

# HELSINKI NEW CHILDREN'S (DIGITAL) HOSPITAL – BEST CARE FOR CHILDREN IN THE WORLD

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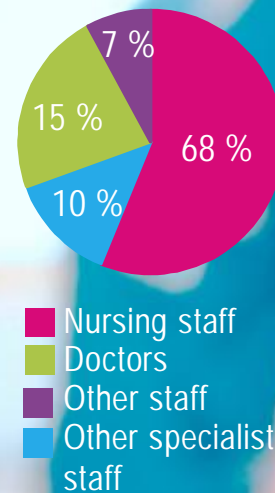
# HELSINKI UNIVERSITY HOSPITAL DEPARTMENT OF CHILDREN AND ADOLESCENTS

Pediatrics  
Pediatric surgery  
Child neurology  
Child psychiatry

Services are available in several places. The biggest hospitals are New Children's Hospital and Jorvi Hospital.

- Total staff: 2069
- The New Children's Hospital: 1000

Personnel by group sizes (%)



HUS is the largest concentration of health care professionals in Finland with the resources to provide the most demanding specialized health care services.

# FORERUNNER IN DEMANDING THERAPIES

## Department of Children and Adolescents, Helsinki University Hospital

- treats the most demanding pediatric diseases in Finland, such as **cardiac surgery and organ transplants**
- treats all pediatric diseases, including diseases for which medical expertise is not available elsewhere in Finland, e.g. **rare congenital diseases**
- offers services to other hospitals, e.g. **nationwide pediatric neurological on-call service**
- utilizes **gait analysis** to implement multilevel surgery in the treatment of neuro-orthopedic patients
- develops new methods and takes advantage of digital innovations, e.g. annually 10–15 **fetal cardiac examinations** are performed as remote consultations
- offers **pediatric ECMO** treatments for the entire country, even retrieval can be arranged for some patients
- utilizes **new methods of cellular therapy** to treat malignant diseases and to improve the prognoses of patients





## WORLD-CLASS RESULTS

- Our results in the treatment of cancer, preterm babies, cardiac surgery, and organ transplants are among the best 10% in the world
- Number one in kidney transplant results: 95% survive
- As many as 97% of children are cured from leukemia

2013-2018

# INNOVATIVE PLANNING AND CO-DESIGN OF THE HELSINKI NEW CHILDREN'S HOSPITAL



- Medical processes for different patient groups
- **The child experience**
- **The family experience**
- Hospital as a place of work
  - Performance/efficiency
  - Safety
  - Reliability of service
- Flexibility for change
- Energy efficiency
- Task/role in society



