

Project overview

The Department of Radiology, Linköping University Hospital Region Östergötland is a leading radiology department focusing on more extensive radiology procedures with and without intervention.

Objective

For the planning and design of a new environmental and spatial set up for the radiology department, Philips has been asked to support with a current and future needs based conceptual design.

The aim of this project is to develop a conceptual and schematic design based on identified needs to optimize the patient experience and the care flow for staff.

This poster presents the results from the current state 360 degree experience flow analysis that took place at the Radiology department in February 2019

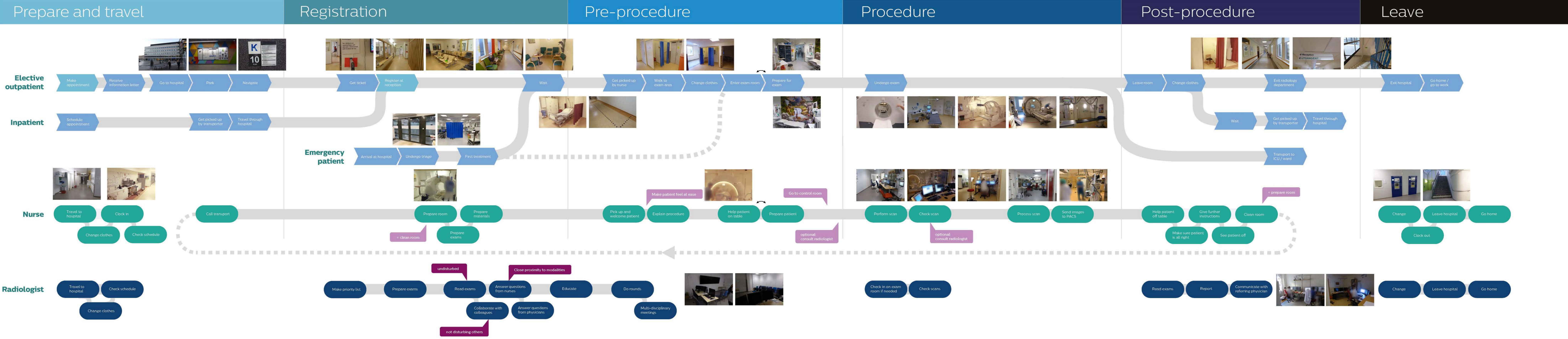
Approach

The 360 degree experience analysis fosters optimization across all aspects of care: Clinical, Operational, Technological and Experiential for existing, renovation or newly built healthcare environments.

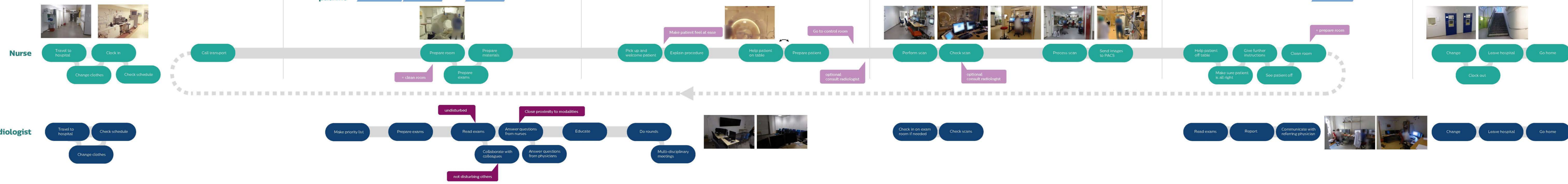
Insights are concluded from qualitative research (interviews, observations, participation) in conjunction with data provided by the Radiology department.



