen a small kitchen unit to heat meals and make coffee/tea in their room.

2. The hallway has industrial flooring but the floor in their room looks like wood.

3. In several places wall sections can be turned to hide medical equipment not in use.

4. The couch is a sofa bed and the chair can be converted into an extra bed.

5. A hook on the ceiling allows people to select the items they prefer to use. Mia and Julie went to the **Depot** and chose a punching bag.

6. Sliding panels make it possible to change the layout of the room, for example, if Mia wants to nap during the day.

7. The window can open to let in fresh air and daylight, while the walls adjacent to the hallway and other rooms are 100% soundproof.

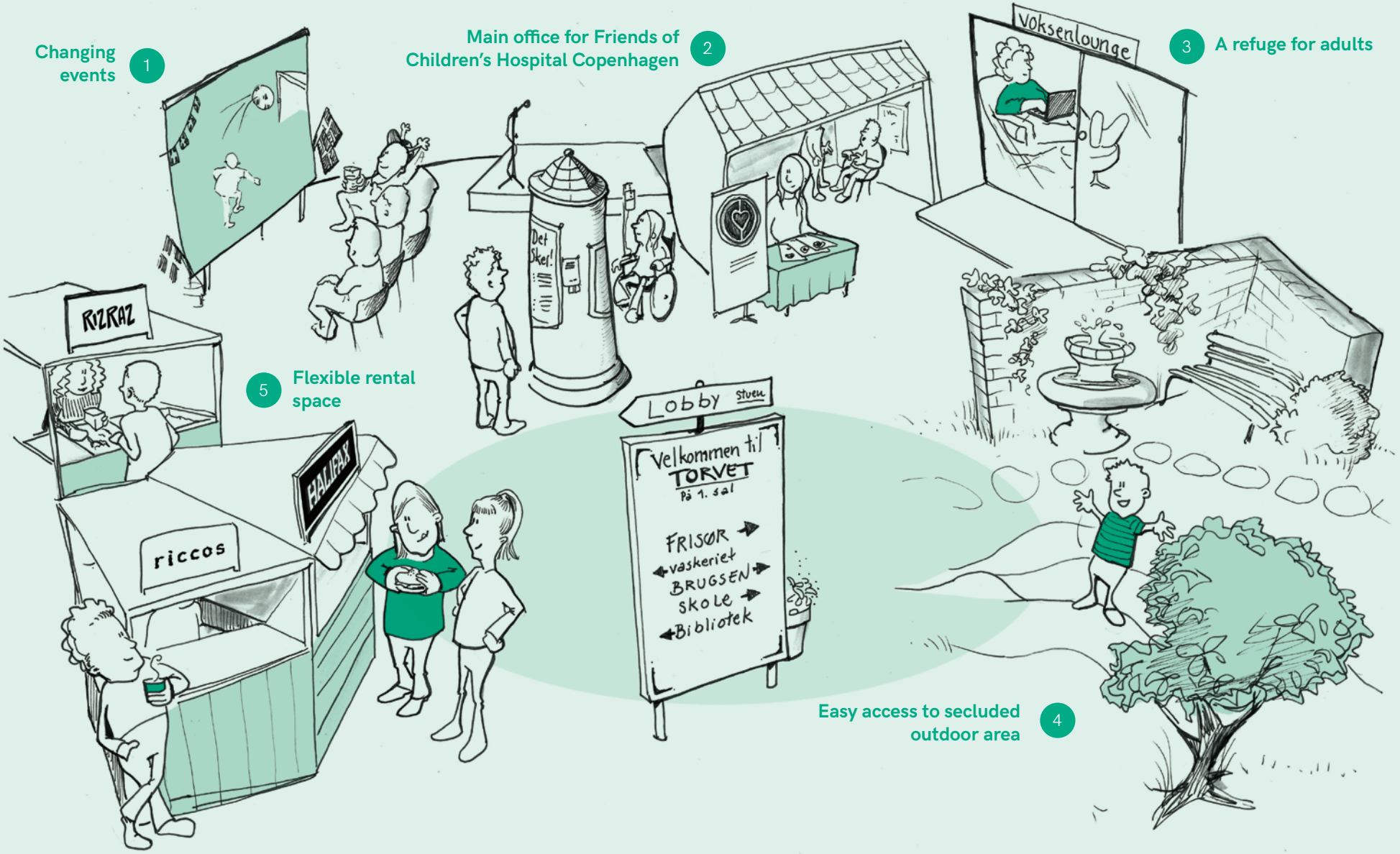
The Square

The Square is the hospital's communal area, designed especially for the patients. It contains most of the amenities needed to maintain a normal everyday life and mirrors the world outside

The family visits The Square every day. Tonight they have plans to eat a burger at Halifax before watching a football match on the big screen together with other families. The kitchen on Mia's ward has a balcony looking onto The Square. During the day Mia watches the decorations being put up for the match.

The Square is set back and separate from the main entrance and lobby, which gives it a sheltered ambience. There is no coming and going of the general public, but only familiar faces on The Square – mostly other patients or regular guests at the hospital. The Square feels protected, just like a small town square that a mother would happily send her child to on an errand.

The Square has two main purposes. One is to give users moments of normality and a break from illness and treatment, for example to get their clothes washed, get a haircut, or get some work done. The second purpose is to bring the world outside into the hospital. The Square will represent a microcosm of life. When the rest of the country is watching football or Eurovision, it's shown on the big screen in The Square, when there are elections, a panel debate is set up on the stage. The digital column in the middle of The Square streams Danish and international news and advertises upcoming events at the hospital.



1. Something happens on The Square almost every evening. Sometimes there are special events, like a concert, but other times it is something simple like a new TV series shown on a big screen.

2. The hospital has many volunteers who help and do activities for patients and their families. **Friends of Children's Hospital Copenhagen**, with an office on The Square, coordinates all of the association's volunteer activities.

3. There is a lounge for adults only, to work or just relax, away from the noise and hubbub.

4. From The Square there's direct access to a secluded garden.

5. The Square contains five rental spaces, which are occupied by changing restaurants.

Visiting guests

The hospital offers convenient facilities for entertaining guests. The experimentarium is a popular attraction for patients to share with visitors

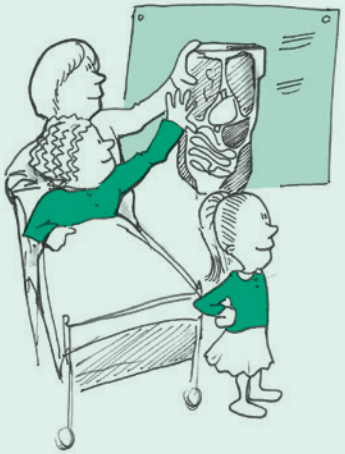
It's Mia's birthday and six friends from her class are coming to visit. Mia's mother wants to use the birthday celebration to show Mia's friends where she spends all her time and to build a bridge between the two worlds. She also invites Mia's new friend from the hospital, who can join in even though she is confined to bed. Mia's mother books a room for the birthday party through the hospital app. Afterwards she plans to take the children to the experimentarium. Mia is looking forward to showing her friends around and explaining all the interesting things she has learned.

The party rooms at the hospital allow families to invite their friends on special occasions, as they would at home. The rooms are nicely decorated and have discreet disabled access. They are designed for easy manoeuvre of a bed or standard equipment, so that non-mobile patients can use them as well.

It's easy to be a good host at the hospital. You can ask the Friends of Children's Hospital Copenhagen for help, for example with making the cocoa and birthday cake or with putting up the decorations.

The experimentarium is an additional attraction when visiting the hospital. At the hands-on science centre, medical science is explained in a fun way through interactive installations. Interesting activities and demonstrations are also on offer, like ultrasound scans or bacteria cultivation in a petri dish. Like at healthcare expos, you get a chance to try out different equipment and machines.

1 **Choose from the catalogue on rooms for rent and add-ons**



2 **Equipment and machines to try out**

Guided tours all around the hospital 3

1. Using the app Mia's mother picks what type of room she wants, how many tables and chairs, how the room should be decorated and what food should be served. She also requests clowns Ludo and Smiley to look in on the party.
2. Mia shows her friends how you lie in the scanner and explains that you have to lie perfectly still. Her friends want to try it out. The scanner beeps if you move too much.
3. **Experimentarium** also arranges tours and events outside its premises, for example visits to the roof-top helipad, the ambulances in the underground car park or the pressure chamber.

In the isolation room

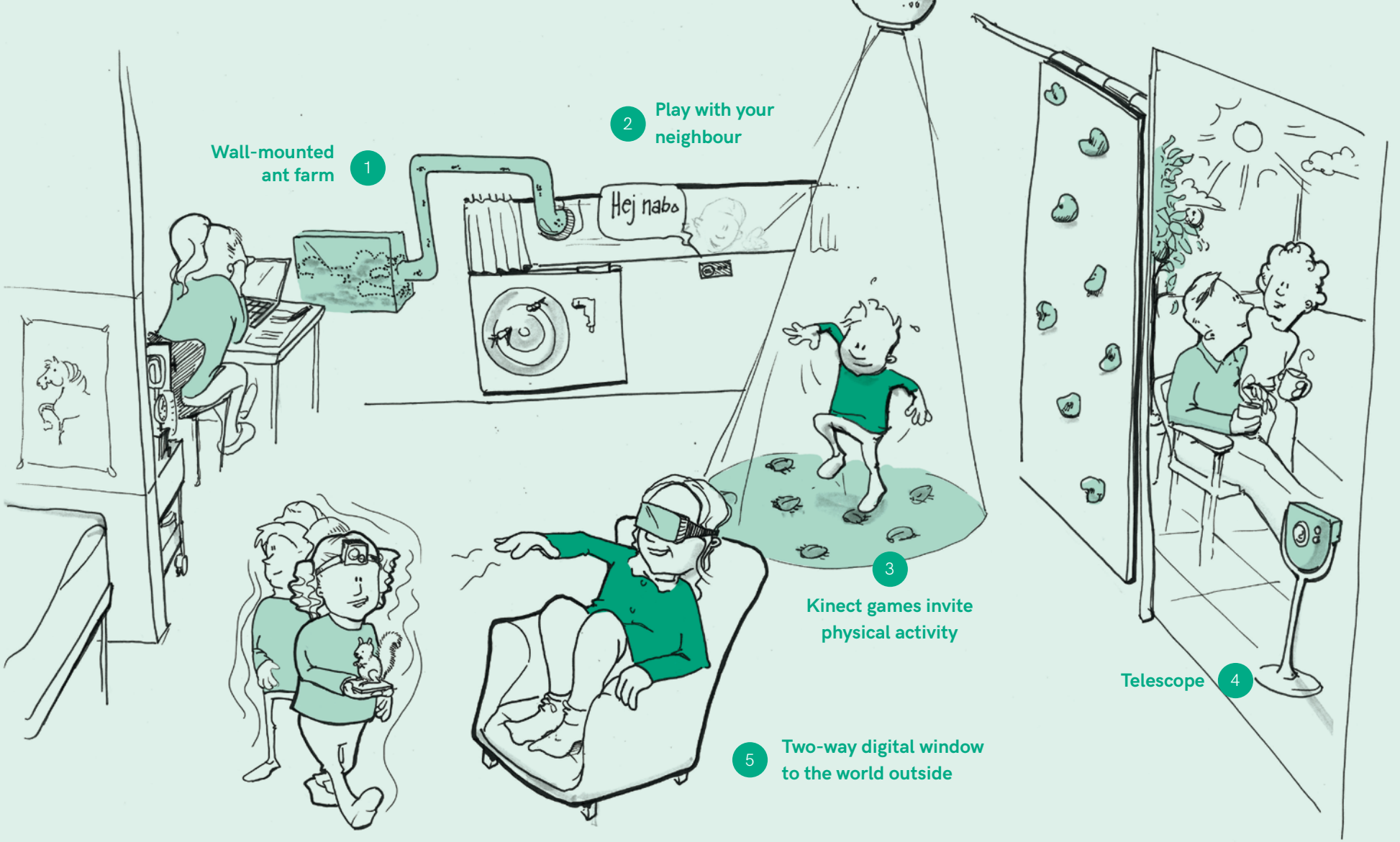
The isolation rooms offer ample opportunity for entertainment and physical activity. On top of all the amenities of the ordinary family rooms, each isolation room has its own outdoor area

Mia's immune system is very weak and the family has moved to an isolation room for the next few weeks. The isolation rooms at the hospital offer all the amenities of the ordinary family rooms plus extra space and three distinct advantages.