# TRIPLE AIM OF HEALTHCARE

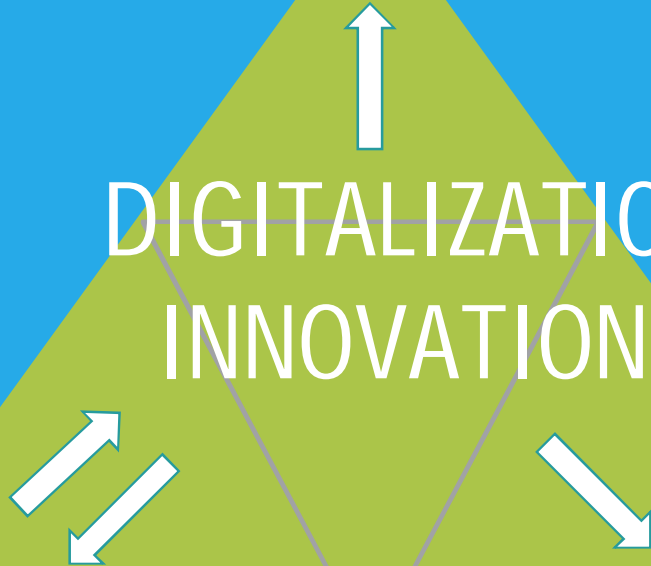
Patient experience

DIGITALIZATION  
INNOVATION

RESEARCH

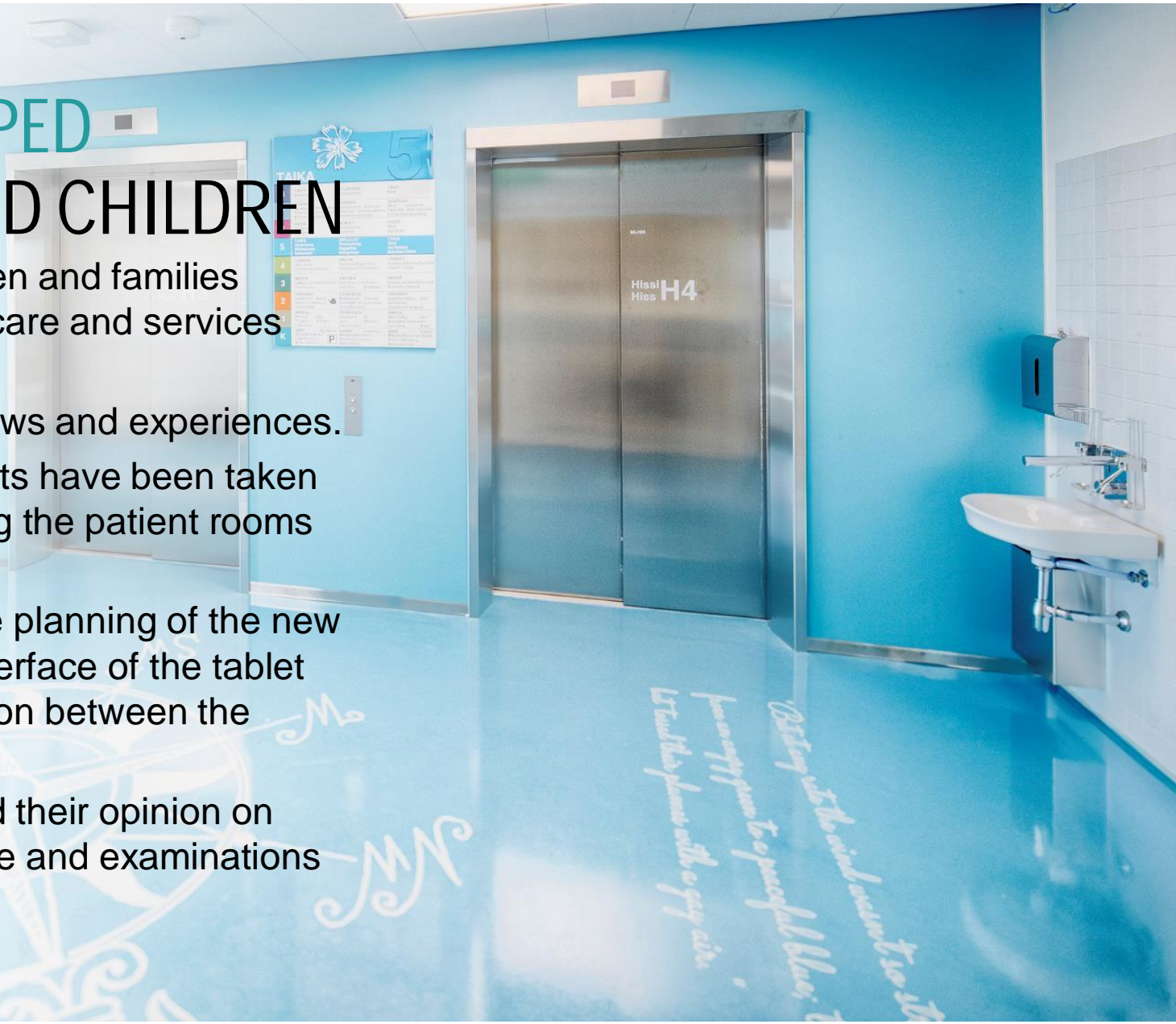
Medical care

Process efficiency



# HOSPITAL DEVELOPED WITH FAMILIES AND CHILDREN

- We collect feedback from children and families regularly, and use it to develop care and services further.
- A family board provides their views and experiences.
- Views and experiences of parents have been taken into consideration when planning the patient rooms and digital services.
- Children have participated in the planning of the new hospital clothes and the user interface of the tablet computers used in communication between the hospital and home.
- An adolescent board has shared their opinion on development work, and how care and examinations are implemented.





## FAMILIES CAN BE TOGETHER

- Parents can participate in all activities and enter all facilities 24/7.
- Single patient / family rooms.
- Wards have lounges and resting rooms for parents.
- Play area for siblings.
- Digital communication between hospital and home makes keeping in touch with family and friends easy.

