Expertise
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Pre-Preanalytical guideline development for care units in Jorvi Hospital

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Tämä työn tarkoitus oli kehittää ohjeistus Jorvin sairaalan hoitoyksiköille, laboratoriotutkimusprosessin pre-preanalyyttiseen vaiheeseen, hyödyntäen palvelumuotoilun ideologiaa.

Tietoa, tarpeita ja tämän hetkistä tilannetta kartoitettiin teemoihin pohjautuvalla täsmäryhmähaastattelulla ja saatu materiaali käsiteltiin sisällönanalyysilla. Saadut tulokset veivät työtä kohti perusteet kattavaa ohjetta siitä, kuinka laboratorion palveluita hyödynnetään ja miten tutkimuspyyntö tehdään niin, että se on linjassaan laboratorion toiminnan kanssa.

Työn alkuperäinen idea oli kohdentaa ohjeistus aamun näytteenottokierron kiire-näytteille, mutta todelliset tarpeet tulivat esiin prosessin myötä. Tästä johtuen työn suunta muuttui hieman, mutta palvelumuotoilun ideologian mukaisesti ohjeistus luotiin vastaamaan todellisia tarpeita, jotta toimintaa voidaan kehittää edelleen eteenpäin.

Haastatteluista kävi ilmi, että henkilökunta osaa ajatella potilaan tarpeita ja hoitopolkua aamulla asiaan kuuluvasti ja sitä, kuinka laboratoriopalvelut linkittyvät hoitoketjuun heidän näkökulmastaan. Asiat, jotka olivat epäselvempiä, koskivat palveluiden käytön perusteita ja teknisiä asioita, jotka johtavat epäjohdonmukaisiin työtapoihin ja tahattomiin virheisiin. Näiden ongelmakohtien ratkaisemiseksi luotiin pikaohje, perustoiminnan standardi, kaikille hoitoyksiköille laboratoriopalveluita käytettäessä.

Pikaoppaasta kehitettiin luonnos, joka vietiin ylemmälle tasolle tarkasteltavaksi, jotta se vastaa organisaation linjauksia ja toimintaa. Tämän jälkeen pikaopasta työstettiin edelleen osastojen henkilökunnan kanssa, jotta käytettävyys olisi asianmukainen. Tämän jälkeen pikaopas vietiin jälleen tarkastettavaksi, jotta se edelleen vastaa organisaation linjauksia ja toimintaa.

Kehittämistyö tehtiin paikallisesti Jorvin sairaalassa, yhteistyössä Jorvin sairaalan laboratorion ja hoitoyksiköiden kanssa, mutta pikaohjeen konsepti voidaan siirtää yksiköstä toiseen ja prosessia menetelmineen voidaan hyödyntää minkä tahansa organisaation tai yrityksen kehittämiseen.

Avainsanat	palvelumuotoilu, yhteistyö, kehittäminen, ohje, sairaalalaboratorio, pre-preanalytiikka

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This thesis aimed to develop a guideline for the care units in Jorvi Hospital, targeting the pre-preanalytical part of the laboratory testing cycle, through service design concept.

Information, needs and the current status were acquired through theme based focus group interviews and the data were processed with content analysis. The results steered the development towards a basic guideline on how to use the laboratory's services and how to execute the test request accordingly for it to be in line with the laboratory's operations.

The initial focus of the guideline was on stat-sampling for the morning phlebotomy rounds, but the true needs were revealed with the process. Thus, the work took a slight turn from its original path, but in accordance with the service design ideology, the guideline was assembled to the true needs for improving the operations.

The interviews revealed that the personnel could think properly the needs of the patient, through the care path for the morning and how the laboratory links to the care service chain from their perspective. The things that were more unclear, turned out to be basics of service use and technical standards, that result in disorderly work patterns and unintentional mishaps. A quick guide was built to resolve these problems and create an operational standard for all the care units when using the laboratory's services.

A guideline draft was constructed and ran through the management for it to be proper and in line with the standards. After that, the guideline was refined with the care unit personnel for it to have suitable usability. The quick guide was ran through management again for it to be still proper and in line with the standards.

The development work was done locally, in the Jorvi Hospital laboratory and in cooperation with the care units, but the quick guide can be conceptually transferred to other units and the process, with its methods, can be used to improve and develop any other business or organization.

Keywords	service design, cooperation, development, guideline, hospital laboratory, pre-preanalytics

Contents

1 Introduction

HUSLAB Jorvi hospital laboratory has developed its services along the way, to meet the needs of the hospital care units. Within few years there has been two big changes at the interface of the laboratory and the care units, and it seemed that some development was yet again needed to ensure efficient and timely laboratory services.

In the fall of 2015, the laboratory updated the practice for the morning's sampling requests, to improve the turnaround times of the most urgently needed test results in the morning. After the practice was launched, normal tracking of the statistics showed some improvement in the turnaround times, yet it was seen and felt that it did not work all the way as intended, slowing down the laboratory's process and not serving the customer nor the patient as desired. Due to organisational changes and management arrangements, that took place throughout HUSLAB soon after, that practice was left as such, lacking thorough follow-ups and enhancements and development of the process despite the seen problems.

When the laboratory switched to a new ICT system at the end of 2017, a decision was made to let go of the previous practice due to the seen issues that outshined the seen improvements. The practice was simplified and the turnaround times for the morning's sampling results were improved. Despite the improvements, it has been a constant finding from the laboratory's point of view, that the pre-preanalytical stage of the laboratory testing cycle falls short in relation to the provided services.

A cooperation meeting, held with doctors and nurses of the hospital's surgical units, revealed indeed a need to develop the practises together. The meeting was held to clarify the laboratory's morning blood sampling during weekends and public holidays, but unawareness of the work being executed on daily basis was obvious on both sides, according to the internal memo. (Jorvin sairaalan laboratorio 2018.)

In the situation, where development efforts have not been followed through and changes have been made after that, as well as the constant observations of deviation in the pre-preanalytical stage of the laboratory testing cycle, it is important to see through that the customer needs are met and all the stakeholders work from the same basis. By doing this, the important part of the everyday work of the laboratory as well as the care units, hopefully will be easier, straightforward and standardised.

The work aims to develop the pre-preanalytical stage of the laboratory testing cycle in Jorvi Hospital, by creating a written guideline to ensure consistent working throughout the hospital campus.

2 Theoretical framework

Patient's right for treatment and within a decent timeframe is set in law (Terveydenhuoltolaki 1326/2010, 10§, 52§). In the Finnish health care system, so called specialized medical care is in charge of treating patients who need more of a targeted, demanding and challenging health care, whether it is urgent or non-urgent (Lillrank & Venesmaa 2010, p. 46; Syväoja & Äijälä 2009, p. 93). Production of specialized medical care is challenging due to its somewhat unpredictable nature. It is a balancing act between the supply and the demand, where the different actors involved in delivering specialized medical care, their resources and capacity available, meet the needs of the patients and the law. (Lillrank & Venesmaa 2010, p. 63, 111, 113.) Regardless of its demanding nature, optimization of the capacity and the resources can be done with the help of scheduling, controls, tracking, anticipatory work and process development, to ensure care that is up to standards (Lillrank & Venesmaa 2010, p. 114, 115).

When treating the patient, clinical laboratory test results are largely involved when making decisions of the care and monitoring the effects of the care (Linko et al. 2000, pp. 24-25; Freedman 2015, p. 16, 18). Initiative for the laboratory testing begins with the medical status and evaluation of the patient, in the pre-preanalytical phase where the need for a laboratory test is established, made by the doctors or the nurses in charge of the care. Yet, the complete process of a laboratory test is complex and requires multi-professional contribution for it to succeed optimally (Linko et al. 2000, p. 9, 18.) By establishing appropriate process from the beginning to the end contributes to the successful usage of the laboratory (Freedman 2015, p. 27).

2.1 The laboratory testing cycle

The laboratory testing cycle means the whole complex process that eventually generates medical action for the patient, according to the test results. The laboratory testing cycle is commonly divided roughly into preanalytical, analytical and post-analytical phases. Depending on the context, the phases can have this rough division or more meticulous and divided depiction (Figure 1.). Under the topics of the testing cycle phases, lie concrete actions such as test ordering, sample collection, transportation, separation or preparation of the sample, analysis, reporting and clinical action (Figure 2.). (Wians 2009, p.105.)

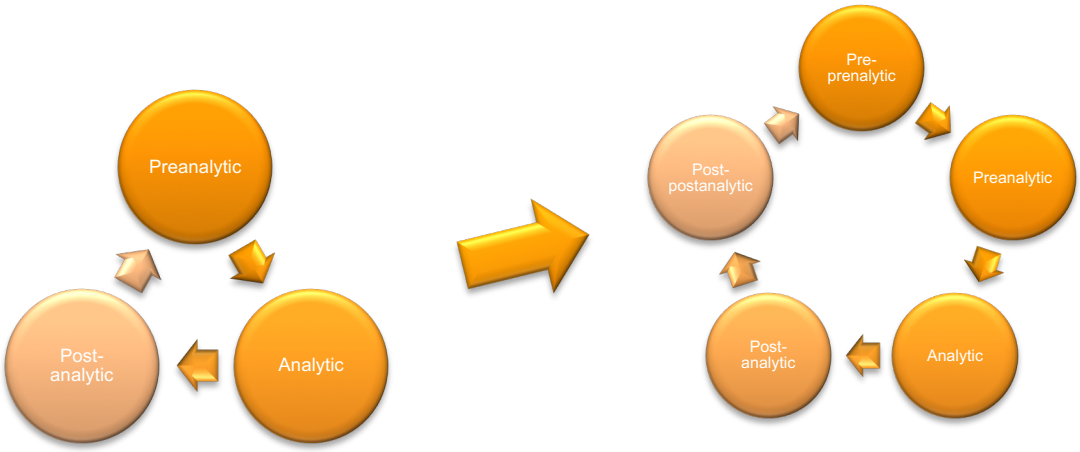


Figure 1. Laboratory testing cycle trough different classifications (adapted Wians 2009.)