The room has its own outdoor area in the form of a large conservatory with sliding doors that provides access to light and fresh air all year round. In summer the conservatory can be converted into a balcony. The room gets plenty of daylight and is fitted with shutters to adjust the lighting conditions.

The room takes into account the patient's need for physical stimulation within the room's four walls. A Kinect camera is built into the ceiling so part of the floor can be converted into a play area. Kinect games are activated using the body, for example the feet touching a particular spot on the ground, so the player has to move around. A climbing wall attached to one of the walls also encourages physical activity. It is one of many modules which families can pick from at the hospital depot.

Windows looking onto the rest of the hospital bring life into the room. On the hallway side there is a large, size-adjustable window with blinds, so the family can decide how much privacy they want. There is also a section of window at child's height looking through to the adjoining room, allowing the children in isolation to interact with one another. It can be screened off, if preferred.



1. **The Ant Farm**[crown] comprises a closed system of glass tubes, making the ants' antics always visible to entertain onlookers.
2. The stretch of window at child's height provides a view of what's going on from the isolation ward. The children can see one another and communicate through a speaker system. Elements of the Play Ribbon also appear under the window.
3. Tim jumps around trying to squash the gross bugs projected onto the floor, winning a point every time he smashes one!
4. In the outside area there is a telescope to search the sky for stars or to take a peek at the local park or other parts of Copenhagen.
5. Mia's best friend borrowed a Google Glass set from the hospital to wear at school. Right now the class is at the Danish National Museum.

See me, ask me, let me

Insight
Design principle
Examples of solutions

See me, ask me, let me

Insight: When users get to make small choices, and are seen and heard during treatment and daily life at the hospital, it partially compensates for the loss of control associated with being ill

"She has been so traumatised that they have to give her laughing gas before they can prick her finger." Parent of seven-year-old girl

Children can feel overwhelmed by being told what to do all the time.

For children and adolescents, being ill, getting admission to hospital and undergoing treatment is an extreme situation associated with huge loss of control. When undergoing treatment, it means a lot for the patients to feel seen and heard, to be consulted and even to be able to take the lead in some matters, however small they may be.

Of course there are limits to how much say patients can have, but the feeling of loss of control can be lessened if users are invited to decide on everyday matters. As a young patient put it: "If you don't have any control over anything yourself, not even over your body, it makes a big difference if you can go into the kitchen and choose whether you want a juice or a milkshake."

While being seen and heard is always appreciated, the need for choices and having room for manoeuvre varies according to the user's situation – often on a daily basis. There are all sorts of design options that encourage the involvement of users in making choices without forcing them to make a choice if they don't feel like it.

A growing degree of agency creates a sense of acceptance and ownership.

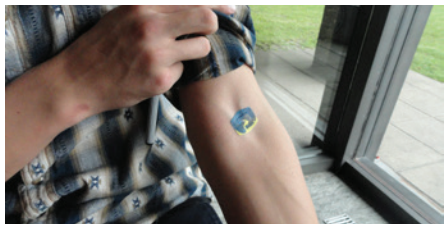
Being listened to and remembered

"I always try to write something personal in the file. For example, if the patient has German in school, I'll ask if we should do the visit 'auf Deutsch'. It's important for them to quickly feel comfortable so you can get started." **Chief physician, JMC**

Giving consent and making your own choices

"If I have to have an operation or something that makes me feel afraid, then I have to talk to the people who are going to do it. That way I'll know what's going to happen and what it'll look like when I wake up." **12-year-old boy**

Taking action and the initiative



A 16-year-old chronically ill young man shows where he puts his IV in himself. He's proud of doing it on his own even though he hasn't hit it right on the first try yet.

Helping others

One mother sewed a big batch of pillowcases for the neonatal ward because it meant so much to her when she could choose the colour of her baby's pillowcase herself.

Design that encourages participation in decisions

At the Wilhelmina hospital in Utrecht in the Netherlands we saw lots of good examples of design that allows children and young people to join in decisions.

Information counter allows children to participate on an equal footing.

The new cancer ward at the Wilhelmina hospital has set up a room for young people who have to stay there for several hours while they are administered intravenous medication. The distinguishing feature of the room is that it offers different options – socially and ergonomically. Patients can lie down but they don't have to. If they choose to sit, they can choose between sitting close to the other patients and most likely have contact with them, or sit in an armchair in a corner and enjoy more privacy.

Design principle #3

Give back patients the feeling of control by letting them manage the small things

Challenges

- How do we create systems and solutions that act as a collective memory to make it easy for the hospital and its staff to remember the users' situation and their preferences?
- Can the hospital create the best care for adolescents, by giving them more choice and more influence and by involving them more?
- Can the hospital become the hospital worldwide where users have the easiest time sharing their experiences and helping each other across clinics?
- In what areas of daily life can the hospital give users a greater opportunity to manage and influence?

See me, ask me, let me

Examples of solutions

Laura

Laura is seventeen and chronically ill. She is hardly ever admitted to hospital, but is very familiar with the hospital, as she has been to many appointments over the years to receive IV medication. Recently Laura began visiting the hospital unaccompanied – a new experience for her, but she is proud that she can manage normal, scheduled appointments for treatment on her own.

Familiarity and recognition

At the hospital users feel seen and heard, both when they arrive at the hospital and in their interaction with the staff, who remember key personal details about them.

Tailor-made treatment

Treatment situations at the hospital allow users to make small choices, giving them a feeling of regaining control.

Path to independence

The user experience at the hospital is designed to encourage users, especially young users, to gradually have more say and responsibility.

Familiarity and recognition

The new hospital recognises and acknowledges its users – especially the regulars

Laura is on her way to a routine check-up to receive IV medication. She has been many times before, so she chooses the quickest route through the lobby and takes a shortcut using her "young person's access card".

Users come to the hospital for all kinds of reasons. Some are visiting for the first time and need to be looked after. Others, like Laura, are regulars and have other requirements. The regulars need to be in and out quickly and efficiently and also need to feel a sense of belonging and being at home.

The hospital recognises its regular guests and treats them accordingly, letting them use facilities outside official opening hours and shortcuts that would be confusing to new users. The hospital also acknowledges the specific age group of its users. At the hospital young people are seen not as big kids or small adults, but as a distinct group, and the user experience is designed to treat them as such. For example they can have a "young person's access card" that admits them to special areas in return for doing some task such as cleaning up after themselves. The young person's access card makes the transition from child to adolescent visible, both to the user and to the staff.

Another concept in place to make users feel recognised and acknowledged is the hospital 'collective memory'. The memory is a simple system that helps new treatment providers understand any individual or important preferences of the users, for example with regard to their room or care. It also takes into account softer preferences, which concern treatment circumstances and are not recorded in the patient file. The users have access to a restricted part of the system, where they can write short, but important messages which all the therapists can access.

1

Fast track to regulars and staff

The hospital is designed to treat regular users differently from newcomers – for example through a fast track route.

2

Regulars have greater freedom coupled with responsibility

Laura is still a regular at the hospital, but when she turned twelve, her passport was exchanged for a **young person's access card** giving her access to events and areas reserved for young people. The card also gives regulars like Laura, who is very familiar with the hospital culture, the freedom to let herself in and enter sections where newcomers don't go. She uses her card to take a short cut to her treatment room.

3

A collective memory helps users to be seen and remembered

Laura's usual therapist is ill, but everything goes smoothly with the new doctor, with whom she feels at ease. He has read up about Laura in the **collective memory** and seen that she prefers to have her medication administered sitting down. At the hospital the collective memory system helps medical staff to share small but important details about users that are not included in the patient file. The users feel seen and heard, as they can enter information into the system.

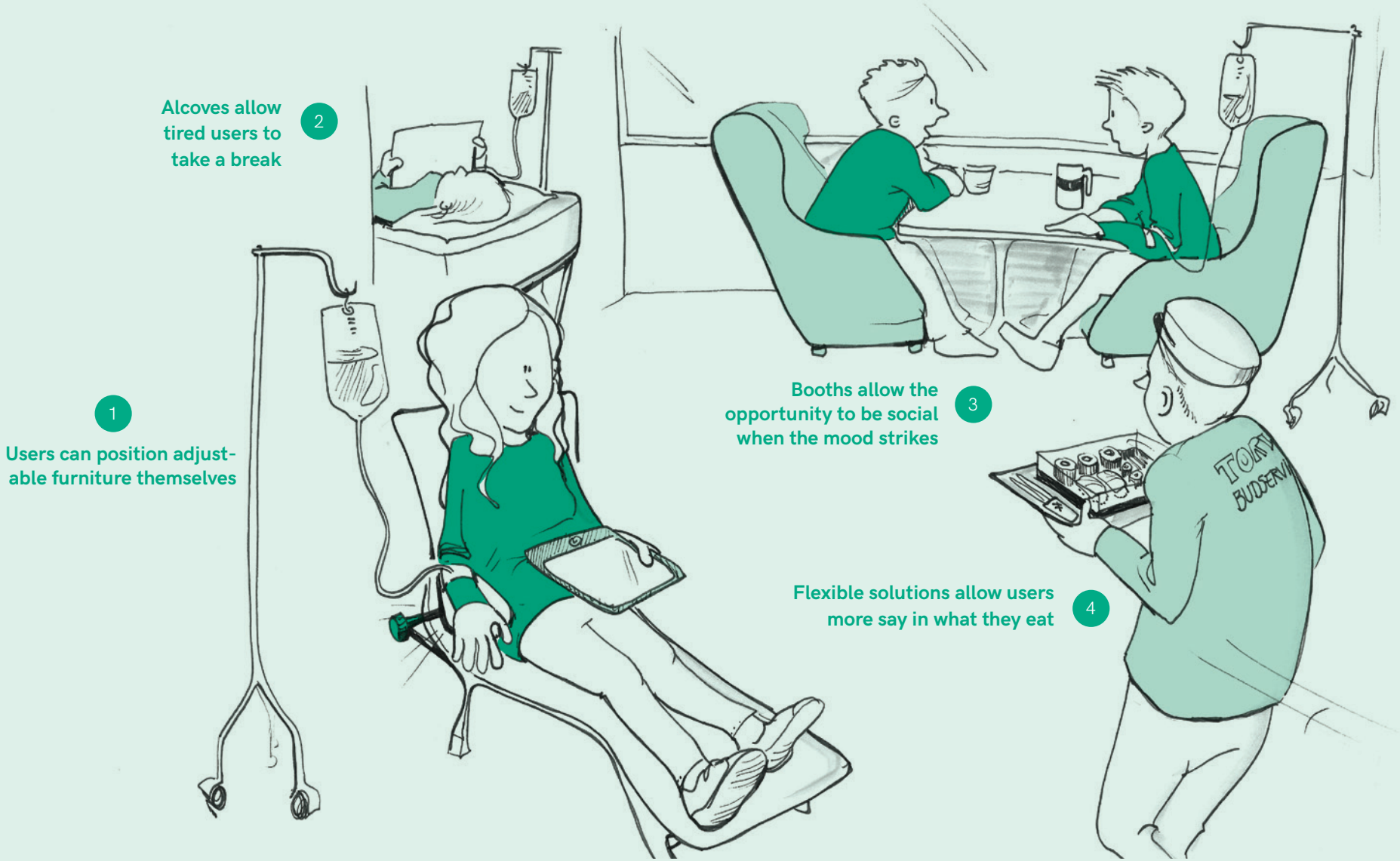
Tailor-made treatment

The users are involved in their treatment situation and can adapt it

After consultation with the new doctor, Laura has to sit for a few hours with an IV drip. This takes place in a room specifically designed for young people receiving treatment. As usual, Laura chooses to sit while receiving her medication and to watch a film on her iPad. Laura has been given money by her parents to buy lunch and after an hour or so she opens the hospital app and orders some sushi, which is then delivered from The Square.