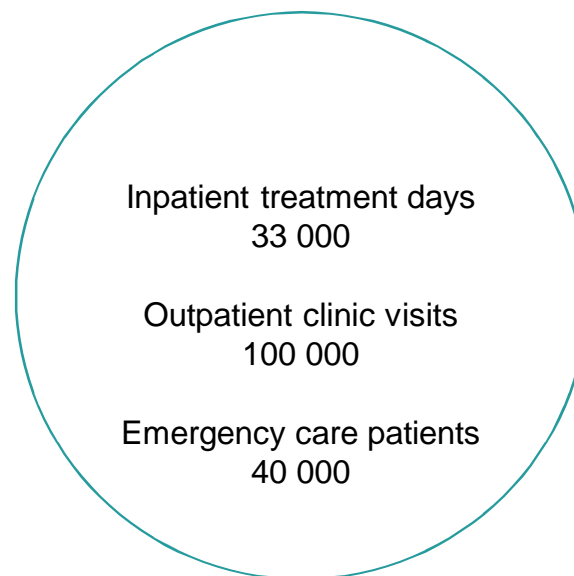




## THE BUILDING TELLS A STORY

- The hospital's design was guided by the need to make medical treatment processes as smooth as possible, and empathy towards the everyday life of children and their parents in the hospital.
- One of the premises for the interior design was the desire to evoke a sense of security in patients with varying ages.
- The inspiration for the interior design is rooted in the Finnish archipelago, which is presented in the hospital through Tove Jansson's original drawings, paintings, and quotes from her Moomin stories.
- Each floor has its own story and theme reflected in the chosen colors, signs, wall paintings, and quotes on the walls.
- Moomin stories have also inspired the names of the floors.

## THE NEW CHILDREN'S HOSPITAL FLOOR BY FLOOR



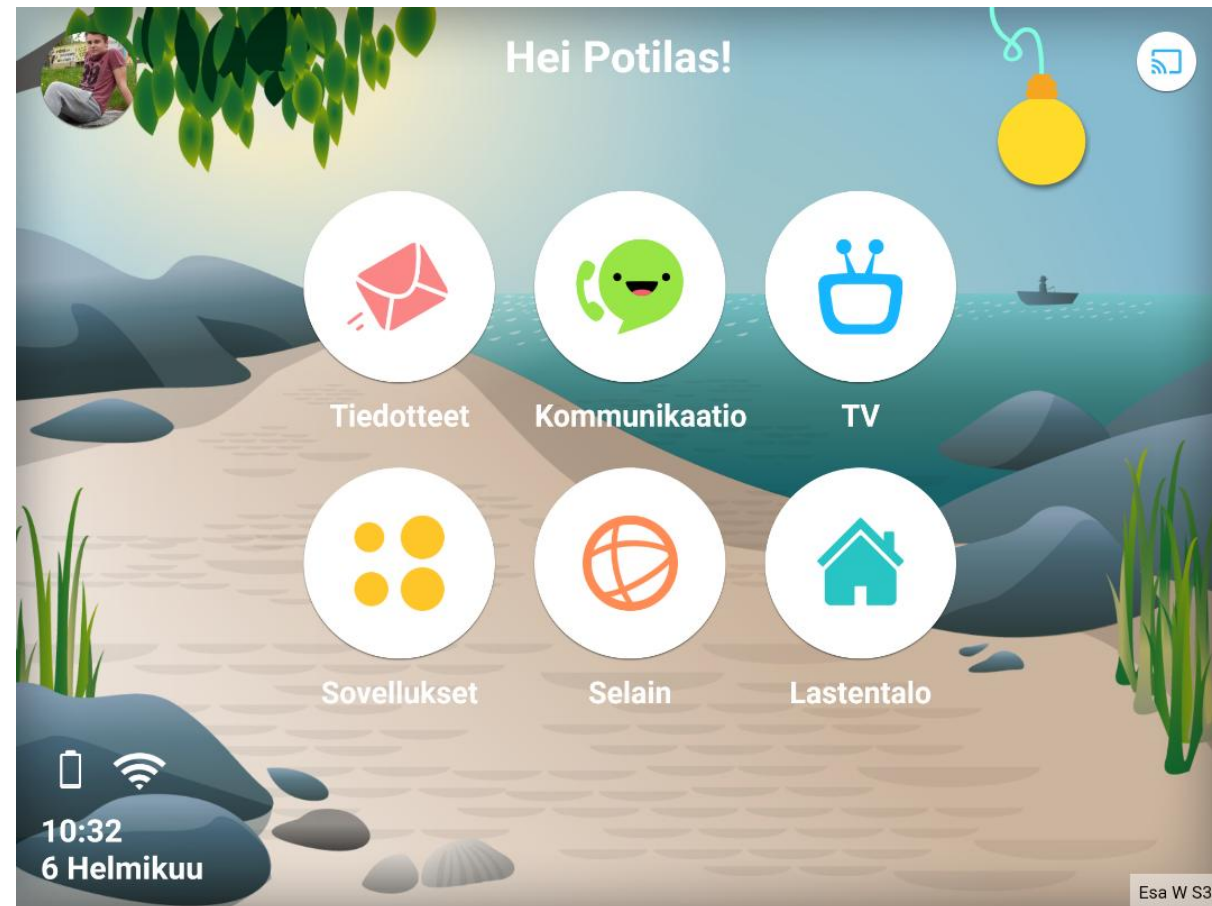
\*Neonatal Intensive Care Unit Saari  
(27 patient beds) Women's Hospital



