Contemporary Home-Based Care

Encounters, Relationships and the Use of Distance-Spanning Technology

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CONTEMPORARY HOME-BASED CARE

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To my family
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DISSERTATIONS FROM THE DEPARTMENT OF HEALTH SCIENCE, LULEÅ UNIVERSITY OF TECHNOLOGY, SWEDEN
Contemporary Home-Based Care
Encounters, Relationships and the Use of Distance-Spanning Technology

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ABSTRACT

Encounters and relationships are basic foundations of nursing care and the preconditions for these foundations are changing along with a change in healthcare towards an increase of home-based care. In this development the use of distance-spanning technology is becoming increasingly common. There is a need to develop more knowledge and a theory base about the role of the encounter and the relationship in home-based care. Most studies so far cover the topic in the context of hospital care. There is also need to develop more knowledge of experiences of distance-spanning technology in home-based care.

The overall aim of this doctoral thesis was to explore home-based care with specific focus on the use of distance-spanning technology, encounters and relationships from the perspectives of persons in need of care, general practitioners (GPs) and registered nurses (RNs).

The thesis contains studies with persons in need of home-based care (n=9), general practitioners (n=17) and registered nurses (n=24). The study with RNs consisted of registered nurses (n=13) and district nurses (n=11). The data was collected through individual interviews and group interviews and were analyzed by qualitative content analysis with various degrees of interpretations.

Home-based care with mobile distance-spanning technology (MDST) was experienced as positive and it opens up possibilities, however MDST also has limitations. It was considered that MDST should be used by care professionals and not by the person in need of care or their family members. The MDST affects home-based care and the work and cooperation in home-based care. The expression was that a face-to-face encounter should be the norm and MDST cannot replace all face-to-face encounters in home-based care. MDST could work in some situation, but should be used with caution. The findings also show that good encounters in home-based nursing care contain dimensions of being personal and professional, and that the challenge is to create a good balance between these. Being together in the encounter is a prerequisite for the development of relationships and good nursing care at home is built on a trusting relationship. The relationship is a reciprocal relationship that the person and the nurse develop together and nurses have to consciously work on the relationship. It seems that a good encounter and a trusting relationship could affect the views on the use of distance-spanning technology in home-based care. The participants in the studies in general expressed positive attitude towards distance-spanning technology at the same time as they expressed caution about an extensive use of it in home-based care. They highlighted the importance of positive encounters and the importance of the relationship in order to receive and provide good care and nursing care in the homes.

The context of home-based care has changed and will continue to change over time. This change leads to that the use of distance-spanning technology is increasing and challenges the nurses to develop work strategies that can promote competence, caring and communication in the encounter, and building and maintaining relationships in home-based nursing care.

Keywords: Encounter, relationship, distance-spanning technology, nursing, healthcare, home-based nursing care, experiences, individual interviews, group interviews, qualitative content analysis, thematic content analysis
This doctoral thesis is based on the following papers, which will be referred to in the text by the Roman numerals.


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DEFINITIONS AND ABBREVIATIONS

Distance-spanning technology means technology that is distance-spanning in its functions and gives possibilities to care at distance when the caregiver and the care receiver are in different rooms. Telephone, web camera, video conferencing equipment and technologies for assessments where the results are sent to the patient record are examples of distance-spanning technology.

District nurse - DN. The DNs has a graduation diploma and work within primary healthcare. The DNs are, for examples, responsible for home-based nursing care in ordinary homes and for telephone advice at healthcare centers.

eHealth - an umbrella concept for the use of different technological solutions in healthcare. Eysenbach (2001) defines e-Health as follows: “e-Health is an emerging field in the intersection of medical informatics, public health and business, referring to health service and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology”.

Encounter can be persons meeting in the same room, meeting by phone or by other distance-spanning technologies.

Face-to-face encounter means a physical, human meeting where the parties are in the same room.

General practitioner - GP. A GP is responsible for the medical care in home-based care.

Home means ordinary home and sheltered housing, e.g. residential home and nursing home living.

Home-based care means care that a person in need of care receives in the person’s own home provided by care professionals. In this thesis home-based care is used as an umbrella term which includes e.g. nursing care, medical care, occupational therapy and physiotherapy.

Information and communication technology – ICT is an example of distance-spanning technology. ICT is a common term in the literature.
Mobile distance-spanning technology - MDST means a distance-spanning technology which is mobile and the caregiver bring the technology with them when doing home visits. Examples of MDST can be seen in Figure 1.

Primary nurse means a registered nurse who has primary responsibility for the care for a person at home.

Registered nurse - RN. RN in the present thesis includes registered nurses working in sheltered housing and district nurses working in ordinary homes and at healthcare centres. The term nurse is used and means registered nurse and district nurse.

Relationship means a deeper connection that can be established after repeatedly encounters or during the first encounter between the nurse and the person in need of care.

Remote encounter means a meeting through distance-spanning technology where the parties are in different rooms.

Secondary nurse means a registered nurse who is responsible for but does not has primary responsibility for a person’s care at home.

Sheltered housing includes all forms e.g. group living, residential home. In Sweden, nursing home living is in sheltered housing. Staff is connected to sheltered housing in different degree, from contact person to around the clock staff.

Stand-in nurse means a registered nurse who is a deputy for a primary nurse.
INTRODUCTION

This doctoral thesis was written within the area of nursing and includes four studies. The thesis has been designed in stages, where the first stage was to conduct study I and II. Study I and II were performed connected to a project which aimed to test technical devices for assessments, video conferencing and the access of the patient record in the person’s home. Some of the findings in study I and II served as guidance for the design of a research project, which is reported in study III and IV. The initial plan for the research project was to explore similarities and differences between the experiences of registered nurses who worked in sheltered housing and district nurses who worked in ordinary homes. In the analysis process it was revealed that there were only minor contextual differences between the interview texts from the registered nurses and from the district nurses, and it was not meaningful to report them separately. Instead two main areas of content were identified, encounter and relationship, which formed the bases for study III and study IV.

This thesis has two main perspectives, the perspective of persons in need of care (I) and the perspective of healthcare professionals (II-IV). The professionals’ perspective includes the professionals’ desire to ensure that the person’s experience of everyday life is considered and that good quality care is provided in home-based care. In the discourse of nursing science, one of the central aspects is the person and the person’s experience of everyday life (Norberg et al., 1992).

In the nursing literature there are several concepts, often mentioned in connection to encounter as relationship, interaction and communication. These concepts are fundamental in home-based nursing care and are close to each other and to some extent also overlapping. The encounter is always the start of the process of the relationship. The encounter in home-based nursing care can take place through face-to-face encounters and remote encounters. Through the ongoing development of distance-spanning technology the numbers of ways the professional encounter can take place is steadily increasing. A contemporary home-based care and nursing care includes, among other things, distance-spanning technology, encounters and relationships.
BACKGROUND

Nursing
The key concepts in nursing are human being, health, environment, nursing action, relationship and ethics (Meleis, 2011; Norberg et al., 1992) and these concepts are based on the view of human and the philosophy connected to that. The characteristics for nursing are that the person and the person’s needs are of a central role. The goal for nursing is to support the person in the person’s daily life in order to promote health, to preserve health, to regain health, and alleviate human suffering and safeguard life (Meleis, 2011; Norberg et al., 1992). The key concepts, the characteristics and the goal within nursing are present in the daily work as a registered nurse (RN). In order to meet the person’s individual needs the cooperation between the RN and the person is of the highest importance.

Home-based care
Nursing means, among other things, to work with persons in need of home-based care. In home-based care the RNs collaborate with the general practitioners (GPs). The GP’s decisions about medical care affect in different ways the RN’s work and the person in need of care at home. The medical decisions can also change the person’s need of home-based nursing care. Home-based care is characterized by a close collaboration between the person in need of care, and a team of healthcare professionals, the RN, the GP and other professionals such as occupational therapists and physiotherapists. Therefore, it is important and of interest within the discourse of nursing to study home-based care from several perspectives, the person’s and different perspectives in the team of healthcare professionals.

The place for care has during the last decade, in many western countries, been transferred from hospitals to private homes. This development has been spearred by the improvements in medical care and treatment together with development of technologies that enhances the possibility of providing care outside hospitals (Bjornsdottir, 2009; Boughton & Halliday, 2009; Duke & Street, 2003; Eklund, Fagerlind & Knezevic, 2010; Magnusson, Severinson & Lützén, 2003; Molin, 2010; Molin & Rom, 2009). The National Swedish Board of Health and Welfare reports that for a long time, the trend in Sweden has been that the total number of hospital beds has been reduced. However, in recent years the rate of decline has decreased (Eklund, Fagerlind & Knezevic, 2010). The financial burden for hospital care is increasing and could be another explanation of increased home-based care (Thomé, Dykes & Hallberg, 2003; Vabø, 2009). The demographic development with a growing elderly population also means a parallel increase in the need of care and this could also be an explanation of a transition of home-based care through different care reforms (Eskildsen & Price, 2009; Vabø, 2009).
In 1992, the Swedish Government implemented a reform in respect of caring for elderly citizens, the Ädel reform (SFS, 1991). The reform meant that a large number of beds in healthcare were transferred from the county councils to the municipalities. Since the reform, the person can receive healthcare in ordinary homes and in sheltered housing. In Sweden, district nurses (DNs) provide healthcare for the person in ordinary homes and RNs provide healthcare for persons in sheltered housings. The context of healthcare in sheltered housings is similar to the context of healthcare in the person’s own home.

The person’s desire to remain home as long as possible could also be an explanation for increased home-based care. Healthy elderly persons have expressed that home is the best place to live and to receive healthcare and they want to stay in their home as long as possible (Harrefors, Sävenstedt & Axelsson, 2009; Tuulik-Larsson, 1992) even when in need of more support such as medical care and services (Harrefors et al., 2009). The home could be understood as where the self is and a place for human activity and the condition for life. A person can feel joy and suffering, intimacy and gentleness, and create a cheerful atmosphere at home. The person’s own home can be a place to gather the strength to meet the efforts of today and tomorrow (Lévinas, 1969). The concept home could also be viewed as an abstract and a wide set of associations and meanings, both positive and negative for the person (Moore, 2000). A person living with illness strives for a life similar to the one experienced before the illness, and that life can be described as having the possibility of being at home despite illness (Öhman, Söderberg & Lundman, 2003). The home is described as a protective and familiar place where the person, in need of care, is in control (Roush & Cox, 2000). Familiarity not only fosters control but also comforts when sounds, smells, sensations and routines of the home are known and reassuring (Zingmark, Norberg & Sandman, 1995). Home could be a place a person cannot imagine living without, however it could also be a place the person might be forced to leave when there is no other way out (Gillsjö, Schwartz-Barcott & von Post, 2011).

Vabø (2009) points out that the transition in home-based care consists of many complex dynamic competing drivers of change. In summary, the drivers of changes are among other things the development of medical care and treatments, development of technologies for remote care, economical factors, the demographic development and need of care, political decisions, the conviction that home is the best place to receive care and persons’ desire to remain at home. This development opens up for new solutions and new challenges in home-based care.

The use of distance-spanning technology in home-based care
One way to remain at home and receive and also provide home-based care is through distance-spanning technology and to further develop strategies for eHealth solutions. A literature review (Oh, Rizo, Enkin & Jadad, 2005) shows 51
definitions of eHealth and two universal themes; health and technology. eHealth is often used interchangeably with other terms, such as telehealth, teled care and telemedicine (Oh et al., 2005). Distance-spanning technology means that it is possible to receive and provide care at physical distance from each other. Information and communication technology (ICT) can be viewed as a technology which is distance-spanning. The Swedish Government has published strategies to expand distance-spanning healthcare (Socialdepartementet, Ds 2002:3) and develop eHealth in order to coordinate efforts inside and outside the hospital and to support persons in need of healthcare (Ministry of Health and Social Affairs, 2006).

A national strategy progress report for information technology about accessible and secure information in community care was formulated. The report pointed out the importance of changes from organization to the person’s individual need (Ministry of Health and Social Affairs, 2009a). Similar strategies are also found in other western countries. A strategy (Ministry of Health and Social Affairs, 2010) was presented with focus on deployment, use and benefit of the technology rather than its development. A report (Ministry of Health and Social Affairs, 2009b) from the Czech Republic, France, the Netherlands, Sweden and the United Kingdom shows that there is a significant potential for healthcare improvement and opportunities for better use of healthcare resources when using eHealth solutions with different kind of distance-spanning technology. Future trends points in the direction, and there are reasons to assume, that distance-spanning technology and eHealth will be further developed and implemented in different areas of care and particular in home-based care. The further development and implementation will depend on human factors, economic factors and technology (Heinzelmann, Lugn & Kvedar, 2005). Also good partnership between care professionals will be required in order to map out a pathway for further development (Szczepura, 2011).

In the transition from hospital care to increased home-based care the use of different kind of distance-spanning technology could support home-based care (Sheperd & Iliffe, 2005). Distance-spanning technology in home-based care can be used for communication between the person in need of care and the care provider. The telecommunication constitutes of real-time and store-and-forward. Real-time communications involve synchronous interaction between the parties concerned as trough video conferencing. Store-and-forward communications involve asynchronous interaction, for example sending a query and the care provider answer at a convenient time (Harnett, 2006). Telehealth includes, among other things, video conferencing technologies for remote diagnosis and consultation between professionals in different locations (Clark, 2000). Encounters through video conferencing between the person in need of care and the GP have been studied (Dixon & Stahl, 2009).

Telecare can be understood as a range of technological solutions designed to monitor the physical health and activity as well as support physical and emotional
ability to age in place at home (Milligan, Roberts & Mort, 2011). Different technologies are used in home telecare to support persons living with chronic diseases as asthma, chronic obstructive pulmonary disease, cardiovascular diseases, diabetes and dementia. Home telecare devices could also include home lab, fall sensors, sensors in clothing, medical control and robots (Botsis, Demiris, Pedersen & Hartvigsen, 2008). Remote monitoring for detect changes in behavior patterns has been introduced into home care settings (Szczepura, 2011). Persons in need of care have mentioned that they would be willing to trade autonomy and freedom of action in order to be able to remain at home (Levy, Jack, Bradley, Morison & Swanston, 2003).

A review (Szczepura, 2011) shows that new ways for different technologies to support independent living and maintaining quality of life for persons in need of home-based care have been explored. Most efforts has focused on older person remaining in ordinary homes, however technologies also could improve home-based care in different care settings, as sheltered housing, when using medical and nursing professionals’ time more efficiently. A systematic review of reviews (Ekeland, Bowes & Flottorp, 2010) shows that despite a large number of studies, evidence to inform policy decisions on how to best use telemedicine in healthcare is still lacking. Buck (2009) calls for more research from the perspectives of care receiver and care provider. Stanberry (2000) argues that the technology gives unique opportunities for both patients and the profession where it is implemented in direct response to clinical needs. Home care services with focus on leg wounds and their treatment have been studied and showed that remote encounters through audio-video can offer a quick, efficient and natural interaction between a nurse and a person in need of home care. However the remote encounter should be seen as complementary and not as a replacement for necessary face-to-face encounters (Jönsson & Willman, 2009).

Home-based nursing care
Home-based nursing care is characterized of a comprehensive nursing care with an environment that is focused on the person’s individual needs and the family’s needs. It has been described that home-based nursing care has a curative effect itself that other environment could not offer (Roush & Cox, 2000). A literature review shows (Thomé, Dykes & Hallberg, 2003) that the care recipients often are old people living at home after discharge from hospital and they are living with different diagnosis. Home-based nursing care involves a range of activities from actions preventing decreased functional abilities to palliative care in advanced diseases. The broad objectives are to improve and maintain quality of life, optimize health and achieve independence (Thomé, Dykes & Hallberg, 2003). Being independent and managing life at home as long as possible in spite of illness could give satisfaction and improve self-esteem (Öhman, Söderberg & Lundman, 2003). Remaining at home has been viewed as the best alternative in order to attain independence and maintaining quality of life. The benefit to society and the
healthcare system has been described as home-based nursing care considered more effective than at hospital (Thomé, Dykes & Hallberg, 2003).

Persons have described a feeling of simply being a number or being a part of routines or tasks at hospital, however in home-based nursing care the DNs saw the persons as individuals with a life history which help DNs to understand the person they care for (McGarry, 2008). The person cared for at home has been described as a person in the position of being in control and having a greater degree of input into their care (McGarry, 2003; Roush & Cox, 2000). Some loss of privacy in home nursing has also been described when strangers enter the home (Ellefsen, 2002; Magnusson, Severinsson & Lützén, 2003) and some invasion of the person’s privacy is unavoidable (Magnusson, Severinsson & Lützén, 2003). When a person needs care at home, the meaning of home could change to be as a place and space for professional care (Liaschenko, 1997; Lindahl, Lidén & Lindblad, 2010).

Nurses have been described as key persons in terms of performing good quality home-based nursing care, when meeting needs and when supporting the person (McGarry, 2008; Öhman & Söderberg, 2004). Home-based nursing care could means special challenges for nurses. Among other things, it means that the care environment is variable and demand that nurses adjust to different situations and circumstances (Carr, 2001). Nurses enter the home as guests and there is a shift of power between the person and the nurse in home-based care (Andrée Sundelöf, Hansebo & Ekman, 2004; Liaschenko, 1994; McGarry, 2003; Öresland, Määttä, Norberg, Winther Jørgensen & Lützén, 2008) and the balance between professional and personal could be difficult (Öresland et al., 2008). Both the person in need of nursing care and the nurse are dealing with the tension between the roles of being a guest or the host. For nurses this could means that they have to ask for permissions to access certain areas at the home (Lindahl, Lidén & Lindblad, 2010).

The home-based nursing care largely consists of nursing actions, assessments and evaluations with focus on health. It also consists of encounters and relationships between nurses, persons in need of care and family members, which means that home-based nursing care also has an ethical dimension. Nurses in home-based nursing care have a moral responsibility for the nursing actions, assessments and decisions. The Code of Ethics, which was formulated 1953 and most recently revised (International Council of Nurses, 2006), is a guide for actions based on social values and needs. It makes it clear that inherent in nursing is respect for human rights, including the right to life, to dignity and to be treated with respect. The Code of Ethics serves as a guide for nurses in everyday choices in home-based nursing care as well as in other areas of nursing. The Code of Ethics also supports nurses’ refusal to participate in activities that conflict with caring and healing (International Council of Nurses, 2006). There is a risk of moral chaos when basic theoretical foundations are missing, which has led to that different ethical bases, rules and principles have evolved over time (Bergum & Dossetor, 2005).
According to Beauchamp and Childress (2001) caring involves an open responsiveness to another’s needs as the other sees the needs, and this means that the nurse needs to use different ethical theories according to the specific situation. Common ethical theories in home-based nursing care are in the areas of action ethics and relational ethics. The ethical issues of nursing often involve principles of autonomy, beneficence, non-maleficence and justice (Beauchamp & Childress, 2001).

Encounters in home-based nursing care
All caring situations start with an encounter. The first encounter can be seen as the start of developing a professional caring relationship (Sjöstedt, Dahlstrand, Severinsson & Lützén, 2001). The encounter can be meeting in the same room, by telephone, by video conferencing or by other media. During an encounter the prerequisites for a relationship is constructed. Not all encounters result in relationships and shorter interpersonal encounters in healthcare have reduced the prerequisite for developing relationships (Hagerty & Patusky, 2003). Nåden and Eriksson (2002) have shown that an encounter is a fundamental category in nursing which creates the work of art. In the encounter the persons should be on the same wavelength, not controlling each other and open to what is happening. The term encounter is related to the terms meeting, appointment and relationship but is also different because encounter means personal contact that occurs between persons coming across and getting in touch with each other (Westin, 2008).

