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	The nursing guidance process of a p nia in a pulmonary ward in Meilahti	
		Anna Enemark Degree Program in Nursing Thesis May, 2011

### Laurea University of Applied Sciences Laurea, Otaniemi Degree Programme in Nursing

**Abstract** 

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The nursing guidance process of a patient with pneumonia in a pulmonary ward in Meilahti hospital

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The purpose of this thesis was to describe the nursing guidance process of a pneumonia patient in Meilahti hospital using the QPR Processguide program. The aim was to describe the professionals involved and their cooperation throughout the guidance process. This thesis is a part of the Triangle Hospital development project, a joint collaboration of the Hospital district of Helsinki and Uusimaa (HUS) and Laurea University of Applied Sciences.

The qualitative research method was used in this thesis. The data was collected by a theme interview which was performed as a focus group interview with four specialist nurses from pulmonary wards 81, 82, and 122 in Meilahti hospital. The collected data was analysed using content analysis with an inductive approach. Three of the specialist nurses were later asked to openly comment on the categories and contents of nursing guidance and interventions table that was preliminarily created on the basis of the first interview. The contents were altered according to the views expressed in this second focus group interview.

The nursing guidance process of the pneumonia patient is divided into three chronological categories, i.e. initiation of nursing care, nursing guidance and interventions on the ward, and nursing guidance and interventions when going home. These are the higher categories of guidance. Each of these categories is composed of subcategories which are composed of the contents of the guidance including the methods used.

The professionals providing guidance include a nurse, a physician, a physiotherapist, and a practical nurse. A social worker and hospital pastor are also available if needed. An additional group of professionals mentioned are the laboratory nurses, x-ray staff, and the ward's kitchen staff. The cooperation between professional groups was said to be strong and working well. The nurses' role in providing guidance was emphasized in the process description.

Written guidance about pneumonia as an illness, its treatment, and home care instruction is given to pneumonia patients in all but one of the pulmonary wards, where the information is rather provided orally.

The completed process description serves as a tool for analysing the current nursing guidance process of pneumonia patients in the pulmonary wards. It provides a method of assessing the contents of patient guidance and a basis for future development of the process. The process guide may also serve by providing a possible orientation method for new employees and nursing students.

Key words: Nursing guidance, process description, pneumonia

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# 1 Background of the thesis

A great deal has been written about how the world of organisational health care can benefit in a host of ways from investigating and analysing processes. Processes guide organisational practices and therefore detailed analysis of the individual patient processes can have a significant impact on the shaping of these practices. The description of a process model, the result of creating a process description, enables the organisation personnel to understand the goals of the actions involved in a process and their own roles in achieving them (Laamanen 1993, 27).

A process description provides a possibility of examining operations from the patient, personnel, and financial perspectives. The care process can consequently be developed or improved. The goal is the creation of common organisational practices, which in turn enable a high degree of predictability in the patients' care path. Through the development and description of processes in a work environment, common guidelines can be created and the practice becomes seamless and visible. (HUS 2008; Stakes 2000, 23)

Pneumonia as an illness was chosen for this thesis due to the widespread nature of the disease, as well as the continuing hospitalization of patients with severe pneumonia. This illness continues to be a current health concern, especially due to general mortality rate and amount of cases in Finland per year. Some major concerns include risk factors associated with developing the disease such as advanced age and underlying health conditions. This aspect is important due to the aging population in Finland, making the subject a current one. (Järvinen 2009)

This thesis is a part of the Triangle Hospital Project - a joint effort of the Hospital district of Helsinki and Uusimaa (HUS), and Laurea Active Life Village. The purpose of the larger research and development project is the production of client centred guidance materials and information services, as well as the modelling and developing of action processes. The idea for this thesis came from the larger development project, and the finalized thesis aims to serve the working life partner (HUS) by providing a thorough process description that can be utilized to assess the care path of a patient with pneumonia.

The purpose of this thesis was to describe the nursing guidance process of the pneumonia patient in Meilahti hospital using the QPR Processguide program. The aim was to describe the professionals involved and their cooperation throughout the guidance process. This process is limited to the time spent in the ward until discharge from the hospital. The completed guide serves as a tool for analysing the current care path of the patient with pneumonia in

pulmonary ward. The guide gives a basis from which to assess the quality of the patient guidance process, and maximise effectiveness. The completed guide may also be used as an orientation method for new employees and nursing students within the pulmonary wards.

## 1.1 Process descriptions as a current solution to organisational problems

According to The Institute for Health and Well-being (previously known as Stakes), there may be significant benefit for maximising effectiveness of operations in health care organisations due to investigation and improvement of processes that guide organisational practices. Some of the year 2000 recommendations for social and health care organisations include the development of these processes. The service providers are urged to describe and document work processes with a client-centred approach. (Stakes 2000, 22)

The aim of the current care chain development project of the hospital district of Helsinki and Uusimaa (HUS) is to make the entire care process easier and to smooth the transitions of care from primary health care to speciality health care. Thus, the patients care chain is to be examined in its entirety and from the patient-centred perspective. (HUS 2009)

The usual difficulties lie within organisational information transfer, unfamiliarity of other operational units, and the general lack of common operational practice. A common action model of guidance is the intended result of the development of the care chain. Common practices ensure that the holistic care of the patient has the same quality standard, the action model is known and applied, and that the roles of all the health care professionals involved are clarified. Currently, the care chain development project is actively creating regional process descriptions of transfer from hospital to home, and to continuing care facilities. (HUS 2009)

### 1.2 The Triangle Hospital Project

In order to understand the main ideas and reasoning behind this thesis, it is important first to know about the background of this undertaking. This thesis is a part of the larger research and development project The Triangle Hospital Project.

The Meilahti Projects comprise a number of building and renovation plans that are set to be undertaken over the coming years. The aim is the concentration of specialized medical wards into one area - the Meilahti hospital area. The Triangle hospital is the first stage of these projects. The finalized new hospital building which was completed in autumn 2010, allowed

about half of the medical wards from the old 15-floor-tower hospital building to move into the new premises, also making possible the renovation of the old building. (HUS 2006)

The Triangle Hospital Project is the joint project of Laurea Active Life Village and the Hospital district of Helsinki and Uusimaa (HUS). The purpose of this project is to investigate and model action processes and to develop and produce information services and guidance materials for hospital clients within the Triangle Hospital. The goal of the project is to promote client-driven health and well-being. The starting point is the need for development and production of patient focused guides and information services. The integration of many specialized wards and patients in the Triangle Hospital calls for clarity and unity regarding patient guidance; therefore the developing of action models and process descriptions is essential for this purpose.

This thesis links to the larger research and development project by aiming to develop a process description which includes a detailed visual account of the care path of the pneumonia patient. As one main purposes of the Triangle Hospital Project is to model action processes, this thesis responds to this in the way of providing a model of such an action process.

# 2 Guidance of a pneumonia patient

The key concepts of this thesis include nursing guidance, process description, and pneumonia as an illness. In order to understand the meaning and significance of the concepts, it is necessary to delve into the literature. As process description is a method in this thesis, the section describing a process description as a concept is discussed in the methodology section in chapter 4.

### 2.1 Guidance in nursing

From the traditional point of view of nursing, guidance means sharing information, such as practical teaching and counselling. In the past, the role of the patient/client has been passive, accepting, whereas the nurses' has been characterised by expertise or expert knowledge to be imparted to the patient. Today, however, the concept in nursing has developed into meaning and including the nurses' and patient's/client's active and purposeful interactional relationship. This relationship is based on equality and is closely tied to background factors of both nurse and client/patient. Guidance is defined according to the present day in nursing as attempts to promote the client or patient's ability and initiative in enhancing his/her life in the way that is suitable for the individual. The nurse takes a supportive role, as the cli-

ent/patient is seen as a capable and active problem solver. The overall purpose of guidance is to promote a more environmentally balanced life for the client/patient, defined by a confidence in taking advantage of possibilities in a goal-oriented way. The method of achieving this is usually, but not always, though meaningful dialogue aimed at providing encouragement and support of the ability to enhance the quality of life in a desired way. (Kyngäs, Kääriäinen, Poskiparta, Johansson, Hirvonen, & Renfors 2007, 25; Onnismaa 2007, 7)

Guidance in nursing can be seen as the guiding force in the nurse-patient relationship throughout the entire care process. The nurses' creativity and skill have a significant part to play in the outcome of guidance. The guidance situations can be very different from each other due to individual differences of patients, and this can pose challenges for nurses. (Ohtonen 2006; Kyngäs et al. 2007, 26)

The patient has a legal right to guidance related to healthcare matters, and healthcare professionals have an obligation and responsibility to provide this guidance. This obligation is broadly defined in national laws and recommendations. The National Health Law (Kansanterveyslaki), Founding Law, (Perustuslaki), and Community Law (Kuntalaki) including Speciality Healthcare Law (Erikoissairaanhoitolaki) together define the responsibilities that healthcare professionals have related to providing guidance and information regarding health care. The goal behind these legal responsibilities is maintaining and promoting of public health, prevention of illness, the curing of illnesses, and the alleviation of suffering. Furthermore, the Law of the Patient's position and rights clearly states the right to information about health, among other patient rights. The Ministry of Social affairs and health states the healthcare client's rights to be given information about his/her health condition/illness, the extent of the care, risk factors, and treatment options. (Kyngäs et al. 2007, 12-17; Sosiaali- ja Terveysministeriö 2010)