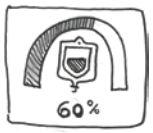
At the hospital the aim is to let the users have as much say in their treatment situation as possible. None of the adolescent patients are ill by choice or have chosen their type of treatment, but in the treatment room they have control over lots of small choices. Do they want to sit or lie? Do they feel sociable or do they want to be left alone? Do they want to eat something heavy or something light?

The staff give the users control, but at the same time the hospital architecture and design invites the patients to make choices. Instead of a room where everything is pre-determined, Laura finds a room that invites her to adapt it to her needs and situation. And even choice is an option, i.e. if a user doesn't want to make a choice or lacks the energy, there is always a standard option to follow.



1. All furniture in the hospital is easily adjusted by users, providing optimal comfort and giving them back a feeling of control – using the small things.
2. Like any good café, the hospital space is not one-size-fits-all, allowing users to hang out in different ways. If a user is feeling tired or introspective, alcoves make it possible to withdraw.
3. Booths in the hospital create an intimate, safe space to be social. If users encounter someone they know, they have the opportunity to talk and exchange experiences more privately.
4. Users can order different kinds of fresh food from **The Square's delivery service** , located in the same building. The delivery service works the same way as when a pizza is ordered from outside the hospital, only they are familiar with the building and its rules.

Path to independence



The new hospital helps young users to help themselves – and each other

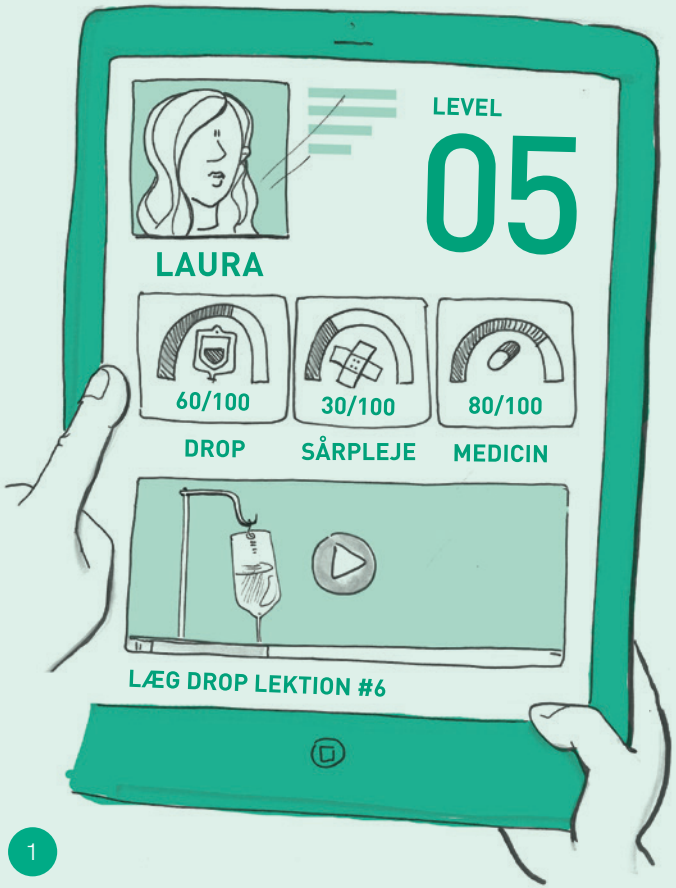
When her treatment has finished, Laura's doctor updates her profile. Laura is being trained to do her IV herself, and as part of her certification, she practises the procedure with a nurse ten times.

After the treatment, Laura stops by the hospital's Academy, where she shares her experience of being a young chronic patient with a team of new hospital staff in an informal after-work meeting. On the way home, she stops at The Square, where she meets up with a fourteen-year-old chronic patient to whom she has been assigned as mentor through the hospital mentor programme. They drink a juice and chat about what it's like going to school as a chronic patient.

At the hospital, the routine for the users, particularly the teenage users, has been designed to slowly but surely nudge them towards greater independence. Their active involvement supports the process of becoming self-sufficient. It eases the transition to the adult part of the health system.

If the users feel up to it, the hospital lets them have a say and give something back to other users, the staff and the hospital.

Many of the users at JMC today want to give something back. By embedding this in the system and providing easy ways of making a contribution, the users at the hospital become an essential part of hospital life and development. They can make a contribution through mentor programmes or through teaching and sharing their experiences with the staff at the Academy. At the hospital young people can teach adults, and users can teach staff.



1

Certification programme promotes independence

A certification programme helps young users be responsible for selected parts of their treatment. Through gamification, the programme motivates users with, for example, video tutorials to allow them to learn on their own and to give procedures greater consistency. Laura has passed 6 out of 10 lessons on how to do her IV.

2

Young users part of introduction for new staff

As one of the world's leading hospitals for the treatment of children, adolescents and families, the hospital teaches new staff about the care of these groups. On a practical level, the teaching draws on users and experienced staff.

3

User-to-user mentor programme

A mentor programme pairs older, more experienced adolescents with younger, less experienced users. Staff at the hospital and "HrBerg" find good matches and give mentors tips to make sure that everything runs smoothly.

The good journey

Insight
Design principle
Examples of solutions

The good journey

Insight: The users' overriding impression of their hospital experience is lack of coordination, inertia and wasted time

"Olga hospital made you think of public baths or some other public institution, but Wilhelmina Children's Hospital gave a warm, welcoming and inspiring impression. Both impressions stayed with you pretty much during the entire visit. With Olga, it didn't disappear until meeting the warm, humorous obstetrician."

Notes from a study trip on European mother and child hospitals

"When they move you from one ward to another, it's like arriving in another country."

Mother of a six-year-old patient hospitalised in several wards

The patient's entire hospital experience is coloured by how it starts – this is the key moment where trust is either gained or lost. Today, a good first impression of Rigshospitalet very much hinges on how the patient is received by the staff. A doctor from obstetrics observes: "We certainly have some catching up to do in this respect, but if we ensure that the first meeting with the patient is positive, they tolerate quite a few mishaps in subsequent meetings before they start to feel negative. Conversely, a bad first impression, such as an unfriendly reception desk or disorganised lobby, can take a long time to erase."

Differences between wards are unavoidable, but the users feel uneasy if the transfer from one ward to another is too abrupt. One patient quoted in JMC's study of patient experiences in the outpatient wards (2013) talks about being extremely worried and frustrated as a result of what seems to have been a lack of coordination at the hospital: "When we were transferred from the neonatal unit to cardiology, all the heart monitoring equipment, etc. was removed from my son's bed. We'd been told that the equipment was vital, so I was terribly confused and upset."

During their treatment programmes, users often get the feeling of not moving forward, which can undermine their faith in making progress. Everything that signals positive development is therefore crucial. For the father of a long-stay patient, being moved to the next ward – which is further away from the doctors' command central – is an important indication that things are improving and moving in the right direction.

Finally, users find waiting time annoying. They generally accept that it is unavoidable, but can also perceive it as reflecting a lack of respect by the hospital and staff for patients' time or detect an unwillingness to reduce waiting time or make it more palatable.

"Describe an ordinary day. What do you do?"

"I stare at a white wall. Look at my child. Pump breast milk."

Mother of a new-born with complications

"It was so nice of the nurses to make those lovely pictures for Viola. It was great. It meant so much to us and we're so happy to still have them now."

Mother of a preemie

"We always wait. The other day we sat in the waiting room for six and a half hours. We weren't even allowed to go 20 meters down the hall to the kids' room. The doctor never came so we went home without knowing why or being given a reason." Mother of chronically ill 18-year-old

4 factors affect waiting time

There are four factors that make waiting time feel like a waste – an issue that the hospital will address.

Time:
Length of the wait

Optimising processes and placement of specialisations, for instance, can reduce total wait times.

Feeling trapped:
Physically stuck in your room or waiting room

Cafés, indoor navigation and tracking are examples of ways to reduce the feeling of being trapped during waiting time at the hospital.

No explanation:
Users not told reason for extra wait

A joint push message could be used to explain, for example, that a new trauma case has caused a thirty-minute delay.

No acknowledgement:
No recognition of how irritating waiting time is

Glaring cases could be assuaged by providing a free cup of coffee from Ricco's café on The Square.

Design principle #4

Create a patient journey that starts well, is coherent and celebrates progress

Challenges

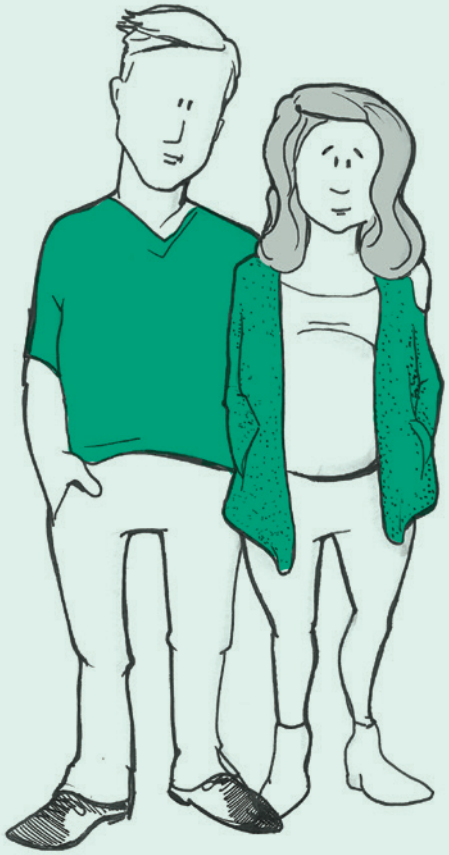
- What does it take to make the first 5 minutes at the hospital the best 5 minutes?
- What solutions and approaches can be used to highlight gradual improvement or mark major milestones in the patient's journey?
- How can the hospital ensure that users can move around freely, play, work or relax while waiting?
- How do we create a patient journey with smooth, predictable transitions for users between departments?

The good journey

Examples of solutions

Thomas and Jasmine

Thomas and Jasmine are a young couple expecting their first child. They have been referred to the hospital, as the baby is in the wrong position. At the outpatient examination, the doctors decide to schedule a caesarean section in a couple of days' time. After the C-section, however, a few complications arise and mother and baby end up being put in two different wards within one week.



First impression

The good journey at the hospital starts before the users step inside the lobby; it starts in an outdoor area – not a typical feature of a hospital.

My time

The hospital turns waiting time into my time by interacting with users in a new way and liberating them from the confines of the waiting room.

Smooth transitions

When they arrive at the hospital the users have one, coherent experience, which is partly ensured through smooth transitions.