A continuum of caring and uncaring dimensions and five modes of being with another have been described as a base for encounter in a theory of caring and uncaring encounters (Halldórsdóttir, 1996). When the care provider depersonalizes the recipient and increases the recipient’s vulnerability by humiliating approaches is described as the *life-destroying mode*. In the *life-restraining mode* the provider is perceived as insensitive or indifferent towards the recipient. If the provider is not perceived to affect well-being, neither positively nor negatively is described as the *life-neutral mode*. The *life-sustaining mode* affects well-being positively but does not increase the perceived sense of healing and is described as the provider acknowledges the personhood of the recipient by supporting, encouraging and reassuring. Relieving vulnerability, supporting the recipient to feel stronger and potentiating perceive well-being, healing and learning occur when the care provider affirms the personhood of the recipient by connecting in a caring way. This is described as the *life-giving mode*. The preservation of dignity for vulnerable persons in relation to the caring dimensions in Halldórsdóttir’s theory is discussed (Bailey, 2010).

A genuine encounter can be characterised by a nurse’s awareness of the person’s suffering and confirmation of the person’s feeling of dignity (Nåden & Eriksson, 2002). In palliative care encounters with nurses have been described to contribute the person’s sense of comfort, security and well-being (McKenzie, Boughton,
Hayes, Forsyth, Davies, Underwood & McVey, 2007). Gallagher (2004) argues that dignity arises in every encounter between the person and the nurse. Ethical dilemmas were described when nurses had to prioritize between persons they could not see during the faceless encounter in telephone nursing and not being able to see the caller’s face and reactions (Holmström & Höglund, 2007). The encounter at home in particular during the first visit requires time for building the base of trust and the continuity has been described as a precondition for development of trust during encounters (Eriksson & Nilsson, 2008). Time constrains have been stated as an obstacle for encounters at a personal level (Bowers, Esmond & Jacobson, 2000). Persons living in sheltered housing experienced that the positive encounter created feelings of being somebody, belonging somewhere and being in a community (Westin & Danielson, 2007). The knowledge about the person-nurse encounters has been described as important in order to meet the person’s nursing needs (Westin & Danielson, 2006).

Relationships in home-based nursing care
The relationship between the person in need of care and the nurse could be understood as a care relationship which together with the task to be undertaken are basic and form the core of nursing care (Berg, Skott & Danielson, 2006; Meleis, 2011; Mok & Chiu, 2004; Norberg et al., 1992; Öhman & Söderberg, 2004). The care relationship could mean that there is a goal of nursing action outside the relationship and the care relationship could also mean that there is no goal of nursing actions beyond the relationship itself (Elstad & Torjuul, 2009; Norberg et al., 1992). A systematic literature review (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009) shows that the concepts of interaction, communication and relationship are not clearly defined in the nursing literature and the concepts are strongly intertwined. There are different concepts of relationships, such as care relationships, nursing relationships, interpersonal relationships, therapeutic relationships and caring relationships. It is not always clear what the differences are and these concepts are used interchangeably. Kasén (2002) argues that a care relationship could develop to be a caring relationship. The professional caring relationship is an important aspect of nursing care and can have both positive and negative effects on persons’ experiences of the nursing care (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009), quality care (Attree, 2001) and it could improve persons’ satisfaction with nursing care (Walsh & Luker, 2010). In home-based nursing care DNs viewed the relationship as important and they defended the relationship that was characterized by altruism (Andrée Sundelöf, Hansebo & Ekman, 2004; McGarry, 2003).

Being there and home care as a co-creation are characteristic descriptions of the relationship in home-based nursing care (Lindahl, Lidén & Lindblad, 2010). A caring relationship could be seen as a mutual relationship that requires trust between the person and the nurse (Kasén, 2002; Mok & Chiu, 2004; Morgan & Moffatt, 2008). Nurses accepting an offer of coffee could be important in
establishing a trusting relationship in home care (Lindahl, Lidén & Lindblad, 2010). Løgstrup (1956/1992) considers that when two people enter a relationship with each other an ethical demand appears, and as human beings, in the relationship we naturally encounter each other with trust and power. The trust will persevere and the power will be used to promote the other’s potential.

In home-based nursing care the RNs described that it took a few visits to really get to know the person before they had established and developed a relationship to the person (McGarry, 2008). In a caring relationship the whole person is included, which embrace physical, mental and spiritual aspects, and could enable human growth (Kasén, 2002; Mok & Chiu, 2004). The relationship in home-based nursing care means to see and treat each other as individuals (Lindahl, Lidén & Lindblad, 2010; Morgan & Moffatt, 2008). Elderly persons expressed that they want to be treated as a human beings and not just as a case in home-based care (Liveng, 2011). In nursing care, maintaining the relationship is a way of caring for human needs. This caring relationship means that the nurse focus on needs, limitations and the potential of the person (Gámez, 2009). The nurses have to be authentic and adaptive to the person in need of care and the situation (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009). A caring relationship in home-based nursing care means that persons are involved in their own care (Lindahl, Lidén & Lindblad, 2010; Liveng, 2011). An uncaring relationship was described when the person was an object to be cared for and the caregiver performs the task. An uncaring relationship could mean that the person is left alone in anxiety, pain and fear (Kasén, 2002), which also could be named care suffering (Dahlberg, 2002).

The persons living at home described their relationship with the RNs in terms of friendships. The RNs on the other hand described the relationship as a professional friendship (McGarry, 2008). The understanding of relationship in home-based nursing care, according to a meta-synthesis (Lindahl, Lidén & Lindblad, 2010), is seen as a professional friendship, which is a response to the person and the person’s family’s needs. The characteristic of a professional friendship is that it ends when needs have been met (Lindahl, Lidén & Lindblad, 2010). In home-based nursing care sometimes the person wanted to focus on the nurse’s private life (Spiers, 2002), and nurses sometimes found it necessary to keep their distance within the relationship (Öresland et al., 2008). In the close relationship with the person, it was difficult but important for DNs to be professional (Öhman & Söderberg, 2004; Öresland et al., 2008). It has been found that not every person preferred to share personal things and be in a close relationship with their caregivers in home-based nursing care (Bergland & Kirkevold, 2005; Custers et al., 2012) and some persons left the initiative and responsibility for establishing the relationship to the caregivers (Bergland & Kirkevold, 2005).

The importance of the relationship in palliative home-based care has been described (Berterö, 2002; Mok & Chiu, 2004; Walshe & Luker, 2010). The nurses
created a close relationship with dying persons and family members and were invited to the family’s daily life and their means of caring for the dying person (Iranmanesh, Häggström, Axelsson & Sävenstedt, 2009). The relationship has been viewed as a factor that influence the person’s and the family caregiver’s access to care at the end of life (Stajduhar et al., 2011).
RATIONALE

The literature review reveals that in the recent decades the organization of healthcare has changes from hospital care to increased home-based care. The changes consist of many complex drivers of change. The persons in need of care have expressed that they wanted to remain at home as long as possible even when in need of support such as medical care, nursing care and service. This development opens up for new solutions and new challenges in home-based care. Previous studies indicate that one solution in remaining at home and receiving and providing home-based care is to further develop strategies and implement eHealth solutions with different kinds of distance-spanning technology. In nursing care, the encounters and the relationships are basic foundations and the encounter is always the start of the process of the relationship. The preconditions for these foundations are changing along with changes in healthcare. Through the ongoing development of distance-spanning technology the number of ways the professional encounter can take place is steadily increasing. In this thesis the use of distance-spanning technology, the encounter and the relationship are studied in the context of home-based care and nursing care from the perspectives of the person in need of care, the GPs and the RNs. Home-based care is characterized by a close collaboration between the persons in need of care, the GPs, and the RNs, and their perspectives affect each other. In the area of nursing, it is of the greatest importance to see the person and the individual needs and it is therefore important to gain more knowledge about the person’s views about the use of distance-spanning technology in home-based care. Knowledge about professionals’ perspectives is also important as they are providers of care and need preconditions for providing good care in their daily work in home-based care. The professionals’ perspective can affect the person in need of care. The findings in this thesis might benefit every person who is in the position of making decisions about home-based care for the future, and all collaborating professionals in the care team in home-based care. Above all, the intention is that the knowledge could benefit the person in need of care supported by nurses to remain at home and receive good and secure care and nursing care, a contemporary home-based care with new trends and opportunities when using distance-spanning technology and maintaining caring encounters and trusting relationships.
THE AIM OF THE DOCTORAL THESIS

The overall aim of this doctoral thesis was to explore home-based care with specific focus on the use of distance-spanning technology, encounters and relationships from the perspectives of persons in need of care, general practitioners and registered nurses.

The thesis comprises four papers with following specific aims:

Paper I The aim was to describe how people in need of health care at home view technology.

Paper II The aim was to describe the reasoning among general practitioners about the use of mobile distance-spanning technology in care at home and in sheltered homes.

Paper III The aim was to explore the encounter in home-based nursing care based on registered nurses’ experiences.

Paper IV The aim was to explore registered nurses’ experiences of their relationships with persons in home-based nursing care.
METHODS

The qualitative research paradigm
This doctoral thesis is conducted within the qualitative research paradigm with a descriptive and an interpretive qualitative approach in order to gain an increased understanding of home-based care and nursing care with specific focus on the use of distance-spanning technology, encounters and relationships. Within the qualitative research paradigm the reality is not a fixed entity, it is more about understanding experiences and how persons make sense of their subjective reality and the values they attach to it (Denzin & Lincoln, 2005). The focus was on describing views, reasoning and exploring basic phenomena in nursing care and therefore a qualitative approach and design was chosen (c.f. Polit & Beck, 2012). An overview of research questions, participants, data collection and analysis is presented in Table 1.

Table 1. Overview of research area, participants, gender, data collection and data analysis

<table>
<thead>
<tr>
<th>Paper</th>
<th>Overall research area</th>
<th>Participants</th>
<th>Gender</th>
<th>Data collection</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Describe views on technology in home-based care</td>
<td>Persons in need of healthcare at home (n=9)</td>
<td>3 women</td>
<td>Qualitative individual interview</td>
<td>Qualitative content analysis</td>
</tr>
<tr>
<td>II</td>
<td>Describe the reasoning about use of mobile distance-spanning technology in home-based care</td>
<td>General practitioner (n=17)</td>
<td>6 women</td>
<td>Qualitative group interview (n=5)</td>
<td>Thematic content analysis</td>
</tr>
<tr>
<td>III</td>
<td>Explore nurses’ experiences of their encounters in home-based nursing care</td>
<td>Registered nurses (n=13) District nurses (n=11)</td>
<td>24 women</td>
<td>Qualitative individual interview</td>
<td>Thematic content analysis</td>
</tr>
<tr>
<td>IV</td>
<td>Explore nurses’ experiences of their relationship with persons in home-based nursing care</td>
<td>Registered nurses (n=13) District nurses (n=11)</td>
<td>24 women</td>
<td>Qualitative individual interview</td>
<td>Thematic content analysis</td>
</tr>
</tbody>
</table>
Context and settings
The four studies in present thesis were conducted in the county of Norrbotten in northern Sweden. Norrbotten is the largest and the northernmost county in Sweden. Some parts of Norrbotten are characterized by a rural county and are sparsely-populated. Norrbotten is unique in the sense that some people in Norrbotten have the furthest distances in Sweden to their closest healthcare centres and hospital. These circumstances create challenges, when providing home-based care both for the persons in need of care and the healthcare professions. Home-based care is provided both in ordinary homes and in sheltered housing. In an ordinary home a person can be intermittently supported by a district nurse (DN) and by home help staff. In sheltered housing, there can be various levels of supervision and support in, for example in group dwellings, the nursing staff are available around the clock. In some areas of Norrbotten more than one language is often used. There are Sami-, Finnish- and Meänkieli-speaking people with different degrees abilities in Swedish. Studies took place in rural areas, with a number of languages used and in urban areas with majority Swedish-speaking people.

The first study (I) was connected to a project where DNs from four healthcare centres in Norrbotten had access to distance-spanning technology (Figure 1) for providing home-based care. The DNs carried the technology in a bag on wheels when visiting the persons and the technology was distance-spanning in its function. During the interviews with the persons in need of healthcare (I) they used the concept new technology. However, the technology was not new but it was used in a new context, the person’s home. The second study (II) was conducted with general practitioners (GPs) working at 6 healthcare centres, some located close to a hospital and some located in the countryside. The GPs were responsible for medical care for persons in ordinary homes and in sheltered housing. The third (III) and the fourth study (IV) were conducted with RNs and DNs from three remote areas and one urban area. The RNs were responsible for healthcare in sheltered housing and employed by the municipality and the DNs were responsible for healthcare in ordinary homes and employed by the county council. In paper III and IV the distance-spanning technology consisted mainly of telephone, web camera and video conferencing equipment.
Participants and procedure
The persons in need of healthcare at home (n=9) were selected consecutively after they had experienced the DNs using MDST in their care at home (I). The DN gave short information about the study and delivered a letter with information, together with a prepaid envelope to those the DN estimated being capable respond to an interview. Those persons who wanted to participate in the study sent their answer to the researcher together with their phone number. No reminders were sent out. In all 67 persons got information letter and three women and six men agreed to be interviewed. Their ages varied from 51 to 91 years of age (mean=73 years, median=78 years). All were living in their ordinary home and were mentally alert to recall their memories and tell their stories. They had different diseases, aches and pains for which they got home-based care by the DN, and some received support from social services. The DN had used the MDST for more than once for all of the participants and they had a lot of experiences of home-based care, care at healthcare centres and hospital care.

The GPs were recruited to the study through a strategic sampling of healthcare centres, which included GPs from healthcare centres of various sizes, centres located on the coast and inland and centres located in urban areas as well centres in
the countryside. Inclusion criteria for the physicians were: being specialized physician (e.g. GP) and responsible for home-based care both in ordinary homes and sheltered housing. GPs with different experiences of the use of MDST in home-based care were searched for. The head of the chosen healthcare centres (n=9) were asked to deliver information letter to those GPs at the centre who fulfilled the inclusion criteria. GPs at one healthcare centre did not participate because of limited time and GPs at two other centres dropped out without explanation. Reminders were sent out by mail. From six healthcare centres, 17 GPs (6 women, 11 men) participated in group interviews. One GP had to leave the interview because of an emergency situation at the clinic. The participants constituted 80% of the GPs who worked at the healthcare centres which were involved. Based on the healthcare centre in which they worked, the GPs were divided in four groups. The fifth group consisted of GPs from two healthcare centres. In three groups the participants had experience of eHealth projects and one of these three consisted of highly experienced technology users. Two groups had no experience of eHealth projects.

For recruitment of nurses for study III and IV, a strategic sample was performed. Healthcare managers in the county council (n=4) and the municipalities (n=4) in four territories in the northern part of Sweden were asked to name registered nurses (RNs) and district nurses (DNs) who had at least one year’s experience of home-based care. Out of 24 RNs and 18 DNs receiving information letters 13 RNs and 11 DNs, all female, accepted to participate in an individual interview (III, IV). The territories were located in both rural and urban areas, on the coast and the inland and in some territories there were people who used languages other than Swedish. All participants had extensive experience of telephone contacts in their daily work in home-based care and they had also experiences of video conferencing. Several RNs and DNs had experiences of encounters through webcam and some had been working with web cameras on regular basis.

Data collection
Qualitative research interviews were chosen for data collection in all studies included in this thesis. The qualitative research interview can be described as a conversation between the interviewee and the interviewer where the conversation is determined and structured by the interviewer according to the specific purpose of the study. The intention is to achieve an open and nuanced description of various aspects of the interviewee’s experiences, views, reasoning and the world in which they live. With this purpose in mind, the interviewer would ask relevant questions in order to answer the research question and stimulate the interviewee to tell his or her story. Within the qualitative research paradigm the knowledge develops in this conversation (Kvale & Brinkmann, 2009). In qualitative research it is important to be aware about the power asymmetry between the interviewee and the interviewer and a lack of awareness can affects the data obtained (Kvale, 2006; Kvale & Brinkmann, 2009). The qualitative research interviews can be conducted
individually (I, III, IV) and in groups (II) (Fontana & Frey, 2005; Kvale & Brinkmann, 2009).

**Individual interviews**

Qualitative individual interviews were chosen for data collection in paper I, III and IV. The interviews were characterized as open with specific areas to be covered during the interviews (Table 2). When necessary, clarifying and follow-up questions were asked (e.g. *Can you give an example? Can you describe further?*) to stimulate and elicit the participants to share their story in order to get a clearer picture of the focus for the interviews. The interview questions in study III and IV were grounded from the results in study I and II. In both studies the participants argued for the importance of personal meetings. That resulted in questions about nurses’ encounters in home-based care. During the interviews it was obvious that the nurses also described their relationship with the persons for whom they cared. The narration was supported with follow-up questions and clarifying questions such as: *Can you give examples?, What happened within the relationship in home-based nursing care?* (IV) (cf. Kvale & Brinkmann, 2009). The individual interviews were conducted in a place according to the participants wish, in the person’s home (n=5) (I), in a comfortable room at the university department (n=4) (I), in the nurse’s home (n=2) (III, IV), at the nurse’s place of work (n=21) (III, IV), and at the interviewer’s office (n=1) (III, IV). The interview lasted for 20 to 80 minutes (median = 55 minutes) (I) and 60 to 90 minutes (median=70 minutes) (III, IV). The interviews were tape recorded and later transcribed verbatim.

<p>| Table 2. Overview of the opening questions and areas for the interviews (I, III, IV) |</p>
<table>
<thead>
<tr>
<th>Opening questions</th>
<th>Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please tell about the DN’s visit and the care at home (I)</td>
<td>The DN’s healthcare at home (I)</td>
</tr>
<tr>
<td>Please tell about your thoughts concerning the DN’s using technology in healthcare at your home (I)</td>
<td>Use of the new technology at home (I)</td>
</tr>
<tr>
<td>Use of the new technology at home by the DN’s (I)</td>
<td>Thoughts about the DN’s using the new technology at home (I)</td>
</tr>
<tr>
<td>Best care (I)</td>
<td></td>
</tr>
<tr>
<td>Please, tell me about a situation where the encounter was crucial for the person in need of healthcare and nursing care at home (III)</td>
<td>Situations when the encounter were crucial (III)</td>
</tr>
<tr>
<td>What happens during home visits (III)</td>
<td></td>
</tr>
<tr>
<td>Face-to-face encounter (III)</td>
<td></td>
</tr>
<tr>
<td>Remote encounter (III)</td>
<td></td>
</tr>
<tr>
<td>Three words describing the good encounter (III)</td>
<td></td>
</tr>
<tr>
<td>You say that the relationship is important, can you explain and describe more (IV)</td>
<td></td>
</tr>
</tbody>
</table>
**Group interviews**

Qualitative group interviews were chosen for data collection in paper II. Group interviews could be an appropriate method for collecting qualitative data to obtain a rich source of information about the participants’ belief, attitudes (McLafferty, 2004; Powell, Single & Lloyd, 1996) or events (Sandelowski, 2000). There is an ongoing discussion about the differences between group interviews and focus group interviews and it seems that the concepts often are used synonymously. According to Morgan (1997) it is the interviewer’s interest that provides the focus, whereas the data itself comes from the group interaction. The group interviews are used to collect data and insights that would be less accessible without the interaction within the group (Morgan, 1997). In paper II there were five interview groups and each interview group consisted of two to six participants. A smaller group allows greater contribution from each participant; however the ultimate group size depends on the aim of the study and on the local culture and norms within the group (Bender & Ewbank, 1994). According to Carey (1994), the group should be homogenous in term of status and occupation. In paper II there were differences between the groups on basis of geographical and personnel circumstances, however the groups were homogenous on the basis of profession and tasks.