8	<b>Ward Tähti</b> 32 patient rooms, 40 patient beds Infections, urology, gastrointestinal surgery, general pediatrics, general pediatric surgery
7	<b>Ward Avaruus</b> 18 patient rooms, 26 patient beds Orthopedics, neurology, neurosurgery <b>Video-EEG + Pediatric Clinical Neurophysiology</b> video-EEG examinations, nervous system examinations <b>Day Center Avaruus</b> Physical disabilities and multiple disabilities
6	<b>Ward Vuori</b> 19 patient rooms, 31 patient beds Cardiology, surgery for young children, lip and cleft palate patients <b>Day Center Vuori</b> 9 patient rooms, 11 patient beds Examinations for children who are on the autism spectrum or have other neurological difficulties
5	<b>Ward Taika</b> 25 patient rooms, 26 patient beds <b>Day Hospital Taika</b> 7 patient rooms, examination and doctor's consultation rooms Cancer and hematologic diseases, and organ transplantation
4	<b>Pediatric Intensive Care Unit Valley</b> 16 patient beds and 2 isolation beds
3	<b>Surgery and anesthesia unit</b> (8 operating rooms + 3 operating rooms for ambulatory surgery)
2	<b>Pediatric Outpatient Clinic</b>
1	<b>Pediatric Emergency Department</b> <b>Laboratory</b> <b>X-ray Unit</b>
P	<b>Magnetic Resonance Imaging</b> <b>Motion Laboratory</b> <b>Parking</b>

# PERSONAL IPADS FOR IN-PATIENTS TO IMPROVE CARE DELIVERY

- Voice and video link to the staff's terminals
- Personal schedule for the patient in the hospital
- Personal patient information (data security, access controls)
- Care instructions
- Hospital information (general and ward specific notifications)
- Processing the care experience through games



# HOW DOES PATIENT IPAD HELP PATIENT/FAMILY EXPERIENCE?

- Contact family and friends via video phone calls and chat
- Familiar games and software
- Television, movies
- Internet (email, e-services) and social media, with limited access for young children
- Peer support



# AN AVATAR GUIDES THE PATIENT TO THE RIGHT LOCATION

If a planned examination location changes, the facilities management system updates the door and information displays and the patient's mobile device to show the changed location.

Any changed information is updated and displayed for the patient (displays, mobile)

The display next to the examination room guides the patients to the correct door

Called in via the display next to the examination room's door

The staff will invite the patient in to the examination room by using the call-in application in their work station. The wall display guides the patient to the correct examination room.