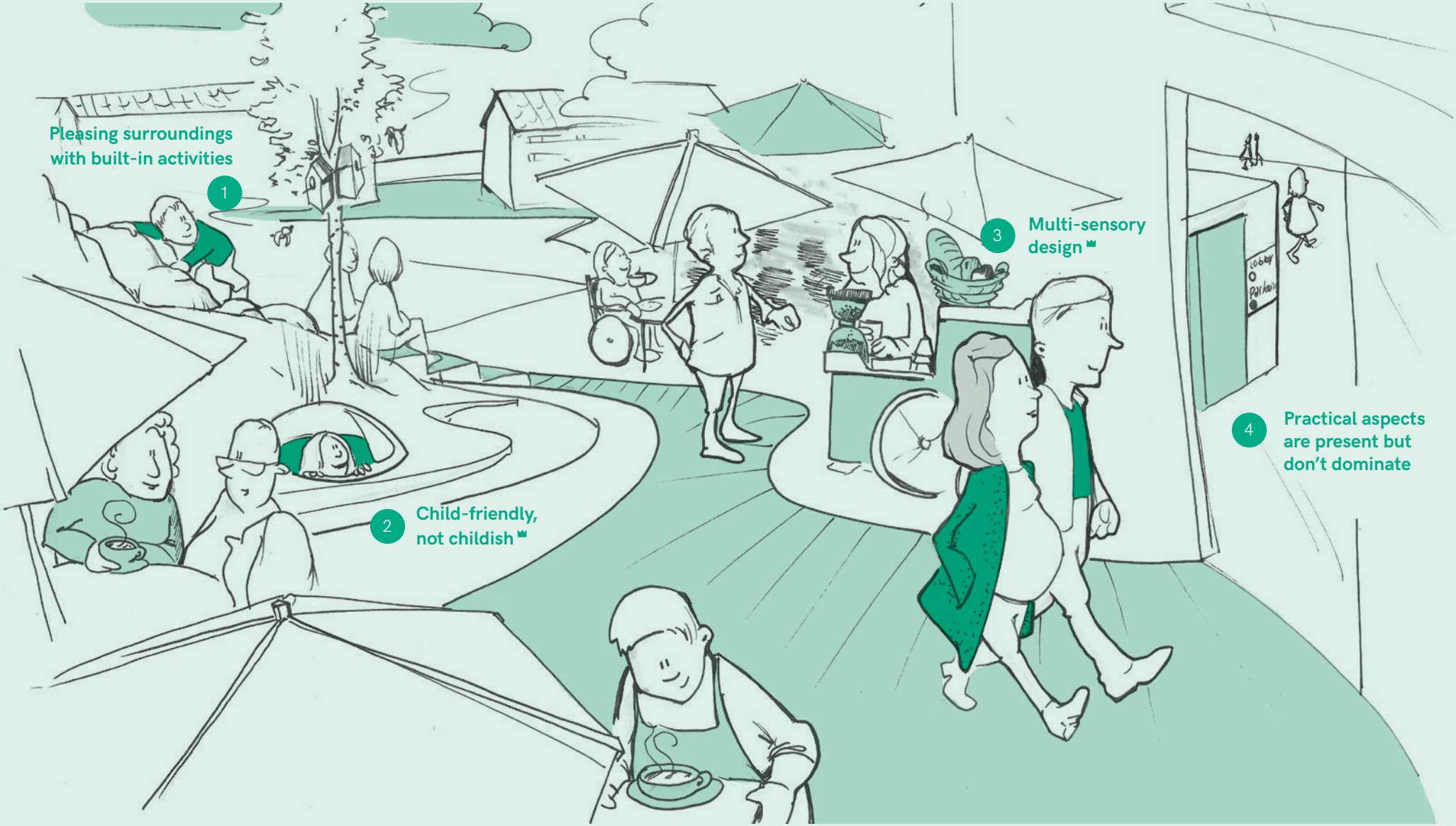
First impression

At the hospital the first 5 minutes are the best 5 minutes

Thomas and Jasmine arrive at the hospital. They are excited; they are expecting their first child and Jasmine is in her final month. They are also a bit nervous, as the baby is in the wrong position in the womb, which is why they have been given an appointment. As they step off the bus and approach the hospital, Jasmine is pleasantly surprised at how "un-hospital-like" the first impression is. The couple start to feel more relaxed.

The user experience at the hospital doesn't just start in the building, but outside it. The main entrance is not directly off a main thoroughfare, which means the area outside can fulfil various functions. There is a small café with an outdoor terrace, so the first thing visitors hear when they arrive is the sound of a coffee machine, the chinking of cutlery and the buzz of conversation. Furthermore the users in the lobby have a view of people and human activity, rather than traffic.

The outdoor area also reflects the hospital clientele: not just children, but also young people and expectant parents. Hence its design is child-friendly, but not childish. It is aesthetically pleasing and features elegant sculptural elements, but at the same time it appeals to the youngest users. At the hospital there are no signs telling you to keep off the grass.



1. Outdoor areas at the hospital are pleasing and useful at the same time. Rock formations like the ones in Central Park, for example, offer beauty and a place to explore and climb.
2. Like the rest of the hospital the tone and design of outdoor areas is child-friendly but not childish. One example of this is a hidden underground system of pathways with glass domes.
3. The first impression takes all the senses into account. Thomas and Jasmine are met by the smell of freshly baked bread and background music from an Italian piazza. The building is angled to shield the entrance from traffic sounds on the main thoroughfare, and car exhaust.
4. The hospital contains all of the practical features a modern hospital requires but doesn't let them dominate the user experience. There's a basement car park for users with an elevator leading directly to the lobby.

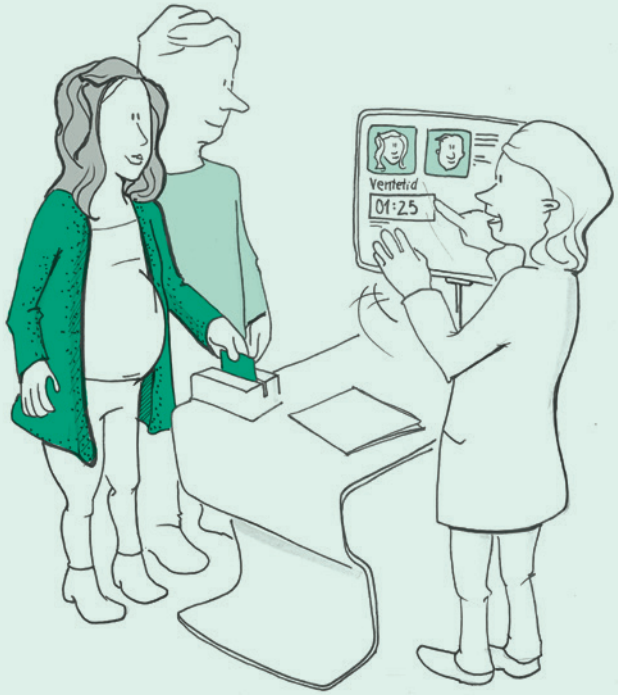
My time

At the hospital waiting time is “my time”

From the lobby Thomas and Jasmine soon find their way to the outpatient clinic, where they have an appointment. It is on the ground floor, so there is no need to take the elevator or walk very far. When they arrive, they check in at the reception desk and are told that there will be 30 minutes waiting time. Through the hospital app they find recommendations for things to do during the wait. They want to relax, so the app recommends using the lounge, where there is a large aquarium, and you can see through to the lobby.

Waiting time is unavoidable, also at the hospital. However everything is done to make users feel that their waiting time is fruitful. The goal is not to “kill time,” but to let the users convert waiting time into their own time – to work, eat, play, rest or do whatever they feel like. The strategy is not to squeeze all of these options into one large waiting room, but to use existing facilities at the hospital to guide the users to the right place.

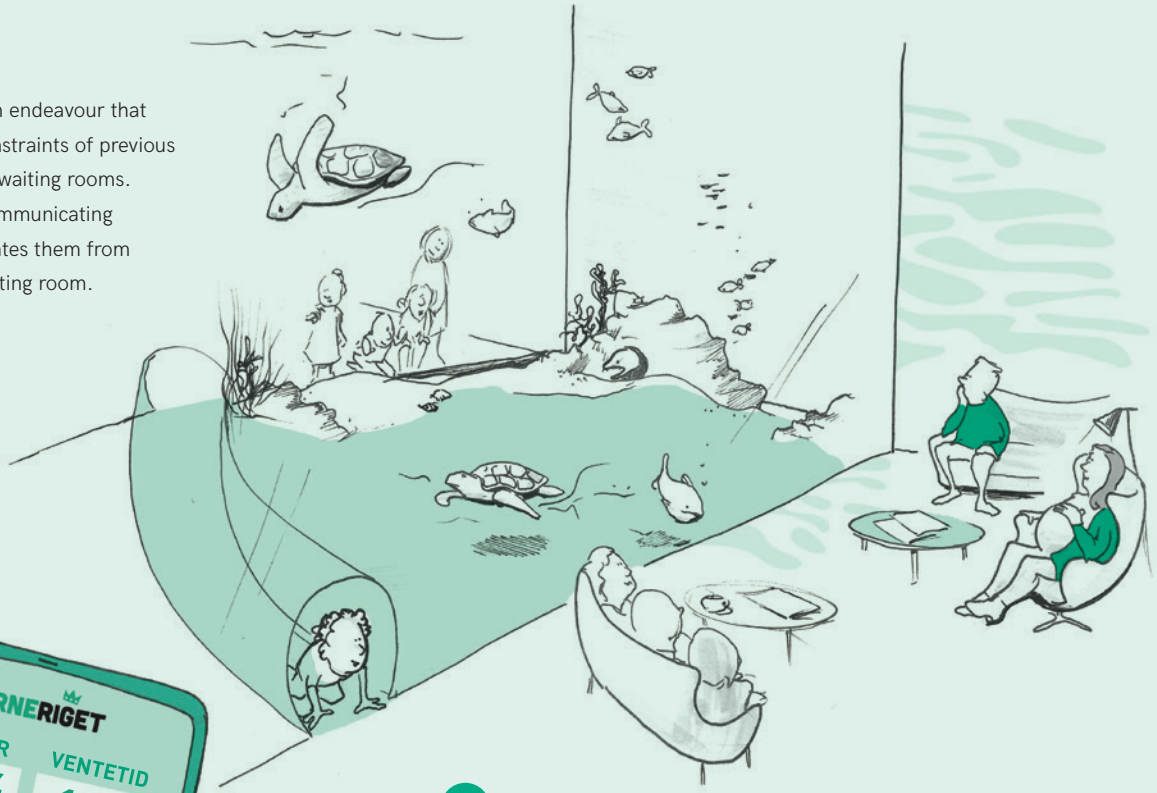
The app gives the users an estimated waiting time and a warning when they are third in the queue. At the tap of a button, the app helps them navigate their way to their appointment and also provides suggestions for what users can do and where they can go, depending on how they wish to spend time.



1

Innovative waiting area

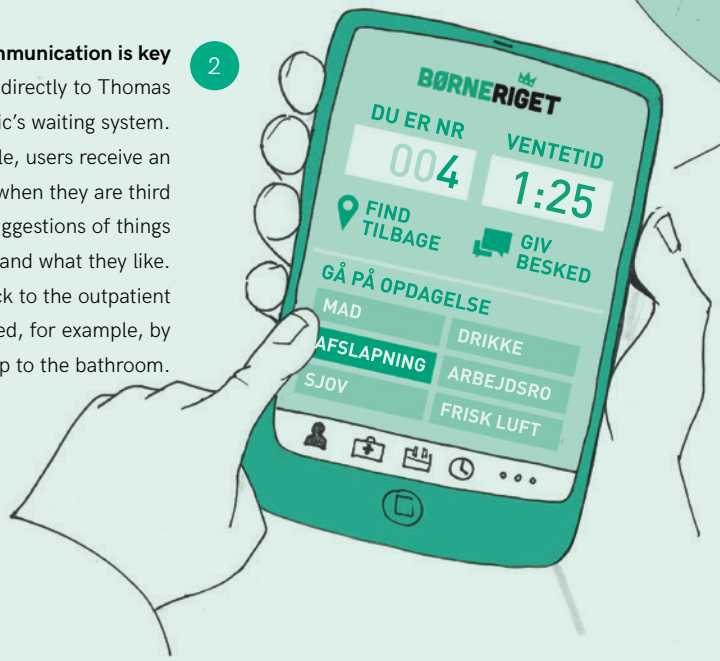
The hospital is a modern endeavour that breaks free from the constraints of previous ideas about waiting and waiting rooms. Keeping track of and communicating digitally with users liberates them from being chained to the waiting room.



Real-time, direct communication is key

The hospital **Waiting app** sends messages directly to Thomas and Jasmine through the outpatient clinic's waiting system. Because wait times can be unpredictable, users receive an automatic message to return to the clinic when they are third in line. The app provides age-appropriate suggestions of things to do nearby suitable to the time available and what they like. The press of a button quickly leads users back to the outpatient clinic and users can send a message if delayed, for example, by a trip to the bathroom.

