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Does a Hospital Introduction need a Project Manager in Functional Planning?
Case Helsinki and Uusimaa Hospital District

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The hospital buildings in Finland are ageing rapidly and at the same time new treatments that need modern facilities are being discovered. That puts pressure on the authorities to renovate old buildings and build new ones. Proper planning and coordination is a must when building a new hospital facilities and relocating units to a new place. Functional planning is an essential phase when planning a new hospital facilities. Project Manager in Functional Planning should be used as a link between builders and users from the beginning all the way through the process.

The aim of this study was to gather knowledge about the current situation and experiences concerning the job of a Project Manager in Functional Planning, find out if there is any need for a position like this and produce a guidelines for the job description.

The focus group method and semi-structured interviews were used in this study because of the lack of prior written information or studies found. There has been people doing this kind of job for example in Meilahti Triangle Hospital building project and Meilahti Tower Hospital renovation projects during 2008-2015.

The interviews conducted suggest that two different important positions are needed: a Project Manager in Functional Planning in big building projects, and a User Coordinator, a position that can be used in smaller parts in a building projects or for example hospital unit relocation projects.

The study shows that is important to have a proper status and job description for both of these positions to ensure both proper functional planning in building and renovation projects but also high-quality of the process when relocating the units in Helsinki and Uusimaa Hospital District.

Keywords Hospital planning, Project Manager in Functional Planning, HUS, Building a new hospital, Functional planning, User Coordinator
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1 Introduction

Hospital buildings in Finland are ageing rapidly, they are badly outdated and suffer from problems. At the same time new treatments that need modern facilities are being discovered. That puts pressure on the authorities to renovate old hospitals and build new ones.

There are approximately 20 hospital projects over 50 million euros that are supposed to be ready by the year 2020 in Finland. Five out of the top 25 hospital projects are located in Helsinki and Uusimaa Hospital District (HUS) area. In the next 10 years approximately 30-35 billion euros will be spent in Nordic countries on building new hospital buildings or renovating the old ones. (TEKES, 2014)

Each environment within healthcare industry provides its own set of challenges when planning new facilities and relocating units. It varies even more when compared to a normal office buildings, factories or other facilities. Inside the health care industry there are various units that differ from each other such as: long term care facilities, acute care facilities, medical practices, inpatient facilities, outpatient facilities and the all-important tertiary care facilities (Shirley, 2011).

A lot of information and guidance on hospital-planning and building of new hospitals exists, but there is a lack of literature on how to coordinate the building and introduction project from the user point of view throughout the project in HUS

In a new building operations are likely to be more efficient, productive and patient-centered if the whole building process is well planned. One thing to remember before building a new hospital facility is to plan and to identify all the new treatment and operation processes and not just try to fit old processes inside the new building. There is also a huge challenge to build spaces which can be easily modified so that they are still useful after decades. The facilities should be as adjustable as possible, so that they can be easily changed when changing operations. The families and visitors of the patient should also be considered when designing the spaces, especially when considering the needs of child patients and their families.

With new technology it is possible to improve processes and make them more efficient and cost effective. That is why new facilities usually contain a lot of new Technology and
other innovations. With all that it is hard to combine the new technology and new ways of operating if there is no direct link between the end-user and the project group designing and building a new hospital. There might be many healthcare professionals involved in the project but they often work in silos without proper coordination. Even if there is a coordinator, their job description or the decision-making process might be ill-defined, or the project personnel might change between the building-project and introduction-project.

Before relocating a unit it is vital to train the whole personnel concerning the new technology and processes so that they can operate in the new premises. Only in that way it is possible to ensure patient safety and also personnel safety. New ways of operating must also be implemented and that needs coordination, planning, time and effort. It might also be impossible to bring the patient care to a standstill while the personnel and the patients actually move in to a new facility; operational work may need to continue while moving in to a new location. This is one reason careful planning and appointment of a person responsible for overall coordination are vital.

Designing, building, introducing and starting operation in a new hospital facilities is a huge effort. It is possible to achieve a good outcome and a process that is smooth both from the patient and the user point of view, but only if the project is led and coordinated properly. Lack of proper coordination can lead to an expensive disaster.

In HUS it is seen important that the end users will participate the functional planning in early stage of the process. The problem at the moment is that the owner - HUS Facilities - and the builder - HUS Real Estate Ltd - do not have sufficient information about the end users, the clinical work and all its aspects. There is a need for clearly defined position that connects all these actors and coordinates the planning through the whole process.
2 Hospital planning

In this section there are some background information about hospital planning in Finland, knowledge about hospital building projects in HUS and some basics about functional planning. This background provides a basis for understanding the special requirements when planning hospital facilities.

2.1 Modern Hospital planning in Finland

An extensive international literature exists on how to build a hospital and how the process should go. Books like Healthcare Facility Planning (Hayward, 2016), Lean-Led Hospital Design (Grunden & Hagood, 2012) and Hospital and Healthcare Facility Design (Miller & Swensson & Robinsson, 2002) provide excellent detailed guidance on hospital planning but, like most of the available literature concerning the hospital planning they are made from the commercial point of view which differs substantially from the Scandinavian healthcare system and the way hospitals are owned. In most of the world hospitals are privately funded while in Finland and other Scandinavian countries most of the hospitals are publicly funded.