Before each group interview started the aim of the study was repeated and a picture of the mobile distance-spanning technology was shown and available during the whole interview (Figure 1). It was clarified that all reasoning about the topic was of interest and the consensus within the group was not asked for. The interviews were opened with an open question and there were specific areas to be covered during the interviews (Table 3). During the interviews clarifying and follow-up questions were asked in order to cover the areas for the group interview. According to Aubel (1994) a group interview is not as rigidly controlled as a standardized questionnaire; neither is it an unstructured interview. The interviewer led the interview and encouraged the participants to respond to open-ended questions and the data was generated from the participants’ conversation. The first author was responsible for the interviews and the second author attended the groups and assisted in taking notes and asked questions that had not been asked. All group interviews (n=5) were carried out in a comfortable room, free from interruptions at the healthcare centres. The interviews lasted for 60 to 90 minutes and were tape-recorded and later transcribed verbatim.
Table 3. Overview of the opening questions and areas for the interviews (II)

<table>
<thead>
<tr>
<th>Opening questions</th>
<th>Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are your thoughts about using technology in care</td>
<td>Use of technology (II)</td>
</tr>
<tr>
<td>and assessments at home or in sheltered housing (II)</td>
<td>The technology’s impact on the work as GP</td>
</tr>
<tr>
<td></td>
<td>(II)</td>
</tr>
<tr>
<td></td>
<td>Perceptions of patients’ and relatives’</td>
</tr>
<tr>
<td></td>
<td>thoughts (II)</td>
</tr>
<tr>
<td></td>
<td>Visions for the future (II)</td>
</tr>
</tbody>
</table>

**Data analysis**

The qualitative content analysis used in the thesis has no clear theoretical foundation, but is performed with a qualitative approach that makes the method appropriate within the qualitative research paradigm (cf. Sandelowski, 2000). The qualitative content analysis in its various forms has developed over the years and is a suitable method for analysis of text when the intention is to describe and interpret qualitative data both when data are individual interviews as well as group interviews (cf. Berg, 2006). The method includes working with the data on different abstraction levels and degrees of interpretations (cf. Baxter 1991; Berg, 2006).

**Approaches in the analysis**

In the process of analysis, two main approaches were used, one which Berg (2006) describes as working close to the original text and a second approach which he describes as working with different abstraction levels and degrees of interpretations into themes. In both approaches the analysis included the entire interview text and the analysis started with reading the interview text several times in order to achieve a sense of the content. After that, the text was divided into meaning units according to the aim. Each time a change was noticed in the content, a new meaning unit was started. The meaning units were thereafter condensed and assigned descriptive codes that were close to the text. During the data analysis, the data was stored, coded and categorized in NVivo 7 (I, II) and NVivo 9 (III, IV) qualitative analysis software package (Richards, 2009) in order to provide an audit trail during the whole analysis process with possibilities to follow the analysis, step by step. According to Richards (1999; 2009) rich data means dynamic documents that grow as understanding grows, situations are revisited, insights inform and links are drawn between data and ideas.

**Close to the text approach**

In the close to the text approach, which was used in study I, the codes were brought together to categories in a step-vice process of comparison of similarities and differences. Subcategories (n=7) were formulated which finally formed the
main categories (n=2) (Table 4). In the process, it was striven to work closely to
the text.

Thematic analysis
A thematic approach was used in the analysis of the data for study II-IV. In the
analysis of the group interviews (II) the text from the five group interviews were
considered as one analysis unit. The text was divided into big text units, according
to the content of the discussions and each time a new focus was noticed in the
content a new text unit was started and thereafter condensed. The content of the
discussions formed different areas that could be grouped into categories. Finally,
threads of meaning that appeared in all categories were subsumed into a main
theme (cf. Baxter, 1991) (Table 5). The analysis was close to the interview text
except for the final step when the theme was interpreted. In the thematic analysis
of the text in study III and IV the text describing encounters and the text
describing relationships was regarded as analysis units. The process of step-vice
grouping the text into categories of higher abstraction level was similar to the
analysis of study II, and main theme and themes were interpreted (III, IV) (cf.
Baxter, 1991; Berg, 2006) (Table 6 and 7).

Ethical considerations
The studies were approved by the Regional Ethical Review Board in Umeå,
Sweden (Dnr. 05-059M§67/05) (I, II), (Dnr. 2010-224-31M) (III, IV). The head
of the healthcare centres gave their permission to perform the study (II) and
healthcare managers gave their consent for the studies (III, IV).

During the whole research process ethical considerations were continually and
carefully discussed with the intention to do well and minimize the risk to cause
harm. Before deciding to conduct a study, the researcher needs to carefully weigh
up the risk and benefit ratio. However the researcher cannot be certain of the fully
consequences for the participants (Oliver, 2003). The beneficial consequences of
the studies included in this thesis have been assessed overweigh the risks. To avoid
studies about the basic foundations in nursing within the context of home-based
care with increased use of distance-spanning technology could pose a greater risk of
harm than conducting the studies. The implementation of distance-spanning
technologies in home-based care without taking in account perspectives of persons
in need of care, the GPs and the RNs were valued to be a greater risk than the risk
of causing harm when carried out the studies.

Both women and men were asked to participate in the studies, but because of the
availability the gender balance was not divided equally in the different studies.
Written and oral information about the studies were given e.g., the study aim,
procedure and the method for data collection, and that the participation was
voluntary. All participants gave both a written and verbally informed consent and
they were aware that they could withdraw from the study at any time without any explanation (I-IV) and without any consequences for their care (I). They were also reassured that the presentation of the findings will be performed in such a way that none of them as individuals could be recognized by others (cf. Oliver, 2003). In study II, when using group interviews, there was a potential risk for harm as the participants were not anonymous within the group. Therefore, a group constellation with participants familiar to each other was chosen and information was presented about the importance that all opinions during the group interview should stay within the group and that all expressions should be treated with respect. During the group interviews, the interviewers watched for any ongoing group processes within the group and ensured that all participants’ voices should be heard. The participants (I-IV) were free to choose a location for the interview, which they considered to be a safe place. Participants living close to the university were offered a place at the university or a group room at the municipal library. The most participants chose their own home or their place of work.

There is a risk when the interviewer tries to create a calm and comfortable atmosphere that the participants tell more than they intend to tell but it could also be experienced as an opportunity to tell the story and the interviewer is interested and willing to listen. In particular, there is a risk of harming the person in need of home-based care when focusing on their situation and they might start to worry about healthcare in the future. The GPs and the RNs could experience that they are contested in their profession unless the interview is done with great respect. After the interview the participants were given the opportunity to reflect on the interview and ask questions, and all participants reflected. Some participants (I) asked questions concerned home-based care and distance-spanning technology and they were also invited to take further contact if new questions arose. No contact was made (cf. Kvale & Brinkmann, 2009).

In the interview situation, there is a power asymmetry, where the interviewer controls the situation and uses the outcomes for his/her own purposes. During the interview I tried to be receptive to signs indicating that the participants were uncomfortable and I tried to act in a sensitive manner and keep the ethical guidelines and rules in mind in order to be respectful to the persons I was interviewing (cf. Kvale & Brinkmann, 2009).
FINDINGS

The overall aim of this doctoral thesis was to explore home-based care with specific focus on the use of distance-spanning technology, encounters and relationships from the perspectives of persons in need of care, general practitioners and registered nurses.

Home-based care with assistance of technology - the perspective of persons in need of care

There were two main categories and seven subcategories (Table 4) that describe how persons in need of healthcare at home viewed the use of technological devices and services in home-based care (I). The persons were familiar with healthcare in Sweden and had several experiences of both planned and unplanned visits to the healthcare centres, hospitals and care at home. The first time they came in contact with MDST in their home was at the time of a development project to which this study was connected.

Table 4. Views on technology used in care at home based on interviews with persons in need of care at home

<table>
<thead>
<tr>
<th>Main categories</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>The well-known technology at hospital is new at home</td>
<td>It is new and also common</td>
</tr>
<tr>
<td></td>
<td>It is new with beginner’s problems</td>
</tr>
<tr>
<td>The new technology opens up possibilities but it also has limitations</td>
<td>More examinations can be performed at home</td>
</tr>
<tr>
<td></td>
<td>It should be used by the staff but not by me or my family members</td>
</tr>
<tr>
<td></td>
<td>It is for distance communication but personal meetings cannot be omitted</td>
</tr>
<tr>
<td></td>
<td>It is not for use in emergency situations</td>
</tr>
<tr>
<td></td>
<td>It must fit as part of a chain that works and is secure</td>
</tr>
</tbody>
</table>

The technology that was well known at the hospital became a new experience when used in their home. Their general view on the technology was that it was good and positive whether it was used in the hospital or the home. Examinations at home were perceived as simpler than those at hospitals, where examinations usually were carried out faster and more professionals were involved. The persons in need of healthcare observed that the DNs were a little hesitant with MDST in the beginning. The limited experiences of the use of technology in the home setting led to that some person doubted the reliability of the examinations. MDST was described as being in its infancy and needing further development. Even though there was some mistrust in the function of MDST, the persons expressed trust in their relationship with the DNs.
The MDST was perceived as interesting and it was almost like having an emergency room with the chance of having more examinations at home. As long as the staff handled and was in control of MDST it was positive, but they did not see themselves or their family members as users. The increased access to the medical records and medical care was considered as valuable as well as the GPs’ were to consult colleagues the world over. Long distance travels to the hospital could perhaps be avoided and the GPs could refer to the correct ward directly. A prerequisite for remote encounters was that the GPs knew the person and was interested in using MDST. It was also important that the possibility of having personal meetings (i.e. face-to-face encounters) with healthcare personnel was not omitted. To only depend on MDST for examination was considered as an abuse. The persons felt that if the technology was ensured to be safe and secure, then it could be used on a permanent basis, but this decision had to be made by DNs and GPs.

Home-based care with assistance of technology – the perspective of GPs

The analysis of the GPs’ reasoning about using MDST in care at home and in nursing home care resulted in four areas with nine adherent categories that were interpreted into a theme (Table 5) (II). The main thread through the GPs’ reasoning was that MDST should be used with caution. This was an expression of a professional caution which has its basis in the GPs’ professional experiences, skills and responsibilities. It is about what is important when caring for people in need of healthcare and the meaning of human meetings. The caution has also to do with the reasoning that MDST is not yet fully developed. The function of the equipment must be trustworthy and robust and the health personnel must be trained to use it.

An advantage perceived was that the use of MDST could increase the number of meetings between the GPs and the persons in need of care. By adding information about a medical problem was considered as adding to the safety of the treatment. Another advantage for safety was the possibility to have access and working in the same patient records as the nurses, especially when the person was unknown. MDST increased the information flow, which was seen as positive for secure decisions but also troublesome as all information needs to be handled and that takes time.

When discussing risks associated with the use of MDST, overconfidence concerning what the MDST can do both among health personnel and among patients and families was mentioned. There was a common agreement about the need to create specific rules about using the MDST in care and access to the patient record in the home to maintain the patients’ integrity and autonomy.
Table 5. The GPs’ reasoning about using MDST in care at home and in nursing home care

<table>
<thead>
<tr>
<th>Areas</th>
<th>Categories</th>
</tr>
</thead>
</table>
| About the MDST                     | General assumptions
|                                    | Usability of different diagnostic tools                                    |
| MDST has an impact on GPs’ work    | MDST can support decisions                                               |
|                                    | Expanded access to patient records facilitate GPs’ work                  |
|                                    | Sometimes human meetings can be replaced by virtual meetings              |
| MDST has an impact on the nurses’ profession | Nurses can do more during home visits                                   |
|                                    | Expanded responsibility for the nurses                                    |
| MDST has an impact on the patient and the family | MDST can be useful but is dependent on expectations                  |
|                                    | Benefit the patients and their family but overconfident at times          |

Theme: MDST should be used with caution

The development with more remote consultations raised a concern that touch, smell and observing in three dimensions were lost. Meeting the person and understanding the person’s context was highly important in healthcare. Unanimously, the GPs expressed that even if there is a virtual communication and it works well, the face-to-face encounter can never be omitted and the MDST cannot replace GPs or nurses. Strong emphasis was on the stand that MDST could never replace the personal meeting (i.e. face-to-face encounter) between health personnel and the patient.

The perception was that introduction of MDST will change the routines and the way of working in home-based care. It will mean, for example that nurses can do more at home and their responsibility expands. As a consequence, they are responsible for their own actions as tests and assessments until they deliver the results to the GPs. There was a disagreement about what responsibility could be transferred to the nurse, but there was an agreement that it depends on the level of trust in the nurse and her performance.

**Encounters in home-based nursing care**

The nurses were asked to choose three words to describe a good encounter in home-based nursing care and the words were to large extent in congruence with the findings of the interviews (III). In the clustering of the chosen words, prominence was given to words that nurses chose more frequently. The words
security, presence, time, respect, listening and seeing (the person) were most common (Figure 2). The analysis of the interviews exploring the nurses’ experiences resulted in six themes about the encounter in home-based nursing care (Table 6).

![Figure 2. The nurses’ choice of three words that describe the good encounter in home-based nursing care that occurred more than once. The word cloud gives greater prominence to words that appear more frequently.](image)

<table>
<thead>
<tr>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follows special rules</td>
</tr>
<tr>
<td>Needs some doing</td>
</tr>
<tr>
<td>Provides unique information and understanding</td>
</tr>
<tr>
<td>Facilitates by being known</td>
</tr>
<tr>
<td>Brings energy and relieves anxiety</td>
</tr>
<tr>
<td>Can reach a spirit of community</td>
</tr>
</tbody>
</table>

The encounter in home-based nursing care meant that nurses entered the home as a guest and followed common social rules. They entered both as a private person and a profession and the challenge seemed to be to balance between these two. The encounter usually started with conversation about everyday life issues, and
conversation about caring tasks occurred when the contact was established, which meant that taking time was essential. The encounter meant reaching a person-to-person level where the person can feel loved and confirmed without being private and it also meant being able to share personal experiences and thoughts. It provides information when doing assessments, measurements, assistance and guidance, interventions and follow-ups.

During a one-off visit the focus was mostly on doing, the encounter was usually more distanced, and the intention was not primarily to build a relationship. This changed when nurses knew they would meet the person on regular basis. An ethical question was whether nurses should focus on building a relationship or not, when they worked as a stand-in nurse. Sometimes the nurses legitimated a supervisory visit by inventing an excuse of some doing. The nurse experienced that face-to-face encounters could provide unique information and special understanding that was necessary for good and safe care of the person and the next of kin. A face-to-face encounter was necessary in order to get a comprehensive view of the person and the situation at home. When being with the person the nurses got important information, and trust and confidence were essential to build.

The encounter could alter the atmosphere when emotions were shared and the sense of presence could relieve the person’s anxiety, give support and bring comfort. The face-to-face encounter with focus on being could develop to a sense of reciprocity and deeper fellowship, a spirit of community. The spirit of community could be reached in silence where thoughts and questions could be formulated or in conversations about important issues. Reciprocity and deeper fellowship during encounters was important for the person in need of care and the nurse, and sharing in a spirit of community meant promoting a sense of being together.

Encounters via distance-spanning technology were sometimes chosen as an alternative and they were always discussed in comparison with the face-to-face encounter, although the nurses were not asked to do that. In that comparison the sense was that remote encounters were different and seldom reached the same feeling of togetherness and the feeling of being present were more difficult to obtain. When unfamiliar with the video conference encounter the focus often was on technical issues and appearance. It took time to learn to work through remote encounters, and some nurses had the experience that they sometimes had made a decision over the phone, which they later had to revise. The video conferences added more information compared with the phone. It was positive and useful when the technical quality was good and it could increase the numbers of encounters when traveling distances were long.

A common thread in nurses’ experiences was that knowing the person facilitated the encounter, which was especially important during remote encounters. The
ultimate encounter at home takes place face-to-face and gives opportunities to develop caring relationships but encounters that never reach a personal level could lead to harm.

**Relationships in home-based nursing care**

During the analysis both explicit and implicit themes were identified that reflect dimensions of relationship in the nurses’ experience of home-based nursing care (IV). A main theme and five sub-themes were identified (Table 7), where the main theme describes the thread of implicit meaning of the whole interview text and the sub-theme should be viewed as an interpretation of the content in part of the text.

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub-themes</th>
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<tr>
<td>Good nursing care is built on a trusting relationship</td>
<td>Establishing the relationship in home-based nursing care</td>
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<td>Conscious efforts maintain the relationship</td>
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<td></td>
<td>Reciprocity is a requirement in the relationship</td>
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<td></td>
<td>Working in different levels of relationships</td>
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<td></td>
<td>Limitations and boundaries in the relationship</td>
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It was obvious from the nurses’ narrations that the relationship was important in home-based nursing care. The relationship seemed to be the vehicle through which the nurses could approach and reach the persons in need of care and was a prerequisite for providing good nursing care. Trust was an important component in a well-functioning relationship and could increase the sense of security, and a trusting relationship could also contribute to make the person feel better. It seemed as the relationship in home-based nursing care was equally important regardless of which phase in life the person was in, palliative care or curative care, however the relationship seemed to be of more importance for lonely persons with limited supporting social network.

The first time nurses visit the person’s home they entered as strangers and presented themselves by name and as a professional role and they tried to get a sense if the person was ready for further contact and a relationship. When the first encounter and contact developed well, a good relaxed relationship could be built where the nurse and the person got to know each other. The relationship was growing when nurses made home visits and supported the person. Barriers for the relationship were previous negative encounters with the nurse, the person’s wish to maintain integrity and distance, and a threatening home environment and old family feuds. Through distance-spanning technology, such as telephone, it seemed that it was important to know each other’s faces when the nurse and the person tried to
establish a relationship. When the nurse and the person had established the relationship, remote communication could facilitate the maintenance of the relationship.

Relationships in home-based nursing care did not occur by itself and it required conscious efforts for both establishing and maintaining a working relationship. The experience was that repeated contacts could facilitate and maintain a relationship during home visits, especially when nurses experienced lack of contact or the contact was not experienced as good. To make an effort in showing humility, empathy, respect and treat the person well, seemed to be the prerequisites for a good working relationship. The already developed relationship could be maintained through home visits or by keeping in touch with each other through distance-spanning technology, such as phone calls.

The reciprocity was a requirement for a good relationship which meant that the nurse and the person were interdependent and mutually contributed to the relationship. The reciprocal relationship was stimulated by conversations where nurses avoided interviewing the person and the conversations were about other things than illness. A more personal conversation meant that the roles of nurse and care receiver were less pronounced and were characterized by the nurses as being a professional friend. Too much focus on the professional role and tasks could hamper the reciprocity, however sometimes tasks could open up for a reciprocal relationship. There was an experience that conversations via distance-spanning technology tended to be more focused on the illness and task-oriented than face-to-face encounters. The personal knowledge of people’s situation and a reciprocal relationship could facilitate nurses’ assessments in home-based nursing care both during home visits and via encounters through distance-spanning technology.

The nurses experienced that the relationship made a difference for persons for whom they were a primary nurse. When the person showed confidence and told them about their thoughts and problems, the nurse could meet their needs and a deeper and special relationship occurred. The deeper relationship meant that nurses became more engaged. The relationship could also work well when the nurses worked as a stand-in nurse and or a secondary nurse, but it was often at a different more shallow level compared with the relationship when they were the primary nurse.

There were factors that limited the relationship in home-based nursing care as limited time due to nurses’ high workload, which meant that nurses sometimes had to cut down on time for building and maintaining relationships. The language barrier was another limitation of the relationship. The experience was that the relationships in home-based nursing care also needed some frames and boundaries. The nurses restricted the relationship when the relationship tended to be too personal and private and they could sense the risk to lose the professionalism. The
professional relationship meant being personal but not private.

**Common findings in the studies (I-IV)**

In general participants in all studies (I-IV) viewed distance-spanning technology as interesting in home-based care but it also has its limitations and prerequisites. The persons in need of care and the GPs experienced MDST as being in its infancy and needs further development and must work properly, and the health personnel needs to be trained to use MDST before implementing on permanent basis in home-based care. The nurses expressed that it takes time to learn to work in remote encounters.