Guidance received from nurses has a direct impact on the ability of clients and families to perform vital self-care activities. The knowledge and encouragement received during a guidance session can be a motivational force for a client in achieving health related goals. This is an integral part of a clients' care. (Smeltzer, Bare, Hinkle, & Cheever 2008, 49)

The concept of patient-centred guidance and counselling in nursing is based on the fundamental belief that the patient/client is the all-important focus in the nurse-patient relationship, and that he/she possesses both ability and resources needed in helping him/herself. The role of the nurse is in providing the opportunity for and facilitating the patient in viewing more clearly him/herself. The nurse does not persuade or otherwise interfere with the deci-

sion making process, but rather offers health related knowledge, that may assist the patient in deciding what the best course of action is individually. (Dexter & Wash 1997, 17-18)

One of the main focuses of the study "From nurse centred health counselling to empowermental health counselling," is the empowerment model of counselling in nursing. This concept accentuates the mutual participation and dialogue of patient and nurse, and highlights the new awareness of the patient regarding transformation of their understanding and knowledge during the guidance experience. The patient goes through a learning process based on reflection of health experiences and then a kind of conceptualization of new ideas and how to relate them to their individual circumstances. Communication is the basis of the reflection which facilitates the realization. The ideal end result is new beneficial knowledge which is gained through the guidance process which assists the patient in his/her individual circumstances. (Poskiparta, Liimatainen, Kettunen, & Karhila 2001 69-79)

Patient education and counselling in nursing have developed enormously over the previous decades. In a research article about the development towards a more patient centred approach to counselling over the last four decennia, several conclusions could be drawn. These conclusions include the need for development in providing more education for health care professionals regarding counselling techniques, and more communication skills during internships. It was concluded that patients should be made more aware that they have a very important part to play regarding treatment issues and decision making. Using decision aids and prompting sheets can encourage patients in this shared-decision making process by identifying values regarding illness and treatment. A decision aid, such as an audio or videotape, website, CD-ROM or booklet may assist patients in understanding the benefits and risks of each health related option that they face. A prompting sheet with suggested questions related to the health condition/illness of the patient, has been proven to be beneficial and effective in promoting communication between health care professionals and patients. (Hoving, Visser, Mullen, & Van der Borne 2010, 275-281; Bruera, Sweeney, Willey, Palmer, Tolley, Rosales, & Ripamonti 2003, 412-419)

A significant factor considered in the conclusion was that healthcare professionals must provide information in a way that is both simple and understandable. The environment should be inviting so that ideas can be freely discussed ultimately leading to the patient's greater participation in healthcare decisions. The social network of the patient was seen as important to include in the sessions, as this is a source of considerable influence, either positive or negative on the health promoting intervention of counselling. (Hoving et al. 2010)

Guidance is the main concept in this thesis. The concept encompasses elements which are not synonymous with guidance but rather a part of it. Guidance implies in general terms direction

and it has a strong link with the term counselling. This thesis focuses on the nursing guidance process which occurs on the ward, in which all of the above elements in the 'guidance in nursing' part are included. The process described here is a holistic entirety of the nursing guidance which is therapeutic in nature with the ultimate goal of restoration and promotion of health.

### 2.2 Pneumonia as an illness

Pneumonia is an inflammation of the lung parenchyma (or tissue) that is usually caused by infection. A complex interaction between the patient, the environment, and the infecting organisms bring about the clinical illness. The virulence of the pathogen and the vulnerability of the patient determine the pattern of the disease. Because there are various causative organisms (several types of bacteria, viruses, fungi), determination of the causing organism at the onset of pneumonia is often difficult. Most often, especially when dealing with severe pneumonia, the necessity to begin treatment precedes the need to know the causative organism, which means antibiotic treatment is begun immediately after clinical presentation of symptoms. The symptoms associated with pneumonia include cough with purulent sputum fever, pleuritic pain and dyspnoea. Cracking sounds accompanied by a dullness of the chest are indicative of pneumonia. (Bourke 2003, 45-47)

Community-acquired pneumonia refers to pneumonia that is contracted in the community The infection may occur in a previously healthy individual but more often it is associated with occurring concomitantly (e.g. with COPD). A few pathogens are commonly responsible, notably streptococcus pneumoniae. The definition of hospital-acquired pneumonia is pneumonia that develops two or more days after being admitted to hospital for alternate reasons. This implies that the nature of this type of pneumonia is a secondary infection. Using broad spectrum antibiotics combined with impaired host defences advances the colonization of Gramnegative bacteria in patients. When infected secretions are aspirated and the defence mechanisms of the lung are compromised, the infection spreads to the lungs. (Bourke 2003, 47-48)

Pneumonia is a significant cause of morbidity and mortality worldwide. According to various studies the occurrence rates are 700-2000 cases in 100,000 per year. Of these cases, the rates are highest among infants and the elderly. About 10-15% of cases of pneumonia are hospital-acquired. A total of 4% of the persons infected will die from the illness, which is 2/3 of the deaths associated with lung disease. The greatest risk factors of mortality include advanced age, underlying health conditions, and the severity of the disease at the moment of diagnosis. These facts indicate that early diagnosis, treatment, and prevention have an important part

to play in preventing mortality rates. The majority of the costs to organised healthcare include hospital care costs and especially the intensive care provided for seriously ill patients. However, a greater number of cases of pneumonia, up to 80%, may be treated in outpatient facilities. (Järvinen 2009)

A dissertation was published by Pirjo Säynäjäkangas in 1999 regarding the history of hospital admissions due to pneumonia in Finland from 1972-1993. This study had several implications for the treatment of pneumonia using hospital services in the future. Various methods utilizing a time structure model and an age structure model were used to predict the changing patterns of treatment of pneumonia in hospitals up till the year 2020. The total number of treatment periods for the population as a whole was predicted to increase by over 50% (70% for men and 30% for women). The age-group over the age of 64 years was expected to increase over 90% with both of the models. Due to the high mortality rate in the elderly, pneumonia is considered to be a high priority for treatment in the hospital environment. The diseases associated with a high risk of contracting pneumonia are especially common in the elderly age group, so it is predicted that this will result in a higher demand of hospital services for the treatment of pneumonia in the future. (Säynäjäkangas 1999)

Both outpatient care facilities and home hospital care services were suggested as methods of lessening the burden and expense of treatment in hospital care. Prevention was seen as a very significant method of decreasing the hospital care days in the future, especially via health education on matters directly linking to the risk factors, including nutrition, exercise and smoking habits; though it was concluded that this may not be a realistic method for the advanced elderly of today. (Säynäjäkangas 1999, 62-64)

The forecast of considerable increase in hospital treatment periods for the elderly has significant implications for organisational healthcare. As a conclusion of the study, the increase in demand of hospital services for the treatment of pneumonia should be prepared for by development of the treatment systems, improvement of the treatment methods, and the employment of preventative measures. (Säynäjäkangas 1999)

# 3 Purpose and research questions

The purpose of this thesis is to describe the nursing guidance process of a pneumonia patient in Meilahti hospital using the QPR Processguide program. The aim is to describe the professionals involved and their cooperation throughout the guidance process.

The goal is the creation of a process model, by which the patients' care process can be assessed. This gives the opportunity to develop, if needed, the operations of the unit.

#### Research questions include:

- 1. What is the process of guidance of a patient with pneumonia in a pulmonary ward in Meilahti hospital?
- 2. What does the guidance of a pneumonia patient on a pulmonary ward include?
- 3. Who are the healthcare professionals involved in the guidance of a patient with pneumonia?
- 4. How do the healthcare professionals cooperate throughout the guidance process of a patient with pneumonia?

# 4 Methodological approach

In this section the research method will be described as well as the informants and how the data was collected and subsequently analyzed. Process description as a concept will also be explained and process modeling in organizational health care will be described.

### 4.1 Qualitative research method

Qualitative research is based on understanding the human experience by collecting and analyzing data which is acquired through subjective materials (Polit, Beck, & Hungler 2001, 14-15). The qualitative research method depends on the subjective transformation of information from observation, recordings, and reports into data. The idea that theory and methods will develop during the research is prominent. An emergent design is characteristic; subsequent direction is based on what is learnt early on in the research process (Polit et al. 2001, 246). There are often detailed and complex descriptions of people and events, as this is essential in communicating the intricacy of situations. A holistic view of social realities characterizes qualitative research, which means that things are seen as a whole; related and interdependent of each other. The meanings and the ways in which people subjectively perceive and understand things are at the heart of this method (Denscombe 2003, 232-235, 267-268).