2



3

One aquarium, two experiences

The hospital has a large, see-through aquarium separating the lounge from the lobby that provides a relaxing backdrop for Thomas and Jasmine, who want to unwind. On the other side of the lobby, the aquarium supplies the youngest users with hours of entertainment. This solution is an example of how smart designs ensure that different users encounter an experience that suits them and their situation – without having to build more than one hospital.

Smooth transitions

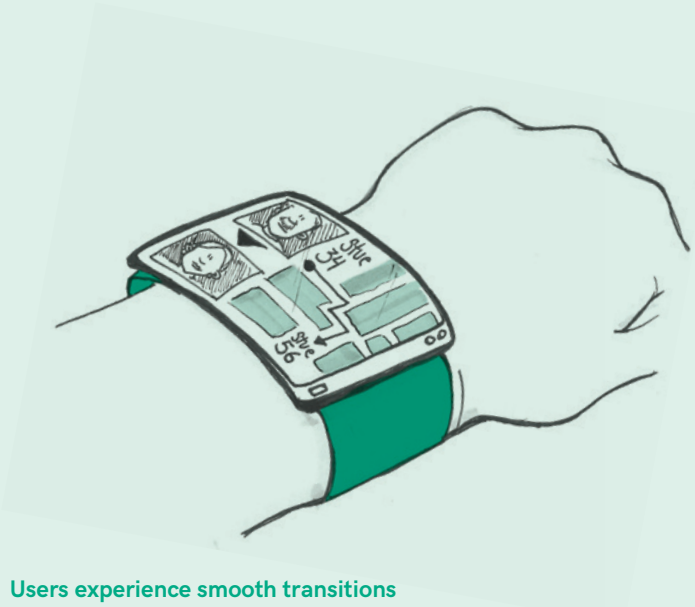
Users experience the various wards as one coherent entity

Jasmine's C-section went well and the couple have become a family of three. During their morning visit, however, the doctors noticed a minor complication and it has been decided that Jasmine and her baby should stay in hospital for a few days longer. They cannot stay on the present ward and have to be transferred to another. Thomas and Jasime feel nervous, but the transfer to the new ward is so smooth that they soon feel relaxed again.

Internally, the wards and staff at the hospital are highly specialised units – which they must be in order to provide world-class treatment. However this isn't so striking to the users, who notice the overall external impression, where the emphasis is on creating one coherent user experience – across wards, functions and specialisations. This approach means that the staff perceive their employer as being first and foremost the hospital, not the ward.

To make transitions smoother for users, the hospital employs several strategies. First, the changeover is made transparent and predictable by giving the users certain information about the transfer in advance.

Second, the changeover to another ward takes place as a small ritual. A doctor or nurse from the old ward accompanies the user to the new ward, where one of the new treatment providers is waiting. They go through the main information about the treatment programme together with the user, which shows the user that the wards have communicated and also gives them the chance to ask any questions right from the start.



1 **Users experience smooth transitions**

Shortly after Thomas and Jasmine are told that they will be moving to a new ward, the hospital app Jasmine downloaded on her smartwatch provides all the details. They can see, for example, the name and face of the doctor who will receive them at the new ward, what room they will be in and a map showing the location at the hospital.

2 **Standardised transfers**

Thomas and Jasmine arrive at their room, where their faces are already on the door's screen. A treatment provider from the new ward is expecting them. They talk with two doctors for ten minutes who explain minor complications and discuss the plan for the next few days. Jasmine has a few questions about the new ward that are answered immediately.

Clear zones

Insight
Design principle
Examples of solutions

Clear zones

Insight: Uncertainty about DOs and DON'Ts leads to broken rules, underused facilities, superfluous questions and general lack of trust in the hospital

"It can be hard to find a nurse. So you need to hunt for them and you know you'll get hold of one outside these rooms [pharmaceutical rooms]. Sometimes the nurses take the initiative and have a talk with you here at the door."
Mother of an outpatient

"There must be a best practice in the world of medicine?!" Father of long-stay patient

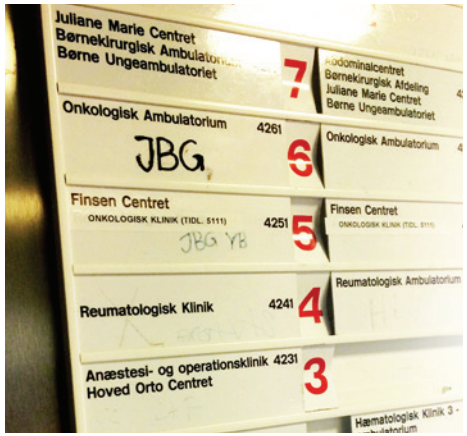
Rigshospitalet is a difficult place to navigate for children and adults; it is not obvious where you are allowed to go, what you are allowed to do, or whom to ask questions. Users are inundated with information, both written and oral, which means that important information fails to get through. Furthermore users find that information, rules and practice vary from hospital to hospital – sometimes even from ward to ward within the same hospital, depending on which team of staff is on duty. Finally there is no clear distinction between frontstage and backstage, i.e. between the places where users are admitted and those reserved for staff only.

These uncertainties have all kinds of negative consequences and important rules are broken: A young, single mother uses her mobile despite the ban because she was allowed to in another ward, or a nurse has told her the rule is no longer valid. The users restrict themselves unnecessarily or underuse the facilities without realising: A mother doesn't use the waiting room with the good play facilities in another ward because she doesn't realise she may. The users ask the staff superfluous questions: One mother relates that the staff are fed up with being disturbed when they are in their offices, so they compete with each other to look away if she approaches the doorway with a question.

Lastly, and possibly most importantly, uncertainty gives the user a feeling of chaos. One family has had dealings with several departments in Rigshospitalet and the fact that each of them does things differently makes them feel insecure: "We got the impression the staff didn't have things quite under control."

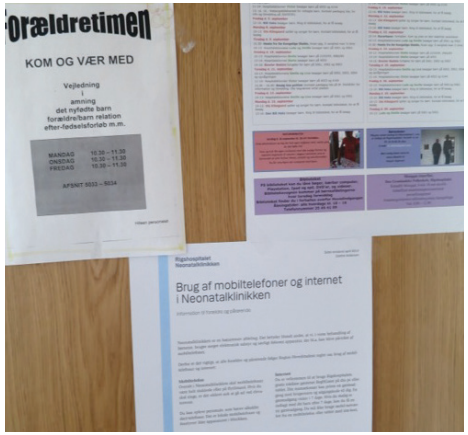
”You aren’t familiar with the landscape or terminology, have no social connections and a sick child; you’re traumatised. There’s an extreme need for clarity in that situation.”
Parent of newborn with life threatening complications

”It’s not clear where you have to go when you arrive. At first I thought I should follow the sign, but it was obviously for another ward so I couldn’t get help there.” Mother of six year old



”The do-not-disturb zones … It’s difficult to act as a parent. The door is open, but it says do-not-disturb. What am I allowed to do and not do?”
Mother of outpatient

”We never found out whether we were actually allowed to take a cup of coffee … If someone came by you felt like you were stealing from the cookie jar.”
Father of preemie



”The surgery ward is one of my favourite places at Rigshospitalet – it’s clean and tidy and everything’s under control.” 12-year-old user

Consistency and clarity reassure users that they are in good hands and can relax. They feel more at ease, both in their interaction with the staff and with other users, who can concentrate more on getting better or caring for a patient. One father mentions a specific ward as being his favourite, as he never felt unsure about where to go or what he was supposed to do: “They were very clear and well organised.”

Design principle #5

Create an intuitive building that is easy to navigate and guides user behaviour

Challenges

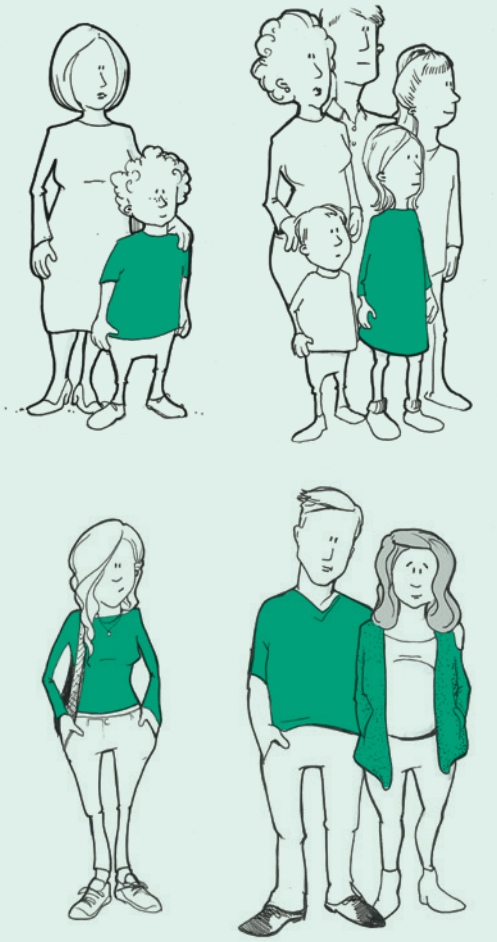
- How can the architecture and layout of the hospital make it easy to understand where users are allowed and not allowed to go and what they can and can't do – without using signs?
- How can different design features motivate users to follow the right behaviour?
- What solutions will make it fun and easy for children to find their way around the hospital?
- How do we ensure that the square meters and facilities at the hospital demonstrate the best utilisation worldwide at a hospital?

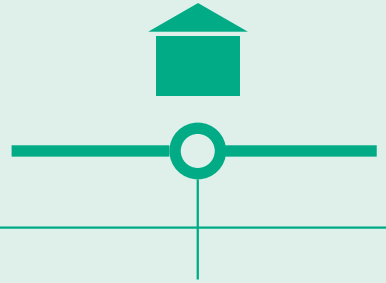
Clear zones

Examples of solutions

The hospital users

The hospital will be used by users with very different requirements. Some users are on a short visit and might be going to just one individual outpatient appointment, while others undergo such a long treatment programme that they become like residents.





Communication without signs

In an intuitive building, much of the communication is without signs. This frees up the users' attention, allowing them to focus on the things that matter.

A kind nudge

The design of the hospital helps users to make a quicker recovery by fostering hygiene, mobility and good sleeping habits.

No unused space

The hospital ensures that every bit of space is used by opening up the building to let users and staff share facilities.

Communication without signs

Most of the communication with the hospital users is without signs

At the hospital the users often come preoccupied with all sorts of thoughts and information. Some go to appointments, others wait for test results, and many have to cope with a serious diagnosis. The hospital is designed to expose users as little as possible to text-based information.

Limiting the amount of text-based information for the user has three benefits. First, it lets the users focus their attention on the most important thing, namely treatment and recovery. Second, it gives the users the experience of a more orderly and disciplined environment, which inspires trust and matches expectations of rigorous clinical standards. Third, it is easier for younger children to find their way around, as they cannot read.

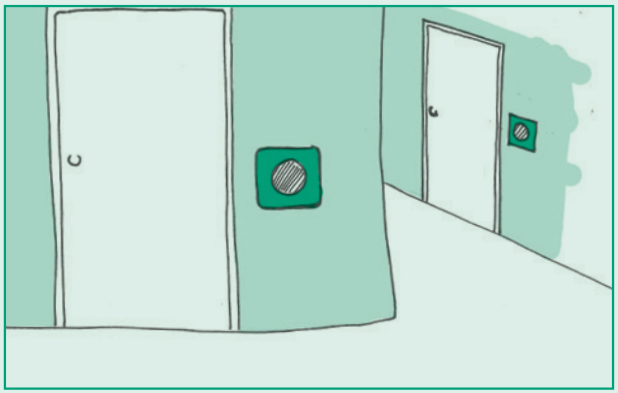
Limiting the amount of text-based information in the user experience of the building can be achieved in several ways. Material and lighting can 'talk' to the user and guide them in the right direction – in the same way that a newcomer to Terminal 3 at Kastrup Airport is guided to the Metro and trains via floor coverings and columns. Different materials can be used to indicate what is permitted/not permitted, such as using specific materials in the quiet areas.