In the Finnish context, some background information is available from the HEMA institute’s (Healthcare Engineering, Management and Architecture) study concerning the hospital planning and building in Finland. The study is based on a project called PARETO (Palvelujärjestelmän rakenemuutos ja uudet toimintatavat) implemented during 2008 – 2011. This large-scale study specifically set to propose what structural changes would have to be made in the service system in Finland concerning the future healthcare system and other public services. (Huttunen, 2011)

Building new hospitals was stopped in Finland in the 1980’s. The last one before a long pause was the Central Hospital of Lapland in 1988. At the moment there is a little or no previous experience of leading and planning a hospital construction projects among the architects or healthcare personnel. This lack of specific expertise poses a risk that hospital construction projects will be executed the same way than all the other construction projects; all the steps of the planning are made as a separated projects. Individuals with no prior experience of projects of this scope might be selected to lead
individual parts of the larger project without good overall coordination. (Tolkki & Kekomäki & Kekäläinen, 2014)

According to the Nordic Healthcare Group’s report (2014) there are nowadays three different groupings that are in charge of hospital planning. The end users that represent the medical expertise, the decision-makers and financiers and the planners and the architects. The group of planners and architects is divided in two; the first part is responsible of the functionality and usability and the other part is responsible of the architecture of the building. (Tolkki & all, 2014)

The current best practice is to use targeted hospital planning instead of old fashioned hospital planning. Targeted hospital planning starts from defining the needs and functional processes before the building process begins. Different groups contribute more than others in some phases but it is vital thing to keep everyone included through the whole process. (Tolkki & all, 2014)

![Figure 1. Traditional hospital building process versus targeted hospital planning.](image-url)
Figure shows how the targeted hospital planning process differs from the traditional hospital planning. The differences can be seen in the beginning of the process, where ground mapping, concept design and functional planning are three separated phases instead of one definition of needs –phase like traditionally.

The planning stage is crucial when there is an intention to achieve more efficient, functional ad cost-effective facilities that serve the patients, the personnel and the processes.

2.2 Big Renovation and Building Projects in HUS

Covering the area of 1.6 million inhabitant HUS is by far the largest hospital district in Finland. Same as everywhere else in Finland it has a large amount of old buildings that do not meet the modern standards when it comes to effective processes or patient-centered healthcare.

There are some 23 hospitals in HUS area and many of them consist of more than one building and most of the buildings were built in the 60’s and 70’s. The oldest was built in 1880’s. (HUS, 2016)
Because of the fast aging buildings that do not offer adequate facilities to house modern healthcare technology there is now need for large scale renovation and new construction in HUS. Meilahti Triangle Hospital was the first big hospital building project in HUS in this millennium built between years 2007-2010. Meilahti Triangle Hospital – in Finnish Kolmiosairaala - consists of 226 hospital beds, a day hospital, a polyclinic and MRI facilities in the Meilahti hospital area. At the time of construction of the Triangle Hospital, the HUS organization consisted of only operative, internal medicine, women and children and psychiatric lines. When Meilahti Triangle Hospital was ready it was managed by only one of these – internal medicine line.

Meilahti Tower Hospital – In Finnish Tornisairaala - was originally built in 1965 and was totally renovated and modernized between the years 2011-2015. Meilahti Tower Hospital comprises around 300 beds and several units including intensive care units, inpatient units, polyclinics and offices. During the building process there was a big organization reform that increased the amount of lines of hospital management from 4 to 12. After the reform Meilahti Tower Hospital was managed by several lines.

Around 500 million euros are expected to be spent for hospital building projects in HUS between 2015 and 2018. This budget includes the enlargement of Jorvi Hospital, renovation and enlargement of Women`s Clinic in Meilahti campus, construction of a new Psychiatric building in the Lohja Hospital, enlargement of the Hospital of Hyvinkää and the New Children`s Hospital located in Meilahti. (HUS, 2016)

The biggest building projects in the near future are the New Children`s hospital that should be completed by 2018 and the Trauma and Cancer Hospital called Siltasairaala that should be ready in 2021. (HUS, 2016)

2.3 Hospital building process and organization in HUS

It is hard to generalize this study to cover other hospital districts in Finland because the organizational structure is different in each. In this section, I describe in more detail the hospital planning and building process and its organizational structure in HUS that, as noted above is the largest hospital district in the country and has therefore been selected for closer study.
HUS Facilities Center owns all its facilities. It has an owner’s mandate obtained from the HUS board of trustees and with that it operates as a subscriber for the new investments, manages the planning process, controls the budget the quality of the outcome and the costs. (HUS-Tilakeskus, 2015)

The chief of doctors who reports directly to the CEO is responsible for coordination of the functional planning in big building projects in HUS according to HUS strategy and the agreement on division of labor between the hospitals. The Project Officer of the big building projects in HUS is responsible for coordinating the functional planning and other preparations. The Project Officer reports directly to the acting chief of doctors. (HUS-Tilakeskus, 2015)

HUS Real Estate ltd. provides the construction services and is responsible for the practical implementation of the construction process. It is also responsible for the competitive biddings, the timetable, the costs, the quality and quantity of the specialist involved and reporting. (HUS-Tilakeskus, 2015)

The steering group of the big building projects in HUS is responsible for oversight and ensuring that the projects and the new services related these new buildings are in line with the HUS strategy. It also coordinates the long-term planning for location of the operational functions in the HUS area. (HUS-Tilakeskus, 2015)

Because of the complexity of the building projects it is challenging to keep all the parts together between all the parties involved. To mitigate these challenges the Big Room concept is now been used for the first time in Siltasairaala project. It is a method based on lean thinking and the idea is to get all the participants involved the building project to work together in the same physical space, instead in different offices and locations, to ensure the best possible communication through the whole project. (HUS, 2016)

2.4 Concept Planning and Functional Planning

Concept planning and functional planning should be the first steps before even thinking about the designing the actual building. According to Nordic Healthcare Groups report we can simplify the process and proceed following the next questions:

1. What will be done in that particular hospital?
2. How will it be done?
3. How can that be organized?
4. What kind of organizational structure and facilities will support the activities? (Tolkki & all. 2014)

Two first steps belong to the concept planning phase in which it will be decided what will be done in the hospital and how. That phase provides a framework for the rest of the project. (Autio & Vauramo, 2010)

The next phase is functional planning that means more detailed planning of the processes and the organizational structure needed to provide optimal functions. (Autio & Vauramo, 2010)

It is vital for the whole project that these two phases are done properly and with extra care. It is also very important that these phases are well managed to avoid silos between different groups. In worst case not succeeding in this can mean ill-defined processes and inoperative results.

