

# Improving the Endoprosthesis Pathway

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## PROBLEM AND OBJECTIVES

So far, the Estonian health system has been developed and evaluated on the basis of efficiency and volume. This approach is disease-centered, not human-centered. As a result, care pathways are fragmented and complex, and people's experiences and even health outcomes are not measured or taken into account in the development of services. The system has been optimised to operate as a production line where people are quickly 'let through', leading to a situation where patients are forced to passively trust in the power of the system but are left completely on their own when they leave the healthcare institution.

Hip or knee replacement, or endoprosthesis, is one of the most common planned operations in Estonia, and people have had to wait years for the operation, are often unprepared for it, and because of the long waiting lists, many cannot be operated on when the deadline arrives.

The high number of these operations and the accompanying worries in Estonia every year prompted a closer look at how to achieve better outcomes and increase the value of care. According to the Health Insurance Fund, in 2020, 8 institutions in Estonia provided endoprostheses services, with 3,600 operations performed at a cost of €17.5 million.

This work aimed to develop a common understanding of the endoprosthetics patient care pathway, to encourage stakeholders to think about better care management, process redesign and IT solutions. The key questions for the service design process were:

How might we...

- make it possible for endoprosthetics to maximise the quality of life?
- maximise the benefit of endoprosthetics for the individual?

The project was carried out by Ruth-Helene Melioranski, Maarja Mõtus, Riina Raudne and Tanel Kärp from EKA Design together with Health Insurance Fund partners Hanna Ental, Kitty Kubo and Tiina Sats. The co-creation workshop was assisted by design students from EKA.

## PROCESS AND SOLUTION

The project applied a service design methodology that took the perspective of the patient and their loved ones as a starting point and compared this with the perspectives of service providers and the national organisation. The work started with an analysis of patient guidelines on endoprosthetics and the results of recent studies conducted in Estonia, and interviews with different stakeholders (including patients) to map the stages of the patient's journey from the development of the need for endoprosthetics to post-operative recovery.

Based on the information collected, a patient's current treatment pathway was drawn up and the problems encountered were highlighted, and personas representing the main patient groups were created. More than 40 specialists from different related fields from all over Estonia participated in the virtual workshop that followed. In the workshop, the preliminary mapping was validated, a new desired pathway was sketched together and development needs were formulated.

Based on all the collected input, a proposal for a new patient pathway was visualised, a service blueprint describing the new pathway was created, reports and presentations were created and the concept was validated in workshops with the Health Insurance Fund and related parties.

The new patient pathway does not only focus on optimising procedures, but makes a bold proposal to rethink the whole process - eliminating queues altogether. From passive waiting to active patient engagement in preparing for and recovering from surgery. A fundamental change where the patient takes responsibility and is motivated and empowered by the system. In the new system, different parties work together to ensure a smooth pathway, patients are profiled to ensure that each patient's pathway is tailored to their profile, and future health plans are created for the patient, which can be measured by modern digital tools. There is a strong emphasis on empowering and motivating people.

Based on the results of the project, the Health Insurance Fund has started to optimise the current waiting lists and has developed a new endoprosthetic treatment pathway standard, which is being piloted today in medical institutions across Estonia.

## DESIGN RESEARCH

The project started with an analysis of the results of the research carried out so far (desk research), which led to the creation of a preliminary stakeholder map and the design of the qualitative in-depth interviews that became the main part of the study.

Eight patients across Estonia, aged 50 to 74, and different stakeholders involved in endoprosthetics: orthopaedists, general practitioners, physiotherapists, rehabilitation doctors, etc. were interviewed. Based on the collected input, initial personas, descriptions of the current journey and its problem areas were created:

1. Lack of uniform practice across Estonia
2. Waiting time for surgery is unmanaged and time-consuming, while the waiting time is very painful and too long for the patient.
3. There are too few services that are essential to the endoprosthetic pathway, and individual services do not form a complete service pathway.
4. Inadequate and unregulated cooperation between the parties involved.
5. Services are not tailored to the individual needs of the patient
6. Incentivising patients is labour intensive
7. Information systems are complex and do not support the management, monitoring and evaluation of care.

All of this information was synthesised as input to a virtual workshop with nearly 40 experts in the field and patient representatives, where:

- The information collected was validated;
- Suggestions for improvements to the problems and insights raised were ideated.