MDST meant that more and simpler examinations can be performed at home and persons in need of care expressed that it was like having an emergency room at home. The GPs reasoned about overconfidence, among health personnel, patients and families, concerning what the MDST can do, and that nurses’ responsibility expands. There was a disagreement about what responsibility could be transferred to the nurse, but there was an agreement that it depends on the level of trust in the nurse. Persons in need of care handed over the responsibility to use MDST and make decisions about the use, to the health personnel. The persons expressed trust in their relationship with the DNs, even though there was some distrust in the function of MDST. Nurses expressed that trust and confidence were essential to build and trust was an important component in a well-functioning relationship. The persons, the GPs and the nurses pointed out the importance of relationships and of knowing each other in home-based care, particular when using distance-spanning technology. The relationship was a prerequisite for good care and nursing care and could be maintained through distance-spanning technology or face-to-face encounter.

MDST could increase the information. The persons described the GPs’ possibility to consult colleagues the world over. The GPs reasoned that working in the same patient records as nurses was valuable. MDST increased the information flow, which was seen as positive for secure decisions but also troublesome as all information needs to be handled. Nurses described that video conference added more information compared with the telephone, but not as much as a home visit.

All participants pointed out the importance of face-to-face encounters which never can be omitted in home-based care. Concerns that MDST would reduce face-to-face encounters was expressed, however an advantage perceived was that the use of MDST could increase the numbers of encounters, especially when traveling distances were long. The need of a comprehensive view in home-based care was described of the GPs and the nurses, which could be difficult to obtain through remote encounters. The ultimate encounter at home takes place face-to-face. However distance-spanning technology could increase the number of encounters and be useful between face-to-face encounters.
DISCUSSION

The overall aim of this doctoral thesis was to explore home-based care with specific focus on the use of distance-spanning technology, encounters and relationships from the perspectives of persons in need of care, general practitioners and registered nurses.

Home-based care has its own special requirements, circumstances and challenges in the same way that other healthcare contexts have their special conditions. This means that it is reasonable to assume that there are different challenges for persons in need of care, the GPs and the RNs depending on the healthcare context. The components of nursing practice in home-based care could be understood as the task to be undertaken and the relationship within which the task is performed and these are present simultaneously and are mutually dependent. In nursing, the task and the relationship can be of equal importance but there are also situations where one of these can be more prominent (cf. Meleis, 2011; Norberg et al., 1992). The task and the relationship in home-based care could be connected to questions about good and bad, or right and wrong, which is the ethical perspective. In this thesis the view through the ethical lens could be understood as action ethics visible in study I and II, and the relation ethics visible in study III and IV. The action ethics means to argue for choice of actions while relation ethics entail reflections on what is a good caregiver (Bergum & Dossetor, 2005).

In nursing the encounters and the relationships are basic foundations and they are also prominent in home-based care. The encounter has to some extent been studied in nursing (Halldórsdóttir, 1996; Wadensten, Engholm, Fahlström & Hägglund, 2009; Westin, 2008) however more often the focus has been on the relationship (Berg, Berntsson & Danielson, 2006; Kasén, 2002; Lindahl, Lidén & Lindblad, 2010). One conclusion of paper III and IV is that the encounter is the start of the process of the relationship, which corresponds with the findings of Sjöstedt, Dahlstrand, Severinsson and Lützén (2001). The studies (I-IV) show the importance of the face-to-face encounter in home-based care. Buber (1923/1994) stated that there are two ways to encounter; the I-It encounter and the authentic encounter I-Thou. The authentic encounter is when we see the other person, not as a thing among other thing in the world, but pronounces the Thou-word, and I becomes in relation to Thou. This means that the other person is not an object but a subject who is participating in creation of I, and I participating in creation of Thou (Buber, 1923/1994). The encounter means according to Westin (2008) a deeper personal contact with possibility to bring meaning and personal growth as a human being.

The nurses’ choice of three words that describe the good encounter in home-based nursing care (III) could be understood as a choice of words that describe a situation
that provide confirmation. The words could also be understood as words describing the comprehensive view of the person and the situation at home. Both confirmation and a comprehensive view of the person are important aspects of relation ethics (c.f. Bergum & Dossetor, 2005). According to Schuster (2006) during the encounter the nurse could be affected by the person, which means that the professional experience also becomes a universal human experience. When meeting the vulnerable person the nurses could chose to close their eyes for the person and the situation or encounter the person with wide open eyes, which could be another expression for the authentic encounter.

The encounter in home-based nursing care means that nurses enter the home as guests which implicit means that the person in need of care is a host. The care at home is given on the person’s premises and means that there is a changed power asymmetry between the person and the nurse. When the encounter in home-based care is an encounter between two human beings the person in need of care appears as an actor and not as a passive object. Schuster (2006) describes that the reciprocity within the relationship points to an existential challenge that exists in the encounter. The risk of instrumental view on the encounter occurs in the unreflective encounter. This is according to Halldórsdóttir (1996) described as an uncaring encounter.

The studies (III, IV) show that the encounter or several encounters could lead to establishing and then maintaining the relationship, which is consistent with Buber (1923/1994). The findings (IV) show that the good nursing care is built on a trusting relationship. Trust has been found as an important aspect of the relationship between the nurse and the person (Belcher & Jones, 2009; Johns, 1996). It has also been described that some level of trust is needed before the comfortable relationship could be formed (Belcher & Jones, 2009). Logstrup (1956/1992) expresses that as human beings we naturally meet each other with trust. In an ethical view this means that in the relationship we are responsible for each other and are interdependent. The relationship in home-based care (IV) means that both the person and the nurse contribute to the reciprocal relationship. However, the relationship is not absolute equal as, according to Logstrup (1956/1992) there is an ethical demand which means that the nurse has a greater responsibility in the relationship in home-based care, a responsibility that cannot be waived (Norberg et al., 1992). According to Lévinas (1990) when seeing the other’s face the ethical relationship is entranced and we are thereby responsible for the other. Lévinas (1990) argues that the responsibility means ability to respond. The relation ethics could be used in order to create a meaningful dialogue which creates new knowledge and understanding in nursing (Kunyk & Austin, 2012). In both study I and II there were expressions of the importance of knowing each other. Knowing each other could be viewed as one aspect of having a relationship.
The trusting relationship in home-based care is, among other things, a reciprocal relationship for which nurses consciously work for. A trusting relationship could also be described as a caring relationship which Kasén (2002) argues is built on trust and where both the person and the nurse is active and where it is a mutual exchange. However, the finding shows that nurses work on different levels in the relationships and they also restricted some relationship (IV). This could be understood as an ethical choice that nurses made (cf. Runquist & Barbosa da Silva, 2000). The nurses have two movements, one to enter the relationship with the person in need of care and another to preserve a distance (cf. Buber, 1951/1996).

There is a constant change of conditions in healthcare which also affect the home-based care context. One example is a development where the use of distance-spanning technology is increasingly used as tools facilitate care. This development is transformative in nature and produces changes in the ways the home-based care can be provided and also changes in the preconditions for home-based care. In this change of preconditions the way that encounters take place and relationships are developed and maintained are also changing. Along with this development there is an emerging ethical debate sparked particularly through issues related to views on action ethics. When the participants in the studies (I-IV) talked about the use of distance-spanning technology they compared it with face-to-face encounters however they were not asked to do that. It seems as the participants views were that the face-to-face encounter was the ultimate even when the remote encounter could be useful.

In general the participants in all studies (I-IV) viewed distance-spanning technology as interesting in home-based care and there were also expressions about the limitations and prerequisites when using distance-spanning technology. It was clear that some caution was expressed. The ethical discussion in many studies has been about the polarization between the use of technology and a human care (Barnard & Sandelowski, 2001; Sävenstedt, Sandman & Zingmark, 2006). It seems as a common view that technology by its nature is inhuman. However, this view stand against a view that technology is not necessary opposed to humanized care (Barnard & Sandelowski, 2001), and that the use of technology could promote both a human and inhuman care (Sävenstedt, Sandman & Zingmark, 2006). It is true that inhuman care can be promoted in a face-to-face encounter when the encounter is not caring (Halldórsdóttir, 1996). Almerud, Alapack, Fridlund and Ekebergh (2008) suggest that it is time to put a stop of the polarization between the use of technology and human care and instead promote a good balance between the use of technology and the promotion of human care. This could mean to continue the ethical discourse about what is good home-based care in a contemporary context where the use of the technology is a part of the care and how it can be promoted in the best way. The discourse also needs to be about what the alternatives are.
The participants stated that the distance-spanning technology needs to be further developed, the technology in use has to be robust and reliable and the GPs and the RNs need to be trained to use it in home-based care, then more assessments can be done at home. The GPs expressed that there exist overconfidence in what can be done with the distance-spanning technology and Almerud et al. (2008) emphasize that a blind trust in what the use of technology solutions can do in healthcare does not inspire confidence or promote healing. The findings of this thesis indicate that a prerequisite for an increased use of technology in home-based care is not the trust in technologies but the trust between the person in need of care and the team responsible for the care, the nurse, the GP and other categories of health care staff. The trust between caregivers and care receivers must be promoted in home-based care and the trust in technology must be managed in the context of the trust that exists within the caring relationship.

The usability of distance-spanning technology in home-based care is in the findings of this thesis described as a duality (I-IV). The distance-spanning technology could on the one hand increase the access to information and the information flow which was described as valuable, and at the same time also troublesome as the information needs to be handled and it takes time. In addition, the video conferences gave more information than the telephone calls but still not as much as it could replace a face-to-face encounter. The duality when introducing technology in healthcare contexts has earlier been discussed, and the importance of the ethical discussion was highlighted in order to make the best use if the technology (Barnard & Sandelowski, 2001; Sävenstedt, Sandman & Zingmark, 2006). The findings in present thesis also show the importance of a comprehensive view of the person in need of care and the situation in home-based care. This was difficult to achieve when the distance-spanning technology was used. Participants in study I expressed that to only depending on distance-spanning technology for examination was considered as an abuse. It has been stated that caregivers tend to see only a small part of a person rather than the whole individual (Barnard & Sinclair, 2006). Almerud-Österberg (2010) highlights the importance of seeing the person behind the screen as the person could experience to be monitored and observed but not seen. It seems that from an ethical view the core issue is about whether the encounter is authentic or not, is characterized by interest to see the person more than if the encounter is a face-to-face or a remote encounter through distance-spanning technology. It is possible for the nurse to use the technology both to promote closeness and to promote distance with the person in need of care. When there is long distance between the person’s home and the nurse a remote encounter could sometimes be the only and the best alternative. Sometimes the choice is about a remote encounter or no encounter at all.

Modern technology, as distance-spanning technology has established a place in contemporary home-based care within the foundation of nursing however, it has
also contributed to a situation where the preconditions for this foundation of nursing is changing along with other changes in healthcare. Meleis (2011) describes the historical development of theoretical thinking in nursing and concludes that the focus in current theoretical thinking within nursing is about evidence and technology. The contemporary home-based care means that there are more ways, new solutions and new arenas to meet the person’s needs. The nurses need to use their professional knowledge to safeguard that the home-based nursing care promotes a focus on the caring encounter and the building and maintenance of a trusting relationship. Contemporary home-based care does not mean that the foundation in nursing care has been rejected; it is as it has been expressed “Old wine in new bottles” (Clark, 2000).
METHODOLOGICAL CONSIDERATIONS

One part of the trustworthiness in qualitative research is the description of the researcher’s pre-understanding. When the studies in this thesis were conducted, I had a pre-understanding of many clinical years as a registered nurse, with a Diploma in Oncology Nursing. In my work as a nurse at the hospital ward, I cared for persons who were living with cancer and surgical illnesses. The work includes nursing care in situations where there is still no diagnosis, before and after surgery, during chemotherapy, in palliative care, and care at the end of the person’s life. During some of these situations the person is cared for both at the hospital and in home-based care which means that I have long experience of cooperation with the DNs and the GPs at the healthcare centres and the RNs in sheltered housing, when caring for a person. I had no experience of working in home-based care and of working in the field of eHealth before I become a doctoral student in nursing. My pre-understanding in terms of nursing, of working as a registered nurse and the experiences of caring for persons in need of healthcare and the experiences of cooperation strengthen my ability to understand the participants’ stories during the interviews (I-IV).

Before the interviews were conducted (I) I took part in workshops in order to learn more about the distance-spanning technology that the participants have seen in their own home, which supported my understanding of what the participants talked about during the interviews. During the group interview (II) I asked questions from my perspective, the nursing perspective, according to the aim of the study, and tried to understand the GPs reasoning. My supervisor, a physician by profession, supported me and complemented with some follow-up questions that needed to be asked to clarify the picture of the GP’s reasoning. During the interviews with RNs (III, IV) I used my pre-understanding as a nurse and at the same time tried to ask question so that the RNs own stories were recorded on tape. I believe that the pre-understanding is important and a condition for understanding the participants I interviewed. However, I was also aware of that the pre-understanding could limit the open mindedness of the situation and thereby affect the research process in an undesirable manner. It is the researcher’s responsibility to ensure that the research process is affected properly and this was achieved through critical discussions with other researchers as supervisors, other senior researchers and doctoral students during the whole research process.

The participants in paper I were consecutively selected. Based on the DNs’ assessment, every person who could participate in a qualitative individual research interview was asked by the DNs by receiving a letter, along with information about the study and a response letter addressed to me. I did not know the persons’ names and the DNs did not know which of the persons replied in order to protect the person’s integrity. This process design allows for no reminder from the researcher,
but it was possible for the DNs to leave information letter more than once out of the researchers’ control. There were 67 requests sent to the DN to distribute to the persons, and there were nine persons that participated in the qualitative interview study. Why some chose to not participate and some accepted participation is not clear. It is not clear how large the actual sample loss is. I do know that the DNs were sent 67 requests and I find no reason to believe that these were not distributed. I know that one of the nine replied and said, “yes please” twice. I conclude that the secrecy has worked between the DNs, but the continuity is not one hundred per cent. The design of the study protects the person’s integrity and I argue that it is unreasonable that I should know the name of all the persons that the DNs at four healthcare centres were visiting during the project. Nor is it reasonable that the DNs should know the name of the persons who replied to the requests and who did not reply. From this perspective, I have to accept the loss of some of the sample. The participants (I) were a heterogeneous group based on age and illness and that was desirable in order to get various views experiences and arguments during the interviews, however they were all in need of home-based care and they had experiences of mobile distance-spanning technology in their own home, which was the inclusion criterion.

In paper II, the GPs at nine healthcare centres were asked to participate in a qualitative group interview and seventeen GPs from six healthcare centres participated, which constituted 80% of all GPs at the participating healthcare centres. The groups were homogenous on the basis of profession and tasks, but there were differences between the groups on the basis of geographical and personnel circumstances. A strategic sampling was used and the strategy was based on differences. There was a group with just two participants, which could be understood as a weakness. We still chose to include that particular healthcare centre, because they were located in rural area far from hospitals and there were just two GPs working there. We assumed that the group was able to bring interesting aspects to the study.

In paper III and IV a strategic sample was used and the strategy was to choose RNs working in home-based care located in same or similar territories as participants in paper I and II. The strategy was also to reach differences within the chosen territories. There were 24 RNs and 18 DNs that were asked to participate in the studies, of these 13 RNs and 11 DNs agreed to participate. Six RNs and six DNs declined to participate, some declined due to lack of time and some did not give any reason. Five RNs and one DN did not answer and no reminder was sent. We consider that the variations were achieved from the territories, except that there were no male nurses that participated. However, there was just one male nurse who that worked in these territories.

The results (I-IV) might have be different if there had been more participants. In qualitative studies the sample size should be large enough to achieve data with
variation of experiences but small enough for a deep analysis of the data (Sandelowski, 1995). The nine persons gave rich and various expressions about their views. The relatively small groups (II) were not a problem as the GPs were verbal and used to expressing themselves. They all contributed something to the results. The GPs had different degrees of technological experience, which gave a result with various aspects. There were conversations both in the bigger and the smaller groups, which created knowledge during the group interviews. The nurses were verbal and gave rich and varied stories. Some of the nurses had another native language than Swedish, which made the conversation slower. It was sometimes difficult to find exactly the right word for what the person wanted to express. This might have affected the data. In order to try to minimize the power asymmetry in the interview situations, a calm and comfortable atmosphere was created, and I tried to act in a sensitive manner.

The tape-recorded interviews (I, II) were transcribed verbatim by me, except of four interviews (III, IV). I listened to the four interviews and read the interview text and made some corrections in the text. The interview text was analyzed with qualitative content analysis with the intention of working closely to the text (I) and working with a thematic approach (II-IV) with a greater degree of interpretation. There is always a risk of interpreting more than the intention is and when the intention is to interpret the text, not using the most reasonable and plausible interpretation. In my attempt to stay close to the text, I have discussed the data and all the steps in the analysis with my supervisors. The NVivo 7 and NVivo 9 (Richards, 2009) have also been used to compare my categorizations from one day to another and compare the coherence, for example. In every step of the analysis the primarily categories were compared with the original interview text. In the interpretation process alternative interpretations were tried and discussed with supervisors, and we were in agreement that the current interpretation was the most reasonable. The word cloud (III) should be viewed as a snapshot indicating a direction but not an exact measurement of three words that describes the good encounter. The clustering and the translation of the words were discussed with a person native in English and fluent in Swedish.

The participants (I) got the same home-based care as usual and in addition, also received care with MDST, which is an artificial situation and could have affected the results and can be understood as a limitation of the study. The views might be different if the care with MDST had replaced the usual care. The MDST was described as good and one possible interpretation could be that the informants trusted the staff and thought that the MDST could benefit the latter and that could have affected their views. There is also a potential risk during group interviews that the participants affect each other and strive for consensus instead of sharing their own reasoning and interacting with the others within the group. Before each interview the participants were given information about the aim and told that consensus was not asked for. There is a potential risk that the participants give a
nice painted picture during interviews however the nurses also told about shortcomings and how they handled it.

The findings reflect participants’ expressions in a context at a given time, and over time when circumstances, preconditions and context changes the expressions could be different. The distance-spanning technology constantly develops and that could also affect the reasoning about the use of technology in home-based care. This means that the findings cannot be generalised but, according to Lincoln and Guba, (1985), the results from one context can be transferred to similar situations and contexts. Stake (2005) stated that people make generalizations from personal or others’ experiences and this can be an unconscious process when new and old experiences are brought together. This means that the reader of the findings can determine whether the findings can be transferred to the reader’s own context and the reader’s own knowledge.

Throughout the whole research process I have tried to be as open as possible and describe the studies as clearly as possible in order to increase trustworthiness. Credibility has been striven for when collecting selected data and analyzing it in order to describe the participants’ views, reasoning and experiences as faithfully as possible. The possibility of repeating similar studies exists, a factor which increases dependability. A way to achieve confirmability was to tape-record the interviews and transcribe verbatim and three persons took part in all steps of the analysis and achieved agreement regarding the text’s content, to which category the text belongs and the interpretation of themes. The transferability of the results to other contexts might be possible but should be done gently (cf. Lincoln & Guba, 1985).
CONCLUDING REMARKS AND CLINICAL IMPLICATIONS

This doctoral thesis has focus on home-based care, the use of distance-spanning technology, and the experiences of the encounters and the relationships within this context. The findings show that the use distance-spanning technology to increase the number of encounters and maintaining relationships has to be based on an authentic encounter that can develop into a trusting relationship.

Based on a foundation of caring encounter and a trusting relationship in home-based care the distance-spanning technology could be viewed as complementary tools but not substitutes of care. According to Heidegger (1962) there is no user that can be parted from the tool, the two are ineluctably joined. The distance-spanning technology could be the tool that increases the number of encounters and the ways to maintain the relationships, when remote encounters are performed between the face-to-face encounters with the purpose to support the person in need of home-based care. The use of distance-spanning technology in contemporary home-based care does not negate the foundation in nursing as the encounter and the trusting relationship are of the same importance as in all caring contexts.