The successful conceptual and functional planning together as a basis of a new facilities aims to the benefits seen in table 1.
### Table 1.  The benefit of combining functions and facilities. Modified and Translated by author. (Tolkki & all, 2014)

<table>
<thead>
<tr>
<th>Patient point of view</th>
<th>Personnel point of view</th>
<th>Resource and financial point of view</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient will have more flexible service according to his/her needs</td>
<td>The operations are consistent</td>
<td>Easier and more effective use of specialized resources (f.ex. centralizing the ICU/CCU and monitoring units)</td>
</tr>
<tr>
<td>The processes will be clear and the patient will get the service from the right professional in every step of the process.</td>
<td>The flow will be clear when the patients are segmented in a different processes</td>
<td>Overlapping functions are avoided</td>
</tr>
<tr>
<td>Transferring patients will be minimized and the problems with transferring patient information will be avoided</td>
<td>Consultation and cooperation between the basic healthcare and specialized healthcare will be easier</td>
<td>Easier material logistic</td>
</tr>
<tr>
<td>The quality, availability and continuity of the services will be improved</td>
<td>The resources will be secured with cooperation and personnel will be used in a more flexible way.</td>
<td>Centralizing services reduces costs</td>
</tr>
<tr>
<td>The rehabilitation will be provided in the right place, at the right time.</td>
<td>The Day hospitals will replace some treatments nowadays executed in the wards or the policlinics</td>
<td>Standardized facilities minimize the waste of time of these facilities.</td>
</tr>
<tr>
<td></td>
<td>Multi-professional support and orientation will be improved</td>
<td>Easier logistic in general (f.ex. less unnecessary patient transfers)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The need of services purchased outside can be estimated congruently</td>
</tr>
</tbody>
</table>

As can be seen from the table 1 there are advantages when investing the time and effort for these two phases. And money spent for this kind of thorough planning can actually save a lot of money over time.
3 Project Management

To understand the job of a Project Manager in Functional Planning we need to understand the basis of managing a project. The Hospital building project contains many subprojects and many Project Managers as well. In this study I concentrate on project management in functional planning.

"Project Management is application of knowledge, skills, tools and techniques to project activities to achieve project requirements. It is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling and closing." (Lewis, 2007, p.4)

Project management can be seen as a methodical approach to planning and guiding the project processes from start to finish. It can also be seen as a tool. The processes are guided through five stages: initiation, planning, executing, controlling, and closing. These stages apply to almost any kind of project. (Lewis, 2007)

![Figure 3. The Steps in managing a project. Modified by author. (Lewis, 2007)](image)
For a project group it could be beneficial to sit down and think these phases through when the project is assigned. In that way it might be easier to split the project smaller and more accessible pieces

3.1 Project Manager

Every successful project needs a skilful Project Manager. Although some personality traits play a role, a long work experience is usually required to achieve most of the qualifications.

In his book “The Little Black Book to Project Management” Thomsett (2002) describes that a successful Project Manager must know how to bring together the definition and control elements and operate them efficiently. Coordination of these things demands leadership skills as well as organizational abilities. (Thomsett, 2002)

![Diagram of Project Manager's qualifications](Thomsett, 2002, p. 11)

As can be seen from the figure 3 many skills are needed to be qualified as a project manager. Lack of some of these skills might lead to a poor result when leading a project.
Considering the fact that hospital building projects are especially complicated and multidimensional, it follows that each and every one of these qualifications must be met.

To achieve the goal, a targeted methodical approach would probably be the best way. According to Thomsett (2002), the term “methodical” might be mistaken as being overly organized versus someone who is more creative, but those two are actually not mutually exclusive. The methodical manager can be creative, but to be truly creative one needs discipline. The methodical project manager knows the right question to ask. (Thomsett, 2002)

![A check list of questions to ask when the project is assigned](image)

**Figure 5.** A check list of questions to ask when the project is assigned. Edited by author. (Thomsett, 2002)

These questions might be hard to answer for someone who is doing the project work for the first time. Some kind of a general knowledge about the project and basic job description would help to answer at least some of these questions.
3.2 Project Management in Functional Planning

It was hard to find any references concerning the Project Manager in Functional Planning or the User Coordinator. Searches were made from Google Scholar, EBSCO, Emerald Insight, MetCat and Google. I used entries like: Hospital planning, hospital design, functional planning, project management, User Coordinator, hospital design, as well as the Finnish language equivalents sairaalasuunnittelu, toiminnallisen suunnittelun projektipäällikkö, toiminnallinen suunnittelu, käyttäjäkoordinaattori and sairaalarakentaminen.

There are some references to a hospital consultant in the literature as someone who is in practice doing similar things the Project Manager and User Coordinator are doing in HUS. But unlike in HUS the consultant was mentioned more likely to be from outside the organization.

Kunders (2004) mentions in his book "Hospital Facilities Planning and Management" that the hospital consultant should be employed before the preliminary survey and he/she should remain in this position until the hospital is up and running. He also mentioned that the consultant, whether he/she is a doctor or a layman, needs to be familiar with hospital administration and hospital construction. His opinion is also that the consultant should be an external hire to be able to be objective. (Kunders, 2004)

"The Construction Project Planning and Implementation guide" (HUS-Tilakeskus, 2015) says that there should be a project manager for functional planning in big hospital building projects and that it would be ideal to release project managers from their own work for the duration of the construction project.