The preanalytical phase includes all the steps from placing a test order to the point where the sample reaches the laboratory. It has the actions of making the test order – or even starting with the thought of the doctor to do the test order – identification, sampling, transportation and separation or preparation of the sample as well as storage before analyses. In a need of the more through and detailed inspection, the preanalytical phase can be seen to precede the pre-preanalytical phase, that is not so straight forwardly in the hands of the laboratory staff (Carraro et. al 2012, p. 638). In this case, out of the preanalytical steps defined before, the pre-preanalytical step would include the decision to do the testing and execution of the test order as well as the test order reaching the laboratory, not to mention the considerations of urgency in relation to the patient's status and needed actions. Unlike most countries in the world, in Finland the laboratory technicians and phlebotomists step in to the picture when it is time for blood sampling, thus the pre-

preanalytical phase is indeed a valid segment to be recognised in the process (Bioanalyytikkoliitto 2017; Carraro et. al 2012, p. 638; Linko et al. 2000, p. 26).

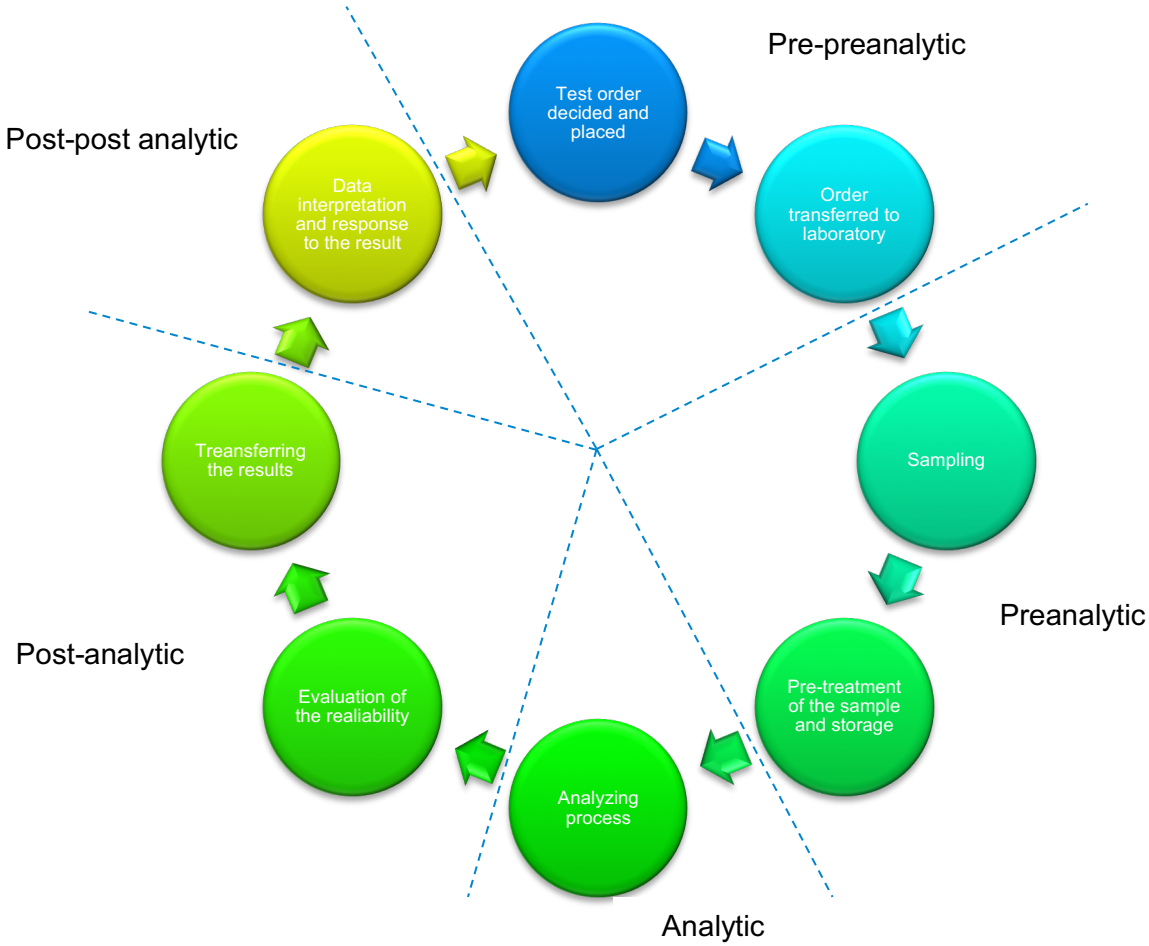


Figure 2. Laboratory testing cycle's actions (adapted Wians 2009).

Analysing phase starts when the specimen gets into the actual, physical analysing process, into the analyser. Alongside quality control and reliability verifications, the analysing phase of the process is in the core of laboratory work and is already well monitored, controlled and recorded. Analysing phase performs the best, in terms of error occurrence throughout the laboratory testing cycle. (Hawkins 2011, p. 5-6.)

Generating the report, the result conveyed to the clinician, interpretation of the data and the clinical action taken are in the post-analytical phase. Post-analytical phase, much like pre-analytical phase can be divided into post-analytical and post-post-analytical

phases if seen necessary. Post-post-analytical phase begins after the results are sent to the clinicians and they act according to the results. (Wians 2009, p. 105; Hawkins 2011, p. 6.)

2.1.1 Room for improvement

It is studied that most of the inaccuracies and errors in the laboratory testing cycle happen in the pre-preanalytical and preanalytical phase (Plebani 2010, p. 105; Randell & Schneider 2013, p. 1159; Carraro & Plebani 2007, p. 1340). Things like tube filling errors, inappropriate containers and patient identification errors are the most common ones to occur, but errors linked to laboratory test requests, in the pre-preanalytical phase, are also recognised: misinterpreted orders, errors in the request procedure and missed request orders (Carraro & Plebani 2007, p. 1340; Plebani 2012, p. 86).

A thesis done by Myrsky-Lehtinen (2013) discovered variety of pre-preanalytical issues when making the test request. Relating to the degree of urgency of the test request, the survey revealed inaccuracies to the set standards. Not using stat-classification when needed or using it in vain, stemmed anywhere from human error to not caring for the intention of the classification or not knowing the standards. In the same thesis, issues such as the care unit staff making orders by their old standards, “by memory”, also complicated the process. (Myrsky-Lehtinen 2013, p. 27, 34.) Knowledge related problems in the pre-preanalytical area of making the test order were also recorded on another thesis, where 34% of the mishaps were a result of not knowing enough to make them correct. And the same issue as mentioned before, not caring enough to make the orders correct, were recorded in 43% of the cases. (Illi 2015, p. 61.)

Whereas the analytical phase is rather thoroughly monitored and controlled, the pre-pre-analytical and pre-analytical phase, its complexity, numerous stakeholders involved and parts of the process that are out of the hands of laboratory professionals increase the chances for errors (Plebani 2010, pp. 101-102, p. 104).

Even though pre-analytical laboratory errors might not have big direct adverse effects, it can translate into a patient care problem, where for example inappropriate testing and additional consultations create discomfort, delayed treatment and higher costs as well

as additional work, lost time and inefficiency of work, when considering it from the laboratory's perspective when resolving pre-preanalytical issues (Plebani 2010, p. 105; Illi 2015, p. 57).

Expanding the standardized quality control towards the pre-preanalytical side might result in improvement of the initial steps of the laboratory testing cycle, yet it is to be achieved only when unified standard operating procedures in those steps are set (Plebani 2012, p. 87). As stated by Linko et al. (2000), it is vital that the information regarding the laboratory request is transferred throughout the different actors and organisations involved, such as the customers and patients as well as the care units.

Different studies and development projects done, show a need to improve the pre-preanalytical and preanalytical phases of the laboratory testing cycle. With collaboration between the key people in those phases and the clinical laboratory, appropriate training, efficient guiding, guidelines and communication, it can be made sure that the laboratory services link to the care service chain as they should, ensuring uninterruptedness and timeliness in relation to the care the patient needs and receives. (Carraro et al. 2012, p. 642; Myrsky-Lehtinen 2013, p.11-12, Illi 2015, p. 65., Linko et al. 2000, p.30)

3 Problem description

HUSLAB Jorvi hospital laboratory, the laboratory technologists and the phlebotomists working there, manage the blood sampling across the whole Jorvi hospital campus, including the municipal Espoo Hospital, adding up to 25 care units and even up to more than 400 patients to service during a day. Because the test results play a big part of the patients care path, it is important that the process runs smoothly all the way and it is continuously developed to meet the needs.