Barnard (1997) warns for the belief that the technology is a neutral object. This means that the nurses need to keep up with the development in the society, have technology competence and take part in the debate. The use of technology is today’s reality and we need to be able to handle it in a contemporary home-based care in which the circumstances for care always will change. The discourse within nursing needs to integrate the foundation in nursing as the caring encounter and the trusting relationship together with new caring solutions in contemporary home-based care. The discourse also needs to include the ethical issues about how we in the best way can encounter the person in need of care and meet the person’s individual needs and maintain the trusting relationship.

The home-based care is complex and when increasing the number of eHealth solutions used the complexity will increases even more. Therefore we need to stress issues related to the complexity between the changes in home-based care and the foundation in nursing. An active discussion is also needed between all collaborating professionals within the care team. The issues related to encounters and caring relationships with persons in need of care is important for all professions in order to meet the person’s needs. There is also of value for persons who have to make decisions about future home-based care with distance-spanning technology to include these aspects in their discussions.
MODERN VÅRD I HEMMET
Möten, Relationer och Användning av Distansöverbryggande Teknologi

Introduktion
Målet för omvårdnad är att stödja personer i dagligt liv i syfte att främja hälsa, bevara hälsa, återfå hälsa, minska lidande och skydda liv. Karaktäristiskt för omvårdnad är att personens behov är av central roll och möte och relation utgör grundbegrepp i omvårdnad.


Ett sätt att kunna stanna kvar i hemmet och få vård där är genom lösningar med hjälp av olika distansöverbryggande teknologier. Trenden visar på att implementeringen av teknologiska lösningar ökar i vården och så även inom vård i hemmet. Vård i hemmet ges idag i Sverige i ordinärt boende och i särskilda boenden. Personer som lever med sjukdom kan i sitt ordinära hem få vård av distriktssjuksköterska och de som lever i särskilda boenden får vård av sjukköterskor. Det medicinska ansvaret för vården i hemmen har allmänläkare. Omvårdnad handlar bland annat om att arbeta med personer som har behov av vård i hemmet samt att samarbeta med andra professioner som exempelvis, läkare, sjukgymnaster och arbetsterapeuter.

För att skapa förutsättningar för människor att bo kvar hemma och få god vård behövs beskrivningar av hur personer i behov av vård i hemmet ser på teknologi. Det är även viktigt att studera användning av distansöverbryggande teknologi samt grundläggande aspekter i omvårdnad såsom möte och relation då dessa kan förändras när nya lösningar tillförs i vården i hemmet.
**Syfte**

Det övergripande syftet med denna doktorsavhandling var att utforska vård i hemmet med specifikt fokus på användning av distansöverbryggande teknologi, möten och relationer från personer som är i behov av vård, allmänläkares (distriktssjukläkare) och sjuksköterskors perspektiv.

Doktorsavhandlingen omfattar fyra delarbeten med följande specifika syften:

Delstudie I   Att beskriva hur personer i behov av vård i hemmet ser på teknologi.

Delstudie II  Att beskriva allmänläkares resonemang kring användning av mobil distansöverbryggande teknologi vid vård i hemmet och på särskilda boenden.

Delstudie III Att utforska mötet vid omvårdnad i hemmet baserat på sjuksköterskors erfarenheter.

Delstudie IV Att utforska sjuksköterskors erfarenheter av deras relationer med personer vid omvårdnad i hemmet.

**Metod**

Studierna i denna avhandling har genomförts med en kvalitativ metod. Samtliga personer i studierna deltog på frivillig basis. I delstudie I deltog nio personer, tre kvinnor och sex män i ålder 51-91 år. Kriteriet för att delta i studien var att personen hade behov av vård i hemmet och hade erfarenhet av mobil distansöverbryggande teknologi som distriktssjuksköterskor använt vid hembesök. Urvalet av deltagare skedde konsekutivt. Deltagarna hade behov av vård i hemmet och de levde med olika behov och sjukdomar i ordinärt boende. Samtliga personer som kommit i kontakt med mobil distansöverbryggande teknologi under ett teknologiprojekt erbjöds att delta i studien. I delstudie II deltog 17 allmänläkare, sex kvinnor och elva män. Kriteriet för att delta var att vara läkare med specialisering inom allmänmedicin och arbeta på värdercentrum med ansvar för vården för personer i ordinärt boende och på särskilda boenden. Urvalsstrategin var baserad på olikheter beträffande var vårdcentralerna var belägna, kust och inland, stad och landsbygd, vårdcentralers varierande storlek, och allmänläkare med olika erfarenhet av mobil distansöverbryggande teknologi vid vård och bedömning i hemmet, i ordinärt och särskilt boende. Allmänläkarna representerade läkare från sex vårdcentraler i Norrbotten och de delades in i fem grupper, fyra utifrån den vårdcentral de arbetade vid och en grupp representerade läkare från två olika vårdcentraler. Tre av grupperna representerade deltagare med erfarenhet från tidigare projekt där olika teknologiska lösningar prövats, en av dessa grupper representerade läkare med stor
erfarenhet av mobil distansöverbryggande teknologi. Två grupper representerade läkare utan erfarenhet av mobil distansöverbryggande teknologi vid vård i hemmet.

Deltagare i delstudie III och IV var 13 sjuksköterskor som arbetade på särskilda boenden och 11 distriktssköterskor som arbetade i ordinära boenden. I delstudie III och IV benämns sjuksköterskor och distriktsköterskor som sjuksköterskor. Samtliga deltagare var kvinnor. Kriteriet för att delta var att sjuksköterskan hade minst ett års erfarenhet av arbete vid vård i hemmet, i ordinärt boende respektive särskilt boende. Urvalet av deltagare skedde strategiskt där sjuksköterskor från fyra områden i Norrbotten erbjuds delta i studierna. Strategin baserades på olikheter beträffande var sjuksköterskorna arbetade, kust och inland, och stad och landsbygd. Distansöverbryggande teknologi inkluderade telefon, videokonferens och webkamera. Deltagarna hade omfattande erfarenhet av telefonkontakter i sitt dagliga arbete vid vård i hemmet och de hade också erfarenhet av videokonferens och webkamera. Flera sjuksköterskor hade erfarenhet av att ha arbetat regelbundet via webkamera.

Datainsamlingen skedde med kvalitativa forskningsintervjuer individuellt (I, III, IV) och i grupp (II). Deltagarna ombads att fritt berätta relaterat till syftet med respektive studie samt angivna frågeområden. Intervjuerna spelades in på band och skrevs därefter ut ordagrant. Texten analyserades med kvalitativ innehållsanalys med textnära ansats (I) och tematisk analys (II, III, IV).

Resultat

Delstudie I

Två huvudkategorier och sju subkategorier beskriver hur personer i behov av vård i hemmet ser på teknologi vid vård i hemmet. Teknologin var välkänd från sjukhus men beskrevs som ny i hemmet. Teknologin beskrevs i allmänhet som god och positiv. Undersökningar i hemmet uppfattades som enklare än de på sjukhuset. På sjukhuset gick undersökningarna snabbare och det var mer personal involverad. Personerna observerade att i början var distriktsköterskorna lite osäkra med tekniken. Den begränsade erfarenheten av teknikanvändning ledde till att några personer tvivlade på tillförlitligheten i undersökningarna. Teknologin beskrevs som i sin linda och i behov av att utvecklas mer. Även i situationer när det fanns misstro till teknologin uttrycktes tillit till distriktsköterskan.

rådfråga hela världen genom att använda teknologin. Teknologin beskrivs öppna upp möjligheter för distanskommunikation men personliga möten (ansikt mot ansikt) kan inte uteslutas. Vid distanskonsultation beskrivs det viktigt att läkare känner personen som de fattar beslut om. Personerna argumenterade för att även när teknologin är införd måste det finnas möjlighet till personliga möten med läkaren och att bli bedömd endast via teknologi utan att en läkare eller sjuksköterska ser personen beskrevs som ett övergrepp. Teknologin i hemmet beskrivs som en del av en kedja som kan vara effektiv men endast när andra delar av kedjan tas väl hand om och fungerar. Personerna kände att när det är säkerställt att teknologin är trygg och säker så kan den användas på permanent basis men beslutet om användningen måste tas av distriktsjuksköterska och läkaren

**Delstudie II**

Analysen av allmänläkarnas resonemang kring användningen av mobil distansöverbryggande teknologi vid vård i hemmet och på särskilda boenden resulterade i fyra områden med nio tillhörande kategorier vilka tolkades till temat **Mobil distansöverbryggande teknologi bör användas med försiktighet.** Resultatet indikerar en professionell försiktighet som har sin grund i allmänläkarens professionella erfarenhet, kompetens och ansvar. Försiktigheten har att göra med vad som är viktigt i vårdande och det personliga mötets betydelse. Försiktigheten har även att göra med resonemangen att den mobila distansöverbryggande teknologin inte är fullt utvecklad. Funktionen måste vara pålitlig och robust och vårdpersonal måste lära sig att använda teknologin.

**Delstudie III**


Mötet vid vård i hemmet innebar att sjuksköterskor besökte hemmet som gäster och följde sociala regler. De kom både som privatperson och professionell och utmaningen verkade vara att balansera dessa två. Mötet började vanligtvis med samtal om vardagliga frågor och samtal om vårduppgifter uppstod när kontakt var etablerad, vilket innebar att det var väsentligt att ta tid för mötet. Mötet innebar att nå en personlig nivå där personen i behov av vård kan känna sig älskad och bekräftad utan att bli privat. Mötet innebar också att kunna dela personliga upplevelser och tankar. Möten ansikte mot ansikte vid vård i hemmet innebar att personen i behov av vård kan känna sig älskad och bekräftad och också att kunna dela personliga upplevelser och tankar. Möten ansikte mot ansikte vid vård i hemmet gav unik information och förståelse för personen och dennes närstående. Ett möte ansikte mot ansikte var nödvändigt för att få en fördjupad bild av personen och situationen i hemmet vilket var nödvändigt för god och säker vård. Vid enstaka hembesök var mötet mer distanserat med mer fokus på att genomföra uppgifter och intentionen var inte primärt att bygga relationer. Detta ändrades när sjuksköterskor visste att möten skulle ske regelbundet. Det verkade vara en etisk fråga för sjuksköterskor om de skulle fokusera på att utveckla relationer eller inte när de arbetade som vikarier.

När sjuksköterskor var med personen kunde viktig information erhållas och tillit och förtroende var nödvändigt att utveckla. Möten kunde ändra atmosfären när känslor delades och känslan av närvaro kunde lindra personens ångest och kunde ge stöd och tröst. Möten ansikte mot ansikte var nödvändigt för att kunna utveckla känsla av ömsesidighet och djupare gemenskap. En anda av gemenskap kunde upptäckas i tystnad där tankar och frågor kunde formuleras eller i samtal om viktiga frågor. Ömsesidighet och djupare gemenskap var viktig både för personen i behov av vård och sjuksköterskan, och det innebar att främja känslan av att vara tillsammans.

Mötet via distansöverbryggande teknologi valdes ibland som ett alternativ och under intervjuerna diskuterade sjuksköterskorna alltid dessa möten i jämförelse med möten ansikte mot ansikte. Trots att de inte var ombedda att göra det. I denna jämförelse var känslan att distansmötet var annorlunda och sällan nådde samma känsla av gemenskap och känslan av närvaro var svårare att uppnå. När sjuksköterskor och personer i behov av vård var obekanta med videokonferens blev fokus i mötet ofta på tekniska frågor och det tar tid att lära sig arbeta med distansmötet. Videokonferens upplevdes ge mer information än ett telefonsamtal men mindre än ett möte ansikte mot ansikte. Möten via distansöverbryggande vård kan vara positivt och användbart vid vård i hemmet, då antalet möten kan ökas.

**Delstudie IV**

Analysen av intervjuer för att utforska sjuksköterskors erfarenheter av deras relationer med personer i omvårdnad i hemmet tolkades i ett huvudtema och fem subteman. Det var uppenbart utifrån sjuksköterskors berättelser att relationen var viktig vid vård i hemmet. Relationen verkar vara verkningsfull genom vilket sjuksköterskor kunde nära sig och nå personen i behov av vård och relationen var en förutsättning för att kunna ge god omvårdnad. Tillit var en viktig komponent i en välfungerande relation som kunde öka känslen av trygghet och få personen att må bättre.


Relationen vid vård i hemmet uppstod inte av sig själv men krävde medvetna insatser både för att etablera och upprätthålla en fungerande relation. Upplevelsen var att upprepade kontakter kunde underlätta och upprätthålla relationen. Insatser som att visa ödmjukhet, empati, respect och att behandla personen väl verkade vara förutsättningar för en fungerande relation.

Sjuksköterskor arbetade i relationer på olika nivåer beroende på om de var primär sjuksköterska, sekundärsjuksköterska eller vikarie. Relationen var djupare när sjuksköterskan var primärsjuksköterska för en person och innebar att sjuksköterskan var mer engagerad. Relationen vid vård i hemmet kunde också begränsas på grund av sjuksköterskans begränsade tid och av språkbarriärer. Relationen vid vård i hemmet behövde också ramar och gränser, vilket gjorde att sjuksköterskor också begränsade relationer exempelvis när den professionella relationen tenderade att bli privat.

Gemensamma resultat

Avslutande reflektion
Denna doktorsavhandling har fokus på vård i hemmet, användning av distansöverbryggande teknologi och erfarenheter av möten och relationer i denna kontext. Resultaten visar på att användning av distansöverbryggande teknologi för att öka antalet möten och upprätthålla relationer måste grundas på autentiska möten som kan utvecklas till tillitsfulla relationer.

Baserad på grundval av vårdande möten och en tillitsfull relation vid vård i hemmet kan distansöverbryggande teknologi ses som kompletterande verktyg men inte som substitut för vård eller vårdare. Egentligen kan nog ingen användare separeras från verktyget, då de två är oundvikligen förenade. Distansöverbryggande teknologi kan vara verktyget som ökar antalet möten och sätter att upprätthålla relationer när distansmöten genomförs mellan möten ansikte mot ansikte i syfte att stödja personer i behov av vård i hemmet. Distansöverbryggande teknologi i modern vård i hemmet upphäver inte det grundläggande i omvårdnad då möten och tillitsfulla relationer är av lika stor vikt som tidigare.

Teknologin ska nog inte ses som ett neutralt objekt. Detta innebär att sjuksköterskor behöver hålla jämna steg med utvecklingen i samhället, ha teknologikompetens och delta i debatt. Användning av teknologi är idag en realitet och vi behöver kunna hantera den i en modern vård i hemmet där omständigheter för vård alltid kommer att förändras. Diskursen inom omvårdnad idag behöver integrera grunder i omvårdnad såsom vårdande möten och tillitsfulla relationer tillsammans med nya lösningar för modern vård i hemmet. Diskursen måste också inkludera etiska frågor om hur vi på bästa sätt kan möta en person med behov av
vård i hemmet och möta personens individuella behov samt upprätthålla en tillitsfull relation.

Vård i hemmet är komplex och genom ökat antal lösningar inom eHälsa kommer komplexiteten ytterligare att öka. Därför måste vi betona frågor som rör komplexiteten mellan förändringar vid vård i hemmet och grunden i omvårdnad. En aktiv diskussion behövs också mellan alla professioner verksamma inom vårdteamet i hemmet. Frågor som rör möten och vårdande relationer med personer i behov av vård är viktiga för alla professioner för att möta personers individuella behov. Det är också av värde för personer som ska fatta beslut om framtidens vård i hemmet med distansöverbryggande teknologi att inkludera dessa aspekter i deras diskussion.
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Technology in health care at home

ORIGINAL ARTICLE

VIEWS ON TECHNOLOGY AMONG PEOPLE IN NEED OF HEALTH CARE AT HOME

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ABSTRACT

Objectives. The aim of this study was to describe how people in need of health care at home view technology.

Study design. A qualitative approach was used based on qualitative interviews, followed by qualitative content analysis.

Methods. District nurses (DNs) from 4 health care centres in Northern Sweden had access to different kinds of distance-spanning technology with mobile devices and who used it in their health care at home. Persons in whose home the technology was being used were asked to participate in an interview. The interviewed persons were selected consecutively.

Results. The results fall into 2 categories: (1) The well-known technology at hospital is new at home, (2) the new technology opens up possibilities but it also has limitations, with seven adherent subcategories.

Conclusions. The participants viewed the technology at home as something good and as something that could open up possibilities. At the same time, they placed the use of the technology in the hands of the staff which indicates some degree of dissociation from the technology. The importance of personal meetings between patient and caregiver was very clearly stressed even when distance meetings could be performed and accepted. The participants expressed immense trust in the nursing staff and considered them responsible for the new technology at home.

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Keywords: nursing, technology, homecare, views on technology, experiences, qualitative research
INTRODUCTION

Technology is something that surrounds us everywhere: at home, in the community, in health care settings and in nursing care centres. It has become a tool that nurses use for giving advice and support to persons at home. Literature surveys discuss the diffusion of virtual communities in health care (1), the evidence showing the benefits of telemedicine (2), the effectiveness and cost-analysis of telemedicine (3,4) and how technology supports older people living at home with their family caregivers (5). Most studies deal with the measurement of vital signs and audio/video consultations, while studies concerning technology used for information, communicating and decision support are relatively sparse (6).

When health care shifted from the hospital to the person’s home, advanced technology came into use to support that care (7). During this shift, ethical and safety aspects were to be given due consideration (8). In one study, nurses reported that they were comfortable taking technology into the patients’ homes (9) and more than half of those interviewed enjoy teaching the patients how to use new technology. They did have concerns, however, about introducing new technology into some patients’ homes because of the low-tech approach in palliative care at home (9). Poorly integrated technology in such settings could create uncomfortable situations for the patients, their family members and the visiting nursing staff (8).

Studies describing patients’ experiences or viewpoints continue to be sparse. In one case study (10), people who used a simple communication aid at home for their serious chronic illness felt less stifled when they used the technology; they also stressed the need for believing and trusting in the technology (10). Another study (11) showed that persons receptive to telecare tended to be younger than 80 years of age. They were more excited about new technology and believed that age was not a barrier to learning more about it. Those with good mobility welcomed the technology with greater fervour than those with reduced mobility. The participants were willing to use remote communications for receiving care, although their favoured means was face-to-face therapeutic interaction (11).

For an in-depth understanding of patients’ satisfaction with telehealth care, qualitative research is necessary (12). Several studies (13,14) consider that introducing new technology in care is ethically questionable (13,14). One can start building an ethical framework to use this technology by asking people in need of health care at home about their reasoning concerning the technology in combination with measurements of the vital sign parameters, communications and examinations at home.

The aim of this study was to describe how people in need of health care at home view technology.

MATERIAL AND METHODS

Design and context

In our study, we drew on qualitative interviews that we analysed by using the qualitative content analysis inspired by Berg (15). Qualitative content analysis is an appropriate method in qualitative research that aims to describe persons’ experiences and reasoning (16).
The current study was performed as part of a project that involved district nurses (DNs) from 4 health care centres who had access to different kinds of distance-spanning technology for providing health care to patients at home. The project was organized as a partnership between municipalities, county council in Northern Sweden, companies and the university. DNs transported the technological equipment (Table I) in a bag on wheels. The DNs could gain access, through a 3G telephone, to patient’s records in the hospital along with registrations and notes. Also, they could directly contact general practitioners (GPs) as well as specialists at a particular hospital. The DNs registered the technology they used in a separate report; they sometimes used only one piece of equipment and, at other times, all the equipment. There were also situations when the technology failed to work.