The job description is very vague but the main tasks are described as followed:

1) To ensure that all the vital needs from the user point of view that affect the operation of the units are implemented.
2) To ensure that the flow of information is smooth between the planning team, other teams and the clinical managers.

(HUS-Tilakeskus, 2015)
4 The Aim of the Study

Because of the limited written information and lack of a proper job description it was important to gather the information about the work of the Project Manager in Functional Planning in the big building projects in HUS. The idea was to clarify the job description and investigate if this is a position that is really needed. The aim was also to gather information that would benefit the hospital building and introduction projects in the future, finding out the key point as a basis for the job description and main tasks for the Project Manager in Functional Planning.

This study can hopefully show the importance of proper coordination in functional planning and through that the benefit to patients and personnel working in the new hospital facilities in the future.

The aim of this study was:

1) To gather knowledge about the current situation and experiences of User Coordinators and project managers work in a functional planning in the hospital building projects in HUS comparing the experiences from Meilahti Tower Hospital and Meilahti Triangle Hospital projects.

2) To find out if there is any need for the User Coordinator or the Project Manager in Functional Planning in upcoming projects.

3) To produce guidelines for a job description for the User Coordinator and the Project Manager in Functional Planning.
5 The research

5.1 Research approach

Because of lack of previous studies from this subject and the tight timetable I chose the use the focus group method. It was the ideal method to collect information in a comparatively short time about this subject.

A focus group discussion is a form of group interviewing in which a small group – usually 4 to 10 people – is led by a moderator (interviewer) in a loosely structured discussion with predetermined questions. It can produce material and information that would not possible to collect otherwise, as it was in this case. (Mäntyranta & Kaila, 2008)

The focus group method is a qualitative method and it helps to answer questions such as why, how and what (Mäntyranta & Kaila, 2008) and it is a very useful method when there is little or no prior information about the subject.

I used semi-structured theme interviews to further investigate issues that were raised in the preliminary discussions with people who have worked on hospital building projects and also from my own work experience from HUS IT, where I am responsible for introductions of the new hospital buildings and relocations of the units with regards to IT-management.

5.2 Research process

For the study I interviewed two groups of professionals from different fields of expertise. All the participants have somehow been involved with the Meilahti Triangle Hospital or the Meilahti Tower Hospital project. I collected information about the suitable candidates before the interviews from different people working on the building projects.

There are some references to the ongoing Children’s Hospital, Siltasairaala and Jorvi Hospital projects that came out during the interviews.
I interviewed a group of experts who have somehow been involved in the Meilahti Tower Hospital and Meilahti Triangle Hospital building projects. I gathered the group based on suggestions from my coworkers, my tutor, and from some people I knew – based on my own work – have been working with these kind of projects before. 18 persons were invited to the focus group discussions, out of which 12 agreed to participate, and one cancelled just before the interview.

Altogether there were 11 person from age 33 to 62 years. There were 10 women and 1 man. The average age was 54.5 years and average work time in HUS was 23.5 years. The participants represented different parts of organization and had also very different educational and occupational backgrounds such as nurse managers, nurse directors, doctors, project managers and directors, special planning officers and account managers.

Table 2. Interviewed by age and work experience in HUS

I tried to gather a wide range of experts from different parts of the organization; Medical clinics, HUS IT Management, HUS Real estate Ltd, HUS Facilities and other non-medical care related support services to have as comprehensive a picture of the process as possible.
5.3 Data collection and data analysis methods

The focus group interviews were held in Meilahti Hospital in Helsinki on 4th and 16th of November 2015. Both interviews took around 90 minutes. They were recorded and held in Finnish.

The questionnaire used as a basis for the interviews included 16 questions. The main themes were the challenges of the Meilahti Tower Hospital and Meilahti Triangle Hospital projects, the knowledge and understanding about the project managers’ work in functional planning, the requirements for the person doing this job, the need for a position like this and some questions concerning the tasks and responsibilities.

After the interviews I transcribed the text and sorted it using Excel. I used content analysis to group the data around seven concepts that I used as headings when representing the results: Roles and responsibilities, information, condition of operation, the requirements, the job description, the need of the position and the challenges and the risks. The answers were then sorted according to these themes.

Table 3. The answers concerning the main themes

<table>
<thead>
<tr>
<th>The Main Themes</th>
<th>Number of answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roles and responsibilities</td>
<td>33</td>
</tr>
<tr>
<td>Information</td>
<td>37</td>
</tr>
<tr>
<td>Conditions of operations</td>
<td>28</td>
</tr>
<tr>
<td>The requirements</td>
<td>18</td>
</tr>
<tr>
<td>The job description</td>
<td>50</td>
</tr>
<tr>
<td>The need of the position</td>
<td>23</td>
</tr>
<tr>
<td>The Challenges/Risks</td>
<td>58</td>
</tr>
</tbody>
</table>

Content analysis is a method where the answers from the interviews can be processed analytically by breaking the text into relatively small units of content and submitting them to either descriptive or statistical treatment. (Holloway, 2005, p 200)
Some direct quotations are used to illustrate the conversation and the ideas that came up during the interviews when opening up the results. Because the interviews were held in Finnish the quotations have been translated into English by the author as close to the original quotations as possible.
6 Outcomes

Seven main themes emerged from the questions asked through content analysis. These themes are used as headlines when organize the detailed description of the outcomes.

During the interviews there were discussions about the hospital building project but also projects like relocating existing units to a new place. It soon became clear that actually two different kind of positions are needed. These two positions already exist, but there were no clear definitions for either.

