

Partner hospitals and Nordic Health Lab present Hospitals' Needs Assessment

Nordic Health Lab matches hospitals' needs assessments with innovative solutions from private companies

It is crucial for us at Nordic Health Lab to understand the innovation needs of our partner hospitals. Therefore, we engage in a process where we identify various needs together with the hospitals' innovation consultants, department heads and hospital management.

In this way, we can:

- Ensure that we match companies' innovative solutions with the actual needs of the hospitals.
- Identify cross-cutting development needs that innovation hubs and the healthcare industry can develop new solutions for.

Thus, we can present a range of different needs that - to a greater or lesser extent - cut across our partner hospitals. Solutions addressing these needs will therefore be in demand both across hospitals and across multiple regions.

The identified needs are not an exhaustive list, but they provide an overview of some of the needs we have identified in collaboration with our partner hospitals and find relevant to share with those working on future solutions.

This needs assessment of partner hospitals is one of the unique aspects of Nordic Health Lab's work. However, we couldn't have identified the needs if we didn't have contributing partners across regions throughout the country. This enables us to compile an overview that - to a greater or lesser extent - cuts across our partner hospitals.

We value the collaboration with the hospitals, and we continuously work on optimizing ways to identify the needs and further deepen our knowledge in this area.



Picture: Syncsense's VR-solution for training of senior and inactive citizens

We screen solutions within sustainable healthcare

At Nordic Health Lab we aim for healthcare solutions to address sustainable health. Therefore, we screen innovative companies based on three elements and on our definition of sustainable health:

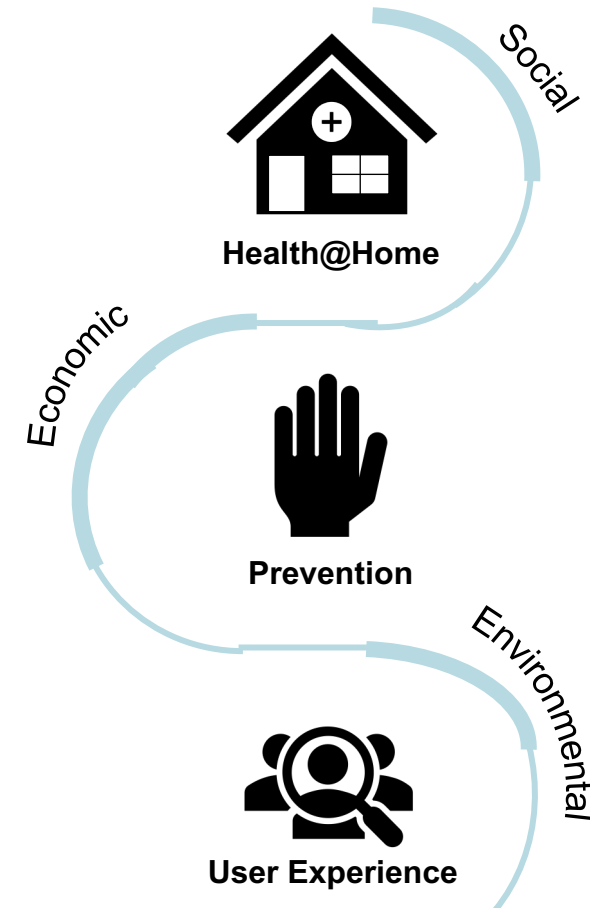
- **Social sustainability:** Solutions which ensure access to healthcare and treatment that benefit all.
- **Economic sustainability:** Solutions that free up resources for the benefit of society.
- **Environmental sustainability:** Solutions that ensure sustainable environmental development within the healthcare sector.

Desired solutions in 2023

Together with the partner hospitals, we have identified two core areas within the needs assessments: '**Optimized workforce**' and '**Improved user and staff experience.**' The core areas are presented on two pages, followed by specific focus areas supplemented by cases.

A greater focus on environmental solutions

Nordic Health Lab has specifically screened solutions that are either socially or economically sustainable. However, both the healthcare sector and Nordic Health Lab increasingly demand solutions that also incorporate environmental measures within our focus areas.



Our Core Areas

- **Health@home:** Healthcare solutions and initiatives that make the treatment, management and monitoring of people's health possible in their own home.
- **Prevention & Early detection:** Healthcare solutions and initiatives that make early detection possible and improve preventative measures.
- **User Experience:** Solutions improving the experience for citizens, patients, staff and relatives.

“

Cross-cutting needs must be relevant for both
staff and patients.

— Lisbeth Holsteen Jessen, Hospital Director at Regionshospitalet Horsens

Needs assessments across hospitals

Optimized workforce

Solutions that optimize time and/or resources for timely and future-proofed processes.