**Subjects**

The interviewed persons were consecutively selected. Based on the DN’s assessment, every person who could participate in the interview (n=67) was asked by the DNs through a letter, along with information about the study, if he/she was willing to participate in the study. No reminders were sent. Nine persons (3 women, 6 men) conveyed their willingness to participate in the interview through a written reply addressed to the first author. All the willing

<table>
<thead>
<tr>
<th>Examination and facilities</th>
<th>Technology used</th>
<th>Number</th>
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<tbody>
<tr>
<td>Blood glucose [Capillary]</td>
<td>Electronic device</td>
<td>2</td>
</tr>
<tr>
<td>Haemoglobin [Capillary]</td>
<td>Electronic device</td>
<td>3</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Automatic device</td>
<td>6</td>
</tr>
<tr>
<td>Oxygen saturation</td>
<td>Pulse oximetry</td>
<td>4</td>
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<td>Ventilation capacity</td>
<td>Spirometry</td>
<td>3</td>
</tr>
<tr>
<td>Examination of heart</td>
<td>12-lead ECG</td>
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<td>Examination of heart sounds and breathing sounds</td>
<td>Electronic stethoscope</td>
<td>5</td>
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<tr>
<td>Measurement of residual urine</td>
<td>Bladder scanner</td>
<td>4</td>
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<tr>
<td>Direct access to patient’s record; sound, ECG and image transmission to patient’s record</td>
<td>Computer and 3G telephone</td>
<td>8</td>
</tr>
<tr>
<td>Sending digital photos, for example, photos of wounds to patient’s record</td>
<td>Digital camera, computer and 3G telephone</td>
<td>2</td>
</tr>
<tr>
<td>Direct access to physician at the health care centre</td>
<td>Web camera and head set, computer and 3G telephone</td>
<td>5</td>
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persons were interviewed. The participants were between 51 and 91 years old (mean=73 years; median=78 years; standard deviation=14.05). Most of the participants had more than one experience of different technologies used during the project. All the participants gave both written and verbal consent to participate in this study. They were informed that their participation was purely voluntary and that they could withdraw from the study at any time without any explanation. The participants were asked to avoid names during the interview to protect the privacy of the persons concerned. The study was approved by the Regional Ethical Review Board in Umeå, Sweden (Dnr. 05-059M §67/05).

All the participants were mentally sound enough to recall their memories and tell their stories. They were aware of the aim of the interview and were willing to respond to the research questions by narrating their experiences. The participants considered themselves independent in everyday life at home, even though they were suffering with different aches and pains for which they got the support of DNs and home help service, safety alarms and training by physiotherapists. They preferred to stay at home for as long as possible, but when they became seriously ill and were in need of intensive care, they preferred hospitalization. They agreed that living amidst well-known people in a well-known environment was ideal for recovering from illness, and that place was home. However, they did not want to stay home if their presence affected their family’s life or when the family members considered their presence a burden. The safety alarm was helpful in prolonging their stay at home. All participants expressed that the best care was at home but that it depended on the situation and the state of their health.

*But you should be in hospital when you are ill and then you go home and become healthy (laughs) it is correct yes it is so - so at home is the best - yes it is it is really so.* (participant 7)

In their stories, the participants gave a comparative assessment of their current experiences with technology, their earlier experiences with other kinds of technology, and their experiences with regular health care, what constitutes the best care and their thoughts about life and living at home. According to the participants, common health care was easy to access and good when properly administered, but sometimes it was too bureaucratic. They had several experiences of both planned and unplanned visits to the health care centre and hospital; the waiting time was both long and tiring. They felt that their communications with staff were sometimes inadequate and ineffective, and that decisions were made without their opinion. They also had the experience of DNs caring for them at home. They expressed having a high level of trust for the DNs, the physicians and the health care system.

*It is so wonderful nice the care there is no better health care then we have when you have reached it when you have got there then there is no better thus it is superb.* (participant 8)

*It is a very good health care we have when we when we are into it.* (participant 8)

Technology in health care at home
Procedure
The first author tape-recorded interviews with participating individuals which were carried out between November 2005 and April 2006. The interviews covered 4 areas (Table II) and started with the question, “Please tell about the DN’s visits and the care at home.” The interviewer framed the follow-up questions in such a way as to elicit a clearer picture of the areas for the interview.

After all the 9 interviews were completed, each of which lasted 20 to 80 minutes, the researchers felt satisfied that the interviews would be rich enough given the many interesting narrations, the descriptions of different situations and the participants’ impressions about the new technology. The interviews were transcribed verbatim and then analysed by using the qualitative content analysis inspired by Berg (15) so as to remain close to the original text. For the analysis, the Nvivo 7 qualitative analysis software package was used (QSR International Pty Ltd Doncaster, Victoria, Australia). According to the aim, the text was divided into meaning units. Each time a change was noticed in the content, a new meaning unit was started. Then the meaning units were condensed and assigned descriptive codes that were close to the text. The codes were brought together through a process of comparison of similarities and differences and, finally, subcategories were formulated and put together in the main categories. The entire text of the interviews was used in the analysis.

RESULTS
The analysis of the text resulted in 2 main categories and 7 subcategories (Table III). The categories and subcategories are presented and illustrated with exact quotations (italics=subjects, standard typed text=interviewer).

<table>
<thead>
<tr>
<th>Table II. Areas for the interviews.</th>
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<tr>
<td>Areas</td>
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<td>The DN’s health care at home</td>
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<td>Use of the new technology at home</td>
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<td>by the DN</td>
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<td>Thoughts about the DN using the new</td>
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<td>technology at home</td>
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<td>Best care</td>
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<th>Table III. Views on technology used in care at home based on interviews with persons in need of care at home, main categories (n=2) and subcategories (n=7).</th>
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<tr>
<td><strong>Main categories</strong></td>
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<td>The well-known technology at hospital is new at home.</td>
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<td>The new technology opens up possibilities but it also has limitations.</td>
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The well-known technology at hospital is new at home

*It is new and also common.*

The participants came into contact with this kind of technology at home for the first time, even though a few were aware that it was similar to what they had experienced in hospital. They considered the technology good and positive both at hospital and at home. They felt that the examinations at home were simpler than those at hospital. At hospital, the examinations were faster, because more people were involved in them. The bladder scanner used at home was recognized to be exactly similar to that at hospital. The participants considered the use of a digital camera for the documentation of wounds beneficial for future comparison.

*It is clear that that they are usually several people at hospital which makes them eee it goes faster if you say so yes but it is broadly the same.* (participant 2)

*It is new with beginner’s problems.*

The participants were aware that the DNs had to use several passwords to gain access to their records. To them, the new technology was acceptable and good for working, although it was intricate and failed to function sometimes. The technology was described as being still in its infancy and needing further development; however, the problems were of a temporary nature. The participants observed that the DNs were a little hesitant with the new technology in the beginning, but soon they got over it. Whenever the DNs repeated the measurements, the participants doubted the correctness of the measurements. Some of the participants doubted the reliability of the examinations routinely carried out at home, instead of at hospital, because of limited experience in using the technology. They considered that the examinations at hospital were more dependable, because the staff was more knowledgeable. The participants felt that if the DNs were well trained in using the new technology, then they would handle it more efficiently. Even if the technology failed, however, they expressed trust in their relationship with the DNs.

*Oh it is very funny but at the same time I experienced a little feeling of that it was still troublesome for them to handle but I think the equipment is under development and is not finished with all programmes and conduct-routines in computers and things like those.* (participant 9)

The new technology opens up for possibilities, but it also has limitations

*More examinations can be performed at home.*

The participants expressed the fact that computers and other technologies have become so common in society that one has to accept them in health care, too. Some regretted that they lack technical knowledge; some used computers every day; and some advocated on behalf of using the new technology. The participants, regardless of how they described themselves, always considered the new technology at home as acceptable, and didn’t have any objections. They expressed that the new technology was what people did with it. They believed that it could open up new possibilities for them and that the new technology at home was interesting. They were also impressed that a single health package could include so much technology.
Technology in health care at home

and that it was almost like having an emergency room at home. The participants were not always clear about the examinations the DNs carried out, and their perceptions of the kind of examinations the technologies could help with were different from what was actually possible. The use of computers by the DNs for writing notes in the patient’s record, based on the participant’s description, was considered a timesaver. They described the technology at home as being good and less stressful; they felt more secure at home than when they were waiting for hours at the health care centre or hospital.

I think that it is only to take I know that many people are in bed at home and cared for there yes and it is performed by the DNs yes they go and visit and take care of people and this must be perfect for those who are ill in bed mm if you are unwell it must be good to get a check up now and then yes it must be something good. (participant 8)

It should be used by the staff but not by me or my family members.
The participants complained of difficulties in getting support if they used the technology by themselves or with their family members. They saw the staff as users of the new technology which gave it possibilities. For the DNs, access to a patient’s record was regarded valuable both in terms of saving time and documentation. The participants believed that GPs could use new technology for seeking out the best specialized care from other physicians the world over. They expressed that they felt sure that when new technology was used in common then the DNs and the GPs could use it efficiently.

Elderly today has no idea about how a computer works for example so that it and many don’t want to learn either so it is obvious that somebody comes and use somebody who can use the technology. (participant 3)

It is for distance communication but personal meetings cannot be omitted.
Examinations at home with the new technology were considered useful by the participants. Their understanding was based on the results, that is, a hospital visit with long travels could perhaps be avoided or the GPs could refer the person directly to the correct ward and thus reduce the waiting time. They felt that as long as they could physically go to the health care centre or to hospital, the examinations should be done there. But, if there were problems in going to the health care centre or hospital, examinations at home become more relevant. The participants argued that in making decisions from a distance, the GPs must know the person concerned and must be interested in using the new technology. It was further argued that personal contact with a GP had to be possible even when the new technology was introduced; sometimes it was better to talk “between four eyes” and perhaps without any notes. To be examined by technology only without a doctor or a nurse seeing the person was considered an abuse.

I hope that the technology don’t take away one thing don’t take away another but to use the technology to improve efficiency but you understand that maybe you can not only look at the technology without a person behind there is a person behind and I mean that it is both ups and downs it is so for most of us. (participant 7)
It is not for use in emergency situations.
The participants reasoned that even though the new technology could be efficient, there were situations when people had to go to hospital. They argued that it was neither possible to get advanced care at home nor was it safe in all situations, e.g., in case of myocardial infarction. In an emergency situation, going to hospital rather than staying at home was inevitable.

Yes it is obvious that but if you happen to be in a situation with extreme bleeding when evacuation of the bowels then I think you want a physician with your side as you can’t handle that for your self. (participant 2)

It must fit as part of a chain that works and is secure.
The participants expressed that the new technology at home is part of a chain and that the technology can be efficient only when the other parts of the chain are taken good care of. They wished that the DN's would practise using the new technology so that they could work fast and send information to the GPs promptly. Also, at least some GPs at the health care centre should keep themselves free from other patient appointments, so that the GPs can assess the information about them and make quick decisions about the care they need. The information has to be handled discreetly, assigning the right priority to the patient who needs to be immediately taken to hospital. Any indiscretion in this regard would render the new technology at home futile. Another suggestion for reflection was if an examination was done at home, it must be repeated at hospital if the person goes there. The participants thought that if the new technology was both secure and fast then the coordination of health care would become easier. The participants also felt that if the technology in this project was ensured to be safe and secure, then it could be used on a permanent basis, but this decision had to be made by DN's and GPs. They also warned that persons who misuse the technology are always one step ahead of those who work for the good of the system.

I mean that the technology as such is good if it works the whole way because otherwise it is useless if you not can get it in function between the sick person to the physician and so on then it is worthless if it not works the chain it has to work rapidly. (participant 8)

DISCUSSION

The aim of this study was to describe how people in need of health care at home view technology. The participants in this study had good experience of health care, which they used in their reasoning about the technological equipment. They were aware of the common medical technology used routinely at both health care centres and hospitals and felt that the new technology at home was almost similar to that used in more common health care settings. They clearly identified the new aspects of the health technology being used in their homes; however, they looked at things from a broader perspective in order to shape their views and understanding.

The participants in different ways expressed trust for the DN's, the GPs and the health care system. They believe that the DN's and GPs were competent enough to decide when and how the new technology could be used safely in regular care. The participants’ trust of the new technology was so high that it bordered
on blind faith. One can assume that the participants saw the staff as the main users of the technology and their trust of the staff in this position probably overflowed onto the technology, even when the technology sometimes failed to function. The participants were very much worried that the technology could be misused; they cautioned that it must be handled following correct priorities. The staff needed to realize that the technology could not replace the person and similarly e-meetings could not compensate for all face-to-face meetings. This is borne out by interviews with health care providers in the elder care system (14). The caregivers feared that e-meetings between caregivers and the persons in need of care would result in only superficial relationships without the closeness and intimacy that characterizes personal meetings. People who find it hard to communicate by talking, find that the new technology offers them an opportunity to communicate through sending text messages to the DN, regardless of how unsafe it might be if the DN is not there to receive the messages (10). The technologies used in different studies are common; yet, many studies have reservations about the consequences of introducing technology into health care at home.

The review of literature (17) shows that most patients are happy with telemedicine, but the fact remains that studies that focus on assessing the preference between distance-spanning and face-to-face consultations are few. Most studies measure only a few dimensions of satisfaction (17). Some authors argue (18) that issues relating to patient satisfaction in telehealth require further exploration from the perspectives of both the clients and providers in real situations and not artificial ones. In our study, no explicit inquiry was made about the participants’ level of satisfaction. The participants received the same usual care at home, but along with new technology that created an artificial situation. If the care with new technology had just replaced the usual care, the result could have been different. In this study, the participants described the technology as good and said that they trusted the staff for whom the new technology could prove beneficial. If the participants’ perceived the new technology as being good for the staff, it could have been difficult for them to express a different opinion.

The participants reasoned that they wanted to avoid unnecessary travel; however, if they could go by themselves to the health care centre then they preferred going there rather than having the examinations done at home. They understood that technology is as good as what we do with it, and they were aware of the need for changes in organization and new routines for health care staff if and when the new technology becomes commonly used in home care. The new technology was understood not as a whole chain but as part of a chain that must be linked to other parts of the chain, namely, the hospital or the health care centre.

The technology used at hospital was assessed to be better than the technology used at home, although the latter was considered acceptable for preparatory check-ups. However, the participants pointed out that they had good contact with the DNs at home unlike the contacts at hospital and they felt safe and calm during the assessments at home. According to Barnard and Sandelowski (19), there is a tension between technology and humane care. They argue that what determines experiences to be dehumanizing is not technology but how technologies are used in specific contexts and the meanings that are attributed to it. Barnard
opines that the influence of technology on nursing practice is not neutral. One needs to understand the relationship between technology and nursing practice and he expresses the need for a more critical view of the belief that technology is a neutral object and that it originates from being cognizant of arguments that both support and oppose the assertion.

The participants did not see themselves or their family members as users of the new technology. This can be understood as a consequence of the technology and the troubles the DNs experience in using it; but it can also be understood as a degree of dissociation from the technology. One study (6) speaks of a future scenario in which an informed person may find it obligatory to manage his/her health status. Other studies also support the usability of communication aids by persons in need of care (10). The possibility that the person could be independent in using technology for contacting the health care is seen as a way to empower the person and support her/his autonomy. Collste (21) argues that only in situations where there is a real choice is it meaningful to speak of patient autonomy. He also argues that to be able to make an autonomous decision, the person needs to be competent and have the ability to understand reliable and relevant information and process a decision based on that. Once technology is introduced into health care at home, it is not clear if it is possible for persons to be autonomous in decisions about using it.

Magnusson and Hanson (13) cautioned about the ethical issues that can arise from bringing the technology to a person’s home and stressed the importance of discussing and evolving guidelines for this purpose. Bauer (22) argues that the technology at home might impinge on the privacy of the home and that it may render the thin line between a person’s public and private lives obscure. One needs to appreciate the potential of technology in the home to transform the private living environments, the family and its relation to the public sphere. Also, one should remember that what heals and comforts is dedicated care, not electronic exercises (22). In this study there were no arguments on this issue, and perhaps it is so because the participants saw the DNs as visitors who brought the technical equipment with them.

In some studies (2,6), the focus has been on the viewpoints of when the new technology is suitable. The participants in this study expressed that the suitability depends on the situation and what needs to be done rather than on the diagnosis. Although the participants saw possibilities with having health care technology at home, they also indicated that it could not be used at just any time and in just any way. It seemed that in every situation they wanted to choose whether they should receive care in the home and to have the freedom to change their decisions in unique situations.

Methodological considerations
In this qualitative study, 67 people were invited to participate but only 9 did so. Why so many people chose not to participate is not clear. It is possible that those who participated had positive attitudes towards new technology. But it is also possible that those who had negative attitudes wanted to participate to share their opinions. It could be that problems with technology affected their interest in participating. Some participants, in their interviews, referred to their limited experiences with the new technology. During the study, the participants had
access to ordinary health care and this might have affected their views about the use of the new technology in routine care. The participants were dependent on the DNs, and to avoid any influence this might have on the participants’ views, the DNs were not given any information about who participated in the study. In the interviews, the participants described all the equipment that was used, and there were variations in the reasons for using technology in health care at home. None of the participants chose to discontinue their interview. After the interview they had the opportunity to reflect and ask questions and all the participants confirmed that they wanted to participate in the study.

Conclusions
We conclude that the participants viewed the technology in their homes as something good and that opened up possibilities for improved health care. At the same time, however, they placed the use of the technology squarely in the hands of the staff and this indicates some degree of their dissociation from the technology. This also indicates that people need time to adjust to the introduction of new technology and to decide what they are prepared to accept and use. The importance of having personal meetings is very clearly stressed in our results even when distance meetings can be performed and are accepted as alternatives. The ethical reasoning about the use of new technology in home care has to be based on empirical data. This study shows that participants are quite clear in setting their own limitations for using it. Our interpretations are that personal meetings, personal contacts, touch and respect for the integrity of the person who need care. Also the person wants to be involved in the decisions about using the new technology.

Acknowledgements
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General practitioners’ reasoning about using mobile distance-spanning technology in home care and in nursing home care

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General practitioners’ reasoning about using mobile distance-spanning technology in home care and in nursing home care

The trend for health care and nursing care turns from hospital to health care and nursing care at home. Studies have shown that health care professionals have no access to patient records in home and nursing home settings. Technological development creates opportunities for a host of mobile technology solutions. The aim of this study was to describe the reasoning among general practitioners (GPs) about the use of mobile distance-spanning technology (MDST) in care at home and in nursing homes. Seventeen GPs were divided in five groups for a group interview. The interviews were tape-recorded and transcribed verbatim. The qualitative content analysis resulted in four areas about the MDST, MDST has an impact on GPs’ work, the nurses’ profession, and the patient and the family, with nine adherent categories. The findings were interpreted and formulated in the theme: MDST should be used with caution. The results show quite a few expressions about the MDST as useful and valuable in health care at home and in nursing home settings; however, in every category, there were text that we interpreted as caution when using the MDST. The MDST cannot be used in all situations and cannot replace human meetings in health care and nursing care at home and in nursing homes. The MDST should primarily be a tool for the profession, and understanding the professions’ reasoning about technology use in health care at home and in nursing home settings must be the base for implementing MDST.

Keywords: reasoning about technology, mobile distance-spanning technology, health care, nursing care, home care, general practitioner, qualitative research, group interviews, content analysis.

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Introduction

In Sweden, general practitioners (GPs) working at the health care centres are responsible for medical care for the persons in ordinary homes and in nursing homes, and Registered Nurses (RNs) are responsible for both nursing care and performing treatments prescribed by the GPs (1, 2). The RNs and GPs have normally no access to patient records at people’s homes (3). A study (2) shows that the RNs from community home care services take a large number of decisions without access to medical data in care at home. The lack of information became a source of stress when the medical records were kept in different offices located some distance away from the patients’ homes (2). Lack of information in health care is described in other countries (4–7).

The RNs responsible for nursing care and health care at people’s homes need at times to come into contact with and consult the GPs or a physician for some advices, decisions and prescriptions about health care in their daily work (8). The lack of access to patient records at home or in nursing homes resulted in documentation at places other than where the health care and nursing care was given (3). Several care professionals have different patient record systems with no access or connection between the systems (9). A study (10) from Norway shows that the parallel use of electronic- and paper-based patient records could lead to missing data and inconsistencies in the documentation (10).