6.1 Two different positions

During the interviews there was some confusion on the terms and positions and that is why I separated these the terms Project Manager in Functional Planning and User Coordinator. Both of these terms have actually been used to mean similar positions but in different projects during the time but they have no official job description in HUS.

The term Project Manager in Functional Planning is now actually mentioned in “The Construction Project Planning and Implementation guide” (2015) publication made by HUS Facilities Center, but according to the results from the interviews it did not seem to cover the whole area.

6.1.1 The Project Manager in Functional Planning

The term Project Manager in Functional Planning is used in this study to describe a person responsible for functional planning in hospital building or renovation projects in HUS. This person is a direct link between the users, planners and builders. His/her main task according to the interviews is to coordinate the planning process before and during the building process from the beginning of the process until the building is ready and running.

This position is seen nowadays as a vital part of the hospital building or renovation projects in HUS in order to ensure that the information is transmitted between the different parties.
6.1.2 The User Coordinator

The term User Coordinator can be used to call the person who coordinates smaller projects compared to a hospital building project such as relocation of units (wards, policlincs, operation rooms etc.) or coordinates some smaller parts of a larger building project.

According to the interviewees locating a unit does not mean only moving the personnel and patients. Relocation of operations requires a lot of time and good planning and includes planning the new processes in the new place, changes in IT-systems, logistics, cleaning and other services, organizing the moving of all the material, patients, IT-related equipment, patients and informing not only the personnel but all stakeholders as well. In some cases the whole operation might have to be done without interrupting the actual patient care.

The head nurse is usually responsible for planning and organizing these projects in addition of their own work. According to the interviewed it would be better to assign someone else than the head nurse and release them from their everyday work to act as a User Coordinator. The User Coordinator could also be someone hired from just that purpose outside the particular unit.

“The point, how to release nurses from their own tasks for some weeks for that (planning the relocation)?”

Author’s translation

The idea of the participants preferred to have someone from outside the unit for these kind of projects because of lack of in-house arose during the interviews. The personnel inside the units would most probably benefit someone with the experience and time for this kind of coordination.

6.2 The Challenges in Meilahti Triangle Hospital and Meilahti Tower Hospital Projects

Some major challenges in both the Meilahti Tower Hospital and the Meilahti Triangle Hospital projects were identified by both of the groups. There was also discussion about the actions that could prevent these challenges in the future.
The major challenges were related to changes in personnel or inadequate staffing, lack of information and communication and the lack of clarity on roles, processes, responsibilities and obligations. Other risks mentioned included organization reform in the middle of the building project and insufficient resourcing.

6.2.1 Risks related to changes in personnel or inadequate staffing

Risks related human resources were among the most important challenges mentioned in both groups. In both Meilahti Tower Hospital and Kolmiosairaala projects there were some changes in the vital personnel during the project. Sudden changes during the projects caused delays and information outage.

“There was one nominated but with time he just slowly faded away and that was a huge problem”
Author’s translations

Choosing the right personnel for the right tasks was considered vital. In both projects there were some nominated persons that in the end did not have the time for the project because of the clinical work they continued to be responsible for that took priority. That is why it was considered very important to release the personnel chosen for these positions from their everyday duties in clinical work.

It was also mentioned that it is not necessary to release all the personnel working with the project from their own work for the entire duration of the project but resources can be used periodically. Especially it seemed to be really hard to release doctors and nurses from their every day job for those purposes. That was considered even harder if there were no proper schedules and resource plans made in advance.

6.2.2 The Lack of Information and Communication

During the interviews it became clear that it is vital for projects like these to have a clear plan to map out information flow between different parties. The communication plan should be created in the beginning of the project to avoid communication errors and to ensure smooth communication during the whole project. There are some Press Officers
in HUS and they should be used more as a resource when passing through the information.

The lack of information was mentioned often as a problem in both Meilahti Tower Hospital and Meilahti Triangle Hospital projects during the interviews. It was considered hard to follow what the groups involved were planning or deciding.

“There was a lot of written information but the users did not seem to read it. Even if written information is available there should always be some face to face information too.”

Author’s translations

There were also some really good examples from both projects how to deliver and receive information between different parties. Joint meetings, bulletin important information and avoiding to deliver too much information through the email were told to be efficient.

The Project Managers in Functional Planning and/or the User Coordinator were seen as vital players in disseminating information from builders and planners to the users and vice versa. One solution mentioned was that press officers should be used more when planning the communication plan.

6.2.3 Processes, Responsibilities and Obligations

Lack of knowledge about the decision making process, responsibilities of different parties, the phases of construction projects and the timetables in the beginning of the projects was considered as a challenge.

“II have been working in this house for 10 years but I did not understand what the project pipeline is.”

Author’s translations

In both projects there were a lot of beginners who would have benefited from training before the projects but there was none available. One idea that came out from the interviews was that there should be a proper training of how the hospital building or renovation projects should work, what are the responsibilities, main phases, decision-making
chains and the timetables. It could be arranged in the very beginning of the project as a one day seminar for everyone working in the project.

“It should be very clear from the beginning who decides what. I thought that if I’ll take this matter to them (steering group) they will make the decision, but it wasn’t for them to decide.”
Author’s translations

Even though there usually are instructions about the decision making process, the instructions did not seem to reach the people involved. It was also considered problematic and time consuming that there were no written instructions about the responsibilities of the Project Manager in Functional Planning or for the User Coordinator. It was discussed that even a simple task list would have been helpful to avoid having to reinvent the wheel.

6.3 The Need for a Project Manager in Functional Planning

In both groups there was strong opinions that a Project Manager in Functional Planning or a User Coordinator is needed not only in a big hospital building projects but also in some smaller projects like hospital renovation, handling the relocation of the units and such.