Patient journey & Family



Staff tasks & Processes



Key insights

DEPARTMENT	PATIENTS	ALL	PATIENTS	PATIENTS	NURSES	NURSES	RADIOLOGISTS	RADIOLOGISTS
<p><b>Department focus</b> Separate routine exams and reports from the complex ones.</p> <p>There is a tension between volume and quality of exams. The department is limited in the volume of exams that can be made (staff, space). Also, being a part of an academic hospital, the department is in the ideal position to focus on the more unique and complex cases and challenging procedures.</p> <p>It seems logical for the department to lead go of volume and develop towards becoming an expertise center.</p>	<p><b>Warm arrival</b> Making people feel welcome and comfortable.</p> <p>A lot of visitors to radiology are not sick and don't feel like patients. But arriving at the reception, you can't escape the impression of being in an old, bureaucratic hospital and that you are indeed a patient.</p> <p>To make people feel comfortable and give them the most agreeable experience, whether they feel sick or not, it's important to focus on hospitality. Not so much on the efficiency of the process.</p> <p>Nurses are already weary in the effort they spend on their interaction with patients, the surroundings should reflect and support their kindness and care.</p>	<p><b>Comfortable environment</b> Creating a nice place to visit and work.</p> <p>The building dates from the seventies and has a history of retrofitting. In a lot of places this leads to environments that are not ideal for the processes that happen within them.</p> <p>Sound (both from machines and people), light, and air quality are often an often a constraint on a good staff and patient experience.</p> <p>A comfortable, quiet waiting area in a reassuring environment can help to ease patient's and family's worries.</p>	<p><b>Relaxed waiting</b> Having patients and family feel as at ease as possible before the exam.</p> <p>Visiting a hospital and having an exam is never done for fun, almost everyone is at least a little nervous or anxious. Waiting in a bare hallway with lots of traffic is not very comforting or even a neutral experience. It is an unnecessary vulnerable moment that can feel very awkward. This is also the case when waiting in a bed, preferably this is not in the line of sight of others.</p> <p>There is already some adjustment to the lack of privacy by having patients change in the exam room.</p>	<p><b>Privacy</b> Patients need to feel safe when they are vulnerable.</p> <p>Even when you are feeling well it is nice to be able to change privately and remain visibly secluded from others afterwards.</p> <p>Changing with only a thin curtain between you and strangers does not feel very comfortable. Waiting past them in a hospital gown is an unnecessary vulnerable moment that can feel very awkward. This is also the case when waiting in a bed, preferably this is not in the line of sight of others.</p> <p>There is already some adjustment to the lack of privacy by having patients change in the exam room.</p>	<p><b>Keep teams close so they can collaborate</b> Nurses help each other out a lot and are used to organizing themselves to work efficiently.</p> <p>The department is small enough for everyone to know each other fairly well. Nurses know who is good at specific tasks and where they can support each other.</p> <p>Also, because they are often with less staff than they would like, it helps if they can easily ask someone closely to assist for some activities.</p> <p>The shared control room lay-out is very much appreciated by nurses. It lets them operate in a more flexible and efficient 'double team'.</p>	<p><b>Space and lay-out should support workflows</b> Less improvising and making do, more logical and appropriate solutions.</p> <p>Because of the legacy of the building and the limited space available for a growing department, there are a lot of areas where staff has to adjust for a make-do and often less than practical lay-out.</p> <p>Next to irritation, this leads to a lot of improvising, light maneuvering, and interrupted or inefficient workflows.</p>	<p><b>Peace &amp; quiet and availability</b> Radiologists need to be able to work with full concentration but also to help others.</p> <p>Radiologists' core task of reading exams and making reports requires their full concentration. Especially for complex cases. But they also need to confer with colleagues, answer questions from nurses, students and physicians.</p> <p>The spaces they work in need to support these different activities.</p>	<p><b>Spreading expertise is a core competence</b> Radiology wants to show it's expertise throughout the hospital. Within and outside of the department.</p> <p>The department, with it's complex cases and procedures is an interesting staff as a center of expertise within the hospital and the region. Radiologists are in the position to spread this expertise.</p> <p>Already there are a lot of knowledge sharing moments throughout the week and radiologists spend a fair amount of their time conferring with physicians.</p> <p>A center of expertise should support knowledge sharing as much as possible and make access to knowledge as easy as possible.</p>