Consistency of language and procedures in the building also plays a large role in creating a positive user experience. Once users have understood how something is done on one ward, e.g. opening a door or asking a question, they can apply what they have learned to the rest of the hospital.

A combination of the users' own devices and the hospital app can be used to tailor information to specific user profiles and situations. Outpatients do not need the same information as long-stay patients, for example. Signs and written notices will still play a role at the hospital, but they will be limited and reserved for the most important messages that need to be communicated to many users.

1 **Personal navigation**

Wayfinding at the hospital will largely take place on users' devices, saving on signs and opening up a new paradigm of personal navigation. Users can bypass busy areas during the day but take short cuts in the evening. Routes can also be adapted to avoid inconvenient situations, where childless couples run into new parents, for example.



2 **The door opener to end all door openers**

By using the same systems throughout, for example door openers, the hospital only has to teach users what to do once.

3 **Tidy, intuitive hallways**

Like other hospitals, the hospital will use hallways for storage and for moving things. It will be clearly defined, however, where things are done. Materials, colours, light, and niches in the walls will clearly indicate where things are allowed to be or not. The clear communication in the design will leave less room for interpretation and ensure that the standards do not become watered down over time.

A kind nudge

Uniform design that motivates users to do the right thing – benefitting themselves and the hospital

At the hospital users and staff are encouraged to do what's good for them and good for others. Building a new hospital provides the opportunity to use architecture and design to form certain habits rather than rely on written or oral reminders that simply add to and get lost in the mountain of information. A sign reminding users to wash their hands can be replaced by a strategically-placed sink that lights up at the right time. A request to users to keep quiet in the hallway can be reinforced by pictures of sleeping children.

Changes in behaviour can be brought about in many areas. Three things in particular are appropriate for incorporation into the design, as they promote general health and wellbeing:

1. Hygiene: How can the hospital help staff and users of all ages to maintain a high standard of hygiene?

2. Mobilisation: What can the hospital do to make it natural and attractive for users to get out of bed and leave their rooms?

3. Peace and privacy: What can the hospital do to ensure that users have the peace and privacy they need to gain the maximum rest and best recovery time?

1

Design that promotes hygiene behaviour

A sink that lights up to remind people to wash their hands when they enter the room. A strategically placed sink also gives the social protocol greater influence. Similarly, a well-placed closet can encourage visitors to remove dirty footwear.

2

Play floors tempt children out of bed

The hospital is designed to tempt users who are healthy enough to get out of bed and out of their rooms. In the example a boy wakes up to discover a sensory-based music game on his floor.

3

Quiet nights, deep sleep

When Ida was admitted she was asked to take a picture of herself while asleep. From 10 pm to 8 am this picture is shown on the screen on her door. Her picture and those of the other patients remind staff and users to speak softly in the hallways.

No unused space

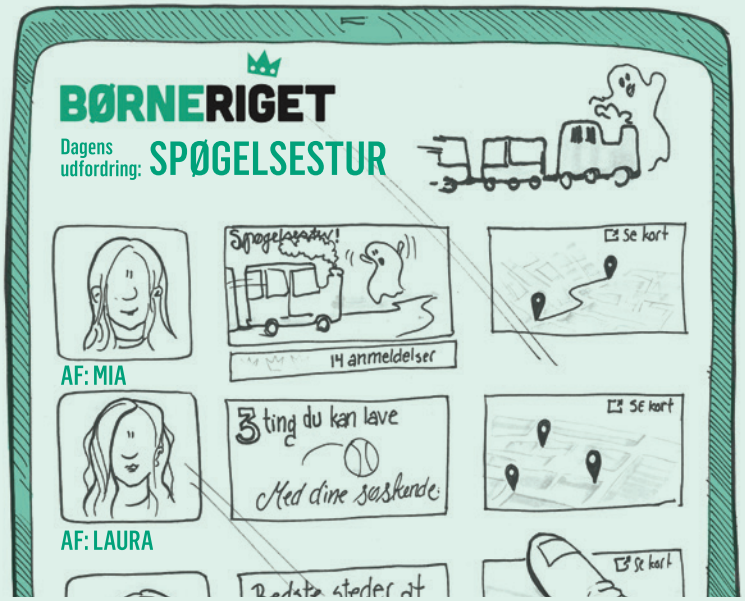
The hospital invites users to share its facilities

Space, and lack of space, is an issue at most hospitals. At the hospital the goal is to set new standards for the utilisation of rooms and facilities with the aid of new technology provided by portable productivity and local management systems. However better utilisation can also be achieved through new approaches, such as resource sharing across traditional boundaries. Many facilities at the hospital will be shared by several different wards and a large cross-section of users and staff.

Utilisation of rooms and facilities will also be improved by taking into account the hospital's natural rhythm. Like most hospitals, much of the work and activities will take place during the daytime and on weekdays. Today this rhythm often affects the user experience negatively, with many users describing a ghost-town atmosphere. The hospital will utilise the extra space to accommodate activities that cannot take place during busy daytime hours. For example, a half-empty car park needn't look sad or desolate, but could be used for activities requiring a large, open space and asphalt.

Likewise, staff and users often have complementary rhythms, which means that a consultation room for staff during the daytime could double up as a visiting room for relatives in the evening, or a room for birthday parties at the weekend.

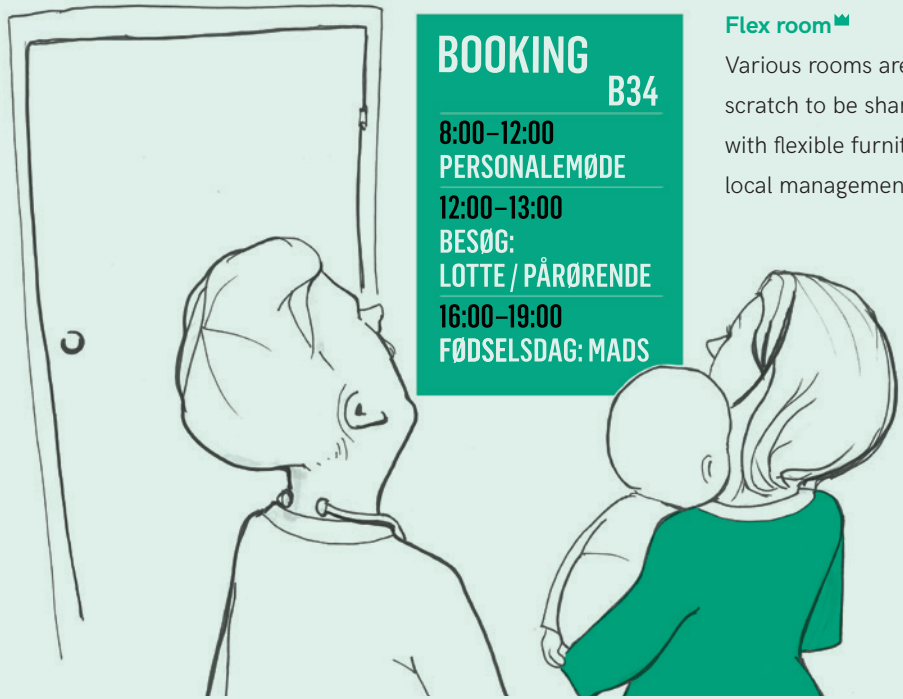
Flexible use of the space in the hospital will be achieved by drawing the users' attention to the available options. New users currently need to stay at the hospital for a long period before they discover all its nooks and crannies, but the hospital wants to speed up this process by getting experienced users to pass on knowledge and recommendations.



1

User-created excursions

A user-created digital guide on the hospital's app and navigation system lets new users become insiders on the day they arrive. Nine-year-old Mia, for example, has come up with a route through the basement that she calls the ghost walk.



2

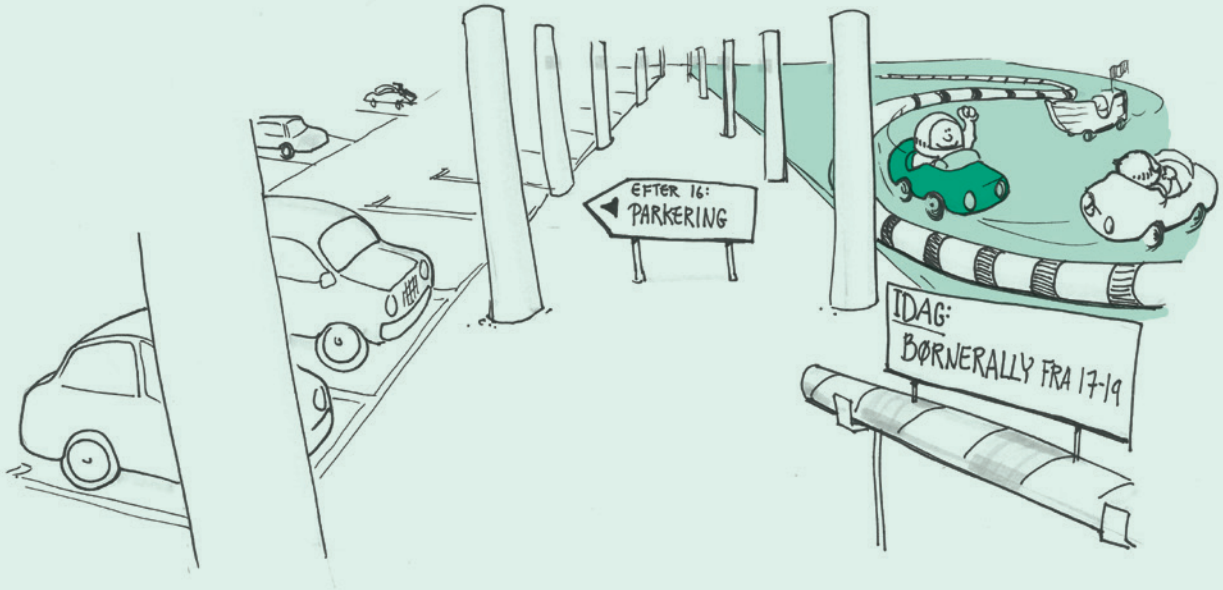
Flex room

Various rooms are designed from scratch to be shared. They are fitted with flexible furniture and run by the local management system.

3

Smart, actively controlled car park

During periods of excess capacity in the car park sensors, software and signs ensure that cars only fill one side, making the other half available for sporting activities. In the example presented, the children participate in a rally where they ride on a track with their Transporter.



5 insights and design principles for creating the world's best hospital for children and families

#1 Integrated play

Make play an integral part of the design, life and flow of the building

#2 Designed for everyday life

Put the world inside and outside the hospital in sync

#3 See me, ask me, let me

Give back patients the feeling of control by letting them manage the small things

#4 The good journey

Create a patient journey that starts well, is coherent and celebrates progress

#5 Clear zones

Create an intuitive building that is easy to navigate and guides user behaviour


BØRNERIGET

Appendix

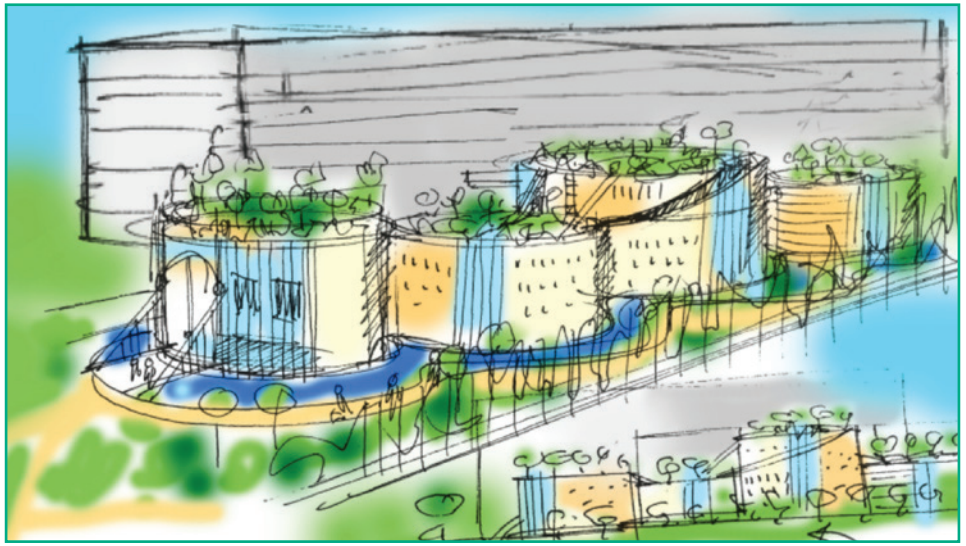
Inspiration for the exterior design of the hospital

The snail-like design allows the rooms to have outdoor areas

Can the hospital be designed to give all long-stay rooms and isolation rooms direct access to private, child-safe outdoor areas?