Because the current status relating to procedures of executing laboratory test orders was unknown and observations showed that they were rather varied, especially during the morning, a development work seemed appropriate. Following in the footsteps of the previous developments and taking into notice the overall importance of the stat-sampling in the hospital operations, the starting point of the work was on stat-sampling in the morning.

4 Aim and objectives

The aim of this project was to develop the customer service of HUSLAB Jorvi laboratory. More specifically, the objective of the project was to co-create, with the hospital care unit's employees, a written guideline to enhance the pre-preanalytical and preanalytical phase of the laboratory testing cycle and to ensure standardised working throughout the hospital campus.

5 Materials and methods

By figuring out and understanding the current status, wants and needs of the customer, it is possible to develop operations and turn this knowledge into strategies that set frameworks or give direction on the path towards a better working concept (Moritz 2005, p.35). I took service design perspective to this work because the underlying idea is to develop the services and meet the needs of the customers, in this case the care units of the hospital.

With an already created and structured development model, crafted by Moritz (2005), I utilized a ready-made and proofed concept with this work. The original process has been divided into six different stages that ensures a through work from the bottom up, starting from understanding the situation to realising the outcome of the process (Moritz 2005, p. 154-155). The model, its steps and tools served as a guideline, inspiration and support, but I modified it to my own work and incorporated methods from traditional research as well. Clear steps all the way, well-structured and informed concept as well as familiarity of the model are the reasons why it was chosen to guide this work.

The project was done in the Jorvi Hospital as a cooperation between the laboratory and the care unit professionals who were in the framework of this project. Jorvi Hospital provides specialized medical care, paediatric care, childbirth services as well as emergency services (HUS 2017), but the surgical and internal medicine departments are the two

biggest bodies, customers, for the laboratory in the whole campus, both holding five different care units. These specialized medical care units were the most relevant to target, the most need for laboratory testing, mainly linked to their core operations.

5.1 Description of the project's work process

After the research permit was granted, the process begun with Understanding, in which the base was set for the whole project: finding out needs, contexts, resources and constraints as well as exploring possibilities. The broad first step connects the project to the reality, makes sure that it is relevant and appropriate to the task (Moritz 2005, p.124-125). To carry out this step, I used theme based focus group interview, which was the tool in finding out needs and understanding contexts in the care units. Focus group interview is also a traditional method in qualitative research and suits well, when the emphasis is in in-depth views of carefully selected people. (Tuomi & Sarajärvi 2009, p.75; Hirsjärvi & Hurme 2015, p.62.) For the first stage, people who are in key roles in the pre-preanalytical stages of the laboratory testing were of interest: care unit nurses, secretaries and the doctors. Three different interview sessions were held.

The next step, Thinking, is for developing a strategic framework, specifying and scoping out details. Data gathered from the first step is turned into insights and Thinking directs, controls, structures and aligns the project further. (Moritz 2005, p. 128-129.) In Moritz's model, the tools for the Thinking step are lively and innovative (Moritz 2005, p.131), but I chose to use more traditional method of qualitative research for breaking down the main data and figuring out inductively what should follow. Qualitative content analysis was done for the interviews' data. (Tuomi & Sarajärvi 2009, p. 91.)

The work took a big turn from its initial target after the content analyses. Despite the aims to create a guideline for the morning blood sampling on stat-requests, it became clear that such a guideline was not a necessity and to do something that is not needed, would have been a waste of time and not in line with the idea to improve the overall processes and operations.

The next four steps from the Moritz's model – Generating, Filtering, Explaining and Realizing – weren't so defined in my work and merged more or less together (Figure3.), all holding different purposes in the model (Moritz 2005, p.123). The straight-forward need

for a certain, different type of guideline, that emerged clearly from results of the interviews, was the direction that was most suitable to continue on, so Generation of multiple concepts and concept alternatives was not seen beneficial at this time (Moritz 2005, p. 133).

The concept and a draft of the quick guideline was presented for the process manager and the manager of the department, who presented it again to other process managers for comments and views. These people are on the higher levels of the management, in charge of the operations, so it is not only mandatory to include these people to approve this kind of work from the organisation's perspective but also to serve as a part of the step of Filtering (Moritz 2005, p.136). All individuals included approved it as well as gave comments to the content, so at this point the steps of Filtering and Explaining overlapped largely and the stages were naturally condensed. (Moritz 2005, p. 136, 140.).

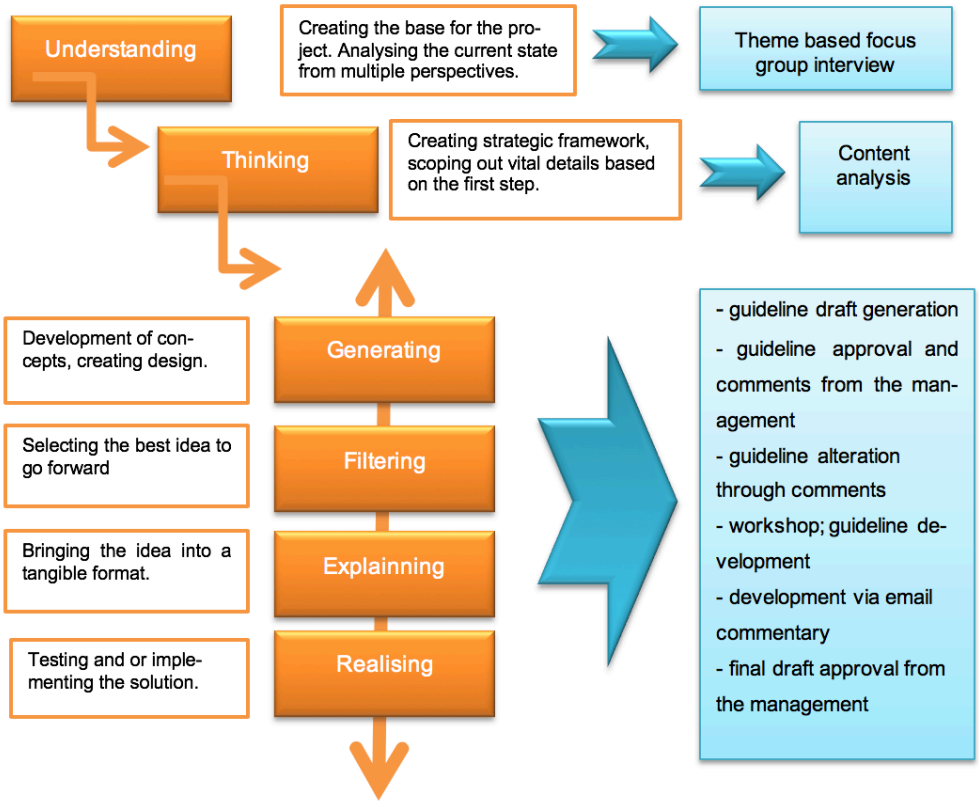


Figure 3. Workflow, adapted Moritz 2005

The final step in the model, Realizing, is defined as the phase where solutions, prototypes and processes are implemented and business plans and guidelines are written. A service can always be improved, and it will never be perfect, but the realizing phase ensures the optimum service performance. (Moritz 2005, p. 144-145.) In my work part of this step was in the form of the workshop where the approved draft of the guideline was worked on and developed further with people who have hands-on view of the every-day routine, to make it usable for them. The workshop provided an opportunity to get feedback, corrections and ideas as well as confirmation that the guideline is of use. The workshop served as part of the steps of Generating and Filtering as well, so the steps overlapped again. (Moritz 2005, p.133, 136).

5.2 Theme based focus group interview

By gathering one to two targeted people from the care units of the chosen departments, the amount needed for a successful theme based focus group interviews for the first stage would be achieved. The goal was to have 10-20 interviewees altogether, in two different sessions, and they were randomly invited, aspiring to voluntary participation. (Hirsjärvi & Hurme 2015, p. 60-62; Tuomi & Sarajärvi 2009, p. 85-86). The work aimed to understand and interpret the situation, in this specific context, and build the solution from the viewpoint of the key actors who are involved. These characteristics, a search for unknown factors of importance, were the building blocks for this qualitative research. (Hirsjärvi & Hurme 2009, p. 22, 36; Moritz 2005, p. 57; Metsämuuronen 2003, p.165, 167.).

5.2.1 Preparation for the interview

Because the permission for the research was given for a month, the setup had to be done quick. Decision for two different dates for the interviews was done randomly. People would be invited for the specific dates, so the amount of people per session would not be too large and the set target of 6 to 10 people per interview would be realized (Hirsjärvi & Hurme 2015, p. 60).

The initial idea was to unsystematically select around ten people from each unit who would receive the invite (Appendix 1.) for their specific date via email, thus adding up to 100 people invited. It became to be, that units' head nurses wanted to manage with the interview invitations and participation options different: some units gave names direct according to the interview dates, some gave names randomly and some head nurses sent the interview themselves to the whole unit so the employees could choose whether to attend or not. One unit stated that nobody would be able to attend any of the interviews. In the early stages of the invitation process, it was noticed, that the request for the research permit for two of the initially targeted units had not been sent, and thus not having a permit to do the research, these units had to be excluded. Out of the 10 initially selected units, 8 could be included in the research through the permit.

Because the interest in participation seemed low and some replied that the specific date selected for them would not work, a decision was made to add a third date and re-send a modified invite where any of the three dates could be selected to fit their own schedule. In the end the invite was sent to more than 100 people, on two occasions, of which 11 attended the interviews.