“.and in every big project there is one, but there should be also one in smaller renovation or relocation projects because those can be really labor-intensive.”
Author’s translations

Neither the Meilahti Tower Hospital nor the Meilahti Triangle Hospital project had a full time Project Manager in Functional Planning. In the end of the Meilahti Tower Hospital project, a few persons acting as User Coordinators were released partly from their normal work.

There were different opinions on whether the Project Manager in Functional Planning and/or the User Coordinator should be selected separately for every project or whether it would be better to have a permanent position. There were some good arguments to support both these options as can be seen from the table 2.
Table 4. The advantages and risks of a permanent position compared to a new position in every project.

<table>
<thead>
<tr>
<th>Permanent position</th>
<th>Advantages</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increasing know-how</td>
<td>Alienation from the users</td>
</tr>
<tr>
<td></td>
<td>Ability to improve the processes (\rightarrow) more benefits for the upcoming projects</td>
<td>Possibly Insufficient knowledge about the functional processes</td>
</tr>
<tr>
<td></td>
<td>Good service and guidance for the end users</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good networks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equal service regardless of the users involved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Availability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less organizational barriers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New person in every project</th>
<th>Advantages</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Close relations with the users</td>
<td>Have to learn and start everything from the beginning</td>
</tr>
<tr>
<td></td>
<td>knowledge about the functional processes</td>
<td>Lack of proper information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limited possibilities of developing (\rightarrow) No benefits for the upcoming projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part-time</td>
</tr>
</tbody>
</table>

One of the major challenges for the Project Manager in Functional Planning is to manage the planning of the processes. In relation to this matter it would seem that it is important to choose the Project Manager in Functional Planning from inside the same part of the organization that the end users will be. On the other hand it was discussed that the coordination of functional planning does not necessarily mean that the one chosen for that position should be a specialist in that area, but he/she should know from whom to ask and coordinate the planning without being limited by organizational borders.

The permanent position was seen as a service produced for the users with all the background information from the previous projects. It was also pointed out that the permanent position would provide an opportunity to develop these processes.
6.4 Background and Requirements

During the interviews there was a question about the possible background and the requirements for the Project Manager or the User Coordinator. Both have a big responsibility for success of the project. Some requirements are listed below.

Table 5. Requirements for the Project Manager in Functional Planning or the User Coordinator

<table>
<thead>
<tr>
<th>Personnel Skills</th>
<th>Professional Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good negotiation skills</td>
<td>Long enough work experience</td>
</tr>
<tr>
<td>The ability to learn fast</td>
<td>The ability to understand the operation outside one`s own specialty</td>
</tr>
<tr>
<td>The ability to tolerate pressure</td>
<td>Managing experience</td>
</tr>
<tr>
<td>Motivated</td>
<td>Thorough knowledge of the organization</td>
</tr>
<tr>
<td>Ability to think critically</td>
<td>The ability to understand processes</td>
</tr>
<tr>
<td>Outgoing</td>
<td>The ability to lead processes</td>
</tr>
<tr>
<td>organizational skills</td>
<td>The ability to make decisions</td>
</tr>
</tbody>
</table>

Some of the answers made clear that these requirements are difficult to achieve.

“One must be an engineer, a nurse, a doctor, a patient, a press officer…”
Author’s translation.

Also one of the answers pointed out that the position would require the same kind of skills that would be needed to raise a family.

“The best reference would be a mother”
Author’s translations

The importance of understanding the organizational structures in HUS, special features of health care, the operational work and the work of different professionals and knowing the organization thoroughly was considered vital. There seemed to be a mutual understanding in both groups that it is not possible to hire someone as a Project Manager in Functional Planning from outside the HUS Organization. Knowing the decision making system and the people behind it was considered as an advantage.
"… and he/she must be selected inside the HUS organization. Someone coming from outside the organization cannot manage."

Author’s translations

It was surprising that there did not seem to be any particular preferred professional background for the Project Manager. Although some comments were made to support head nurses or assistant head nurses because of their extensive experience of the work of various groups of different professionals. The project managers and User Coordinators who worked with The Meilahti Triangle Hospital and The Meilahti Tower Hospital projects were in fact all head nurses or assistant head nurses.

“A head nurse and a good assistance head nurse couple could be a great combination in that (planning) work when there is really something to be done."

Author’s translations

One excluding criteria mentioned was the inability to understand the work of every professional group working in a hospital. The narrow-minded point of view would probably lead to forgetting some vital parts of the processes.

6.5 The Need for a Job Description

To avoid the personnel risks there a clear job description for the Project Manager as well as for the User Coordinator should be in place. It was considered important regardless whether the position is filled with different person every time or if it will be permanent vacancy.

Without even the basic guidelines it takes time and effort to try to work out what is expected and how should things be done. It was also said that the job description or the guidelines would help to reduce the personal risks.

“More important is having a clear standard job description. It can be then modified according to the project but the basic tasks would be always the same.”

Author’s translations
According to the interviewees the general job description should not be too detailed but it must contain the basic tasks. The job description can then be shaped according to the project.

If compared this to a methodical managing and the questions that the Project Manager should ask when the project is assigned, it is obvious that it might be hard to answer the questions “what is my responsibility” or “what is my authority” without a proper job description.

6.6 Conditions of operation

The interviewed were asked about the status of the Project Manager in Functional Planning compared to the rest of the organization and the reporting lines.

“As big projects as we have here he/she should definitely be a part of an upper management. In that way he/she is equal to those he/she must negotiate.”
Author’s translations

Interviewees largely agreed that the Project Manager should be a part of upper management in the project, but opinions diverged on whether the position should be strictly under the clinical sector’s management or for example under the HUS Real Estate Ltd or HUS Facilities center.