<p><b>Collaborate with other departments</b> Teaming up with other departments on specific procedures and ways of working.</p> <p>Patients are referred to the department by physicians, but there is a lot of collaboration on department level as well. For instance, surgery and anaesthesiology are important stakeholders in joint procedures with radiology.</p> <p>Future developments will come from and be in collaboration with other departments that feel the need for close ties with radiology.</p>	<p><b>Comfortable waiting</b> Having patients and family feel as at ease as possible before the exam.</p> <p>Visiting a hospital and having an exam is never done for fun, almost everyone is at least a little nervous or anxious. Waiting in a bare hallway with lots of traffic is not very comforting or even a neutral experience. It is an unnecessary vulnerable moment that can feel very awkward. This is also the case when waiting in a bed, preferably this is not in the line of sight of others.</p> <p>There is already some adjustment to the lack of privacy by having patients change in the exam room.</p>	<p><b>Privacy</b> Patients need to feel safe when they are vulnerable.</p> <p>Even when you are feeling well it is nice to be able to change privately and remain visibly secluded from others afterwards.</p> <p>Changing with only a thin curtain between you and strangers does not feel very comfortable. Waiting past them in a hospital gown is an unnecessary vulnerable moment that can feel very awkward. This is also the case when waiting in a bed, preferably this is not in the line of sight of others.</p> <p>There is already some adjustment to the lack of privacy by having patients change in the exam room.</p>	<p><b>Keep teams close so they can collaborate</b> Nurses help each other out a lot and are used to organizing themselves to work efficiently.</p> <p>The department is small enough for everyone to know each other fairly well. Nurses know who is good at specific tasks and where they can support each other.</p> <p>Also, because they are often with less staff than they would like, it helps if they can easily ask someone closely to assist for some activities.</p> <p>The shared control room lay-out is very much appreciated by nurses. It lets them operate in a more flexible and efficient 'double team'.</p>	<p><b>Space and lay-out should support workflows</b> Less improvising and making do, more logical and appropriate solutions.</p> <p>Because of the legacy of the building and the limited space available for a growing department, there are a lot of areas where staff has to adjust for a make-do and often less than practical lay-out.</p> <p>Next to irritation, this leads to a lot of improvising, light maneuvering, and interrupted or inefficient workflows.</p>	<p><b>Peace &amp; quiet and availability</b> Radiologists need to be able to work with full concentration but also to help others.</p> <p>Radiologists' core task of reading exams and making reports requires their full concentration. Especially for complex cases. But they also need to confer with colleagues, answer questions from nurses, students and physicians.</p> <p>The spaces they work in need to support these different activities.</p>	<p><b>Spreading expertise is a core competence</b> Radiology wants to show it's expertise throughout the hospital. Within and outside of the department.</p> <p>The department, with it's complex cases and procedures is an interesting staff as a center of expertise within the hospital and the region. Radiologists are in the position to spread this expertise.</p> <p>Already there are a lot of knowledge sharing moments throughout the week and radiologists spend a fair amount of their time conferring with physicians.</p> <p>A center of expertise should support knowledge sharing as much as possible and make access to knowledge as easy as possible.</p>		