Since the method was theme based interview, it had to be set up for such beforehand (Hirsjärvi & Hurme 2015, p.66). The theme and sub-themes for the interview reflect the set aim for the work, arising from the previous focal point of the laboratory process development. Also the fact, that it is not known if there is something written or clearly set about the issue in the care units at the moment, after the practice for test request orders for blood sampling has changed the last time.

The topics and the pre-written questions arose from the core subjects of the pre-preanalytical process and the important issues of prioritization, anticipatory work and optimization linked to ideal execution of the care service chain (Table 1.). (Carraro et al. 2012, p. 642; Myrsky-Lehtinen 2013, p.11-12, Illi 2015, p. 65., Linko et al. 2000, p.30)

Table 1. Themes and supporting, pre-written questions.

Stat-samples requested for the morning blood sampling	
• **Patient's care path**	For revealing who is to be considered a patient that needs time wise prioritised testing during the morning.
What kind of a patient needs a stat-sampling?	
How are the patients prioritised?	
• **Timeliness**	For getting an idea, how the care units anticipate the process beforehand and how the process works according to their views.
How the request is anticipated?	
What are the expectations upon a stat-sampling on timing?	
• **Decision making and guidance**	For bringing up underlying and acknowledged issues as well as already working practises on stat-sampling.
Reasoning for doing a stat-request?	
Practices on doing stat-requests?	

The main theme was "Stat-samples requested for the morning blood sampling". Subthemes – patient's care path, timeliness and decision making and guidance – were the topics of interest that were discussed about. The pre-written questions were to support the interview, but not necessarily brought up as such.

5.2.2 The theme based focus group interview

Because of the time limitations and convenience as well as efficiency, I held the interviews myself. Also, the topic was of speciality and it became clear throughout the interviews that some things had to be explained and clarified, so carrying out the interviews myself, I was able to bring more depth to the situation. (Hirsjärvi & Hurme 2015, p.62.)

The three interview sessions were formed out of groups of 6, 3 and 2 participants and the attendance was from 7 different units out of the 8 targeted. Different occupations represented at the interviews were nurse, doctor and unit secretary (Table 2.). All groups were given the same introduction to the interview in the beginning, that took from 10 to

15 minutes, and the interviews themselves lasted from 30 to 50 minutes. On two occasions one of the participants came in late, so some or all of the introduction for the interview was missed. This caused some ambiguity throughout the interview and things had to be explained multiple times. The interview themes (Table 1.) were featured at a screen for the whole interview and the interviewees were also given a printed material of the introduction. All the interviews were recorded with two devices, a smartphone and a recorder, located differently in the room (Hirsjärvi & Hurme 2015, p. 62).

Table 2. Composition of the interview sessions

The session no.	Participant count	Occupations represented	Duration of the interview
1.	6	Nurse, Doctor	50 min
2.	3	Nurse	45min
3.	2	Nurse, unit secretary	30min

In all of the interviews, the start-up for the conversation was given by asking a pre-set question (Table 1.). After that the conversations took of freely and when it seemed that the conversation needed to be pushed forward or the topics of interest were not addressed naturally, the pre-set questions were represented again. Sometimes the conversations went off topic and questions related to completely different issues were asked and service requests for the laboratory were brought up. I tried to address those shortly in an efficient manner and go back to the actual topics at hand. At times, the answers provided a clearer view to ponder around the themes so it seemed appropriate to answer them and also keep the atmosphere relaxed and open, even though it would have been preferred to keep the conversation around the chosen themes and the conversation amongst the interviewees. (Hirsjärvi & Hurme 2015, p. 61, 62). After the time was up or themes and the pre-set questions were gone through and the flow of conversation faded away, the interviews were ended (Tuomi & Sarajärvi 2009, p.89).

5.3 Content analysis

The process of content analysis includes the phases of preparation, organizing and reporting, where the transcribed words are reduced into smaller content categories and handled through systematically, resulting in a model, conceptual system, conceptual map or categories that aid in trying to understand the phenomena (Elo & Kyngäs 2007, p. 109; Vilkka 2015, p.164). In the preparation phase all the decisions are made on how to handle the material and to what extent (Elo & Kyngäs 2007, p. 109).

The inductive content analysis started with the preparation phase by listening of all the interviews twice, following the transcription of the interviews. It was done by the basic transcription method where all of the said words were written down, but excluding latent content, that was not of interest in this research. (Elo & Kyngäs 2007, p. 109; KvaliMOTV 2018). Because the introduction was in the same format in all the interviews and for it was a monologue, it was not transcribed. In one occasion the participants asked questions in the middle of the introduction, so that and the followed conversation were included in the transcription.

The participants were given a pseudonym through a number and a letter; 1a, 1b, 2c etc. by the sequence number of the interview and the order they sat in the room. The transcriptions were done per interview and they comprised of 5428 words, 4333 words and 4551 words each. The recorder and the smartphone recordings were used side by side when doing the transcriptions. At some point, people talking on top of each other prevented from hearing what was said on one recording, but the double recording from different parts of the room eliminated this issue. Only on few occasions, the words were not hearable from either of the recordings, due to sudden noises from outside the room or low tone of voice and unclear speech. This had no major impact on the transcriptions as whole; the core of the sentence was still recognisable or the part where the gap ended up being, was not of significance. All the said words were included in the transcription, also the one's that enabled recognition of the participant, but these eliminated naturally in the next steps of the content analysis. (TENK 2019, KvaliMOTV 2018.)

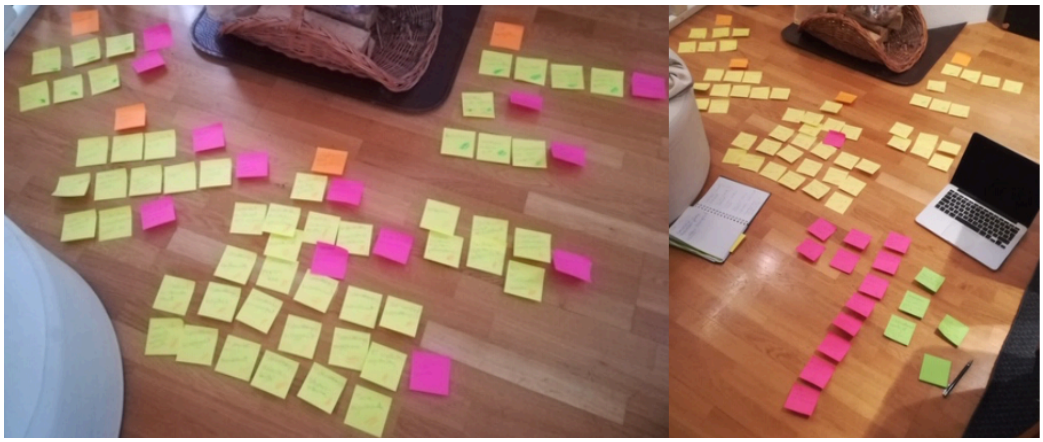


Figure 4. Working on content analysis with Post-It-notes

Unit of measurement was decided to be a theme. The themes were driven straight from the interview themes; patient's care path, timeliness and decision making and guidance. (Tuomi & Sarajärvi 2009, p. 92-93). Timeliness included thoughts on anticipatory work and timing. The transcriptions were read through multiple times before starting the open coding.

Open coding started with finding the phrases of interest, where the themes appeared, and marking them with different colours. The phrases were collected in to a Word document and were grouped by the themes. After that, the phrases were reduced to expressions of few words. Continuing to work within the themes, the reduced expression were grouped to similar category's and given a classification, a heading that tied the expressions together. This was done manually on the floor with the help of Post-it notes, so the big picture was easier to visualise (Figure 4.).

Table 3. Example of the coding process

Theme	Original words	Reduced expression	Classified expression	Category based on the research task
Patient's care path	..sit ku menee CT-tutkimuksiin ni halutaan nopeesti kreaa ja kaikkea näitä ja niissä nyt ehkä se, ja noita hyytymiskokeita, et ne on niiku aina ajallaan..	Laboratory tests linked to medical procedures are needed stat	Laboratory tests related to progression of the care path	Practices that support and are aligned with the operations
Anticipatory work	..nii se on ihan mahoton se meno ni sen takii se vaikuttaa näihin pyyntöihin ja kaikkiin viikonloppuna, ihan järkyttävä, sit ku meillä tulee ovista ja ikkunoista potilaita..	Unit has high occupancy and performance rate	Known operational framework	
Guidance and decision making	Toi on hirveen hyvä toi tieto ettei tarvi sitä kiirenäytettä et se tulee sinne mobiiliin, et jos ei oo kiireellinen niiku niitten kahdentoista tai neljän välilläkin..	The received information clarified the practices	Lack of knowledge	Need for guidance, inconsistent performance.
Guidance and decision making	Taitaa olla vähän sattumanvaraista ja et kuka perehdyttää	Induction to practises is random	Unstandardized practices	

After this point I started to process the classified expressions as a group of their own apart from the themes. Again, similar classes were grouped together and categorized through the research task. All of the categories fell under one main theme, that ended up being in line with the goal of this task; Points to consider when doing the written guideline (Table 3.).

6 Results

The results will be presented in the following and they are reported according to the progress of the development work.

6.1 Results of the Content analysis

The content analysis revealed a lot of thoughts upon the topic; clear views and standards of operation as well as things that need clarification and support. The two main categories that emerged in the end were

- Practices that support and are aligned with the operations
- Need for guidance, inconsistent performance

These two were the starting point, when I went on thinking what is going to be needed when building the guideline.