## DESIGN METHODS

1. Mapping the current pathway of endoprostheses patients
  - a. Stakeholder mapping (from the patient's perspective).
  - b. Qualitative in-depth interviews with patients and relatives (open-ended interviews).
  - c. Qualitative in-depth interviews with health professionals (open-ended expert interviews).
  - d. personas and current journeys (as is user journey)
  - e. identification of problems, definition of opportunities, "how could we..." questions
2. Validation and brainstorming of the desired journey in a co-creation workshop.
  - a. validation of problems
  - b. Ideation of the desired journey.
  - c. formulation of development needs (ideation)
3. Proposals, creation, and validation of the desired path.
  - a. Synthesis of the workshop results and design of a new journey (to be user journey).
  - b. Creation of a service blueprint

- c. Validation of the results of the work with the Health Insurance Fund and related parties.
- d. Creating reports, and presentation of the results (storytelling)

## USERS AND TESTING

During the process, two main user groups were defined:

1. Endoprosthesis procedure users and their relatives.
2. Those involved in the treatment process.

Users were involved at all stages of the process: through interviews, co-creation, and validation of the results. The results of the work were tested iteratively throughout the process:

- Research insights were tested in a virtual workshop with health experts and patient representatives. They took part in moderated discussions and performed pre-set exercises.
- The new care pathway designed as a result of the work and the accompanying proposals were tested in workshops held with stakeholders in the final phase of the service design project in all major healthcare institutions in Estonia. The workshops validated the feasibility of the proposals made and produced a final comprehensive service map, on the basis of which the Health Insurance Fund started to draft the endoprosthetic standard.

## IMPACT OF THE SOLUTION

As the project is a very large, radical change to a nationwide service system, it will take time and the final impact will be measured years from now, when the new standard, with its supporting digital solution, is in place and comparable data on both patient experience and quality of care have been collected. Currently, the service design solution is being implemented in pilot projects across Estonia and has already had both direct and indirect impacts.

Kitty Kubo, Project Manager, Public Sector Innovation Fund (Health Insurance Fund representative in the project):

*"As a result of the work, both service delivery and financing were described and streamlined. As a synthesis of the results of the design study and the data analysis, a*

*standard for the endoprosthetic care pathway was developed. This is the first care pathway standard designed from the patient's perspective in Estonia.*

*The project has had an impact on the healthcare system: the workflow between general practitioners and orthopedic surgeons has been harmonised and made more efficient nationwide; good practice in acute and rehabilitation care has been agreed upon. The two proposals of the service designers - to streamline the existing long waiting lists and to deal with new patients in a new way - have been taken forward at the system level."*

The primary aim of the work was to tidy up an over-stretched waiting list, and to create a holistic, patient-centered care pathway. The new service system does not include a waiting list, but a care pathway that empowers patients and their loved ones. Such an approach will ensure that patients do not passively wait for their surgery as their health deteriorates, but start preparing for surgery as soon as it is indicated.

Eva Paalma, Service Manager for Pathway Development, Health Insurance Fund:

*"The transition to the new arrangement has been hampered by the old waiting list, so the priority has been to call people waiting in the queue to see if their condition allows for surgery and to make sure they want to have the operation. During 2023, the authorities have contacted over 5200 patients, of whom 61% are continuing treatment, 31% do not want surgery in the coming year and have been removed from the waiting list, 7% have been referred to a GP for a health assessment and 1% had already received treatment.*

*The new pathway has defined which tests and examinations patients should undergo to make sure they are ready to undergo surgery. This has ensured a consistent approach regardless of the treatment institution and helped reduce post-operative complications. In addition, screening tests have also led to the detection of other diseases requiring intervention. For example, lung cancer was found in nine patients at the University of Tartu Hospital and hypertension was detected in several patients at the North-Estonian Regional Hospital."*

The piloting of the new pathway is also gathering initial experience. For example, the results for 2023 show that the provision of the two pre-operative appointments foreseen for most hospitals is on track.

The results of the pilot study show that it is often not feasible for most surgeries to provide two appointments per appointment due to limited staff resources and that the first appointment is often made remotely. However, under the new plan, nearly 90% of patients will start physiotherapy on the same or next day after surgery. We also see that 70% of

patients attended an appointment with an orthopedic specialist three months after surgery, as expected by the pathway.

Based on the desired pathway of the endoprosthesis, the financing of the service was also modified. As one of the starting points of the project, the Health Insurance Fund pointed out that the health system measures inputs, outputs, and processes, not health outcomes. At the same time, the aim of any health system should be to improve people's health outcomes. If there is no link between process and health outcomes, it is not possible to improve health outcomes systemically. As a result of the project, a results-based financing model will be implemented for the first time in Estonia.

The process and working methods of this service component will serve as a basis for similar development processes in the Health Insurance Fund.