Telescope at the top suggests playfulness and curiosity

Could the architecture include a distinctive feature that gives the hospital a playful profile that invites curiosity and can be spotted from afar?

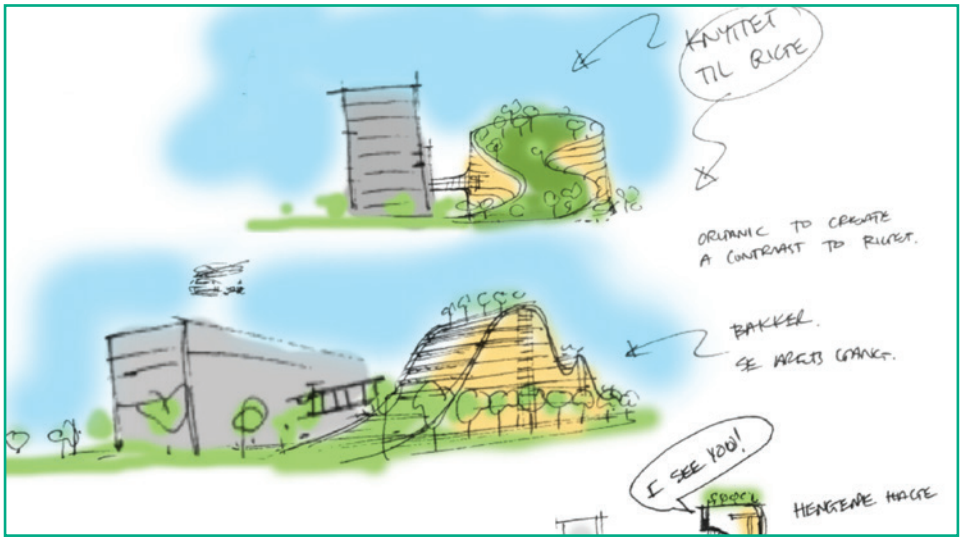


Cylindrical form gives it a distinct profile

Should the hospital stand out architecturally from the rest of Rigshospitalet?

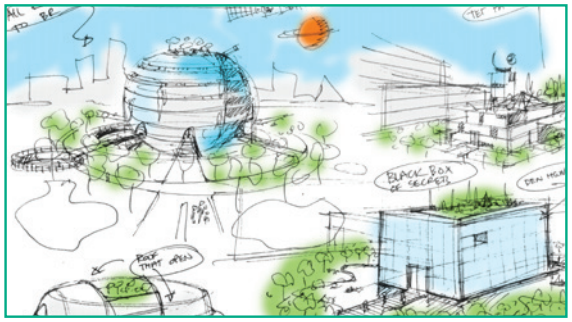
Highline provides additional space

How can the architecture ensure optimal use of the limited space for outdoor areas?



Visible glass bridge and invisible passageway to Rigshospitalet

How can the building be optimally connected to Rigshospitalet functionally, aesthetically and symbolically?

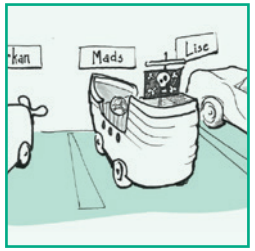
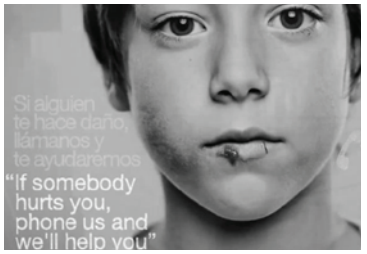


Unusual shapes convey a sense of mystery and fantasy

To what extent should the architecture of the hospital reflect the building's function as a hospital? Could there be more of a surprise …?

Playful little sister

Could the hospital be designed to look like Rigshospitalet's playful little sister?

Ideas	Features	Inspiration from others
 **p. 23** **The hospital Transporter** A personal vehicle for all children to help them navigate and explore the hospital.	• Choice of different vehicles and themes (plane, ship, car, submarine, etc.). • IV drip stand can be conveniently fitted onto the vehicle. • Fits through all doorways and inside all elevators – so children can take the Transporter with them throughout their hospital visit. • Connected to the hospital indoor positioning system. The Transporter not only finds the way to the next appointment, but also points out play areas, tracks the location of the clown in real time and locates the child's friends (opt-in).	 Like in LEGOLAND, children at the hospital are given a driver's licence when their Transporter is handed over at the hospital.
 **p. 23** **The hospital avatar** A doll/teddy/robot fitted with sensors, which the children look after during their stay in hospital.	• The avatar is fitted with equipment and sensors enabling it to interact in different places at the hospital, e.g. using a toy scanner. • The avatar can also interact with other avatars so it can initiate play between the children. • The avatar can also be used for ordinary 'analogue play'.	 Skylanders figures use near field communication technology to interact wirelessly with the game through a portal.
 **p. 25** **Play ribbon** A 40-cm-wide play and games strip that runs throughout the hospital at the same child-friendly height, e.g. 40-80 cm above the ground.	• The play ribbon consists of a mixture of physical toys, such as building blocks you can move around, and digital toys, such as touchscreen games. • In several places you can scan yourself in with your hospital passport, so the digital games recognise the child, e.g. "Hey Matt, go and look for Holger on the pirate ship …" • The play ribbon looks different from different angles, so it appears open and inviting at child level, but disappears into the wall from adult height.	 The organisation ANAR launched a successful poster campaign on physical child abuse. Technology is used to make the poster appear different depending on the viewer's height and thus convey different things to children and adults.
 **p. 27** **The hospital Academy** Compulsory courses for all treatment providers at the hospital to become "certified".	• Crash course for new staff on how play and games can be used to instruct and communicate with children more effectively. In some cases users join in the teaching. • Forum for comparing notes on play across the departments. • Annual award for staff or teams particularly good at integrating play into their treatment programmes. • Cooperation with researchers from LEGO Foundation's academic network.	 Awarding of statuette, similar to the Kreds Hovedstaden nursing award.

Children's entrance

The main entrance to the hospital consists of a large door for adults and a smaller door for children. See Imaginarium toy store chain for inspiration.

LEGORiget

Cooperation with LEGO to create a miniature Legoland at the hospital, possibly with a hospital theme. This would be the first Legoland east of the Storebælt Bridge.

Toy library

The patients can go down to the toy library and borrow toys to take up to their room. The toys are company and private donations, coordinated by Friends of Children's Hospital Copenhagen.

IV drip equipment with theme

IV drip stands and fluid containers have a theme, such as superheroes. Patients can pretend that medication or water is a superhero formula or a magic potion.

Elevator theme

The elevators have different themes (wall decorations or sound installations), such as jungle, seaside or space ship.

Play floor

Hopscotch, mustn't touch the ground game, letter snake, kings of Denmark and other educational material incorporated into the laminate flooring in the hallway. The information in the flooring can be adapted to the theme of the ward, e.g. underwater world.

Play helicopter

Life-size (1:1) play helicopter in the lobby, in The Square or outside the hospital for children to play in and to demystify some of what goes on at the hospital. Could also be an ambulance or similar.

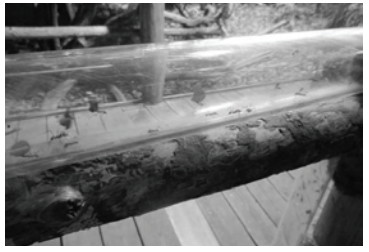
Animal figures

Hilly landscape in The Square with structures inviting children to crawl and play on them.

Video greetings booth

The child can record a video or audio greeting for other children to see or hear, e.g. in the hospital Transporter, the waiting room or the lobby. This gives the children the opportunity to make contact asynchronously, i.e. with children who are at the hospital at another time.

Designed for everyday life, pp. 34–43

Ideas	Features	Inspiration from others	
	**p. 37** **Depot** A storeroom of items to borrow during a stay in hospital.	• Modules to hang from hooks in the room, e.g. punch bags, swings, hammocks, hanging plants. • Modules to be fixed to the walls, e.g. climbing wall, pin boards, pictures, building elements. • Small items to make the room cosy: plants, books, scented candles, cushions, Christmas decorations.	 The hospital depot is conceived as a miniature version of Danish Broadcasting Corporation's props depot and contains furniture, art, rugs, kitchenware, stationary, sports items, etc. that can be borrowed on a daily basis.
	**p. 39** **Friends of Children's Hospital Copenhagen** Coordinating voluntary activities and nurturing contact with friends of the hospital: volunteers, sponsors and collaborating partners.	• Open house every day at The Square, where you can get information on the week's activities or how to become a volunteer or get involved otherwise. • Cooperation with patient associations, e.g. Children's Cancer Foundation or Children, Youth and Grief. • Potential friends of the hospital, who support events, etc: Music Conservatory, Fitness.dk gym, Magic Circle, Danish Authors' Society.	 The Danish Refugee Council is one of many organisations with an institutionalised volunteer culture that makes it easy to become a volunteer – even if you can only spare a few hours each year.
	**p. 41** **The hospital experimentarium** 100 m2 of hospital space dedicated to fun, hands-on science and focusing on illness and treatment.	• Stationary, interactive installations on the body, medicine, etc. • Life-size models of hospital equipment – scanners, pressure chambers – which you can touch or lie in. • Mini versions of equipment for the hospital avatars. • Demonstrations and activities at experimentariet and other parts of Rigshospitalet	 Healthcare days in the Capital Region of Denmark, held at local expo centers, fascinates both children and adults and attracts large crowds, including school classes.
	**p. 43** **Ant Farm** Sealed system of plexiglass tubes built like an ant hill. Thousands of leafcutter ants live in the tubes.	• The tubes run in and out of the rooms and hallways at the hospital. • The ants are constantly running around "hard at work" – just like in nature. • The ants transport all sorts of things which the "ant keepers" give them: leaves, small stones, berries, etc.	 Ants in a plexiglass tube system at Tropikariet indoor zoo in Helsingborg.

Other ideas

The hospital bus

A bus that can accommodate hospital beds and has space for standard equipment, so that immobile patients can join in outings.

Only at the hospital

Cooperation with the zoo on animals that can be kept indoors or outdoors at the hospital, e.g. terrariums with insects, or snakes in the basement or lobby.

100 day bonus

Patients who have been in hospital for 100 days or longer are treated to a special experience, such as a helicopter ride over Copenhagen with their family or a romantic dinner with their partner at a restaurant in the vicinity.

Rental bikes

All inpatients can rent a bike, including a Christiania bike to conveniently reach facilities in the vicinity.

The hospital cinema

Mini cinema in partnership with Nordisk Film or Cinemateket showing the same films as ordinary cinemas in Denmark. Films can be advertised in The Square.

Gym and swimming pool

Gym with training equipment, swimming pool and activities such as yoga, arranged by Friends of Children's Hospital Copenhagen.