As this thesis deals with obtaining information via first-hand accounts and focuses primarily on interpretation of results leading to a process description, the qualitative research method is inherently the method which encompasses these elements. The main aim of the thesis was to describe a phenomenon, and according to Denscombe (2003), the use of the qualitative

research method is associated with this, as it is deemed well suited for this purpose. The inductive approach of content analysis to research involves specific observations which lead to patterns and regularities, which in turn lead to new theoretical knowledge related to a phenomenon. The inductive research design and theory building characteristics of the qualitative research process are concurrent with the exploratory nature of the thesis; the idea is illumination of underlying processes of a phenomenon (Trochim 2006; Polit et al. 2001, 19-20). The collected data was analysed using the inductive method of content analysis, as the main categories of guidance emerged from the data during the analysis phase.

### 4.2 Informants

Individuals that willingly provide information about occurrences, circumstances, and facts, are referred to as informants or respondents (Polit et al. 2001, 463). These individuals are the participants of a study, and they have their own part to play in the research project. Talbot (1995, 472) refers to informants as "knowledgeable persons within a particular culture or setting". As the aim of qualitative research is to provide an interpretation of a particular phenomenon, the informants must be deliberately selected based on unique perspective, insight, and position pertaining to the subject being studied (Denscombe 2003, 172).

The informants in this study were four specialist nurses, chosen via purposive sampling (Silverman 2005, 129), working in the pulmonary wards in Meilahti hospital. For practical purposes, the informants were chosen by a ward nurse due to her knowledge of the informants' expertise and experience related to the theme of the interview, as well as ease of arrangement to participate. According to the initial plan, the informants were to come from ward 82, but again due to practicalities of arrangement, the specialist nurses came from pulmonary wards 82, 81, and 122.

The criterion for selection of informants is based on reflection concerning the question: "what type of individual is most likely to inform the research questions?" (Houser 2008, 218). The informants in this thesis were members of a focus group, a group that was interviewed simultaneously. The interview was in the form of a discussion between group members regarding the topic which was introduced via select themes. It was required that the informants participating in the interview had a minimum of three years work experience on the pulmonary ward in order to assure adequate detailed knowledge related to the topic and with the native tongue of Finnish to avoid any misunderstandings during the interviews.

### 4.3 Data collection

After the acceptance of the thesis plan, the permission to conduct the study letter was sent to the contact person in HUS (Hospital district of Helsinki and Uusimaa) in early July 2010. The permission was then received in late August 2010, after which a meeting with the ward nurse was scheduled via telephone. During this meeting to discuss the practicalities and give the informed consent forms, the first interview was arranged for mid-September and the second for late October, both of which were scheduled to take place during the working day. The informed consent forms were then returned before the start of the first interview which took place as previously planned, after which the analysis of the data was started.

For the purpose of obtaining detailed information regarding a phenomenon, the method of choice for data collection of this study was the interview, which was audio recorded. According to Holstein and Gubrium (1995), this method of obtaining responses directly in a face-to-face encounter between investigator and informant provides an important approach for data generation (Nieswiadomy 1998, 220; Silverman 2004, 140). The study required in depth insight into the themes explored which needed to be detailed enough to provide a basis for a comprehensive process description. The information provided came from informants that have privileged knowledge about the subject; therefore the use of interviewing as the data collection method was justified. (Denscombe 2003, 164-165)

A focus group interview, as mentioned briefly before, consists of a group of informants discussing ideas about themes that are introduced by the investigator. This is a technique used to explore themes about which more information is needed and has advantages over other interview techniques. Value and emphasis is placed on the interaction of the group which may result in more information being shared than would otherwise be possible. This may provoke further exploration of a theme by a group member due to the contributions and ideas of other group members. Another interesting point is that the informants might have differing views about the theme. For these reasons, the data was collected via a focus group interview. A possible disadvantage of this type of interview, discussed in the literature, is if the informants "talk over each other"; this could pose a challenge for transcribing the audio recorded data. (Stommel & Wills 2004, 283; Denscombe 2003, 169- 169). This did in fact happen during the interviews, which occasionally made it very difficult to make out what an informant was saying, and especially how a few statements ended.

As the thesis dealt with the transfer and generation of expert knowledge of specialist nurses on the pulmonary wards, the unstructured interview provided a method of obtaining such information. This type of data collection method allows and encourages key informants to define the significant or prominent dimensions of the phenomenon in question and to elaborate on the relevance of these elements without being guided in too great a way by the investigator (Polit et al. 2001, 264). Denscombe (2003, 167) suggests that the unstructured interview has an aim of discovering ideas behind complex issues by allowing a development of the informants' thoughts during the interview.

The theme interview was the method of data collection for the first focus group interview. The themes had open ended questions in order to obtain as much information as possible. These themes were directly based on the research questions and theoretical framework of the thesis. The interview was recorded in a ward which was closed so it was a very quiet place. The researcher introduced the interview themes, allowing for a free discussion of the informants. Thus, the informants provided information freely and without the researcher leading the conversation. The duration of the first interview was about 25 minutes. Nevertheless, invaluable data regarding the process was gathered.

The second interview took place in late October 2010 with three of the original focus group members present. This time the interview was recorded in a patient sitting room with the door closed. The informants were asked to openly comment on the process description, which consisted of a table which contained categories of guidance and the contents included, that was created on the basis of the information acquired from the first interview. They were also asked if they thought that the contents were correct and sufficient - in this way, any suggestions for changes or additions could be expressed. Some guidance contents needed to be explained in further detail, so this second interview provided an opportunity to "fill in the gaps". This last interview was intended to finalize the process description and was a method of enhancing the validity of the study. During this second interview a few of the contents were altered and a few were added. The roles of the healthcare professionals were also clarified. Both of the interviews were audio recorded for analysis.

## 4.4 Data analysis

Analysis of the collected data took place from September - November 2010. The data was analysed using the qualitative content analysis method, with an inductive approach meaning the themes and categories arose from the collected data. Initially, the first interview was transcribed (and translated from Finnish to English) and the statements were analysed, using

colour coding, with a search for themes in the process described by the informants (Kylmä & Juvakka 2007, 117).

The purpose statement and research questions were kept in mind during the analysis process. It became clear that three distinct phases of the guidance process were emerging from the data. The statements were then grouped together based on the content under a particular guidance phase. The statements were then further reduced from the original transcript into simplified statements which made up the core contents of the process description (Kylmä & Juvakka 2007, 113, 116-120). The contents that contained similarities were further analysed and grouped together under a "lower subcategory", each of which was given a name describing the content. These lower subcategories were then in turn analysed and each of them were placed under a "higher subcategory", or guidance phase, which had previously emerged from the transcript. Thus, a table of nursing guidance contents and phases (including nursing interventions), was created (and subsequently translated from English to Finnish), and it was this table that was shown to the informants in the second interview. This table can be found in the findings section in chapter 5.

After transcription of the second interview, it was translated to English, and subsequently analysed. The statements that were about altering or adding contents to the guidance categories and those that related to the guidance process as a whole were focused on. The next step was to put into effect the suggested alterations and additions from this last interview. A few of the guidance contents in the table were then changed and some were added according to these suggestions. Based on the information received in the second interview, the process description was finalized. Writing up of the findings and discussion of findings took place in November 2010-March 2011, during which the process description took graphical shape with the help of the QPR ProcessGuide program.

According to Talbot (1995), data analysis is the attempt of the researcher to discover the meanings behind phenomena and make connections between concepts; a putting together defines the process. A development of propositions that are based in the data is the objective of this endeavour. The meaning of the phenomenon is derived from the core concepts and patterns that are discovered by actively searching the data. Qualitative data analysis is seen as a highly interpretive process. As this thesis deals with generation and discovery of concepts which arise from the data, the approach is considered inductive; segments of data are put together and constructed into a meaningful pattern. Stommel and Wills (2004) talk about inductive approaches as being helpful "exploratory devices" in the generation of new theories. (Talbot 1995, 479-480; Polit & Beck 2004, 578; Stommel & Wills 2004, 184-185)

Qualitative data analysis is associated with a search for emerging categories and patterns in the collected data. A common method by which qualitative data are analysed is the content analysis method. The creation and identification of categories and the development of rules for coding data into these categories are the foundation of content analysis. (Polit & Beck 2004, 580; Nieswiadomy 1998, 150, 159) This method implies that data are examined for recurrences and then identified; they are subsequently grouped together by a coding system. According to Silverman (2004), a comprehensive and systematic overview of the data can be produced via the content analysis method. As the thesis aimed to create a process description, a detailed analysis and overview of a guidance process, the qualitative content analysis method was used for data analysis. (Silverman 2004, 182-183)

## 4.5 Process description as a concept

A process is a series of events or actions that are defined by having some kind of forward motion based on logic. The concept of a process implies continuity and repetition. Processes are defined or described in order for the same sequence of events to be viewed and taken care of in the same way. When a process is defined, it may be evaluated critically and logically. (Lillrank, Kujala, & Parviainen 2004, 93-95)