Environmental insights

Arrival at the hospital	Entrance hall	Hospital reception	Way finding	Arrival at radiology department	Reception	Way finding in the department	Waiting areas	Changing rooms and areas	Corridors	Storage	Preparation areas	Exam rooms	Control rooms / areas	Reading rooms
<p>The immediate surroundings of the hospital facilitate an easy arrival. Clear and legible signage, including materials and absence of white noise, the entrance is clear to a university building or even a shopping center. A food court, shops and no obvious waiting spaces add to this feeling.</p>	<p>Entering the building there is not really a sense of entering a hospital. With large open spaces, vibrant materials and absence of white noise, the entrance is clear to a university building or even a shopping center. A food court, shops and no obvious waiting spaces add to this feeling.</p>	<p>For radiology patients this reception is especially relevant. In their information letter they have received instructions on where to go. This reception can be used to confirm the route or to arrange a wheelchair or internal transport. There is a large information area next to the reception which also provides routing information to radiology.</p>	<p>Although the hospital consists of multiple adjoining buildings, the large, open hallways without too much obstruction help in navigating. The reception is clearly visible and the designation of different hospital floors and rooms is clear. The route to the radiology department is short and fairly simple.</p>	<p>The only way to know you are approaching the radiology department is through the signage. The entrance is small and indirect, located in a broad hallway.</p>	<p>All patients go by the reception. For most visitors this is the first area that clearly resembles a hospital. The approach to the reception is small, confusing and it has a feel of the 1970s. The reception counter with its zoning glass windows is not very welcoming and creates a distance between visitors and staff. The interior characteristics set the tone for the whole department, a distinct somewhat impersonal, typical hospital environment.</p>	<p>During the day, visitors often wait in the reception waiting area in areas through the signage. The entrance is small and indirect, located in a broad hallway.</p> <p>visitors have to navigate a long route with little signage. Most other movement through the department is done with staff well. Empty corridors, hard to close off very close to waiting (people). A lot of changing rooms are situated in waiting areas which patients will have to travel through after changing in order to reach the exam room. Changing after the procedure in the PET/CT in the toilet.</p>	<p>In general, waiting areas are not very comforting or relaxing. Due to some legacy aspects of the department layout, waiting areas have been created in areas not necessarily suited to their function. Also, some older waiting areas are in difficult or less optimal locations or are not used anymore. Most areas are also used as waiting areas which restricts the space to manoeuvre beds. At some areas waiting patients have to move in order for a bed to pass. Some corridors are also used to park patients in beds.</p>	<p>There are different kinds of changing rooms throughout the department. In general the rooms and areas are not very supportive of patient privacy. Often, the rooms are not suitable for patients from their surroundings very well. Empty corridors, hard to close off very close to waiting (people). A lot of changing rooms are situated in waiting areas which patients will have to travel through after changing in order to reach the exam room. Changing after the procedure in the PET/CT in the toilet.</p>	<p>There is a nice and clear separation between staff and patient corridors. The corridors do not support efficient networking and the spaces are not extremely suited to official requirements. Additionally, the strong process also needs room to handle supplies.</p>	<p>Storage spaces are situated in several locations throughout the department. The locations do not support efficient networking and the spaces are not extremely suited to official requirements. Additionally, the strong process also needs room to handle supplies.</p>	<p>A lot of preparation is done in the exam room. Simple routine procedures such as patient placement are preferably done on the table. Some modalities have their own preparation areas, usually for anaesthesia. These areas typically fit one bed and are not designed to support very quickly. To support an efficient workflow one of these rooms is not enough, there would ideally be two per machine. Although not specifically designed for this, attempts have been made to make these areas child-friendly. The PET/CT preparation rooms are too small for all the activities that take place there.</p>	<p>For staff, space is one of the most important factors of their experience in the exam room. MRI and CT rooms are often too small to easily facilitate workflows for patients in beds or complex procedures with lots of equipment. Some of the control rooms are quite small as well. Most rooms are not designed to facilitate elaborate procedures which become more common from standing room to power outlets, it quickly becomes noticeable that these rooms were designed for standard exams.</p>	<p>Most control rooms or areas are sufficient and support workflows reasonably well. Environmental conditions are not always ideal. Noise from machines in the open CT control areas is a nuisance and the GDI workstations are in a cramped, busy corridor. The lack of daylight is also an issue. Some control areas for more than one machine are very much appreciated by staff. To support staff flexibility a break space within the control area is ideal (in addition to a general break room for all radiology staff).</p>	<p>Reading rooms are scattered throughout the department. Some are (necessarily) close to the modalities, some are in a more central part of the department and some are located outside of the department. Reading rooms that can be closed off from the outside can be sufficiently quiet and distance to the workflow helps keep interruptions to a minimum. In general, for radiologists, reading rooms do not have to be very close to the modality, but they do need to be a good place for this. They need to grab someone in the mess.</p>