“I was thinking that if there would be this kind of centralized, permanent position could it be from some particular branch of specialty or should it really be under the Joint Authority or HUS Facilities Center?”
Author’s translations

Arguments for working under the clinical sectors were placing functional planning together with the end users and a better understanding of the special aspects of their field. Arguments for working under some other instance were a clear chain of command concerning the whole project and not been tied up for just one clinical sector but a better ability to work across all the sectors.
The decision making chain should be clearly defined from the beginning of the project and the same applies with the decision making power of the Project Manager in Functional Planning and the User Coordinator. According to the interviewees a clear, written agreement concerning the decision making power would clarify the processes.
7 Conclusions

This study has demonstrated the importance of a Project Manager in Functional Planning in hospital building projects in HUS. It may have an impact on the upcoming hospital projects and improve the coordination between stakeholders and with contribute to reaching better outcomes in hospital planning, construction and introductions.

During the study and the interviews I found that two different players related to the hospital building projects and relocation of the units are needed: the Project Manager in Functional Planning and the User Coordinator.

The Project Manager should be the person who will follow the building process from the beginning to the end. The Project Manager should bring the end user point of view to the process and vice versa. He/she must also have a clear overview of the whole project.

The Project Manager in Functional Planning or the User Coordinator do not need to have all the knowledge concerning the special needs of the units but they have to know from whom to ask. They need not have technical training, but training for the health sector and a good knowledge of the organization is essential.

Both the Project Manager in Functional Planning and the User Coordinator should work and communicate with all the experts involved the building process and bring the information from the user to the designers and builders. The Project Manager should start working when the planning of the new building starts and finish when the building is in operation.

7.1 Development Proposals and Further Research

Based on this study it seem that there should be a job descriptions for both the Project Manager in Functional Planning and the User Coordinator to improve the quality of building, planning and relocation processes and ease their work in the future.

It also seems that it would be beneficial to engage a project manager Project Manager responsible of functional planning and/or a User Coordinator not only for large building projects but also for smaller projects such as relocating existing units.
An orientation training should be provided for the project personnel before starting the building project. The aim of the training is to ensure that everyone are aware of the main aspects, rules and practices of the project. That could be arranged as a one day seminar before the project.

It could be useful to consider whether the positions of the User Coordinator or Project Manager in Functional Planning should be made permanent or if it is preferable to continue one-time appointments for each project as is the current practice. There are some advantages but also some risks related to both options. According to this study there seem to be more advantages, at least in the long run, to hire permanent project managers for the functional planning.

Further study on functional planning practices in the HUS district would be beneficial. Not just in the big building projects but also when relocating the units. In addition, comparing the processes from the other hospital districts in Finland could bring out the best practices.

Evaluating the outcomes and process of the functional planning after the building project would possibly give more information for the development of the building and planning process.

7.2 Reliability

This study covers the Helsinki Uusimaa Hospital District (HUS) and the findings may not be generalizable to other districts because of the differences of the organizational structures between hospital districts in Finland. However, applicable parts can be used as a reference in some projects, such as guidance on best practices to organize functional planning.

Literature review of published materials on hospital designing and planning indicate that functional planning is an essential part of building a modern hospital. That aspect can also be found from “the construction project planning and implementation guide” (HUS-Tilakeskus, 2015).
Although there is very little information about the Project Manager in Functional Planning or the User Coordinator position in the literature, both positions are being used in practice in HUS at least since the Meilahti Triangle Hospital project.

The participants for the group interviews were selected based on their experience of hospital building projects such as Meilahti Triangle Hospital and Meilahti Tower Hospital, validating the literature review with real life experiences and examples. Some of them are currently working or will be working on the upcoming hospital projects while others were involved just in the Meilahti Tower Hospital and the Meilahti Triangle Hospital projects.

7.3 Ethics

A research plan made and accepted before the study. The research plan did not need a permission from the Ethics Committee because there was no patient related information involved.

The invitations to the group discussions were sent via email and participation this study was voluntary. The interviews were recorded but the recordings were processed anonymously. There was also a background questionnaire filled in the beginning of the interviews but it was destroyed after analysing the information like age, work experience and the current occupation of the interviewees.

All the quotations from other studies or publications are marked clearly and references added in the reference list. The direct quotations picked up from the interviews and translated were verified by another person but all the other transcribed materials were concealed. There were no names or other personalizing information included in the transcribed text, only a case number. All the other material including the recorded interviews were concealed.

All the relevant information has been is shown in this study. During the interviews there were some discussions that were irrelevant concerning the research question and they for not used when presenting the results.
References


Internet Documents


Appendix 1

HELSINGIN JA UUDENMAAN SAIRAANHOITOPIIRI
Yhtymähallinto tuloslue 2015
HUS-Kuntayhtymän hallinto

TUTKIMUSLUVAN MYÖNTÄMINEN 1 (2)

§ 8
13.10.2015

Hakijat
Projektipäällikkö Riitta Vuorinen
Opiskelija Toni Oja

Esittelijä
Kehittämispäällikkö,ääntänti Riitta Meretoja

Asia
LUVAN MYÖNTÄMINEN "DOES A HOSPITAL INTRODUCTION NEED A USER COORDINATOR? DEFINING THE JOB DESCRIPTION OF A USER COORDINATOR IN HOSPITAL DISTRICT OF HELSINKI AND UUSIMAA" -HAASTATTELUTUTKIMUKSEN SUORITTAMISEEN

Perustelut; tutkimuksen tarkoitus ja menetteily


Tutkimus ei aihetta suoriteta eikä merkityksellisiä kulua Helsingin ja Uudenmaan sairaanhoitopiireille, koska tutkimus suoritetaan opiskelijan ja Metropolis Ammattikorkeakoulun resurssien. Sen vuoksi tutkimukseelle ei osittaa lupahakemuksen yhteydessä erillistä budjetta.