One thing that was clearly seen, was how well the personnel could think the needs of the patient through the care path and how the laboratory links to the care service chain from their perspective. The initial interest in who is thought to need time wise prioritised sampling became clear, and the thoughts on that were rather similar throughout the interviews. The personnel can do and already do proper anticipatory work, when the patient is treated and also according to their care path.

> *"..if they are leaving somewhere to have procedures, for example to Meikku or then there are patients going to dialysis, who have a specific time during the morning or some kind of imaging examination or something like this, when we know that certain laboratory test results are needed before that.."*

> *"We have an agreement that the ones who are demobilizing, we make the order stat for the morning"*

Table 4. Categorization through the research task

Points to consider when doing the written guideline	
○ Practices that support and are aligned with the operations.	○ Need for guidance, inconsistent performance.
↑ Needs that emerge during the care path ↑ Diverging needs in timing ↑ Unspecified time – timing required ↑ Known operational framework ↑ Specific time ↑ Laboratory tests related to progression of the care path ↑ Knowledge and experience based decisions ↑ Pre-defined patient group ↑ Laboratory testing related to the care ↑ Written guidelines in the care unit	↑ Lack of knowledge ↑ Unstandardized practices
Initial themes: Patient's care path Anticipatory work Timing Guidance and decision making	

There are also predetermined operating models in the units that are followed and executed, and even though the interviewees could determine somewhat a standard on what is needed and when during the morning, they also could point out diverging situations. This indicated that they have practical understanding and already working standards in the care units when using the laboratory services.

> *"But then we have those patients who will be demobilized, but still they won't leave (within the normal schedule), if they are going back to a nursing home and the plan is to do this during the afternoon, so the need is not like that."*

> *"Well, those certain patients and their laboratory tests (are needed stat), that is written down, it is in that folder so everybody knows that."*

The second thing that revealed itself quick, was the lack of knowledge related to different aspects of the usage of the laboratory services, its standards and processes. Not all of the collected phrases were related straight to the morning routine, but some of the occurred topics were universal and important no matter what time of the day. Only two classified expressions departed from the rest and were to be under the category "Need for guidance, inconsistent performance" (Table 4.). Yet, the amount of original phrases falling under these two classifications was the biggest and all of the phrases were collected through the theme of "Guidance and decision making". Even though the goal of the analysis was not to collect numbers or frequencies on occurring phrases, it became very clear that this area is largely unknown for the personnel in the units (Table 5.).

> *"But now I perceive this more clearly.. here, I really did not know how these practises are. This basic routine."*

> *"..someone said, that if you time the order in between the pre-set phlebotomy rounds, you don't have to request them stat, because it will appear on the mobile device anyway. Because I have understood, that if I request the test for 10 am. it will not be taken before 12am. phlebotomy round, unless I put it stat. This is kind of unclear."*

Classified expressions on "Need for guidance, inconsistent performance" were 22 in total, out of 53. Unawareness on many aspects, on things that belong to the laboratory testing cycle, was evident. Basic things, such as phlebotomy routines and laboratory's operations as well as broader perspectives on the know-how of the personnel (Table 5.). These basics are in the core when using the laboratory services.

Table 5. Classified expressions that indicate needs for guidance.

- Unawareness of the phlebotomy work
- Unawareness of stat-requests
- Unawareness of transfer process
- Unawareness of how to do an order
- Unawareness of laboratory operations
- Unawareness of fasting sampling
- Unawareness of the costs
- Unawareness of the process of additional orders
- The received information clarified the practices
- Level of knowledge is uncertain
- Induction to the practices is random
- Induction to the practices is iffy
- Unawareness of how to use the ICT/program
- Unawareness of the mobile working
- Unawareness of laboratory testing process
- Unawareness of the selection of the tests
- Misuse of the processes due to the lack of knowledge
- No written guidelines
- Need for guiding (written and verbal)
- Practices have changed over time

One thing that also supported this finding of "Need for guidance" was the sheer amount of time spent on explaining and clarifying the laboratory's work on my behalf, on top of the introduction held in the beginning, as well as the direct requests during the interview to come and explain the laboratory's service to the care units. Some interviewees came to realise they had not used the services accordingly, because they did not know any better. The interview also brought up defects that enable mistakes in the pre-prealytical stage of the testing cycle.

> *"..this came to my mind, about that misuse, sometimes it has happened, because I most certainly do not check in the morning whether the orders have done correctly, it might have happened that the order was done for the patient to go visit the laboratory themselves or then the order has been executed to a wrong unit and then the doctor says that these are needed now, when the tests have not been taken, so we make a new order stat, so we can have it quick, even though it has been our mistake."*

Many of the topics that emerged are something that can be worked on, so these mishaps on the initial phases of the laboratory testing cycle will not happen.

6.1.1 Conclusion from the content analysis

Reflecting the findings to the starting point of the work, there ended up being rather little unknowns on the side of stat-sampling for the patients in the morning. It was relatively easily stated who needs prioritised sampling, what the timings are to be or how the laboratory testing should fall into the patients care path, from the care unit point of view. At the same time there are cases that are diverging from the standard and the personnel mostly know and understand these. There are already many things that are supporting and are in line with the operations and practices, including the reasoning for requesting stat-sampling for a patient in the morning. This finding had to be considered from the point of view of service and process development, in regards to the starting point of the work. It felt to be unnecessary effort to design and focus a guideline on things that are known and in practise.

After doing the content analyses and concluding that the biggest unknown is not in making decisions for the patients, but on how to execute the request for a laboratory service accordingly. The most relevant need at this point is in basic guidance for the pre-preanalytical phase of the laboratory testing cycle: how the basic phlebotomy services work and how to utilize the laboratory's services. Realizing this, I came to a decision that a guideline that focuses only on the decision making on who needs stat-sampling during the morning phlebotomy round is too narrow and off the actual need at this point. Also, the detailed needs and care unit operations diverge from one another, so framing and writing down specifics is not beneficial, when the guideline is to serve the whole campus.

The guideline would be to address the main issues arisen of the pre-preanalytical phase, when using the laboratory services (Table 5.). A short guide on how the laboratory services, so the care units can utilize the service as needed and execute the pre-preanalytical phase in a proper manner. The guideline would include the knowledge obtained from the interviews, including the matter of stat-sampling as well.

Clear and unified understanding on the execution of laboratory orders is a tool to communicate about the needs of the care units, so that the laboratory can then service accordingly. Since the laboratory test request practice has changed along the way without any profound and continuous induction, this type of a written guideline on basics is a good start to build up the services to match the needs at the highest level. After achieving a level of a standard, it is possible to develop the services further.

6.2 The guideline generation

The starting idea for the guideline was to open up the basic phlebotomy services that the laboratory provides and link it simply to the test request execution process: pointing out the key steps in the execution of the request for it to be proper, and to deliver the needs of the patient correctly as well as all the vital information that needs to be passed from the care unit to the laboratory. For the guideline to serve as a quick guide, I decided for it to be no more than one A4 sheet paper long.

The thought process was derived from the group of classified expressions “Need for guidance, inconsistent performance”, pondering on how to include as many things as possible onto a single A4 sheet paper and how to intertwine the points into understandable and simple form. Few points in the group were such in nature, that this kind of guideline would not be able to help, such as cases where the care units have changed their own practices over time. Also, few points on induction in the care units were something that could not be affected on, because the laboratory is not in charge of that, but on the other hand a basic guideline might bring some base to that and aid in the future. Things linked to unawareness of fasting sampling were connected to more of clinical knowledge and to the process of laboratory’s pre-set phlebotomy rounds, on things that were not beneficial to include due to the vastness of the issues. Some of the points were more comprehensive and straight forward, such as the lack of any type of written guideline and the need for a guideline, that would hopefully be fixed with the guideline to be. The information on costs would not be included, due to management’s standpoint. All the other points in the group were things that could be included to some extent into the guideline.