Nemlig.com at the hospital

Daily deliveries of ordered groceries to the rooms by Nemlig.com, with lower purchase limit and free delivery, as there are many users almost every day.

Netflix

Free Netflix access for all inpatients, possibly sponsored by Netflix or a similar service.

Music room

Music room at the hospital with lessons by volunteers, where patients can play on the instruments or book a session for several people to practise together.

Children's garden

A garden tended by the children. Every child has the opportunity to plant a bulb or flowers. The garden could be adjacent to the park or The Square or it could be a roof-top garden on the hospital.

Sensory room

A sensory room inspired by the Snoezel House, a multi-sensory environment designed to stimulate development and rehabilitation, and both gross and fine motor skills.

Mobile monitoring

Option for monitoring children in their rooms using a mobile alarm, so parents can take small breaks from the room but keep an eye on their child at the same time.

Multi-faith prayer room

Meditative room for children and parents of all faiths. A room where it is okay to cry.

Barista on wheels

Trolley with coffee, cakes, etc. wheeled around the different wards at specific times, so it is possible to have a good cup of coffee on all wards at least once a day.

See me, ask me, let me, pp. 50–57

Ideas	Features	Inspiration from others
 **p. 53** **Young person's access card** Young chronic and long-stay patients can access shortcuts and facilities not accessible to the public.	• The young person's access card opens doors to stairways and elevators that are barred to the general public. • The card provides access to staffed facilities outside o pening hours, e.g. the library or Mr Berg Café. • An icon on the door/ at the location indicates whether card access is available. • A system registers who gains access, when and where.	 Many libraries offer self-service opening hours, so that users can access borrowed books, read newspapers and magazines, etc. outside staffed hours. The service operates on trust and registers who goes in when.
 **p. 53** **Collective memory** A system for providing a personal service that respects the users' specific needs and personal situation.	• Data is collected automatically (e.g. registration of check-in) and via input (e.g. treatment provider's notes). • Via three short messages (tweets) on the homepage, users can send information about themselves which they would like the staff to take note of. For example, "I can't fast because I'm fed through a drip" or, "Can I see where I'll be put for monitoring before surgery?"	 The luxury hotel chain Mandarin Hotel Group collects large volumes of data on their guests and adapts its service accordingly, e.g. choos-ing which type of fruit to place in guests' rooms depending on what they were given during their last stay at a Mandarin Hotel.
 **p. 55** **Deliveries from The Square** Quick and easy food and drink orders from The Square delivered to rooms, kitchens, the garden or anywhere else in the hospital.	• One online portal listing everything that can be ordered from eating places in The Square that week. • Pre-paid account option, so children can place orders without worrying about payment. • Delivery staff from The Square wear recognisable character uniforms, e.g. butler or superhero. • They know the hospital better than the pizza delivery service which delivers to Rigshospitalet today.	 Delivery Hero takeaway service turns delivery staff into characters – more than just a neutral service.
 **p. 57** **Mentor programme** Programme for young users to mentor other young people in the same situation.	• The hospital trains mentors and gives them the tools to learn from themselves. • The mentee learns from the experienced mentor, while the mentor matures by learning from themselves. • Mentor and mentee don't have to have the same illness, since non-medical issues are tackled, e.g. absence from school or participation in school trips.	 Red Cross Youth has been successful with programmes like Sunshine Youth and Together on Your Own Two Feet, where young people manage difficult situations with the help of mentors often older than them.

Other ideas

Ready steady

App or hospital intranet with catalogue of general treatment situations, e.g. explaining what happens during a scan, with video clips from experienced children or young people.

Hospital democracy

Patients can vote (digitally or in a booth in The Square) on both big and small decisions relevant to their lives at the hospital, e.g. who should be given a licence to set up shop in The Square or what film should be screened in the evening.

Appointment booking system

System for users to choose between selected times for appointments for outpatient treatment and to book from home. Just having a choice between two different times would probably make a difference for many users, as they would feel consulted.

Delivery service for all shops in The Square

Delivery service from The Square could be extended to deliver more things at the hospital, such as newspapers, magazines, toys, cups of coffee to outpatient appointments or to rooms.

Lockers in the basement for regular visitors and long-stay patients

If you are a regular visitor to the hospital, you can be allocated a small locker in the basement, where you can store a bag with toys, clothes or the like. This is convenient for families if sudden complications arise, and it also acknowledges and supports the sense of belonging.

Digital room signs

Small screens at the entrance to all rooms displaying the user's name and image. The picture is already uploaded when entering the room the first time, so users feel welcome. Furthermore pictures and names on the door help the staff to address users more personally. Users could also be allowed to write a short message on the screen, e.g. "I've got a headache today. Please talk quietly."

Timeline on relationship with the hospital

The hospital app could have a timeline mapping the users' relationship with the hospital, so they have an overview of their different treatments and hospital stays.

Ideas	Features	Inspiration from others
 **p. 67** **Multi-sensory design** A user experience design taking into account hands, feet, sounds and smells just as much as sight.	• De-institutionalising sounds and smells in the arrival areas. • Outdoor area or lobby could greet users with the smell of coffee, the sound of children playing, etc. • The same principle could be applied to the rooms: new users could be greeted by the smell of tea and their favourite music playing in the background.	 In addition to their unmistakeable logo, the coffee chain Starbucks also uses warm materials like wood and leather for their interiors to create associations with homeliness and an acoustic backdrop of coffee mills and certain music artists.
 **p. 67** **Child-friendly, not childish** A design to accommodate children without excluding other groups.	• Themes that appeal to children, but also to young people and adults, such as variations on animals, aquarium, astronomy, healthcare, etc. • Discreet solutions allowing the children to view the adult world, for example a system of hallways in a hilly landscape with glass domes.	 The Arctic Ring at Copenhagen Zoo uses modern architecture to let visitors get close up to animals such as the polar bears and to create hands-on, interactive installations.
 **p. 69** **The hospital waiting time app** Queue management system with front-end app.	• Queue management system for all wards so user traffic can be coordinated. • Linked to the hospital indoor navigation system, so users can be guided quickly from outpatient clinics and rooms to food and entertainment facilities and back again. • The users' position is an opt-in, i.e. they actively agree to letting the hospital know their location in the building for a limited period in return for a better waiting time experience	 Royal BC Museum in British Columbia, Canada has used an indoor navigation system and app since 2012 to guide visitors and offer personalised tours.
 **p. 71** **Transfer ritual** A blueprint for transferral between two wards at the hospital.	• A detailed blueprint for transferral from one ward to another. • Transferral always takes place in front of the user so they witness first hand that the key information goes with them. • The transfer has a ritual aspect that pinpoints the exact moment when the user transfers from one ward to the next, avoiding grey zones. This could be the handing over of a document or some other "baton" or notification via the app.	 At Wilhelmina Children's Hospital in Utrecht, Holland, the staff are trained in how to keep the users' trust when moving from one ward to another.

Managing waiting time traffic

By managing the users via the app, the hospital can recommend users to spend their waiting time where the hospital is least crowded. This means that hospital facilities are better utilised.

Mini zoo at the entrance

Copenhagen Zoo could operate a small enclosure with animals at the entrance or in the lobby that provides hours of entertainment for the youngest visitors. See meerkat enclosure at the Royal Children's Hospital in Melbourne for inspiration.

Dayroom in outpatient clinic

Users who come in for several outpatient appointments during a day are assigned their own room for the whole day. The patients can stay in the room and treatment will be brought to them. The rooms are prioritised for users who are in particular need of a quiet, coherent experience.

Welcoming users

New users in a ward are shown round by an experienced user, who points out the different facilities and demonstrates how they work.

Sculpture of gratitude

A living art installation inviting users to express their gratitude towards the hospital and its staff. It could be a LEGO sculpture, for example, where discharged patients can write a thank you message on a brick and add the brick to the sculpture – a kind of 3D guest book. The first thing that new users see is a symbol of the good relations between users and staff.

Children's Hospital Copenhagen vs. Rigshospitalet

Yearly football match where the staff of the Children's Hospital Copenhagen play a friendly game against Rigshospitalet. The team should have at least one player from each ward. The match reinforces identification with the Children's Hospital Copenhagen as a whole and it also nurtures relations with Rigshospitalet. A football match is one example, but other events bringing together staff from different wards at the hospital could also be envisaged.

Class of …

New staff at the hospital are assigned to two- to four-year programmes, where they get to know new staff from other wards.

Staff tour-de-chambre

Annual event where staff receive colleagues from other wards and show them around, so that each member of staff is familiar with all of the wards at the hospital.

Common KPIs for arranging smooth transitions

All staff at the hospital have a key performance indicator (KPI) written into their contract that gives them bonus points if users experience transitions at the hospital as smooth. The KPI is shared, so it is activated for all staff at once and is a common project. The reward could, for example, be a large, yearly party or event.

Clear zones pp. 78–85

Ideas	Features	Inspiration from others
 **p. 81** **Materials that communicate** Consistent use of materials throughout the hospital to convey important distinctions and rules.	• Wood or imitation wood materials are used for user-oriented spaces (rooms, dining areas, etc.). • Curtains or blinds can be used in all rooms to communicate that the users are in "private mode". • Subtle lighting at night can indicate zones and hallways where it is important to be especially quiet. • Colours or materials can be used in hallways to show where things may or may not be placed.	 At Kastrup Airport, Terminal 3, black tiles and columns are a discreet but effective indication of where visitors can stand and wait for arriving passengers and where they should not linger. Black tiled pathways also guide passengers directly to the Metro and trains.
 **p. 83** **Light and airy stairway frontstage** Architectural solutions to ensure that the stairs are an attractive alternative to the elevators.	• In many hospitals today, the stairways are dark and hidden away, which increases pressure on the elevators and stops users from being mobile. • At the hospital the stairs feature frontstage, which means that they are inviting, light and centrally placed so new users see them and feel like using them.	 At Wilhelmina Children's Hospital in Utrecht, Holland, staff and users often use the stairs, as they are centrally located and are light, friendly and inviting. The steps are wooden.
 **p. 81** **Signs and communication support** Support function at the hospital aiding professional communication by staff.	• Central support function across the different wards. • Helps the staff to communicate important messages clearly and simply. • Ensures consistency across the wards, partly through the use of visual identity. • Facilities for layout, printing, laminating, etc. so that communication at the hospital appears professional and official.	 Many newer hospitals, such as Evelina Children's Hospital in London, use a consistent visual identity throughout for wayfinding and communication.
 **p. 85** **Flexroom** Flexible room for staff and users, steered using local management system.	• Neutral but friendly decor, so the room appeals to users and staff alike. • Facilities for plugging in equipment for working, teaching, film evenings, etc. • Day-to-day, fixed weekly or fixed monthly booking.	 Using flexible architecture and solutions, Ørestad Gymnasium has created multi-purpose rooms that can be used for teaching or recreation during the day or at night.

Other ideas

Themed floor levels

Themed zones and floor levels for children, for example, one floor level with an underwater theme, another with a desert theme, and so on.

Parent buddies

New parents are paired with experienced parents, who give a guided tour of the hospital and offer tips (coordinated by Friends of Children's Hospital Copenhagen).

Speedy assistantance on every floor

Information counters which users know they can approach with all kinds of questions so they don't disturb the other staff with their questions.

Press-here-for-questions intercom

Digital chat with all kinds of questions, possibly like an elevator alarm button. The app could also contain a chat support feature allowing users to ask non-medical questions.

Plain language

Use of plain language to describe the departments instead of specialist vocabulary (for example, births department instead of obstetrics).

Augmented reality navigation

Use of augmented reality through, for example, Google Glass or smartphones to create a level of personal information that doesn't cause unnecessary confusion to the other users. Could be used for navigation or exploration of the hospital.

Geocaching at the hospital

Geocaching treasure hunt at the hospital arranged by users or by the hospital. Through the indoor navigation system on the user's smartphone or their hospital Transporter, the children are guided each week through a treasure hunt that gets them out of bed and helps them to discover the hospital's nooks and crannies.