Automation and digitalization

Solutions that make diagnostic devices and monitoring smarter and integrate them with the patient record to reduce staff time consumption and improve patient safety, among other things.

Data-driven decision support

Solutions that make healthcare professionals' decision-making more data-driven and evidence-based.

Prevention of hospital admissions and treatment pathways

Solutions that prevent unnecessary hospital admissions, allowing resources to be targeted towards patients with the greatest needs.

Improved logistics

Solutions that optimize planning and expenses related to the mobile functions of the hospital, as well as solutions that support mobile laboratories.

Better and more efficient diagnostics

Increased patient safety and quality in complex diagnostic examinations, as well as the use of new technologies such as artificial intelligence.

Choose wisely

Avoid initiating more tests than necessary.

The background of the slide is a photograph of a city street scene. In the foreground, there is a grassy hill with several people sitting on it. In the background, there are several multi-story buildings with windows and a central tower-like structure. The image is overlaid with a semi-transparent blue filter.

Cases

The next slides show some selected cases from Nordic Health Lab's partner hospitals

Case: Promote own recovery

Focus Area:
Optimized work force

Target Group:
Hospitalized patients

Description of needs assessment

There is a demand for providing patients with more information about how they can promote their own recovery. Many patients want to actively participate in their treatment but lack knowledge about what they can do themselves during their treatment process (such as nutrition, exercise, and other activities). Currently, patients mostly remain in their beds and may be afraid to leave their hospital room, either due to fear of worsening their condition or the risk of missing a medical round.

Design question

How can patients be provided with knowledge and tools to actively participate in their treatment process during their hospital stay? How can patients be encouraged to engage in movement and exercise during their hospitalization?

Situation

During hospitalization, most patients primarily remain in bed. The use of activity equipment is limited. Patients take short walks in the hallways or to the elevators, but overall, there is not much activity.

Expected value

Better patient experience, improved clinical treatment, potentially faster recovery, and more efficient treatment (shorter hospital stays).

Case: Reduction of unnecessary hospital admissions and diagnostic services

Focus Area:
Optimized work force

Target Group:
Patients and staff

Description of needs assessment

There is a need to optimize workflows for selecting diagnostic tests and for preventing unnecessary hospital admissions.

Design question

How can the number of admissions and treatment courses be reduced through preventive measures, and how can AI or other solutions optimize the choice of examinations?

Situation

There are several patients who are admitted to the hospital even though the admission could have been avoided or treated in a different setting. This is one of the focuses of the national initiative "Vælg Klogt" (Choose Wisely).

Expected value

Efficiency and better use of resources.

Case: Staff shortage

Focua Area:
Optimized work force

Target group:
Staff

Description of needs assessment

The number of patients and tasks is higher than the number of employees available to handle them. Therefore, there is a need to find solutions that can free up time for the employees, such as automation, AI, solutions that support optimized workflows, and efficient logistics. This includes other solutions that can handle tasks which do not require personnel.

Design question

How can innovative solutions contribute to and support staff shortages in hospitals?

Situation

The staff is currently under pressure due to a tremendous workload, and this is expected to worsen in the coming years.

Expected value

Better working environment and retention of staff as well as better patient processes.

Case:

Transportation for outgoing team

Focus Area:
Optimized work force

Target group:
Staff

Description of needs assessment

When cross-sector teams are on duty out, they require specially equipped vehicles with space for point-of-care testing (POCT) equipment and specific accommodations for test results and medication. There is a need for solutions that ensure a better working environment and the safe handling of clinical equipment and medication.

Design question

How do you set up a car optimally so that it is suitable to work in for an out-going team?

Situation

Outside of the hospital (while being admitted at home). Currently, ordinary cars without any specific accommodations are being used.

Expected value

Effective use of resources, ensuring accurate medication and handling test results, as well as a better working environment.

Case:

More intelligent diagnostic devices

Focus Area:
Optimized Focus Area

Target group:
Bioanalysts, nurses, etc.

Description of needs assessment

There is a need for measurements with various devices and outgoing values to be transferred directly to other digital platforms, e.g. during rounds. It is a prerequisite that these devices can be integrated with existing IT platforms.