Table 6. Processing of the classified expressions

- Unawareness of stat-requests
- Unawareness of how to do an order
- Unawareness of how to use the ICT/program
- Unawareness of the mobile working
- Unawareness of the phlebotomy work
- Unawareness of transfer process
- Unawareness of the process of additional orders
- Unawareness of laboratory testing process
- Unawareness of the selection of the tests
- Unawareness of laboratory operations

→ can be included in guideline

- *Misuse of the processes due to the lack of knowledge*
- *No written guidelines*
- *Need for guiding (written and verbal)*
- *Level of knowledge is uncertain*
- *Induction to the practices is random*
- *Induction to the practices is iffy*
- *The received information clarified the practices*

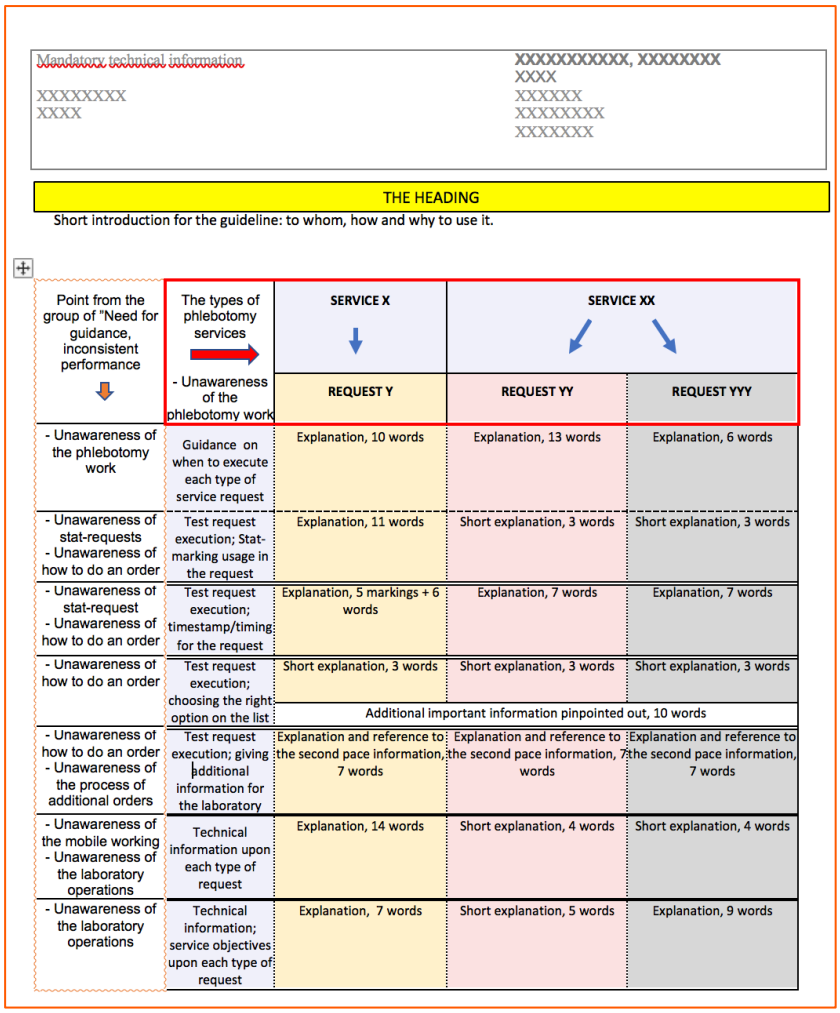
→ things that will be completely or to some extent improved with the guideline

- ~~Practices have changed over time~~
- ~~Unawareness of the costs~~
- ~~Unawareness of fasting sampling~~

→ cannot be affected on or included in the guideline

The format of the guideline was born merely through this thought process and the goal in mind to provide a simple tool with clear and simple instructions. In the picture of the first page of the quick guide, Figure 5., the actual content included are in the areas of colour. The text on the side – framed orange and red, with white background – are the

classified expressions that are considered in that point; Figure 5. is formatted explanatory in regards to the content. The second page (Figure 6.) included things that were seen important in terms of explaining the issue more thoroughly or iteration for stressing it out; Figure 6. is also formatted explanatory in regards to the content. Also, things that were not test request related, such as transfer protocols were included on the second page.



Mandatory technical information

XXXXXXXX
XXXX

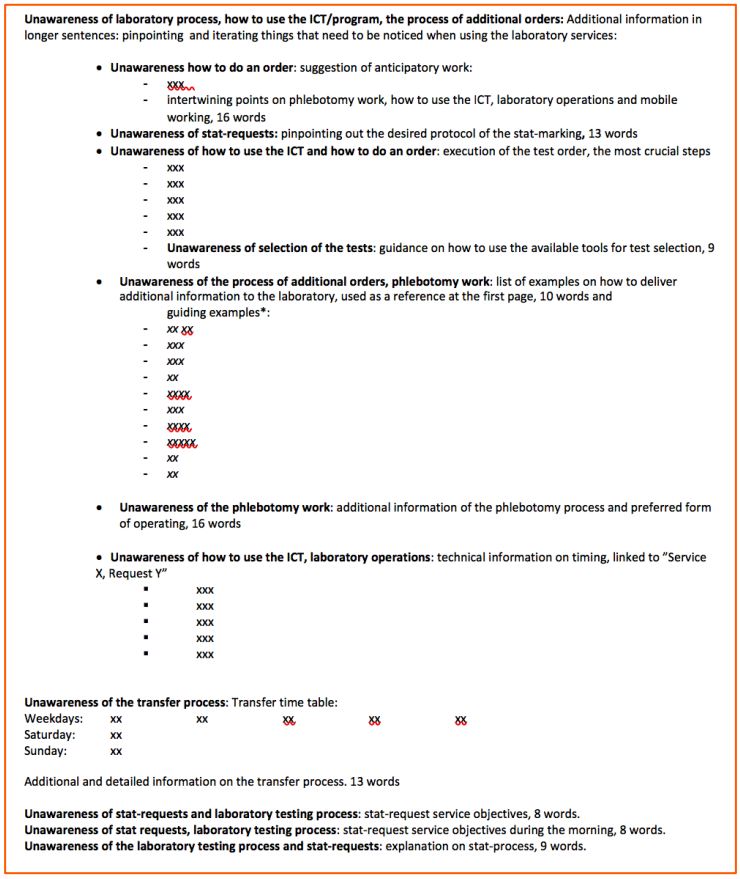
XXXXXXXXXX, XXXXXXXX
XXXX
XXXXXX
XXXXXXXX
XXXXXXX

THE HEADING

Short introduction for the guideline: to whom, how and why to use it.

Point from the group of "Need for guidance, inconsistent performance	The types of phlebotomy services	SERVICE X	SERVICE XX	
	- Unawareness of the phlebotomy work	REQUEST Y	REQUEST YY	REQUEST YYY
- Unawareness of the phlebotomy work	Guidance on when to execute each type of service request	Explanation, 10 words	Explanation, 13 words	Explanation, 6 words
- Unawareness of stat-requests - Unawareness of how to do an order	Test request execution; Stat-marking usage in the request	Explanation, 11 words	Short explanation, 3 words	Short explanation, 3 words
- Unawareness of stat-request - Unawareness of how to do an order	Test request execution; timestamp/timing for the request	Explanation, 5 markings + 6 words	Explanation, 7 words	Explanation, 7 words
- Unawareness of how to do an order	Test request execution; choosing the right option on the list	Short explanation, 3 words	Short explanation, 3 words	Short explanation, 3 words
		Additional important information pinpointed out, 10 words		
- Unawareness of how to do an order - Unawareness of the process of additional orders	Test request execution; giving additional information for the laboratory	Explanation and reference to the second pace information, 7 words	Explanation and reference to the second pace information, 7 words	Explanation and reference to the second pace information, 7 words
- Unawareness of the mobile working - Unawareness of the laboratory operations	Technical information upon each type of request	Explanation, 14 words	Short explanation, 4 words	Short explanation, 4 words
- Unawareness of the laboratory operations	Technical information; service objectives upon each type of request	Explanation, 7 words	Short explanation, 5 words	Explanation, 9 words

Figure 5. The first page of the guideline: content abstract with reference to the classified expressions.



Unawareness of laboratory process, how to use the ICT/program, the process of additional orders: Additional information in longer sentences: pinpointing and iterating things that need to be noticed when using the laboratory services:

- **Unawareness how to do an order**: suggestion of anticipatory work:
  - xxx
  - intertwining points on phlebotomy work, how to use the ICT, laboratory operations and mobile working, 16 words
- **Unawareness of stat-requests:** pinpointing out the desired protocol of the stat-marking, 13 words
- **Unawareness of how to use the ICT and how to do an order**: execution of the test order, the most crucial steps
  - xxx
  - xxx
  - xxx
  - xxx
  - xxx
  - **Unawareness of selection of the tests**: guidance on how to use the available tools for test selection, 9 words
- **Unawareness of the process of additional orders, phlebotomy work**: list of examples on how to deliver additional information to the laboratory, used as a reference at the first page, 10 words and guiding examples*:
  - *xx xx*
  - *xxx*
  - *xxx*
  - *xx*
  - *xxxx*
  - *xxx*
  - *xxxx*
  - *xxxxx*
  - *xx*
  - *xx*
- **Unawareness of the phlebotomy work**: additional information of the phlebotomy process and preferred form of operating, 16 words
- **Unawareness of how to use the ICT, laboratory operations**: technical information on timing, linked to "Service X, Request Y"
  - xxx
  - xxx
  - xxx
  - xxx
  - xxx

Unawareness of the transfer process: Transfer time table:

Weekdays:	xx	xx	xx	xx	xx
Saturday:	xx				
Sunday:	xx				

Additional and detailed information on the transfer process. 13 words

Unawareness of stat-requests and laboratory testing process: stat-request service objectives, 8 words.
Unawareness of stat requests, laboratory testing process: stat-request service objectives during the morning, 8 words.
Unawareness of the laboratory testing process and stat-requests: explanation on stat-process, 9 words.

Figure 6. Second page of the guideline: abstract of the content with reference to the classified expressions.

The draft of the guideline was ran through higher management for comments and to assure the content was in line with organisation's operations. After adjusting the details, the draft was left as such for the workshop.

6.2.1 Workshop

The workshop's idea was to have the guideline developed further and refined with people who will use it as well as from the point of view of the service providers, other laboratory personnel. The workshop was not intended to have any strict form of operating model, but take inspiration from few of the tools presented in the Moritz's model, such as Expert evaluation and Try it yourself (Moritz 2005, p. 219, 233): assessment of the end users, fresh views and ideas of other people who deal with these things daily.