Called in via the display in the waiting area

Queue display

The patient arrives at the hospital

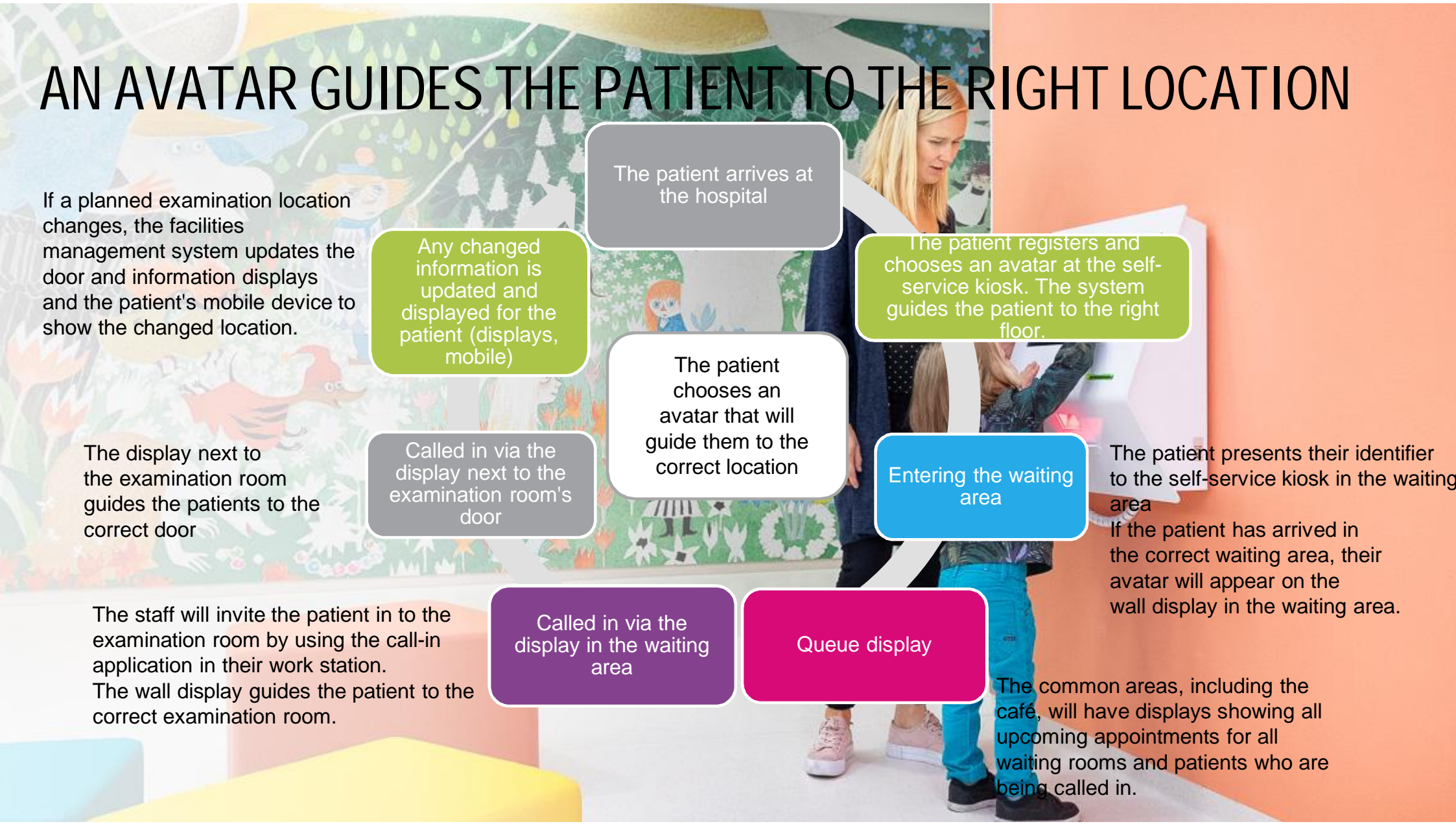
The patient chooses an avatar that will guide them to the correct location

The patient registers and chooses an avatar at the self-service kiosk. The system guides the patient to the right floor.

Entering the waiting area

The patient presents their identifier to the self-service kiosk in the waiting area. If the patient has arrived in the correct waiting area, their avatar will appear on the wall display in the waiting area.

The common areas, including the café, will have displays showing all upcoming appointments for all waiting rooms and patients who are being called in.



# DIGITAL PLATFORM BENEFITS

## PATIENT, FAMILY

- Patient/parent education
- Versatile platform for communication
- Promotes sense of control and trust in care

## STAFF

- Online information and care instructions regarding the illness
- Bedside remote meetings with parents

## HOSPITAL

- Uniform devices help further service development
- Cost-effectiveness



The image shows a modern interior space, likely a hallway or waiting area, with a large glass wall on the right side. The wall is made of vertical wooden panels. The floor is light-colored wood. The glass wall offers a view of the outdoors, showing green trees and a paved area. The text is overlaid on the left side of the image.

## HELSINKI NEW CHILDREN'S HOSPITAL

### The Winner of the 2018 Finlandia Prize for Architecture

**The 2018 winner was chosen by forensic orthodontist, Prof. Helena Ranta.**

**“The children now have a hospital, where every single detail has been carefully and thoughtfully considered with their health and wellbeing in mind,” explained Helena Ranta.**

**New Children's Hospital was designed by SARC Architects and Architect Group Reino Koivula, comprising Antti-Matti Siikala, Sarlotta Narjus, Sakari Forsman and Susanna Kalkkinen.**

<https://youtu.be/e1lEGblNys8>

[www.koeuusilastensairaala.fi](http://www.koeuusilastensairaala.fi)