Design question

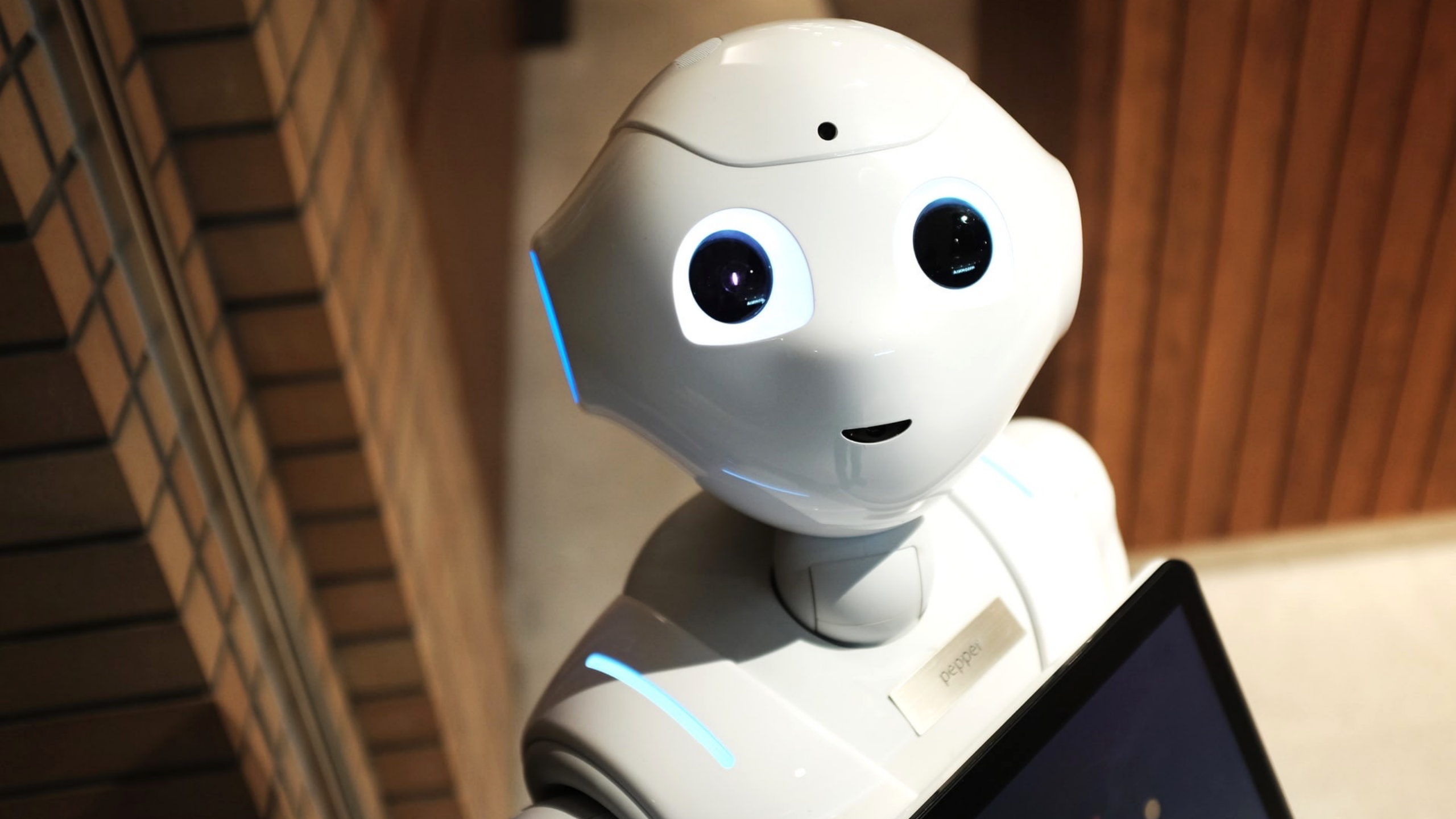
How can we make general diagnostic devices more intelligent?

Situation

There are too few devices that transfer values directly to the IT systems, e.g. thermometers. If the nurse writes values on a piece of paper or records the notes after seeing 5 patients, there is a risk of error.

Expected value

We aim to reduce errors by simplifying the work process at ward visits and making it easier to record data about the patient.



Needs assessments across hospitals

Improved user and staff experience

Solutions that improve the experience for citizens, patients, relatives and staff - regardless of where the citizen is located.

Differentiated information sharing

Solutions that ensure targeted and differentiated communication to different patient types and processes – Including to children.

Tailored nutritional guidance

Solutions that ensure easy, individually adapted nutrition guidance for targeted patients.

Good transitions

Solutions that create closer cooperation between on-call doctors and municipality employees before and after admission, so that local solutions can be brought into play more often for the benefit of the patient.

Better equipment for monitoring and home treatment

Improved, valid and quality-certified measuring equipment for use in citizens' homes which enables remote treatment. Including examinations, diagnosis and monitoring.