For the workshop, two unit secretaries were chosen and personally invited to attend. Because time limitations, it was more efficient to reach out to people who had shown and expressed interest to be part of this kind of development work. From the laboratory, people to attend were chosen according to their shifts, people who were in work that day.

Due to force majeure, it came to be that only one person out of four was able to attend the workshop: a unit secretary. For others, the draft was sent via email and they gave comments through that platform. In the end, the workshop did not work out as intended, but none the less the idea of working on the draft through multiple perspectives was achieved.

The guideline was altered according to the workshop and the comments: the overall content did not change, but things were visually adjusted by adding on colour indicators and the order of some of the points were changed to add readability. The guideline was shown to management again to assure that it was still in line with the organisation and after approval it was finished and ready for usage (Appendix 2.)

7 Discussion

The results from the study revealed a need for additional guiding for phlebotomy service basics in the Jorvi Hospital care units, and the development work was directed towards a short guideline, formed for the care unit's usage to help with daily work when using the laboratory's services.

The findings from this work revealed lack of knowledge of care unit personnel on the pre-preanalytical side of the laboratory testing cycle, like in the thesis' done by Illi (2015) and Myrsky-Lehtinen (2013). Conclusion and suggestions by Myrsky-Lehtinen (2013), as well as other studies on pre-analytical process like Carraro et al. (2012) point to improve the performance by adding collaborative work, induction and efficient guiding: things that were also seen in this works findings. Thesis's of Myrsky-Lehtinen (2013) and Illi (2015) link the closest to the situation in the setting of this work, but both of those quantitative

studies were carried out as questionnaires and not going into the development for improving the situation, whereas this work went into detail with qualitative perspective about the current status and providing the next step as a solution.

7.1 Ethical considerations

This work was carried out following the approved scientific practice: honesty and transparency throughout the process as well as thoughtfulness and precision when setting up the work, collecting the data and analysing it an representing the findings as well as writing the report. The work received an official research permit from the parties involved and the people who participated to the interviews were informed as to what they are participating in via the interview invite. Participation was voluntary and non-binding at all times and none of the participants were recognisable in the end. Participation to the interview was a consent that the material can be used for this research, and it was stated in the interview invite. Separate permit from the ethical committee was not needed due to the context of the work. (TENK 2019; Tuomi & Sarajärvi 2009, p 131.)

The used methods are commonly utilized, approved and fit for the setup of this work, also, they were introduced and rationalized in the report. All the data was processed according to the standards of content analyses and represented in the report. The raw material from the interviews, the recordings are destroyed, but the gathered data in its processed form is kept in a concealed place (TENK 2019; Elo & Kyngäs 2007, p. 110.)

All the used information and knowledge from other authors, studies and literature are referenced accordingly and included in the reference list. The report depicts, to the detail, the whole process of the work from end to finish. The report also includes considerations in trustworthiness. (TENK 2019.)

7.2 Trustworthiness

The topic of this work was interesting and close to me, as the phlebotomy team leader in Jorvi Hospital, and seeing the every-day work and real life issues, inspired development. Through this work, a guideline was co-created, as intended. Despite the initial idea

and the thought of targeting the guideline to stat-sampling during in the morning, it came to be that the interviews revealed a need for guidance with a different and slightly broader focus. In this sense, the used tools and the process worked accordingly and the development was done to the real needs of the customer, listening to their voice and not pushing through with what was first assumed necessary.

Array of things, that were more on the side of usage of the laboratory services and executing the test requests for the patient, was in the majority of expressed thoughts after the analysis for the interviews was done. Not completely disregarding the initial focal point in stat-sampling, the guideline ended up including many points about it, just from a different point of view, surrounded with other basics for the service user, the customer.

Even though the guideline ended up having a good reception when it was shown to and refined with the end users, only time will tell whether it serves the whole campus and the different units. The targeted interviewees represented relatively small portion of the whole campus and some of the chosen care units were more enthusiastic to attend than others. Also, the viewpoints ended up lacking variety, since the majority of the participants were nurses (Tuomi & Sarajärvi 2009, p. 144). Maybe with a different approach, assistance from the care unit head nurses and more time to deal the invitations, the participation rate would have ended up more generous and varied. (Tuomi & Sarajärvi 2009, p. 85-86, 144.)

The idea for a focus group interview fell somewhat short in terms of the participants per interview (Hirsjärvi & Hurme 2015, p. 62). None the less, all of the conversations were lively and maybe the smaller group lowered the threshold for taking part in the conversation. Even though all the sessions had the same set ups, the conversations ended up having different focal points. Then again, attendance from same units also brought up same issues faced and modes of operation. (Hirsjärvi & Hurme 2015, p. 60.). The role of the interview moderator, was the first of its kind to me. Not having the experience nor any kind of training to it, brought its limitations to the situation: for example in retrospective some of the interviewees could have been encouraged to speak more. Also, the role of the moderator turned out to be problematic during the interviews. The interviewees saw me as an informant towards other issues they had in mind, and the conversation drifted many times to topics of not interest. (Hirsjärvi & Hurme 2015, p.62-63.)

The cooperative workshop did not come true as planned. Three out of four targeted pupil were tied to work that date and time, so the actual workshop was rather one-sided (Moritz 2005. p. 219). On the other hand, the commentary received via email, and those people not having the introduction to the quick guide as the workshop attendee had, revealed shortcomings in the layout of the guideline, that were then improved. The unintended form of refining the guideline from different angles like this, turned out to be beneficial. (Tuomi & Sarajärvi 2009, p. 145.)

8 Conclusion

From the service design and development point of view, this is just one step forward and further development can and will be done in the future to improve the operations again when needed. Assessing this works process in its context and environment, to the concept of operations and service development, this kind of in-depth-style interview with content analysis might not be the easiest nor quickest tool in a hurried pace environment, so using other methods could add value in terms of time and efficiency.

In the future, it is important that the laboratory continues to work closely with the care units and develop the operations cooperatively, and not only provide the laboratory services but also educational services and materials, if needed. Implications to this were seen in the results of the interviews, where the majority of the classified expressions fell under the topic of “Need for guidance, inconsistent performance”.

The very next step and future development could be done for this guideline, in terms of content additions and alterations, inclusion of multiple care units and variety of participants to ensure comprehensive views. Simple type of questionnaire with possibility give proposals as to what is possibly unnecessary and what things to include to have good usability of the quick guide. Also, it would be valuable to study on a bigger scale, whether it is beneficial to offer any kind of different guidance on different topics or support to ensure seamless flow of work on the threshold of two very different type of service providers in the care service chain.

Future shows whether the quick guide serves as such, as intended, whether it will be used and whether it will improve the daily work of the care units and indirectly the work of the laboratory. None the less, the product of this work – the quick guideline – was seen so beneficial for HUSLAB, that the management decided to spread it out to other hospitals as well.

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Appendix 1. Interview invitation

Hei,

teen opinnäytetyötä Metropolia Ammattikorkeakoululle, Health Business Management -YAMK koulutusohjelmaan.

Olen HUSLAB Jorvin sairaalan laboratorion näytteenoton tiimivastaava ja työni koskee Jorvin sairaalan osastojen aamukierron kiirenäytteiden pyyntökäytäntöjä. Aamukierron pyyntökäytänteet muuttuivat loppuvuodesta 2017 laboratorion uuden ohjelmiston käyttöönoton myötä, eikä kiireellisten aamukierron näytteiden perusteita, edellytyksiä ja näytteenottoprosessia ole kuvattu auki.

Tarkoituksena on tehdä osastojen kanssa yhteistyössä kirjallinen toimintaohje, sekä osastojen että laboratorion käyttöön, joka raamittaa aamukierrolle pyydettävien kiireellisten näytteiden lähtökohdat sekä hakukäytännöt.

Työni koostuu kahdesta osasta, joista ensimmäisessä on tarkoitus selvittää ryhmässä tehtävällä teemahaastattelulla hoitoyksiköiden toiveet ja näkemys kiirenäytteiden kriteeristöstä, potilastarpeen näkökulmasta. Myöhemmin, toisessa osiossa luodaan kirjallinen toimintaohje laboratorion ja osaston yhteistyössä, haastattelun pohjalta.

Järjestän kaksi haastattelusessiota, joihin molempiin toivon saavani 3-5 osallistujaa hoitajista ja lääkäreistä, vaihtelevasti eri osastoilta. Haastateltavat kutsutaan henkilökohtaisesti. Haastattelu on kestoltaan maksimissaan tunnin ja se järjestetään laboratorion neuvotteluhuoneessa. Haastattelu nauhoitetaan ja se litteroidaan sekä käsitellään sisällönanalyysilla, josta saatua tietoa käytetään toimintaohjetta luotaessa. Haastattelusta saatu data käsitellään niin, ettei haastatteluun osallistujia voida myöhemmin yksilöidä. Raakadata hävitetään ja ohje luodaan vastaamaan keskiarvoisesti koko sairaalakampuksen aamun kiirenäytteiden tarvetta. Ks. haastattelun esittely ja runko. Haastatteluun osallistuminen on suostumus käyttää saatua materiaalia työn tekemiseen.

Haastattelulle on varattu aika *pvämäärä ja kloaika*, ilmoitathan mahdollisuudestasi osallistua, sähköpostitse osoitteeseen ********** .