A process description is composed of basic factual information related to the process, sequentially arranged in the form of a graphical diagram or scheme in which they are presented as a completed description of a process. It is important that the most important aspects of the process are clearly and logically organised in the diagram. The process must also have a clearly defined starting and ending point which determines the content. When the purpose of the description is known, I.e. who it is to be made for, then the level of the description can then be set. The level of the process description affects the accuracy or precision of the undertaking. (JUHTA 2008, 7-8/17)

Describing a process begins with recognising existing processes and then choosing a meaning-ful process for the description. After this phase, the usability and level are determined, the method of graphical diagram is chosen (which program will be utilised), and the creation of the description may be undertaken. Process descriptions must be beneficial and purposeful in nature, with the guiding aim of developing an already existing process. (JUHTA 2008, 6/17)

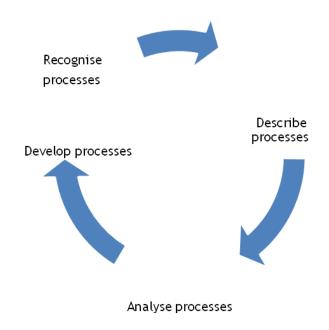


Figure 1. Development of processes (JUHTA 2008, 6/17)

The idea behind a process description is clarifying and simplifying the parts of a whole process, creating the larger picture of the process, defining what the process is and includes, and clarifying the roles that various professionals play in the process. Having a clear understanding of the components of a process provides invaluable information about how the process progresses, what exactly is included, and how it is included. This provides a basis for evaluating the efficiency and cost-effectiveness of the process. (Menezes 2005, 17-18; Lecklin 2002, 156-158)

The idea for this thesis, as described earlier, came from the Triangle hospital research and development project. As one of the main aims of the project is to develop existing patient processes through process modelling, this method of describing and thereby aiming to develop the process in this thesis was clear from the start of the thesis process. The process of guidance of a pneumonia patient was recognized, and the process was limited to the time spent on the ward in Meilahti hospital due to the informants' recommendations about where the process begins and ends. The pneumonia patient's guidance process was chosen due to the fact that it is a very common patient process, and with the description and subsequent development of the process, there can be significant benefit for the numerous recipients of guidance and care on the pulmonary wards. The method of graphical diagram, the QPR Process-Guide program, was chosen due to ease of use and availability on the Otaniemi campus of Laurea University of Applied Sciences. As the purpose of this thesis was to describe the process, the further analysis and critical evaluation of the process may be undertaken by the working life partners.

# 4.6 Process modelling in organisational healthcare

A process description in healthcare portrays what the healthcare organisation professionals do; it explains what the systematic plan and resourced model regarding treatment and care of a particular patient is. A care process is made up of a series of planned actions or events; these can be e.g. policlinic visits, surgical procedures, or magnetic imaging in a laboratory. It is vital to examine the patients care process in order to find out how a care process progresses, the length of the process, and also the expense that the health problems impose. (Lillrank et al. 2004, 118-126)

Organisational healthcare is facing many challenges today due to the fast pace of health technology development as well the aging population of the future. As the financial demands rise, the top class expertise of the healthcare industry becomes more competitive. By organising the activities and production in a process-centred way, the challenges can be met. In a process focused organisational structure, the needs of the patient are better known and recognised and the active role of the patient is reinforced. The healthcare workers that are well-informed about specific areas of responsibility also have better self-direction in the work place. The quality of activities can be systematically developed by the process-based action model. (QPR Software Oyj 2008)

The QPR company is a Finnish software vendor and service provider specializing in process design. The QPR ProcessGuide software program provides an opportunity to graphically depict a process in a hierarchically organised graph, containing connected process maps which give a clear image of the process in question. This software program was utilized for vividly portraying the process description of guidance of a pneumonia patient which was created on the basis of the specialist nurses' interviews. (QPR Software Oyj 2010)

Several theses that are a part of the Triangle hospital project and deal with process descriptions have been published within the last years. These works have been produced by Laurea University of Applied Science students, and contain finalized graphic process descriptions.

The findings of the "Guidance description of the hepatitis C patient" thesis indicate that in the gastroenterology clinic, where the study took place, the guidance of such a patient is clearly structured, the healthcare professionals each have apparent non-ambiguous roles in providing guidance, and that the specialist nurse's personal guidance was an important factor in creating a more personal care relationship. The study used a qualitative research method, and collected data through a theme interview with the clinic specialist nurse and expert group. The data was analysed by the material-based content analysis method, and the process

description was then visualised with the QPR ProcessGuide program. (Eklund, Jokinen, Koivuniemi & Laitinen 2007)

The purpose of the "Process description of outpatient nursing in Kolmiosairaala (Triangle hospital)" thesis completed in 2007 was to model outpatient nursing sub processes and to create a joint operations model for speciality nursing using the QPR ProcessGuide. The results were four graphically depicted sub processes (referral management/handling, first client visit, renewed visit, care feedback) which together depicted the core process of care in an outpatient clinic. The study was qualitative in design, used the action research method, and the data was collected through group work situations. (Tuukkanen 2007, 30)

The aim of the thesis "Process description of patient guidance in peritoneal dialysis" was to view the process of guidance of a patient in peritoneal dialysis and to create a process description of the patient guidance. The research was qualitative in nature, and the data was collected via a group interview. The findings were processed thematically; the care path of the patient, content of the guidance, and the group of specialists guiding the patient. The study findings revealed that the roles of the specialists involved with giving guidance were clearly divided. These specialists included the doctor, pre-nurse, and peritoneal dialysis nurse. The role of guidance was seen as supportive of the treatment. A detailed graphic process description of the care path of the patient was created with the help of the QPR Process-Guide based on the group interview findings. (Planting 2008)

A last example of a published thesis dealing with process modelling for the Triangle hospital project is the "Process model of a lung transplant patient's guidance in the pulmonary disease clinic in Meilahti hospital ward 82". The purpose of this study was to produce a process model of a lung transplant patient's guidance in Meilahti hospital ward 82 -the pulmonary diseases clinic, by help of the QPR ProcessGuide. The study was qualitative and the data was collected via interviews with two nurses and two physiotherapists. A focus group interview with ten staff members then completed the process description. The result was a process model that depicted the guidance of a lung transplant patient divided into three categories (preparation, completion, and evaluation of guidance). The healthcare personnel involved in providing guidance were identified and the findings reveal that there was a significant amount of overlapping in guidance given by various members of the healthcare team. (Nyman & Soinio 2009)

This thesis provides yet another process description which has the guiding aim of development of a process. The study was carried with the intention of producing a process model which would clearly show the nursing guidance process of the pneumonia patient, and the professionals involved in providing guidance. The process has now been described, using the

QPR ProcessGuide program and the process model shows the progression of the process from the initiation of guidance on the ward until the patient is discharged from the hospital.

In conclusion, there are enormous benefits that can be gained through process modelling in organisational healthcare; more extensive information may be acquired about costs and phases of the various processes that drive the healthcare sector, visibility of problems may be increased due to the investigative process, the optimal processes and procedures may be defined, and resource allocation may be further analyzed. The process model enables process transparency which improves patient safety, as well as clearly stating goals of activities so actions may be prioritised. The process models give a basis from which the production can be developed to become more efficient. (QPR Software Oyj 2008; Klemola, Kaarna, Kauppinen, & Kärri 2006, 10/13)

# 5 Findings

The findings of this thesis are based on the analysis of the nurses' interviews. The QPR processguide model of a pneumonia patient's nursing guidance process was based on the qualitative content analysis which is summarized in the categories and contents of nursing guidance and interventions table presented here below.

Categories and contents of nursing guidance and interventions in the multi-professional team

Simplified statements	Lower subcategory	Higher subcategory
Checks vitals and observes breath frequency, coughing, secretions, phlegm, tempera- ture, blood pressure, moni-	The initial assessment of the client	The Initiation of nursing care on the ward

tore pain (Da)		T
tors pain (Rn)		
Checks lab results, if neces-		
sary examines patient (Dr)		
Does an interview (Rn + Dr)	The orientation of the client	
Gives written guidance mate-	to the ward	
rial (Rn)		
Makes a nursing care plan	Planning the nursing care	
(Rn)	Training the harsing care	
Makes the daily care plans		
(Rn)		
Documents daily evaluation		
of patient (Rn)		
Documents observations and		
measurements (Rn)		
Follows oxygen saturation,		
administers oxygen if needed		
(Rn)		
Follows inflammation levels -		
CRP, almost daily (Dr/Rn)		
Follows bowel function, if		
necessary (Rn)		
Guides about adequate fluid	Fluid therapy guidance and	Nursing guidance and inter-
intake (Rn/Dr)	interventions	ventions on the ward
Guides about importance of	interventions	ventions on the ward
fluid intake (Rn/Dr)		
Brings fluid list and fluids		
(Rn)		
Prescribes i.v fluids (Dr)		
Gives i.v fluids (Rn)		
Patient gets pain medication	Medication guidance and	
and fever reducing medica-	interventions	
tion (Dr/Rn)	interventions	
Patient gets bronchodilators		
via micromist (Dr/Rn)		
Avoids giving cough suppress-		
ing medicines (Dr/Rn)		
Patient gets i.v antibiotic		
treatment (Dr/Rn)		
Prescribes phlegm-dissolving		
cough medicine if needed (Dr		
Guides in deep breathing	Breathing guidance and in-	1
(Rn)	terventions	
Guides smokers in lessening	to. rentions	
smoking (Rn)		
Prescribes blow bottle exer-		
cises (Dr)		
Informs physiotherapist		
about prescribed bottle		
blowing (Rn)		
Guides about hand hygiene	Hygiene guidance and inter-	1
(Rn)	ventions	
Helps w/ toileting if		
needed(Rn)		
Guides about protecting can-		
nula (Rn)		
,		Ī