Involvement of relatives

Solutions that ensure that relatives and other relevant people can be empowered to help hospitalized patients.

Patient self-reliance

Solutions that support the patient's own self-reliance and contribute to shorter hospital stays.

Cases

The next slides show some selected cases from Nordic Health Lab's partner hospitals

Case: Measurement of EWS parameters

Focus Area:
Improved user and staff experience

Target Group:
Elderly and vulnerable patients

Description of needs assessment

Many elderly and vulnerable patients are particularly susceptible to getting hospital-acquired infections, among other things. In order to provide treatment at their own homes for this patient group, there is a need for them to be able to measure and report EWS parameters (respiratory rate, saturation, blood pressure, pulse, and temperature) themselves. Preferably several times a day.

Design question

How can patients measure and report EWS parameters correctly by themselves?

Situation

Outside the hospital (inpatients in their own homes and outpatients). Currently, EWS measurements are not carried out in one's own home.

Expected value

Option to scale up hospital treatment in one's own home without the outgoing team having to support when measuring EWS parameters.

Case: Self-registration

Focus Area:
Improved user and
staff experience

Target group:
Inpatients and outpatients
(and relatives)

Description of needs assessment

There is a need for a self-registration solution so that the time the patient is at the hospital is spent more efficiently. Time spent at the hospital should be minimized as much as possible from patient admission to discharge.

Design question

How can patients easily record information and data by themselves from their arrival at the hospital until they are discharged? How can we create a better framework so that relatives and others can be activated to help inpatients and outpatients?

Situation

From arrival at hospital to discharge. Currently, there is no requirement/expectation for the patient to self-register.

Expected value

Streamlining and reducing hospitalization time.

Case: Telemedicine programs

Focus Areas:
Improved user and
staff experience

Target Group:
Patients and staff

Description of needs assessment

New/updated telemedicine solutions with more/expanding functions will strengthen the good patient process in collaboration with other hospitals. Specifically, it will provide the opportunity to virtually follow patient progress. For example, during ward rounds.

Design question

How can current telemedicine programs be improved to achieve the optimal benefit for staff, patients, and their families?

Situation

Currently, there is a telemedicine solution available using a tablet and a secure video connection to communicate with another hospital regarding the patient's progress.

Expected value

Strengthen the good patient process, create an optimal framework for patients and relatives to follow the course of the disease, increase patient safety and reduce staff resources by involving another hospital's staff. For example, the ward.

Case: Mobilization

Focus Area:
Improved user and
staff experience

Target Group:
Hospitalized patients or patients
at home

Description of needs assessment

There is a focus on mobilizing non-self-sufficient patients, but there is perceived to be limited time to support patients who are capable of mobilizing themselves - both patients admitted to the hospital and patients in their own homes.

Design question

How can we ensure that hospitalized patients actively contribute to their own treatment journey? How can self-sufficient patients be mobilized in an easy and efficient way for the staff during their hospitalization? How can we provide support and follow-up for mobilized patients who are admitted in their own homes?

Situation

Unassisted time during hospitalization. The current solution involves the use of physiotherapists.

Expected value

Improved patient experience and more efficient treatment (shorter length of stay) while avoiding functional loss related to home hospitalization.

Case:

Length of stay in the Emergency Department

Focus Area:
Improved user and staff experience

Target Group:
Acute patients

Description of needs assessment

There is a need to find solutions to reduce the length of stay for patients in emergency departments. An AI solution is desired to provide insights into the waiting times between each step of the treatment journey. Additionally, there is a desire to understand what patients are waiting for. E.g. which factors contribute to prolonged stays.

Design question

How do we solve the challenge of long patient stays especially in the evening, and which AI solution can help to improve the flow and shorten the time of stays?

Situation

When patients are received in the emergency department in the evening, it often results in a long stay for the patient. There is no automated analysis tool that can support the work of creating a better flow for the patient.

Expected value

To reduce the length of stay for the patient and minimize "idle time" where nothing is happening in the patient's journey.

Do you have an innovative healthcare solution?

If you have developed a solution that can optimize healthcare, submit your pitch deck to us. We will try to match your solution with the needs of our partner hospitals.

[Submit your pitch here](#)





Do you have input or ideas for collaborations?

Mail us at:
info@nordichealthlab.com

Nordic Health Lab's Partner hospitals:



**Nordsjællands
Hospital**



**Regionshospitalet
Horsens**

REGION SJÆLLAND
NÆSTVED, SLAGELSE OG RINGSTED SYGEHUSE



- vi er til for dig



**Bornholms
Hospital**



DNV-Gødstrup

Nordic Health Lab

Thank you

Nordic Health Lab
info@nordichealthlab.com