Muut ehdot
Olen tutustunut tutkimusuuinnittelmaan ja tutkimuksen toteutustapaan. Tutkijat ovat esittäneet tutkimusuuinnittelun, henkilökostoriselosteen ja tiedot tutkimuksen kulusta. Pidän tutkimuksen suorittamista perusteltuna.

Päälos
Edellä olevan mukaan päätän, että Riitta Vuorin ja Toni Ojale myönnetään lupa edellä perustellun mukaisesti ottaa yhteys HUS:n henkilökontaan ja suorittaa haastattelututkimus.

Tutkimuslupa on voimassa vuoden 2015 loppupuun saakka Helsingin ja Uudenmaan sairaanhoitopiirissä. Tutkimusluvan saajaa pyydetään toimittamaan tutkimusraportti tutkimusluvun myöntäjälle.

Sovelletut oikeushetet

Pääosvallan peruste
HUS, johtajaylläkkäriin ohje 2/2015
HELSINGIN JA UUDENMAAN SAIRAANHOITOPERI
Yhtymähallinto tulosalue 2015
HUS-Kuntayhtymän hallinto

TUTKIMUSLUVAN MYÖNTÄMINEN 2 (2)

§ 8
13.10.2015

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An Lindqvist
HUS-kuntayhtymän tutkimusjohtaja va.

TIEDOKSI

Projektipäällikkö Riitta Vuorinen
Opiskelija Toni Oja
Toimitusjohtaja, HYKS-sairaanhoidosaluksen johtaja Aki Lindén
Johtava ylärakari Reijo Haapainen
Toimialajohtaja Maaret Castrén
Toimialajohtaja Jari Petaja
Toimialajohtaja Cilli Kirvelä
Toimialajohtaja Hans Ramaay
Toimialajohtaja Jukka Louhija
Toimialajohtaja Markku S. Nieminen
Toimialajohtaja Petri Bono
Toimialajohtaja Antti Laukema
Toimialajohtaja Esko Kemppainen
Toimitusjohtaja Ilkka Marttila
Tulosaluestojohtaja Hannu Lähteenmäki
Hankejohtaja Raita Mäkinen
Kehittämispäällikkö Riitta Meretoja

Lähettetty tiedoksi 13.10.2015
Questions for the Focus Group Discussion

1. What were – in your opinion - the main problems with Meilahti Tower Hospital and Meilahti Triangle Hospital during the project when speaking about the information flow between the users and the builder?
2. Is there any way those problems could have been prevented?
3. Do you know what does the Project Manager do?
4. Have you worked with a Project Manager or a person doing similar job?
5. What did he/she do?
6. What – in your opinion - should the Project Manager do?
7. What kind of skills should the Project Manager have and why?
8. What kind of responsibilities should the Project Manager have?
9. What kind of background and education should the Project Manager have?
10. How much power should the Project Manager have in decision-making process and why?
11. If there has not been a Project Manager in those projects why do you think that was?
12. Should there have been?
13. Do you think it is necessary to have a comprehensive job description for Project Manager? Why?
14. Should there be a different Project Manager in every project? Why?
15. Who should be the superior of the Project Manager?
16. Do you think the Project Manager is something that HUS organization should implement in every building/introduction project?
Appendix 3

1(1)

The Invitation Letter

-------------------------------------------------------------------------------------------------------------------------------

Hyvä vastaanottaja,

Toimim projektipäällikkönä HUS-Tietohallinnossa suurten rakennushankkeiden käyttöönottojen ja
muuttojen parissa. Vastaan Tietohallinnon osalta muuttojen järjestelyistä ja suurten rakennus-
hankeiden käyttöönotoista.

Suoritan Metropolia ammattikorkeakoulussa Health Business Management – opintoja (YMK) ja
teen lopputyönäni tutkimuksen käyttäjäkoordinaattorin toiminnasta liittyen suuriin rakennushan-
keisiin ja muuttoihin.

Olen valinnut tutkimusmetodikseni ryhmässä tapahtuvan teemahaastattelun, jonka tarkoituksena
on selvittää niin sanotun käyttäjäkoordinaattorin toimenkuvaa ja tarvetta HUS-rakennushan-
kkeissa. Haastattelussa mukana olevat hankkeet ovat Meilahden Kolmiosairaalan rakennushanke,
sekä Meilahden Meilahden Tornisairaalan peruskorjaus.

Tarkoituksena on saada mahdollisimman kattava kuva rakennushankkeisiin ja niiden käyttöönot-
toon osallistuneiden ammattilaitsten näkemyksistä käyttäjäkoordinaattorin tarpeesta ja toimenku-
vasta tulevaisuuden sairaalarakennushankkeita ajatellen.

Järjestän kaksi erillistä teemahaastattelua kestoltaan enintään kaksi tuntia. Ensimmäisen
4.11.2015 klo 14:00 – 16:00 ja toisen 16.11.2015 klo 14:00 – 16:00 Meilahden Kolmiosairaalan
kokoustiloissa. Opinnot suoritan englanniksi, mutta haastattelut tapahtuvat suomeksi.

Toivon että sinulla olisi mahdollisuus osallistua yhteen ryhmässä tehtävään teemahaastattelun, koska olet ollut jollain tavalla osallisena edellä mainituissa hankkeissa. Haastattelut nauhoitetaan
ja vastaukset käsitellään nimettöminä ja luottamuksellisesti.

Pyydän varmistamaan osallistumisesi ja sinulle sopivimman annetuista ajankohdista
22.10.2015 mennessä sähköpostilla osoitteeseen: toni.oja (at) hus.fi

Vastaan myös mielettäni asiaa koskeviin tiedusteluihin sähköpostilla tai puhelimeltä.

Yhteistyöterveisin,

Toni Oja