Helps w/ skin care if neces- sary (Rn)		
Checks for sepsis (Rn + Dr)  If underlying condition COPD, astrup checked (Dr)  If other underlying conditions, follow-up (Rn)  If condition fails, patient sent to ICU (Dr)  Bed patient: prevention of thrombosis/embolisms (Rn/Dr)  Bed patient: prescription of heparin treatment (Dr)  If a multi-illness patient, checks the urination (Rn)	Guidance and interventions involving possible complications	
Gives written guidance material about how to proceed at home, if not earlier (Rn)  Guides the patient about the medicines they will receive when going home (Rn)  Documents the evaluation of care (Rn)	Preparation for transfer to home	Nursing guidance and interventions after discharge from hospital
If necessary, writes referral for home hospital involvement (Dr)  If necessary, contacts the home hospital if patient is to go home (Rn)	Follow up of care	
If necessary, contacts the homecare for follow-up (Rn) Control check up with chest x-ray in four weeks (ward secretary)		

# 5.1 The nursing guidance process of a pneumonia patient

To answer the first research question "what is the process of guidance of a patient with pneumonia in a pulmonary ward in Meilahti hospital" one must look to the qualitative content analysis. The nursing guidance process of a pneumonia patient on a pulmonary ward, according to the analysis, is composed of three chronological phases which make up the higher categories of guidance:

- I. The initiation of nursing care on the ward
- II. Nursing guidance and interventions on the ward
- III. Nursing guidance and interventions after discharge from hospital

Each of these categories is composed of lower subcategories which are composed of the contents of the nursing guidance and interventions, including the methods used. The chronologi-

cal outline of the process is clearly shown in the QPR model, which as mentioned was based on the qualitative content analysis, and the progression of the process is evident. The phases follow one another, and clear nursing guidance contents are under each phase of the process. However, within each of the three phases, the nursing guidance contents and interventions are not significantly ordered as the guidance contents and interventions spoken about by the informants were not chronologically categorised but rather spoken about generally. The process of guidance according to the qualitative content analysis was as broad as to include practical nursing interventions and the role of other members of the multi-professional team and their tasks regarding this type of client, and in this way, the process of guidance is broader than first anticipated. The entire process can be seen both in the QPR model and in the categories and contents of nursing guidance and interventions table above.

## 5.2 The contents of nursing guidance and interventions

The second research question "what does the guidance of a pneumonia patient on a pulmonary ward include" is answered by the contents of nursing guidance and interventions which came out from the qualitative content analysis. The contents were directly derived from the interviews as simplified statements about the concrete actions of nursing guidance and interventions that are used on the ward concerning the pneumonia patient. These statements are able to answer the second research question because they are the core contents of the process which has been described; what the nursing guidance process includes. Each nursing guidance action and intervention was only spoken about briefly, thus the contents described in this section are brief and reflect only what was directly spoken about by the informants. Each of the three phases of the process described above (higher subcategories), are composed of lower subcategories, as described previously. These lower subcategories are made up of the contents of nursing guidance and interventions. These contents are described in detail below.

### 5.2.1 The initiation of nursing care on the ward

The initiation of nursing care on the ward category consists of three subcategories which make up the first guidance phase:

- 1) The initial assessment of the client
- 2) The orientation of the client to the ward
- 3) Planning the nursing care

#### 1) The initial assessment of the client:

When the patient comes to the ward for care, the nurse checks the vitals; blood pressure, breathing rate, oxygen saturation, temperature, and pulse. The patient is also asked about how they are now feeling, and if there is any pain.

If necessary, laboratory tests are ordered and the physician on the ward checks the results. If it happens to be a weekend, the on call physician comes to the ward to check the results of the tests. The physician may also examine the patient, if the nurse informs of the necessity, but otherwise the physician does not automatically meet the patient and do the examination.

#### 2) The orientation of the client to the ward:

At the beginning of care on the ward, the nurse does an interview to find out about the background of the patient. Even though this is a background form (given to all patients) that the patient fills in upon arrival, it is an attempt to grasp the holistic view of the individual patient. It clarifies the physical health condition, prior medicines and illnesses, and it delves into the psychological aspects by inquiring about any problems in this area. It also inquires about social situation and possible sexual problems, and inquires about existing aids that are in use. There is also an opportunity for the patient to write about his/her wishes for the upcoming care period. The physician also interviews the patient in the beginning phase, possibly asking some of the same questions that the nurse has asked.

Written guidance in the form of an instruction paper is often, but not always given to pneumonia patients when they arrive at the ward. This is due to individual differences in nurses. The instruction paper informs the patient about what pneumonia is, the accompanying symptoms, and commonly used forms of treatment. The physical restrictions during the recovery period at home are stated and the importance of adhering to care instructions is emphasized. This same paper is given in the end phase of treatment on the ward, if not at the beginning or during the stay on the ward, although one nurse stated that one of the wards has not given the paper, but rather provided the guidance orally. One nurse described the guidance stated in this paper as:

"Se tavallaan koko hoitoprosessin aikana sitä käydään läpi..."

("In a way, we go through it during the entire care process...")

#### 3) Planning the nursing care:

The nurse makes a nursing care plan for the patient that includes which illness is in question, what is being followed, the methods being used to do this, and the evaluation of care. The symptoms are documented in the plan and the methods used to treat each symptom are evaluated. The physicians' prescriptions are also included in this plan.

The nurse documents the guidance and interventions in detail. This involves making daily care plans, e.g. what precisely is being followed from the individual patient and documenting of various symptoms the patient is experiencing and the methods being used to treat the symptoms. The physicians' prescriptions are naturally included in these care plans. The nurse also documents the daily evaluation of the patient, e.g. has the method of treatment been successful, and so on; also the observations of the patient, how he/she is, and the various measurements taken.

The nurse must make certain observations and take various measurements when caring for the patient with pneumonia. These observations of the patient and what is monitored include; breath frequency, temperature, blood pressure, coughing, secretions, phlegm, and very importantly pain. The nurse also monitors oxygen saturation, and if it is low, then additional oxygen is given. The inflammation levels (CRP) are also monitored via lab testing both by physician and nurse; the latter then informs the patient of the levels. The physician bases the course of medical treatment on the inflammation levels. If there is a bed patient, then the nurse must also follow the bowel function, and if necessary guide the patient so that constipation is avoided.

#### 5.2.2 Nursing guidance and interventions on the ward

The largest category of nursing guidance is on the ward. Included in this category are five subcategories of guidance content;

- 1) Fluid therapy guidance and interventions
- 2) Medication guidance and interventions
- 3) Breathing guidance and interventions
- 4) Hygiene guidance and interventions
- 5) Guidance and interventions involving possible complications

#### 1) Fluid therapy guidance and interventions:

Fluid intake is highlighted in the care of a pneumonia patient on the ward, due to the often accompanying high fever. The patient is guided about the importance of consuming enough fluids and the nurse and physician both are active regarding this aspect. The nurse brings the fluid lists to the patient and also the necessary fluids, whereas the physician may prescribe a fluid therapy program and/or intravenous fluid replacement if a patient is unable to orally consume liquids. The nurse then implements these prescriptions. The healthcare professionals on the ward are all in cooperation regarding this, and work well together to maintain hydration of pneumonia patients on the ward.

#### 2) Medication guidance and interventions:

Medicines are prescribed by the physician on the ward, and given by the nurse. Pain and fever reducing medicines are most often prescribed for the symptoms associated with pneumonia, and antibiotics given intravenously are the integral part of treatment of the illness. If necessary, bronchodilators (given via micromist) are prescribed to ease breathing, as well as phlegm-dissolving cough medicine. Cough suppressing medicines are avoided and the nurse and physician guide the patient about the reasons behind this. Sometimes they are given during the night, so that the patient may sleep better, but only during the night.

3) Breathing guidance and interventions:

Since pneumonia affects the lungs, guidance related to breathing and breathing techniques are considered very important in caring for the patient with pneumonia. Oftentimes the breathing is laborious and painful, and the patient is guided by the nurse to assume a half-sitting position in order to ease the breathing. Pain medicines are prescribed by the physician to ease the possible pain in the chest during inhalation. The nurse implements the prescription by giving the prescribed medicine. The nurse also guides the patient in deep breathing, which is made possible with the pain medicine. Coughing is considered important, and encouraged, in order to strengthen the lungs and loosen the phlegm which has accumulated. The physician prescribes blow bottle exercises and the nurse then lets the physiotherapist know so that he/she can carry out the physiotherapeutic part which includes guiding the patient regarding the breathing technique of using the blow bottle. The physiotherapist may also, if needed, guide the patient in the correct coughing technique. The nurse may then observe the patient and the technique which he/she uses while doing the blow bottle exercises and give additional assistance if necessary.