It has been shown that technology has the potential to become a means of providing good health care at home (11). Healthy older couples described home as a place to be cared for as long as possible, when in need of limited help...
Therefore, from a nursing perspective, it is important to highlight this fact. Many questions still remain to be answered regarding GPs' opinions when new mobile distance-spanning technology (MDST) for communication and for diagnostic purposes is introduced in home health care. The aim of this study was therefore to describe the reasoning among general practitioners about the use of mobile distance-spanning technology in care at home and in nursing homes.

Methods

Within the qualitative research paradigm, the reality is not a fixed entity, rather it is about exploring experiences and how persons make sense of their subjective reality and the values they attach to it (25). Therefore, a qualitative approach was used to describe GPs' reasoning about the use of MDST in the health care at home and in nursing homes. The GPs were interviewed in groups. Group interviews could be an appropriate data collecting method to obtain a rich source of information about people's beliefs, attitudes (26, 27) or events (28). A smaller group allows greater contribution from each participant (29) and should be homogeneous in terms of status and occupation (30).

The participants were responsible for the health care of people living in ordinary homes and sheltered living like nursing homes. The criteria for living in a nursing home setting are based on a medical assessment, and nursing home settings can be a place for palliative care. Norrbotten county council has a unique electronic patient record system, and all hospitals and health care centres in the county council are connected to the same system. This system provides opportunities to read and insert the results of examinations and tests in the common patient record.

Participants and procedure

In a local area, specialized GPs at nine health care centres were asked to participate. Seventeen GPs (6 women and 11 men), aged 38–61, from six health care centres participated voluntarily, and they constituted 80% of all GPs at the participating health care centres. Information about the study as well as enquiries was sent to the head of the participating health care centre they worked on, and one group was composed of persons from two health care centres. Three of the groups represented participants with experience from e-Health projects; one of these represented highly experienced technology users in health care, whereas participants in two groups had no such experiences. Those with experiences from an e-Health project had participated in a workshop to learn how to handle the technology, while the other GPs had no education about MDST. Some

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health care centres are located close to a hospital, and others are located in the countryside. The groups were homogeneous in terms of profession and tasks, but there were differences between the groups on the basis of geographical and personnel circumstances. The groups and health care centres were selected to get different views and reflect a variation of experiences.

Data collection and analysis

Data were collected from October 2006 to October 2007, and the interviews took place at the health care centres where the GPs worked, with the exception of half of the group which consisted of participants from two health care centres. During the interviews, a picture of technology used in a currently running e-Health project was available, with the intention of defining the MDST that was in focus. The picture showed technology that accesses patient records at a distance for information and documentation, mobile equipment for examinations and assessments at people’s homes, sound and image transmission from home to the patient record and communication at a distance through a Web camera. The GPs were asked to express their thoughts about use of MDST in home care and in nursing home care (Table 1). The interviews opened with the question: What are your thoughts about using technology in care and assessments at home or in sheltered homes? During the interviews, follow-up questions were asked to stimulate the discussions. We had no intention of achieving consensus within the group during the interviews. The first author was responsible for the interview, and the second author supported the interview with follow-up questions. The interviews lasted for 60–90 minutes and were tape-recorded and later transcribed verbatim.

The entire text was used in the analysis. The text from the five group interviews was considered as one analysis unit and was analysed by qualitative content analysis. Qualitative content analysis is an appropriate analysis method in qualitative descriptive studies (28). The text was read several times and then divided into big text units, according to the area of the discussions. Areas were then analysed in different aspects by dividing the text in meaning units, which were condensed and later formulated in categories. Examples from the text related to categories within one area are given in Table 2. Finally, threads of meaning that appeared in all categories were subsumed into a theme (31). All steps during the analysis were discussed by the authors, and all authors had access to the interviews and were able to check the analysis process.

Concepts

During the interviews, the GPs used different concepts and expressions, but in this presentation, only one concept is used (Table 3). Patient is used, which was the concept used by the GPs. Nursing home is the concept used; however, in Sweden, care at home is provided in ordinary homes and sheltered homes where nursing staff are available around the clock.

Ethical considerations

The study was approved by the Regional Ethical Review Board in Umeå, Sweden (Dnr. 05-059M S67/05). The head of the health care centres gave permission for the study. Both written and oral information about the study was given, and the participation was voluntary. The participants gave both written and verbally informed consent. The benefits, risks and ethical considerations have been discussed when planning the study and the group interview formations. We were aware of the participants’ different roles, positions and the GPs’ relation to each other within the interview group. The first and the second (physician as profession) authors led the interview, and the third author reviewed the transcripts. We experienced that all the GPs had the opportunity to express themselves, and all came to be heard during the interviews.

Table 2 Sample text related to categories (n = 3) within one area

| Area: Mobile distance-spanning technology (MDST) has an impact on general practitioners’ (GPs’) work |
| Category: MDST can support decisions |
| Quotation: unknown staff unknown patients yes . . . then well . . . uncertainty becomes so great so perhaps it is great at some point and maybe it is really bad at some point mm . . . so that is perhaps when you need when you should meet the patient and the staff (Experienced group) |
| Category: Expanded access to patient record facilitate GPs work |
| Quotation: the VAS-system (patient record system) is too open . . . yy constantly I have said it that in 95% of the cases it is good but in the five percent where it is not good there can really be a disaster (Non-experienced group) |
| Category: Sometimes human meetings can be replaced by virtual meetings |
| Quotation: the technology must always be a complement to the personal meeting and technology may also not be a fence between the patient and the physician (Non-experienced group) |

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Results

With the MDST as base, the GPs reasoned about technology in general, in relation to their own work and cooperation with others, and their thoughts about the perceptions of technology among the patients and patients’ families. Aspects of integrity, ethical issues, safety, risks, and potential and limitations of MDST as well as the MDST’s being or not being in care were brought up, as a thread, during the discussions. The analysis of the text resulted in four areas and nine adherent categories (Table 4). Finally, the theme “MDST should be used with caution” was formulated.

About the MDST

General assumptions There was a common agreement that MDST has to be trustworthy with little or no failures. Based on the GPs’ experiences, there were problems with the interface between the hospital computer systems and electronically transferred data. Another problem was that some areas of the district have not developed a 3G telemedicine system. They expressed the view that technological innovations affect the organization of health care, and in a project involving the testing of technological solutions, there was a need to think in a new way. It was considered an unfortunate development if the shortage of GPs was in fact the reason why MDST has come to health care centres. The GPs reasoned that the MDST cannot reduce the number of GPs or nurses in primary care.

Usability of different diagnostic tools There were long discussions in all interview groups about the usability of ECG for distance consultation. Regarding arrhythmias, there was a general agreement that ECG is of importance as a diagnostic tool for the possibility to directly identify atrial fibrillation and for following up the medication of those patients with such a diagnosis. Regarding myocardial infarction, no common strategy could be found in the interviews. A general consensus was reached that registration of ECG must be prescribed by the GP herself/himself. Considering the electronic stethoscope, the possibility of detecting pneumonia or congestive heart failure was mainly discussed. Many GPs pointed out that the electronically transferred signal sounds quite differently compared with the sounds from an ordinary stethoscope. Even when using a Web-based video-communication with the nurse for positioning the stethoscope, some GPs mentioned the possible risk of a misinterpretation of the diagnosis, as there can be great individual variation of the diaphragm position in the patients. Unanimously, the GPs pointed out that the human meeting can never be excluded even if you have virtual communication. Touching by the hands, smelling and seeing in three dimensions can never be substituted by MDST.

Regarding the digital camera, the GPs’ opinion was that such a device is of importance when following the healing process of wounds, especially venous ulcers. The camera can also be used when consulting dermatologists in difficult cases. There is seldom an emergency situation present,
and online consultations will therefore be rare. The spirometer was considered usable only in special cases, i.e. to differentiate between a cardiac dyspnea and obstructive pulmonary disease. The GPs also reasoned about problems when giving instructions for optimal measurements, especially to older people and those with a functional handicap. Several instruments giving single value information were available, such as devices for measuring blood pressure, blood CRP (C-reactive protein), Hb (haemoglobin), blood glucose level and residual urine. All these instruments were considered useful but require no electronic transfer of information because the measured values can be put into the patient record system manually by the nurses or reported over the telephone.

**MDST has an impact on GPs’ work**

**MDST can support decisions** Because of poor experiences of MDST and present low technology maturity, the GPs had difficulties to find situations, which indicated when MDST should be used. For patients living far from the health care centre and where home visits are not possible, the GPs saw MDST as helpful in supporting decisions. They described themselves as often handling very complicated cases where meeting the patient and understanding his or her context is highly important. Sometimes, meeting the person was seen as a way to verify the decision. GPs saw a risk that their home visits would be fewer if MDST is introduced; others discussed that the place for primary health care in the future is the patient’s home instead of present health care centres. Compared with phone consultations, which are stressful, seeing the patient by video-communication was seen as supporting decisions. With MDST, the information flow should increase, and that was seen as both positive, as the decision should be more secure, and negative, as the information needs to be handled and takes time. The work at the health care centre is managed by quite forced timetable, which distance consultations should disturb.

**Expanded access to patient record facilitate GPs work** Access to the integrated patient record by a laptop connected to a mobile phone during home visits and during duty in a GP’s home was considered to be a significant improvement in the quality of handling and treatment of the patients. All previous documentation could be available for physicians regardless of their employment. The possibility to write prescriptions directly in the patient record and electronically send them to the pharmacy shop was especially commented upon. Access to the patient record was described as invaluable when handling unknown patients, especially during emergency duty. The possibility for the nurses to transform information directly to the patient record during home visits and the GPs access to the information at a distance was described as facilitating the daily work. GPs and nurses working in the same patient records were described as a safety factor. GPs reasoned that the patient’s integrity could be affected if the patient record is accessible to the family and others in the patients’ home. Some GPs argued that the MDST could create issues concerning secrecy and others expressed that this does not represent a problem, but it is a question about respecting privacy. Some GPs raised fears about the dangers of safety being ignored.

Sometimes human meetings can be replaced by virtual meetings The GPs described the human meeting between patient and physicians as most important in health care, and there was an agreement that no technology can replace the human meeting. Human meetings in health care were described as being complex and impossible to compare with other areas where technology has replaced staff. It was argued that there is a huge power in human meetings, a kind of power field, which the MDST cannot capture or replace. It is not magic; it is not mysterious but real. The computer screen was described as stale compared with a human meeting, and virtual meetings were described as more formal when jokes and physical contact do not take place. The MDST was described as a complement to usual visits to health care centres and the GPs’ visits at nursing homes. Certain GPs reported that some visits to the nursing home could be replaced with a virtual meeting, but others argued differently. Virtual meetings could be used when the patient is known, and when it is a known medical condition that changes; however, unknown patients require a deeper exchange of views, and there was a common agreement that unknown patients should be met in human meetings. The risk that the use of MDST could become routine and reduce human meetings with known patients was discussed and described as unfortunate. They saw a risk for renewal of prescriptions without seeing the patient and when making decisions about whether a treatment should continue or not. To be satisfied with nurses’ visits instead of a medical assessment was another risk that was discussed. Another focus of discussion was whether GPs in tight situations make decisions by MDST, and this could be proven to be disastrous for the patients. They expressed that the responsibility always reside with the GPs.

**MDST has an impact on the nurses’ profession**

**Nurses can do more during home visits** The GPs reasoned that the MDST could create a better decision process for the nurses in the patients’ home. The MDST could be time saving when the nurses are able to do many things at every visit. It is faster to use a bladder scanner instead of the catheter when checking the residual urine at home. The nurses could also take photographs of wounds instead of describing them with words, and it is possible for the GPs...
to follow the healing process and compare with earlier photographs. Some GPs reasoned that the MDST helps nurses to know what to do at patients’ homes, while others reasoned that the nurses are aware of their responsibilities even without the MDST. It was discussed how access to the MDST might lead to further assessment instead of trusting the nurse’s judgment, and some of the nurses might tend to make fewer decisions with the MDST. The MDST affects the decision process for the nurses, and there was a common agreement that nurses should form an opinion of the results of the assessments and decide whether they should involve the GPs.

**Expanded responsibility for the nurses** The GPs expressed that they understand the MDST at home as being a tool that nurses use to collect information about the patients and then deliver to the GPs. Distance contacts with the nurses by Web cam require a well-formulated language when the patient sits beside and hears the conversation. Communication also becomes more abrupt (telegram style and formal style), and nurses and GPs have to be aware of the changes that come with the MDST. The MDST could lead to nurses doing what GPs usually do, and the GPs were partly hesitant about this. The nurses were considered to be responsible for blood tests and assessments until they deliver the results to the GPs, and they are also responsible for what they have performed without any prescriptions. There are only some assessments the nurses can take without any prescriptions. There was a disagreement concerning exactly what the nurses could do without any prescription, but it was agreed that it depends on who the nurse is and how well they know each other. An unknown nurse gives the GPs a feeling of uncertainty decisions. A need for rules and routines was discussed, so that the nurses know what they are authorized to do, and when (e.g. avoid unnecessary contacts) and who should be contacted in different situations.

**MDST has an impact on the patient and the family**

**MDST can be useful but is dependent on expectations** The GPs described human meetings as preferable for the patients and the family. The GPs argued that if a person expects a human meeting and gets a virtual meeting, he/she or family will be disappointed. Many persons living at nursing homes never have the opportunity to visit the GPs at the health care centre, but through the MDST, it will be possible for them to obtain a meeting. On the other hand, the number of GPs’ personal visits might be reduced. In non-emergency situations, the MDST at home could reduce travel back and forth to the health care centre or the hospital, and the GPs described this as good for the patient and the family. Some older people see the annual visit at the health care centre as a highlight, and they might experience the MDST as a disadvantage.

**Benefit the patients and their family but overconfident at times** The GPs described the family as being responsible for the person who is ill and will automatically be involved in the use of the MDST. The family could take part in the assessment and the virtual meeting with the GPs, as well as participating in usual visits at health care centres. There was a common agreement that MDST could lead the family to increase their demands regarding what will be done in care. The MDST could offer additional security for people living in an ordinary home if it is possible to show a problem to the GP at a distance. They reasoned that a virtual meeting with a well-known GP could give a placebo effect for the patient, and a virtual meeting with an unknown GP provides less trust. The GPs’ access to the patient record and the possibility for documentation were a question concerning security from the patient perspective. The GPs discussed how overconfidence in what MDST can do is common among patients and families. A risk that was mentioned was that the MDST can decide if a person is healthy or not, no matter how the person experiences the situation. If a distance consultation is free of charge that can explain why some patients would rather choose virtual meetings. There was a common agreement that there is a need to create specific rules about using the MDST in care to maintain the patients’ integrity and autonomy.

**Theme**

**MDST should be used with caution** The theme is our interpretation of the meaning of the results and was formulated from the categories. We interpret that the meaning of the text is that MDST should be used with caution. The GPs’ professional reasoning expressed their feelings of caution. In their perspectives of good care, the risks of misusing the MDST were evident. At the same time, they described MDST as something good. There is a professional caution, which has its basis in the GPs’ professional experiences and skills, and the GPs’ responsibility. This involves what they believe to be important when caring for people in need of health care and the meaning of human meetings. Their caution also has to do with the MDST, and that this is not yet fully developed.

**Discussion**

The aim of this study was to describe the reasoning among GPs about the use of MDST in care at home and in nursing homes. Our interpretations resulted in the theme “MDST should be used with caution”. A previous study shows the care providers as the foremost barrier for the implementation of technology in health care (19). During the group interviews, the GPs reasoned and argued not as gatekeepers but from a matter-of-fact and professional perspective. When the GPs learned their profession, they also developed a picture of what good care is. The introduction
of new technology in health care may be perceived as a risk and a threat to their definition of what constitutes good care. The GPs defended what they consider as their responsibilities when working as physicians. Their desire for major responsibility may be one reason why they identified the theme.

To choose a profession of a physician involves a choice to work with, and for, other people. An important prerequisite for working in a meaningful way within health care is the human meeting. There was an agreement within all interview groups that MDST cannot replace all human meetings. The human meetings in health care were described as complex and most important, involving a huge power that MDST cannot capture. The theme can be visible when the GPs expressed their fear that MDST may reduce the number of human meetings, and they argued that the MDST can just be a complement in health care. District nurses also describe ICT in health care at home as a complement to communication that cannot replace human meetings. Physical presence in nursing care at home is vital and important for building up a trusting relationship between the person and the district nurse (17). Another study (32) shows that the nurses believed that videoconferencing can undermine the psychosocial support function of the consultation. Both physicians and nurses expressed the importance of touch when reassuring and comforting persons in health care and nursing care (32). Stanberry (22) concludes that the distance consultation and treatment will reduce both the comfort and compassion in face-to-face meetings.

The theme can also be identified in the reasoning that, in health care, the GPs handle very complicated cases, and it was difficult to generally describe the benefit of individual equipment at home. The GPs reasoned that the MDST could be used in some situations, but for diagnosing diseases, other parameters are necessary to assess. They expressed the need to see the person and the problem in its context, not only as separate measurement values. The risk for misinterpretations particularly in the assessment of unknown persons was also discussed. They reasoned that everything depends on the situation and the individual person if MDST can be of value in health care at home. In a study (17), district nurses describe the importance of knowing the person before starting to use technology for communication at distance in nursing at home. Some clients in another study (33) felt that it was not necessary to have an established relationship with the nurse prior to the contact via video, but they expressed the view that telehomecare would not replace face-to-face visits (33). Communication plays a central role in building trusting relationships. An experiment has shown that trust can break down in electronic context but can be repaired by some initial face-to-face contact (34).

In rural general practices in the United Kingdom, the views of GPs and RNs regarding e-Health indicate positive aspects such as clinical usefulness, the functioning of equipment and the ease of using equipment (15). Even if the GPs in our study saw some usability with MDST, they also argued that some dimensions such as touch, smell and seeing in three dimensions get lost when the patient is examined through MDST. In a study (32) about the adoption of telemedicine in remote and rural practices in Scotland, the physicians were concerned about being unable to perform palpations during virtual meetings. They express the importance of senses such as smell and touch in their clinical assessment of a person (32). A systematic review (35) of the efficacy of telemedicine for making diagnostic and management decisions shows the use of telemedicine in many medical specialties. There is strong evidence in only few of them that the diagnostic and management decisions provided by telemedicine are comparable to face-to-face health care.

There was a common agreement within all the groups that expanded access to the patient records facilitate the GPs’ work. Also, here, the theme is visible when the GPs brought up questions relating to integrity and secrecy that are said to come with expanded electronic access. A literature review (36) highlights the challenges in regard to the privacy and confidentiality of health care information and expresses a need for ethical guidelines for protection of electronic health care data. Information privacy is the patient’s right to control the use and dissemination of information that relates to them (36). Some GPs reasoned that the information flow will be larger, and the decisions will be better; however, the decision will also take a longer time. In a study (37), the GPs described a shortage of time as a common barrier to the use of a computerized decision support system. Time is a major issue, and systems by definition take longer than intuitive decision-making by a GP.

The GPs reasoned that the MDST could create a better decision process for nurses, but it could also lead to more assessments instead of trusting the nurses’ judgment. The MDST strengthens the traditional consultation between the nurses and the GPs, and they become more dependent on each other. This could lead nurses to do what GPs usually do, which the GPs were partly hesitant about, and this is another expression of the theme. The MDST changes the nurses’ responsibility, and there is a need for new rules and routines in health care if MDST is to be implemented. The risk of being satisfied with nurses’ visits instead of medical assessments was mentioned, but it was expressed that the final responsibility will always be the GPs’. Similarly, a study (17) describes how the implementation of ICT requires changes in district nurses’ work situation. A study (1) shows that the nurses in nursing home settings experienced that physicians asked for a level of competence which is much more than what is normally expected of a nurse. They felt that the physicians handover a problem and expect a nurse to solve it. Another study (38) about nurse-physicians interaction in...
teleconsultations between a hospital and geriatric nursing home shows changes in roles and tasks, and that the interaction must be based on trust.