Yhteistyöterveisin,

Minna Kankainen
****
puh. **********

Opinnäytetyön ohjaaja
Lehtori Marianne Pitkäjärvi, esh, FT

Teemahaastattelu ja haastattelurunko

Teemahaastattelu on laadullisen tutkimuksen menetelmä, jolla selvitetään valittua aihealuetta koskevia näkemyksiä ja ajatuksia. Haastattelu on luonteeltaan vuorovaikutteinen ja jossain määrin vapaamuotoinen, mutta sitä ohjaavat valmiiksi valitut teemat, jotka halutaan käsitellä. Tarkkojen strukturoitujen kysymysten puuttuminen tuo haastateltavien äänen kuuluviin ja heidän tulkinnat sekä asioille antamat merkitykset ovat keskiössä. Ryhmässä toteutettu haastattelu mahdollistaa myös osallistujien oman ymmärryksen lisäämisen ja oppimisen aiheesta.

Haastattelu nauhoitetaan, jotta se voidaan purkaa ja käsitellä kirjallisessa muodossa jälkikäteen. Lopputuotos muotoillaan niin, ettei kukaan haastateltavista ole tunnistettavissa ja nauhoitteet hävitetään.

Haastattelurunko – Laboratorion aamukierrolle tilattavat kiire-näytteet

1. Tausta
   - Esitellään haastattelun tavoitteet ja työn tarkoitus
   - Esittely laboratorion toiminnasta ja tavoitteista sekä aamukierrosta
   - Haastateltavien esittäytyminen taustatietoja varten

2. Teemat
   - Potilaan hoitopolku – Millaisen potilaan näytteet tulisi tilata aamukierrolle kiireellisenä?
   - Oikea-aikaisuus – Kuinka kiirenäytteiden tarve ennakoidaan ja mitä kiirenäytteeltä odotetaan ajallisesti?
   - Päätöksenteko ja ohjeistus – Mitkä ovat perusteet ja käytännöt kiirenäytteen pyytämiseen?

Haastattelu on kestoltaan maksimissaan tunnin.

Appendix 2. Finalized quick guide

Page 1

HUSLAB Kliinisen kemian ja näytteenottopalveluiden linja 1231023 Jorvin sairaalan laboratorio Tutkimuspyyntöjen tekemisen pikaohje osastoille - Jorvi	**PALVELUTUOTANTO, TOIMINTAOHJE** Sivu: 1/7 Versio: 24.4.2019 Laatija: M. Kankainen 24.4.2019 Tarkastaja: Hyväksyjä: Katselmoitu: -

OSASTONÄYTTEENOTOLLE TEHTÄVIEN TUTKIMUSPYYNTÖJEN PIKAOHJE

Pikaohje on paikallinen, Jorvin sairaalan sekä Espoon sairaalan vuodeosastoille luotu apuväline tutkimuspyyntöjen tekemisen tueksi. Ohjeessa on oleellisimmat kohdat oikeellisen pyynnön tekemiseen, jossa lähtökohtana on eri tyyppisten osastopotilaiden tarvitsema näytteenottopalvelu.

	Ennalta suunnitellut näytteenottokierrot	**Kiertojen ulkopuoliset näytteenotot**	
	Kiertopyynnöt	**Kiire-/Päivystyspyynnöt**	**Kiireettömät pyynnöt**
Indikaatio	Kiireettömät potilaan hoitoon ja hoidon seurantaan liittyvät laboratoriotutkimukset ja näytteenotot	Akuutit näytteenotot: esim. potilaan äkillisesti muuttunut tila tai hoitopolku, joka vaatii laboratoriotutkimuksia ja näytteenoton välittömästi	Kiireetön laboratoriotutkimus ja näytteenotto kiertoajan ulkopuolelle
Kiire-merkintä (Effica-ohjelmassa "Päivystys")	Pyyntöön voidaan laittaa kiire-merkintä, tarkoittamaan näytteen prioriteettia =haetaan kierrolta ensimmäisten joukossa	AINA kiire-merkinnällä	EI kiire-merkintää
Näytteenotto-aika Huom! Myös pvä	AAMU, 12:00, 16:00, 19:00 (lapset), 20:00 Huomioi tilausten sulkeutuminen Jorvissa 20min ennen.	Meneillään oleva kellonaika tai tarkka haluttu näytteenottoaika	Meneillään oleva kellonaika tai muu määritelty näytteenottoaika
Näytteenottaja-tieto	Näytteenottaja: Laboratorio hakee	Näytteenottaja: Laboratorio hakee	Näytteenottaja: Laboratorio hakee
	HUOM! *Osasto/pkl, Pot. itse näytteenottoon, Avoterveydenhuolto* määritellyt pyynnöt eivät välity laboratorion osastonäytteenottoon		
Lisätiedot ja viestit	Viesti ottajalle: listaa lyhyesti kaikki oleellinen. Ks. esimerkit*	Viesti ottajalle: listaa lyhyesti kaikki oleellinen. Ks. esimerkit*	Viesti ottajalle: listaa lyhyesti kaikki oleellinen. Ks. esimerkit*
Pyynnön välittyminen laboratorion näytteenottoon	Pyynnöt tulostetaan ennen kiertoa, kierron tilausajan sulkeutumisen jälkeen, 20min ennen. Pyynnöt eivät näy mobiiliohjelmassa	Pyynnöt näkyvät reaaliaikaisesti mobiiliohjelmassa	Pyynnöt näkyvät reaaliaikaisesti mobiiliohjelmassa
Näytteenoton viiveaikatavoitteet	Haetaan kierron aloitusajan jälkeen, priorisoidaan kiire-merkinnälliset tutkimuspyynnöt.	Näytteiden haku 20min sisällä pyyntöajasta	Haetaan pyyntöajan perusteella, mutta priorisoidaan mahdolliset kiire-näytteet niiden edelle

Muistathan, että ennakoimalla ja noudattamalla sovittuja käytäntöjä, edesautat potilaiden laboratoriotutkimusten oikea-aikaista toteutumista.

Page 2

HUSLAB **Kliinisen kemian ja näytteenottopalveluiden linja** **1231023 Jorvin sairaalan laboratorio** **Tutkimuspyyntöjen tekemisen pikaohje osastoille - Jorvi**	**PALVELUTUOTANTO, TOIMINTAOHJE** Sivu: 1/7 Versio: 24.4.2019 Laatija: M. Kankainen 24.4.2019 Tarkastaja: Hyväksyjä: Katselmoitu: -

Tilauksia tehtäessä huomioitavaa:

- Ennakoi tilaus:
  - näytteenoton ajankohta ja/tai vastauksen valmistumistarve
  - näytteenottokierrolle tilausmahdollisuus sulkeutuu 20min ennen, esim. 12:01 tilausajalle siirtynyt pyyntö välittyy automaattisesti mobiiliohjelmaan ja on kierron ulkopuolinen näytteenottomaksuineen
- Kiire-merkinnän käyttö: Kiire-merkintää käytetään kierron ulkopuolisille pyynnöille päivystyksellisissä pyynnöissä, näytteenottokierrolla prioriteetin osoittamiseen. (Effica-ohjelmassa "Päivystys"-merkintä")
- Tee pyyntö kerralla oikein
  - Tilaava yksikkö
  - Näytteenottaja
  - Näytteenottokellonaika ja huom. myös päivämäärä
  - Kiire-status
  - Tee tilaus loppuun asti ja tallenna, jotta pyyntö aktivoituu ja on ajantasainen
  - Käytä tarvittaessa ensisijaisesti tarjolla olevia ajantasaisia kirjallisia ohjeita, esim. Tutkimusohjekirja
- Anna tarvittaessa lisätietona kaikki näytteenottoon tai näytteen toimitusaikaan liittyvä oleellinen, esimerkkejä*:
  - *Potilas heräämössä / Potilas leikkaussalissa xx*
  - *Pyydä hoitaja mukaan näytteenottoon*
  - *Tarkka (näytteenotto) aika*
  - *Vuotaa*
  - *Menossa leikkaukseen*
  - *Kuuro*
  - *Otettu jo / Labra osastolla*
  - *Voiko tehdä jo otetuista? / Voiko tehdä aamunäytteistä?*
  - *Tehdään aamuisista/Tehdään jo otetuista*
  - *Taksilla / Taksi*
- Älä tulosta potilaan pyyntökorttia/tarrakorttia ellet ole delegoinut näytteenottoa kasvotusten laboratorion näytteenottajalle tai muutoin sopinut toimintatavaksi näin
- Kiertojen tilausten sulkeutumistajat:
  - AAMU --> 06:40
  - 12:00 --> 11:40
  - 16:00 --> 15:40
  - 19:00 (lapset) --> 18:40
  - 20:00 --> 19:40

Kuljetusaikataulut Meilahteen:

Arki:	8:30	10:15	11:11	12:45	15:15
Lauantai:	12:30				
Sunnuntai:	12:10				

Mikäli haluat muualla tehtävän näytteen lähtevän taksilla kuljetusaikataulujen ulkopuolella tekopaikkaan, merkitse lisätietoon "Taksi".

Jorvissa tehtävien päivystyksellisten tutkimusten valmistumisen viiveaikatavoite on 1,15h pyyntöajasta.
Aamukierrolle pyydettyjen kiirenäytteiden valmistumisen viiveaikatavoite on klo 9 mennessä.
Kiireellisenä pyydetty näyte noudattaa määriteltyä kiire-prosessia koko laboratorioprosessin ajan.