It is also important to consider smoking as relevant in threatening the recovery of pneumonia, and thus it was mentioned that there is an active effort by the nurse to attempt to lessen smoking among the patients that are smokers. This is done by encouraging the patient direct-

ly, and also by offering alternatives such as nicotine plasters and chewing gum. Sometimes the nurse may also guide the patient to a smoking clinic, where he/she can receive additional aid for the decision to guit smoking.

### 4) Hygiene guidance and interventions:

Guiding the patient in matters of hygiene is considered an all important aspect of on-the-ward guidance. The nurse guides the patient immediately when they come to the ward regarding the importance of hand hygiene, and assists the patient, if needed and desired, in basic personal hygiene such as toileting and skin care. The patient is shown where the showers are and is given clean clothing. The bed sheets are changed according to the need. The nurse also shows the patient how to protect the cannula while showering by use of a plastic glove which is taped over the arm.

#### 5) Guidance and interventions involving possible complications:

A possible severe complication of pneumonia is sepsis, a systemic inflammatory response. This is something that is checked by both physician and nurse, by following the general condition of the patient, and monitoring blood pressure, possible sharply rising fever, possible CV - catheters, and blood cultures. If the pneumonia patient has the underlying health condition of COPD, then carbon dioxide levels must be measured via an arterial astrup blood test (blood gas analysis), because the patient often has oxygen therapy. Carbon dioxide retention is subsequently a complication. This type of arterial blood sample is prescribed by the physician, and ordered by the secretary, but usually taken by the physician him/herself.

Another complication of pneumonia is that it can affect the other basic illnesses that the patient may have. On the basis of underlying health conditions, such as e.g. diabetes, the nurse does the follow up which is required. This can be then as in the case of diabetes, following blood glucose levels, as they tend to dramatically fluctuate during times of infection. If the patients' condition dramatically worsens while on the ward, e.g. if there is the sepsis risk and the carbon dioxide levels have fallen too much, the nurse informs the physician and he/she then sends the patient to the intensive care unit.

Prevention of embolism/thrombosis is also something that both physician and nurse bear in mind if there is a bed patient with pneumonia. The nurse encourages the patient to move the feet in bed, and the physician prescribes heparin for prevention purposes. The nurse then implements this prescription. Support socks are also provided, if necessary.

If there is a multi-illness patient with pneumonia, the nurse checks the urination via measurements (e.g. urination bottle) and of course consults the patient. If urination does not occur spontaneously, there is need for catheterization.

#### 5.2.3 Nursing guidance and interventions after discharge from the hospital

The last guidance category has to do with the time when the patient is going to leave the ward and return to home or to a continuing care facility. The subcategories include;

- 1) Preparation for transfer to home
- 2) Follow up of care

#### 1) Preparation for transfer to home:

The nurse gives the patient the instruction paper, if it was not given at an earlier time. This is the same paper that was described above in the orientation of client to ward phase. One pulmonary ward gives the information found in the paper orally. The patient is also guided by the nurse regarding what medications they will receive, how to take the medicines, and if the antibiotics will continue at home.

The nurse also documents the evaluation of care in the patient's nursing care plan. The patient is consulted about how he/she is feeling and it is then documented. Other methods of evaluation described include; temperature measurements, blood pressure, oxygen saturation, pains and the laboratory work. The nurse also follows the patient's situation through these indicators. Other evaluative markers mentioned were color of the patient, breathing rate, and ease of breathing.

Usually, the final evaluation of the patient with pneumonia is not complex. The patient may "feel well and return home", as is a common statement written about evaluation of care in the nursing care plan, but if the patient is to be transferred to a continuing care facility, then a separate form must be filled and more detail regarding evaluation added.

### 2) Follow up of care:

This has to do with arranged continuing care elsewhere. The home hospital is occasionally involved, as in the case of a patient being transferred from the ward to home and still requiring the intravenous antibiotic treatment. The physician writes the referral, and the arrangements are made for the transfer by the nurse. Occasionally the referral is made already in the

emergency clinic (where most of the ward patients come from), so that the patient does not enter the ward for care, but rather just receives the antibiotic at home. Sometimes the patients must come to the ward if there were no available places in the home hospital care.

If necessary, the nurse contacts the homecare for follow up if there is e.g. an elderly patient who is unable to cope on their own at home and needs basic help intensively. One day before the patient is to go home was seen as an ideal time to inform homecare of the situation.

For pneumonia patients there is then a control checkup with a chest x-ray in about four weeks from going home. This checkup is ordered by the secretary.

## 5.3 The multi-professional team and their cooperation

The answer to the third research question "Who are the healthcare professionals involved in the guidance of the patient with pneumonia?" can be clearly seen in the QPR process model, as each of the "actors" of the process are listed according to the data analysis. The guidance process of the pneumonia patient in a pulmonary ward in Meilahti hospital is broad in the sense of the multi-professional team providing guidance.

The group of healthcare professionals providing guidance to the patient with pneumonia in a pulmonary ward in Meilahti hospital includes the physician, nurse, physiotherapist, and practical nurse. If needed, there is also a social worker and a hospital pastor. The additional groups of professionals mentioned were the kitchen staff, laboratory nurses, and x-ray staff.

The answer to the fourth research question "How do the health care professionals cooperate throughout the guidance process of the patient with pneumonia?" is also very much depicted graphically in the QPR process model, as the actions of each member of the multiprofessional team are described throughout the process.

Cooperation between professional groups was said to be strong and working very well on the wards. The physicians' rounds are a daily time for the nurse and physician to meet and discuss the patient's care. It involves active consultation between professionals, having a look at the prescriptions, informing and also consulting the patient. The physiotherapeutic blow bottle exercises for pneumonia patients are directly guided by the physiotherapist, but it is prescribed initially by the physician, and it is the nurse who informs the physiotherapist of this prescription.

The professional groups additionally follow the situation of individual patients from the patient's file or papers. Each professional group reads these files and writes in them what is essential information regarding the patient, e.g. the physiotherapist may write that the blow bottle exercises were unsuccessful due to exhaustion of the patient. These patient files include the traditional "paper planning form" which is currently in use in the pulmonary wards. The system is changing though, and an electronic system is soon to replace this.

The nurses' role in the guidance process of the pneumonia patient was clearly emphasized in the QPR model. When the informants (specialist nurses), spoke about the guidance process on the ward, the statements often began with "we..." and ended with what the nurse's role is in this process, as in what the nurse guides and how including what they do. It is evident that patient guidance is an enormous part of the nurses' role in general, and that the nurse plays the biggest part in the guidance process of the pneumonia patient in the pulmonary wards in Meilahti hospital.

### 6 Discussion

In this section, the thesis will be evaluated from the ethical viewpoint, and issues related to trustworthiness will be reflected according to the literature. The findings of the thesis will be discussed and the research methods evaluated.

### 6.1 Ethics

According to Gray (2004), ethics in research pertains to the behaviour of the researcher in relation to the informants or participants and anyone affected by the study, and whether he/she acts in an appropriate and proper manner. Ethical conduct ensures that the rights of

the study participants are protected (Polit & Beck 2004, 141). An essential ethical consideration is obtaining informed consent from informants and sponsors; this involves explaining clearly the research aims, who is undertaking it, and who is asked to participate. The information the study seeks to find out and how much time participation requires are also of utmost importance, as is stating the voluntariness of participation, including response to all questions posed; informants need to know that they can withdraw from the study at any time. It is vital that all participants and all persons somehow involved in the study be made aware of who has access to the collected data, and of how informants anonymity will be preserved. Should the aims of the research change during the course of the study, it is the duty of the researcher to inform the participants. Promises made with regard to cooperation, such as final copies of the report, are to be kept. Informed consent according to Nieswiadomy (1998) means that participants have a complete understanding of the study before it actually begins. (Gray 2004, 58-61; Nieswiadomy 1998, 50)

It is of utmost importance that participants are not harmed in any way by the research and by the interview method of data collection. Researchers are responsible for minimizing any kind of harm or discomfort, and must be prepared to end the study, should any risk of causing undue stress to participants become evident (Polit & Beck 2004, 143-144). Confidentiality is a major issue in research ethics; this pertains to the promise to not reveal any confidential information received, unless permission is obtained beforehand. Researchers must maintain participants' privacy throughout the study; the identity of informants should not in any way be compromised (Gray 2004 235, 389; Polit & Beck 2004, 149).

After the research plan had been accepted, a permission to conduct the study letter was sent to the contact person in HUS (Hospital district of Helsinki and Uusimaa). Subsequently, a HUS internal permission form was filled and sent. When the research permission was acquired, a copy of the thesis plan was given to the ward nurse, along with the informed consent forms including a letter to the informants which described the research as well as promised to keep information confidential and to preserve confidentiality - the protection of the informants' identities. Voluntariness to participate in the study was stressed, as was the fact that they are free to withdraw from the study at any time (Nieswiadomy 1998, 47). It was also clearly stated that the collected data would only be used by the researcher for the purpose of the thesis, and that the data would be promptly destroyed after the completion of the thesis. The informed consent forms were all signed and returned to the researcher prior to the start of the first interview. The researcher followed all ethical conduct guidelines throughout the research process to the utmost of her ability.

### **6.2 Trustworthiness**

Trustworthiness in qualitative research refers to the validity and reliability of the study in relation to the quality of the data. Polit and Beck (2004) state the underlying question concerning these concepts as: "Do the data reflect the truth"? The criteria for assessing qualitative research has received a significant amount of controversy, nevertheless, certain criteria have been outlined by researchers Lincoln and Guba (1985) as the standards by which assessment may take place. The four criteria that can be used for establishing trustworthiness include; credibility, dependability, confirmability, and transferability. (Stommel & Wills 2004, 287; Polit & Beck, 2004, 430)

Credibility pertains to a belief or confidence in the truth of the data and the interpretations made of them. This can be improved upon by carrying out the research in a believable way, and by demonstrating credibility to the persons involved in the study. One way of doing this is through persistent observation, which means the researchers' focus on distinctive features and properties of a conversation that is related to the studies phenomena. This is seen as a way to bring depth to the research, thereby enhancing credibility. The researcher attempted to focus on the parts of conversation which were actively dealing with describing the process in question and also attempted to delve deeper into the details of the contents of guidance by prompting the informants with additional questions related to these contents in the second interview. (Polit & Beck 2004, 430)

Another method is by choosing informants which can provide the study with conflicting points of view. This is seen as greatly strengthening the descriptions of a phenomenon (Polit & Beck 2004, 430, 433). By using a focus group interview for the method of data collection, the credibility of the data can be improved. The informants in the study were chosen by the ward nurse on the basis of not only the perceived convenience due to being on the same shift, but also because of their amount of experience with the subject matter. The focus group interview effect was indeed beneficial because it did provide some conflicting points of view. Again, as an example, the written guidance paper given to patients was not seen by all to be necessary, in fact in one of the pulmonary wards it is not given at all.

Dependability is the second criterion used for assessment of trustworthiness, and relates to the stability of data over time and conditions. Talbot (1995) refers to dependability as the logical following of the process and procedures used in the research, by someone other than the researcher; this can be enhanced by providing a detailed description of the process of research. (Polit & Beck 2004, 434; Talbot 1995, 488)

The research process from the time of the acceptance of the thesis plan was chronologically outlined in detail in the methodology section of this thesis. The interview method was described thoroughly, and the qualitative data analysis part recounted step by step the inductive analysis process that resulted in the finalized process description of guidance.

Having data that supports the findings, conclusions, and recommendations assures confirmability of a study. This means that the researchers' interpretations are in accordance with the collected data. An audit process is recommended to guarantee confirmability; this involves the inspection and determination of authenticity of the inquiry process by a person other than the researcher. (Talbot 1995, 488)

Thesis supervisors that inspect the written work during and after the thesis process may strengthen confirmability of the study. The contents of guidance were directly absorbed from the data, as they are in fact the simplified statements which make up the findings of the study. Confirmability may, on the one hand, have been compromised by the informants occasionally talking over each other - this made it entirely impossible to hear how some sentences ended, which may have been significant in terms of the findings. The informants also interrupted one another while speaking, which naturally might have prevented some important information from being shared.

There were also some disturbances, such as a phone ringing in the first interview, and an outside person interrupting the session to deliver a message to the group in the second interview which may naturally have had an effect on the informants and their individual thought processes at the time of the disturbance.

One important factor affecting trustworthiness with regard to data collection for this study is the fact that there were misunderstandings with the timing of the second interview. This made it possible for only three of the informants to participate, and the atmosphere during the interview was rather hurried due to pressure to be on the ward simultaneously. This very possibly affected the responses of the informants.

The researcher also may have unknowingly affected the outcome in terms of interpreting and analysing the data due to the fact that the Finnish language is not her native language. Nevertheless, the likelihood of major errors in understanding the audio recording of the interviews is minimal, as the extent of known vocabulary of Finnish is very extensive, and there was only one word of recorded data that was unfamiliar.

Transferability refers to the extent of the applicability of the findings of the study in another setting or context by someone other than the investigator. By providing a detailed description of the research setting or context where data collection took place, including transactions and processes observed, a person who is not the researcher may decide on the suitable application of the data to other contexts. (Talbot 1995, 435-436, 444, 488) As mentioned, the research setting and methods were described in detail in the methodology section of the thesis.

According to the 2001 research article "Maximising Results with Focus Groups: Moderator and analysis issues" the trustworthiness of focus group data is strengthened by the prompt transcription of the data. It is suggested that the researcher return to the same focus group at a later time in order to verify the findings. The data was transcribed in both instances within a few days from the interview times. The second interview in the study is an attempt to verify the findings of the study and enhance trustworthiness (Morrison-Beedy, Cote-Arsenault, & Feinstein 2001, 51).

## 6.3 Discussion of the findings

The purpose of this thesis was to describe the nursing guidance process of the pneumonia patient in Meilahti hospital using the QPR Processguide program. The aim was also to describe the professionals involved and their cooperation throughout the guidance process. Four specialist nurses from pulmonary wards 81, 82, and 122 in Meilahti hospital were the informants of the study, and the information provided through the two focus group interview sessions were the basis for the findings. The outcome of the research clearly shows that the objectives have been met. The process has been described using the QPR processGuide program, as have the contents of this process. The research questions have been answered, and these answers have been explained in detail in the findings section of the thesis.

From the literature regarding process modelling, the idea behind creating a process model is to provide a base from which operations of a unit can be developed to become more efficient and also to provide process transparency in order to be able to better recognize the needs of the patient (Klemola et al. 2006, 10/13; QPR Software Oyj 2008). This process description brings an opportunity to analyse the progression and contents of patient guidance related to pneumonia patients in Meilahti hospital, and also to ponder whether certain aspects could be improved.

What this thesis has achieved in terms of process development is visually depicted in figure 1 (p.17). The process was recognized, and there was a need to investigate what the process

exactly was - to create a larger picture of the process. It was necessary to find out what it included, and who were the professionals involved, so that the entire process could be described. This description of the process and contents is what the thesis aimed to do, and has succeeded in doing. Analysis and development of the process can then be further undertaken by the working life partners.

There are naturally certain limitations to the process in this thesis in terms of the extent of information about this process shown in the QPR process model. The thesis aimed to look at the guidance process from the nursing perspective, and thus the informants were specialist nurses. Even though the other healthcare professionals providing the guidance were named and the multi-professional cooperation was discussed, the detailed individual roles of each professional group was not dealt with and in that sense the entire process is lacking in those aspects. The outcome of the process description would probably have been somewhat different should other professional groups have been interviewed, but that was not the aim of this thesis as the nursing guidance process was in focus. However, it is worth considering as a limitation of the findings when considering the process in its entirety.

When the informants where asked about how the guidance process of the pneumonia patient goes and what are the contents of guidance, there was an abundance of information brought out in the group discussion regarding the practical nursing interventions that are carried out on the wards. These interventions as such, were seen to be a big part of patient guidance. This was problematic in the data analysis stage because each intervention was only mentioned briefly and it was often not specifically stated that guiding the patient was a part of the intervention. The researcher had to make some assumptions regarding how much patient guidance is generally combined with carrying out a nursing intervention. However, one informant stated that each nursing intervention is not necessarily combined with patient guidance, so this aspect still remains somewhat unclear.

Because the guidance process was spoken about largely in terms of nursing interventions, it could be suggested that there is not enough emphasis on patient guidance in the ward. One might see it so that there is more "doing" vs. "guiding". Another way of looking at guiding the patient with pneumonia could also be that perhaps, if an uncomplicated case, there is not even so much need for guidance and this might be a possible reason why the first interview was as brief as it was. Nursing guidance regarding the main aspects of care including breathing, fluids, medication, and hygiene, were all discussed from the view point of sharing information with the client related to nursing interventions and prevention of complications. In this sense, the most important aspects of guidance regarding pneumonia patients did come out in the interviews.

At the beginning of the care on the ward, the individual needs of the patients are assessed via the patient background form and interview, in order to determine what the particular needs are so that optimal holistic nursing care can be provided. This is a concrete example of what patient-centered guidance is, as the whole patient is considered and the focus is on the individuals' viewpoint regarding their situation and needs. The nursing guidance can then be focused on assisting the patient in these areas (Dexter & Wash 1997, 17-18).

The nurses' role in the guidance process as portrayed in the QPR process model is emphasized and this emphasis is also in accordance with patient/nurse relationship theories. The nurse is the health care professional that is closest to the patient and it is the interactional relationship between nurse and patient that is the focus in nursing guidance literature (Kyngäs et al. 2007, 25).

Written guidance was seen by one informant to be something vital to give to pneumonia patients at least in the going home from the hospital phase, although this was not an opinion shared by all of the informants, as one informant stated that it is not given at all. The view was that the information is just as easy to give orally. According to a research and development project untaken by Seinäjoki University of Applied Sciences' social and health field, Tampere University's nursing science department, and Seinäjoki hospital's emergency policlinic, the importance of written instructions provided to the elderly when going home from the emergency policlinic was highlighted and considered to be a key result of the study. The results showed that with the help of written instructions, the elderly patients fared better at home with their continuing care (Laitila 2010). Based on the findings of this study, it could indicate that due to the fact that the occurrence of pneumonia is highest among infants and the elderly, the elderly that are going home from the pulmonary wards are not receiving the most ideal guidance to promote recovery.

The written guidance paper given in several pulmonary wards in Meilahti hospital clearly states the risk factors associated with pneumonia as an illness, and in this way can also be seen as preventative patient guidance. According to a study about hospitalization of pneumonia patients in Finland it was concluded that prevention was a highly significant factor for reducing hospital stays due to pneumonia in the future (Säynäjäkangas 1999, 62-64).

The focus group interview as a method of data collection was useful, as the informants clearly "built on each other's thoughts." Having the interview in the form of a group conversation very possibly elicited more details regarding the process than would have been possible with a one-on-one interview. However, the informants also may have unintentionally affected the

outcome in terms of talking over one another. Due to this aspect it was impossible to transcribe several parts which, as mentioned in the trustworthiness section, might possibly have had an impact on the findings of the thesis. In this way, it is worthy to consider also the limitations of the findings in this respect.

The QPR process model which was created may be utilized as a tool for orientation of new employees and nursing students in the pulmonary wards in Meilahti hospital. The model may be used for analyzing the process of guidance as it provides a concrete view into the roles of the various professional groups involved in the process which may enhance self-direction in the workplace. (QPR Software Oyi 2008)

As one limiting factor in this thesis is the interview time (the first focus group interview was only 25 minutes in length), it might be suggested that in order to gain even more insight into this multifaceted process, that the interview time be longer. In order to obtain the entire guidance process from all the professionals involved, it might also be suggested that these other professionals also be interviewed to gain more information from their perspectives.

As this process of guidance of the pneumonia patient was described by specialist nurses, it might be recommended that future studies explore also the guidance from the point of view of patients. The evaluative aspect may be enhanced and answers to questions such as "how is the guidance process of the pneumonia patient from the patient's perspective" may be significant in terms of developing the quality of nursing guidance of pneumonia patients in the future.

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# **Appendices**

# Appendix 1: Permission to conduct the study

Yh Riitta Vuorinen HUS/Meilahden sairaala Haartmaninkatu 4, Helsinki PL 340, 00029 HUS

Tutkimuslupa-anomus

Hei! Olen sairaanhoitajaopiskelija Laurea - Ammattikorkeakoulusta Otaniemestä ja tarkoitukseni on tehdä opinnäytetyö keuhkokuume potilaan ohjauksesta Meilahden sairaalassa keuhko-

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sairauksien osasto 82:ssä hoitohenkilökunnan näkökulmasta ja muodostaa ihanneprosessikuvaus potilaan hoitopolusta. Opinnäytetyön tutkimusaineisto kerätään haastattelemalla neljä sairaanhoitajaa osastolla. Pyydän kohteliaasti tutkimuslupaa haastattelujen suorittamiseksi.

Opinnäytetyö on osana HUS:n Kolmiosairaala-hanketta. Prosessikuvauksen tarkoitus on avata keuhkokuume potilaan ohjausprosessi prosessien mallintamisen menetelmää käyttäen keuhkoosastolla. Opinnäytetyö on suunniteltu olevan valmis 2011 alkupuolella. Ohjaavina lehtoreina toimivat Anna-Liisa Pirnes ja Ulla Parviainen.

Saatuani tutkimusluvan, pidän opinnäytetyön yhteydessä saamani tiedot ehdottoman luottamuksellisena, sekä huolehdin ettei yksityistä henkilöä voida tunnistaa tutkimusraportista. Tutkimukseen osallistuminen on vapaaehtoista. Arvostan kuitenkin suuresti yhteistyötänne, sillä tutkimusaineisto on välttämätön osa opinnäytetyötäni.

Ystävällisin terveisin,

Anna Enemark Sh-opiskelija Anna.Enemark@Laurea.fi

# Appendix 2: Permission for empirical data collection

TUTKIMUSLUPA-ANOMUS

Hyvä sairaanhoitaja,

Olen sairaanhoidon opiskelija Anna Enemark, Otaniemen Laurea Ammattikorkeakoulusta. Olen tekemässä opinnäytetyöni keuhkokuume potilaan ohjauksesta keuhko-osastolla 82. Tutkimuksen tarkoitus on tuottaa prosessikuvaus keuhkokuume potilaan ohjauksen sisällöstä keuhko-osastolla 82. Aineisto kerätään ryhmähaastattelun muodossa.

Olen saanut tutkimusluvan ja pyydän ystävällisesti lupaa haastatella teitä. Olen pyytämässä neljää asiantuntija sairaanhoitajaa keuhko-osastolta 82 ryhmähaastatteluun joka toteutetaan kaksi kertaa. Haastattelu koostuu avoimista teemoista jotka perustuvat opinnäytetyön tarkoitukseen, ja kesto on enintään yksi tunti ja 30 minuuttia. Keskustelu nauhoitetaan. Haastatteluissa kerätty tieto analysoidaan sisällön analyysiä käyttäen ja QPR ProsessGuide ohjeman avulla prosessikuvaus tuotetaan. Suunniteltu valmistuminen on alkuvuonna 2011. Opinnäytetyön ohjaajina toimivat Anna-Liisa Pirnes ja Ulla Parviainen.

Arvostan suuresti osallistumistasi, sillä se auttaa opinnäytetyöni valmistumisesta. Tutkimuksen osallistumisesi on vapaaehdoista. Tutkimuksen yhteydessä saadut tiedot pysyvät luottamuksellisina ja henkilöllisyytesi pidetään salassa. Kerätty materiaali tuhotaan opinnäytetyön valmistuttua. Teillä on oikeus vetäytyä tutkimuksesta missä vaiheessa tahansa.

Jos teillä on kysymyksiä, tai haluat lisätietoja, pyydän teitä ottamaan minuun yhteyttä lähettämällä sähköpostia osoitteeseen:

Anna.Enemark@Laurea.fi

Kiitän suuresti yhteystyöstäsi,

Anna Enemark

Päivämäärä

#### SUOSTUMUS TUTKIMUKSEEN OSALLISTUMISESTA

Minulle on selvitetty yllä mainitun tutkimuksen tarkoitus ja tutkimuksessa käytettävät tutkimusmenetelmät. Olen tietoinen siitä, että tutkimukseen osallistuminen on vapaaehtoista.

Olen tietoinen myös siitä, että tutkimukseen osallistuminen ei aiheuta minulle minkäänlaisia kustannuksia, henkilöllisyyteni jää vain tutkijan tietoon ja minua koskeva aineisto hävitetään tutkimuksen valmistuttua.

Suostun siihen, että minua haastatellaan ja haastattelussa antamiani tietoja käytetään kyseisen tutkimuksen tarpeisiin. Suostun että haastattelut nauhoitetaan.

Voin halutessani keskeyttää tutkimukseen osallistumisen milloin tahansa ilman, että minun täytyy perustella keskeyttämistäni.

Päiväys	
——————————————————————————————————————	cus ja nimenselvennys

# Appendix 3: Thematic interviews

Teema I: Keuhkokuume potilaan ohjaus

1. Kuvaile millaisen ohjaus prosessin keuhkokuume potilas käy läpi osastolla

Teema II: Keuhkokuume potilaan ohjauksen sisältö ja ohjausmenetelmät

- 2. Kerro minkälaista potilasohjausta keuhkokuume potilas saa osastolla
- 3. Minkälaisia ohjausmenetelmiä on käytössä

Teema III: Osaston henkilökunnan työnjakoa potilasohjaukseen liittyen

4. Mitkä ammattiryhmät osallistuvat potilasohjaukseen

Teema IV: Yhteystyö potilasohjaus prosessissa

5. Miten osaston eri ammattiryhmät toimivat yhdessä potilasohjauksen prosessin aikana

Theme I: The guidance of a pneumonia patient

1. Describe what kind of guidance process a patient with pneumonia goes through in the pulmonary ward

Theme II: The content of guidance of a patient with pneumonia and guidance methods

- 2. Describe what kind of guidance is given to the pneumonia patient
- 3. What methods of guidance are used

Theme III: Healthcare professionals involved in the guidance process

4. Describe which healthcare professionals are giving the guidance

Theme IV: Cooperation of healthcare professionals

5. Describe how the healthcare professionals cooperate in the guidance process