The GPs expressed the view that MDST could be useful for patients and their families, but that greatly depends on their expectations. If they expect human meetings and get virtual meetings, they might be disappointed. The over-confidence regarding what MDST can do is common among patients and families. A study (18) shows that persons in need of health care at home greatly trust the technology when used by district nurses. Their perceptions of the kind of examinations the technologies could offer were different from what was actually possible.

To summarize, the results show several possibilities with MDST, but at times the GPs discussed limitations in terms of risk and danger. This can be understood as a consistent theme in the text, and it can be interpreted as suggesting that MDST should be used with caution.

Methodological considerations

The results of this study cannot be generalized but can be transferred to similar situations and similar contexts. It was a strategic sample when we chose GPs with different experiences of technology and different locations of the health care centres. The strategy was to define and describe different perspectives among GPs to get a broader picture. The size of the interview groups were relatively small when compared with what Morgan (39) suggests. The small groups were not a problem in this study when the GPs were verbal and expressive and all contributed to the results. There is a potential risk during group interviews that the participants affect each other and strive for consensus. The picture shown during the interview affected the result in a way that the technology in focus was defined and the GPs discussed the same technology. The GPs had various degrees of technological experience, which could be one explanation for the various aspects and reasoning within each group. Even the most positive participants had objections, and the most critical saw benefits, but all the participants stressed the importance of human meetings. Either age or experience influenced the GPs’ reasoning and the results show similarities in content between the groups. According to Bender and Elwbak (29), data can be strengthened when similar expressions are found in several groups. Credibility has been striven for when collecting data, and we avoided asking leading questions or finishing participants’ expressions (29). During the analysis, the intention was to work close to the text except for the final stage when the theme was formulated, there was a greater degree of interpretation. The alternative interpretations were checked by all authors. Trustworthiness was supported when all authors took part in discussions in all steps of the study, something which was rigorously carried out.

Conclusions

The theme in the results emphasized that MDST should be used with caution. The GPs reasoned about the possibilities of MDST in health care at home and in nursing homes; however, they also discussed limitations in terms of risks. There are central dimensions of value in health care that MDST cannot capture or replace. It is important to not only describe the care and nursing staff as barriers and gatekeepers to the introduction of new technology in health care. Caution is expressed from a professional perspective based on knowledge, ethical consideration and experience. Understanding GPs’ and RNs’ reasoning about the use of technology in health care must form the basis for implementing technology. The view points of people in need of care should also be taken into consideration and also concerns from the RNs’ and GPs’ perspective. The MDST should primarily be a tool for the profession and not be the other way around. Even if a specific technology was in focus during the group interviews, the conclusions can also be transposed to other physicians and technologies in other countries.

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Author contributions

Axelson, Andersson, and Wålivaara designed the study, analysed the interview text, and drafted the article. Andersson and Wålivaara performed the group interviews, and Wålivaara transcribed the interviews verbatim.

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Ethical approval

The study was approved by the Regional Ethical Review Board in Umeå, Sweden (Dnr. 05-0593M §67/05).

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Using mobile distance-spanning technology in home care


34 Rocco E. Trust breaks down in electronic contexts but can be repaired by some initial face-to-face contact. CHI Conf Proc 1998; 98: 496–502.


TITLE: Encounters in Home-based Nursing Care – Registered Nurses’ experiences
SHORT RUNNING TITLE: Encounters in Home-based Nursing Care

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ABSTRACT

The encounter between registered nurses and persons in need of healthcare has been described as fundamental in nursing care. This encounter can take place face-to-face in physical meetings and through meetings via distance-spanning technology. A strong view expressed in the literature is that the face-to-face encounter is important and cannot entirely be replaced by remote encounters. The encounter has been studied in various healthcare contexts but there is a lack of studies with specific focus on the encounter in home-based nursing care. The aim of this study was to explore the encounter in home-based nursing care based on registered nurses’ experiences. Individual interviews were performed with 24 nurses working in home-based nursing care. The transcribed interviews were analyzed using thematic content analysis and six themes were identified: Follows special rules, Needs some doing, Provides unique information and understanding, Facilitates by being known, Brings energy and relieves anxiety, and Can reach a spirit of community. The encounter includes dimensions of being private, being personal and being professional. A good encounter contains dimensions of being personal and being professional and that there is a good balance between these. This is an encounter between two human beings, where the nurse faces the person with herself and the profession steadily and securely in the back. Being personal and professional at the same time could encourage nurses to focus on doing and being during the encounter in home-based nursing care.

Keywords
Encounters face-to-face, remote encounters, home-based nursing care, nurses, thematic content analysis
INTRODUCTION
Home-based healthcare has increasingly become a more common model for the organization of healthcare (Duke & Street, 2003; Magnusson, Severinsson & Lützén, 2003; Molin & Rom, 2009) and this development is a challenge both for the person in need of healthcare and the healthcare professionals. In order to cater to the individual needs of each person and provide support in the home, the nurses have to meet with them and assess their needs. The traditional way to do this is when nurses are encountering and supporting the person during face-to-face home visits (cf. Nicolaides-Bouman, Van Rossum, Habets, Kempen & Knipschild, 2007) or the person is asked to visit the healthcare centres. The use of distance-spanning technology is an alternative way for encounters which is increasingly used in healthcare at home (Shepperd & Iliffe, 2005). When using distance-spanning technology in home-based healthcare, persons in need of healthcare (Wälivaara, Andersson & Axelsson, 2009) and general practitioners (Wälivaara, Andersson & Axelsson, 2011) have expressed the importance of personal encounters (i.e. face-to-face encounters) and that the distance-spanning technology cannot replace the personal encounter. These findings are in line with many other studies and this emphasizes the need for an increased understanding of the encounter.

BACKGROUND
The nursing discipline is shaped by several defining characteristics and the integration of these defines the nursing perspective. A nursing perspective is known by exploring nursing as a human science, with a practice orientation, caring tradition, and a health orientation (Meleis, 2011). An investigation (Nåden & Eriksson, 2002) about nursing as an art shows encounter as a fundamental category and it is in the encounter that the work of art is created. The encounter is described as being on the same wavelength but not being controlled by each other. The encounter is characterized by solidarity and closeness and in the encounter one is “naked” and completely open to what is happening. The encounter means to enter by oneself and the encounter might entails fear of vulnerability (Nåden & Eriksson, 2002). The first nurse-patient encounter should not be seen as an isolated nursing intervention but rather the start of an ongoing professional caring relationship (Sjöstedt, Dahlstrand, Severinsson & Lützén, 2001). The prerequisite for the relationship between the person and the nurse has changed as the healthcare changed with shorter interpersonal encounters (Hagerty & Patusky, 2003).
A theory of caring and uncaring encounters has been developed by Halldorsdottir (1996). She proposed a continuum of caring and uncaring dimensions and later five modes of being with another. The life-destroying mode is when the care provider depersonalizes the recipient and increases the recipient’s vulnerability by humiliating approaches. The life-restraining mode is when the provider is perceived as insensitive or indifferent towards the recipient. The life-neutral mode is when the provider is not perceived to affect well-being, neither positively nor negatively. The life-sustaining mode is when the provider acknowledges the personhood of the recipient by supporting, encouraging and reassuring, which affect well-being positively but does not increase the perceived sense of healing. The life-giving mode is when the provider of professional human service affirms the personhood of the recipient by connecting in a caring way, thus relieving vulnerability and making the recipient stronger and potentiating perceived well-being, healing and learning. Bailey (2010) discussed that the caring dimensions in Halldorsdottir’s theory could serve as a means to preserve dignity for vulnerable persons. Nurses awareness of the person’s suffering can be considered a precondition for a genuine encounter and the encounter might increase the person’s feeling of dignity and human dignity is confirmed a great degree during encounters (Nåden & Eriksson, 2002). When persons were asked to talk about caring and uncaring encounters with caregivers they described uncaring encounters before caring encounters. It has also been described that uncaring encounters are not helpful for the person (Bailey, 2010). The encounters with nurses in palliative care have been described as a contribution to a person’s sense of security, comfort and well-being (McKenzie, Boughton, Hayes, Forsyth, Davies, Underwood & McVey, 2007). This further indicates the importance of knowledge about encounters in healthcare and nursing care in order to encounter the person with dignity and support the health and well-being. According to Gallagher (2004) there are opportunities for dignity promotion since dignity arises in every nurse-person encounter.

The encounter in healthcare has been studied in different contexts. The home care encounters in a multicultural context are described as essential for creation of trust, support and consolation (Lundgren, Holmberg, Valmari & Skott, 2011). The ethical dilemmas have been described during the faceless encounter in telephone nursing, when nurses have to prioritize between persons they cannot see. Nurses experienced difficulties when they could not read the caller’s face and reaction as they might do in face-to-face encounters. Another dilemma was that nurses have to balancing the caller’s information needs with nurse’s professional
responsibility (Holmström & Höglund, 2007). A study (Wadensten, Engholm, Fahlström & Hägglund, 2009) shows that nurses have a theoretical knowledge of good caring encounters but need more training to develop their encounters with persons and the professional role in nursing homes. Another study (Holst, Edberg & Hallberg, 1999) shows that the encounter between nurses and persons with severe dementia could create meaningfulness for both parties when the encounter confirmed the person’s and the nurse’s identity and nurse’s professional role.

Nåden and Eriksson (2002) expressed the encounter has been studied more in terms of technical aspects. Studies in this field also often include a mix of healthcare professionals as enrolled nurses, registered nurses, physicians and healthcare managers (cf. Westin & Danielson, 2006; Takman & Severinsson, 1999; Wadensten, Engholm, Fahlström & Hägglund, 2009). An important aspect of quality of nurse-patient interactions is the interpersonal skills (Shattell, 2004). One aspect of that competence is knowledge about the person-nurse encounters, which is needed in order to meet the person’s nursing needs (Westin & Danielson, 2006). Nåden and Eriksson (2002) stated that the description of the encounter is ambiguous and the encounter is often viewed in relation to confirmation. They argue that even if the encounter is an act of confirmation there is still something more. According to Westin (2008) the term encounter can be viewed as relating to the terms meeting, appointment or relationship but differs as the encounter often means more personal contact that occur between people who come across and get in touch with each other.

The literature review shows that findings in several studies within nursing research touch the encounter in healthcare but there is a lack of studies with specific focus on the professional encounter from registered nurses’ and district nurses’ perspective in home-based nursing care. There are also several concepts often mentioned in connection to encounter as relationship, interaction and communication. These concepts are fundamental in our understanding of nursing care and are close and to some extent also are overlapping. Regardless of which of these concepts is in focus, the encounter is always the start of the process. The encounter in home-based nursing care can take place through face-to-face encounters and remote encounters. Through the ongoing development of distance-spanning technology the numbers of ways the professional encounter can take place is steadily increasing. The encounter is an important dimension in home-based healthcare (cf. Wälivaara, Andersson & Axelsson, 2009;
Wälivaara, Andersson & Axelsson, 2011) and in order to promote nursing care that supports dignity, health and well-being there is a need for deeper knowledge. One way to achieve that is to draw on the experiences of nurses who work daily in home-based nursing care. The aim of the study was to explore the encounter in home-based nursing care based on registered nurses’ experiences.

METHODS
The study had a qualitative approach using individual interviews to explore experiences and how nurses make sense of their subjective reality and the values they attached to it (c.f. Denzin & Lincoln, 2005).

Participants and Procedure
The study was carried out in the northern part of Sweden. Healthcare managers (n=8) in four territories were contacted and gave their consent for the study. They were also asked to name those registered nurses (RNs) and district nurses (DNs) that fulfill the inclusion criteria, which was at least one year’s experience of work as a RN or DN in home-based nursing care. Information about the study was sent out to 24 RNs and 18 DNs and they were asked to participate in an interview. Of these 13 RNs and 11 DNs, all female, agreed to participate in the study. Six RNs and six DNs declined to participate and five RNs and one DN did not answer. Written and verbal information about the study and that the participation was voluntary with the possibility of withdrawing from the study at any time without explanation was given. Assurance was given that the presentation of the findings would be performed in such a way that none of individuals could be recognized by others. The study was approved by the Regional Ethical Review Board in Umeå, Sweden (Dnr 2010-224-31M).

Context
The four chosen territories represent three remote areas and one city area. In the same area, both healthcare managers in primary healthcare and healthcare managers for social welfare services are responsible for home care services. This means that both the county council and the municipality were involved. The DNs were employed by the county council and they were responsible for healthcare in ordinary homes and the RNs were employed by the municipality and they were responsible for healthcare in sheltered housing e.g. residential homes. The DNs and the RNs had extensive experience of home visits as well as distance-spanning technology
e.g. phone contact in daily work in home-based nursing care. They had large variation in travel distance to persons they care for (Table I). The DNs have no staff they can delegate assignments to, while the RNs have enrolled nurses that they supervise. DNs work at a healthcare center and the policy in Sweden is that most care should be performed at the healthcare center and only for special reasons home visits should be performed and the home visits are free of charge for the person. The RNs have always the possibility to send an enrolled nurse to visit the person and report from the visit.

Table I, Overview of travel distance, numbers of sheltered housing and home visits.

<table>
<thead>
<tr>
<th></th>
<th>RN (n=13)</th>
<th>DN (n=11)</th>
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<tbody>
<tr>
<td>One way travel distance for home visits (n)</td>
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<tr>
<td>0-54 km</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>0-83 km</td>
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<td>2</td>
</tr>
<tr>
<td>0-100 km</td>
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<td>1</td>
</tr>
<tr>
<td>0-130 km</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>0-200 km</td>
<td>-</td>
<td>2</td>
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<tr>
<td>Responsible for the numbers of sheltered housing during daytime (n)</td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td>8</td>
<td>-</td>
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<td>2</td>
<td>4</td>
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<tr>
<td>3</td>
<td>1</td>
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<tr>
<td>Average number of home visits per week (n)</td>
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<tr>
<td>10</td>
<td>-</td>
<td>2</td>
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<tr>
<td>11-20</td>
<td>-</td>
<td>6</td>
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<td>21-30</td>
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<td>31-40</td>
<td>7</td>
<td>2</td>
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<td>41-50</td>
<td>3</td>
<td>-</td>
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<tr>
<td>51-60</td>
<td>1</td>
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<tr>
<td>120</td>
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Concepts

The conception nurse in present study includes RNs and DNs. The home includes ordinary homes and sheltered housing, and a sheltered housing in Sweden can be a residential home and a nursing home. The concept encounter constitutes a professional encounter in nursing care at home, and the encounter can take place through face-to-face encounter and remote
encounter. A face-to-face encounter means a physical meeting in the same room and a remote encounter means a meeting through distance-spanning technology. Distance-spanning technology in the present study means phone, web camera and videoconference.

Data Collection and Analysis
The participants were interviewed individually and according to the participants’ wishes the interviews were carried out at the participant’s home (n=2), place of work (n=21) or at the interviewer’s office (n=1). An open interview with five areas was used (Table 2) (cf. Kvale & Brinkmann, 2009). The interview opened with: Please tell me about a situation where the encounter was crucial for the person in need of healthcare and nursing care at home. The interviewer asked follow-up questions to stimulate and elicit the participants to share their experiences to get a clearer picture for the focus areas for the interview. The interview ended with the question: If you could describe a good encounter in healthcare at home, which three words would you choose. Data was collected by the first author between October 2010 and December 2010, except for one interview which took place in March 2011. The interviews were tape-recorded and lasted for 60-90 minutes.

Table 2, Areas for the interviews (n=5).

<table>
<thead>
<tr>
<th>Areas</th>
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<tbody>
<tr>
<td>Situations when the encounter were crucial</td>
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<tr>
<td>What happens during home visits</td>
</tr>
<tr>
<td>Face-to-face encounter</td>
</tr>
<tr>
<td>Remote encounter</td>
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<tr>
<td>Three words describing the good encounter</td>
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</table>

The interviews were transcribed verbatim. From the beginning the interview text from RNs was viewed as one text and the text from DNs as another text. The analysis was started, reading the text several times in order to get a sense of the whole (cf. Sandelowski, 1995). During these readings it was clear how similar RNs and DNs described the encounter and it was only contextual differences in the texts. The interview texts were then viewed as one text and during the next reading two main areas were identified, encounter and relationship. A decision was made to divide the text according to those areas and analyze them separately. The analysis of relationship will be published elsewhere.
A thematic content analysis inspired by Berg (2006) was used. The text about encounter was read several times before it was divided into meaning units and then condensed. The condensed meaning units were sorted according to similarities and differences. To provide an audit trail each step of the analysis process was stored in NVivo 9 (cf. Richards, 2009). It is then possible to follow every single meaning unit during every step from the original interview text to the themes. During every step of the analysis process the groups of text were compared with the raw data to ensure that the themes reflect the data. All the authors took part in the analysis process to ensure trustworthiness.

The nurses’ choice of three words describing the encounter were clustered in Swedish and later translated supported by a person fluent in Swedish and native in English. The clustering meant that words with similar meaning were brought together in one word e.g. “present” and “being here and now” were represented by the word “present”. After translation, words that occurred more than once were put into the computer program Wordle in order to generate a word cloud as a visualization of data. Figure 1 provides a snapshot of words that occurred more than once, which reflect parts of the interviews. The word cloud gives greater prominence to words that appear more frequently.

RESULTS

Words describing the encounter

The three words the nurses chose to describe a good encounter were to large extent in congruence with the themes of the interviews. In the clustering the words security, presence, time, respect and seeing (the person) were most common (Figure 1).
Figure 1. The nurses’ choice of three words that describe the good encounter in home-based nursing care that occurred more than once. The word cloud gives greater prominence to words that appear more frequently.

The themes of encounters

During the analysis six themes about the encounter in home-based nursing care were identified (Table 3). When nurses described the remote encounter, it was common that they compared with a face-to-face encounter, although they were not asked to do that.

Table 3, Themes found in nurses’ descriptions of encounters in home-based nursing care (n=6).

<table>
<thead>
<tr>
<th>Themes</th>
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<tbody>
<tr>
<td>Follows special rules</td>
</tr>
<tr>
<td>Needs some doing</td>
</tr>
<tr>
<td>Provides unique information and understanding</td>
</tr>
<tr>
<td>Facilitates by being known</td>
</tr>
<tr>
<td>Brings energy and relieves anxiety</td>
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<tr>
<td>Can reach a spirit of community</td>
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</tbody>
</table>
Follows special rules

From the nurses’ narrations it was obvious that they entered the homes as guests and followed common social rules. They entered both as private persons in a normal social encounter and as professionals, and the challenge seemed to be to find the right balance between these two.

Follow common social rules meant for example to wait for invitations or appointments, to greet and take of their coats and shoes in the hallway before entering the home. It was common to start the conversation about everyday life issues, and wait with the discussion about caring tasks until they had established the contact. To take time was essential and as a guest it is not acceptable to rush the encounter. The social aspect of the visit is never in vain since it always has a personal meaning for both the person and the nurse, and also provides information for the professional assessment.

when I come home to someone I’m the guest in their home...so I have to listen and check out what what do you want that I almost so to speak how should I behave myself, I cannot just trudge in and like here I come...but then I take a step back and so we meet half-way (DN7:91)

The challenge to balance between being a social and professional person is to balance between being private and being close, to respect integrity and privacy. The encounter means, among other things, to reach a person-to-person level where the person can feel loved and confirmed without being private. It also means being able to share personal experiences or thoughts.

and I think it is important that you therefore should be professional but still be personal in some way...this personal encounter in the personal encounter then so I’m mainly professional...I want to be but you still become personal and I think after all that it is important to show that you are not only a district nurse but I’m also one who can think and have an opinion (DN9:67)

Needs some doing

The encounter often included doing, which had a special value and was central during home visits. Doing in the face-to-face encounter meant for example assessment of health status, support the person’s daily life, create care plans and doing follow-ups, assessing situations in the home environment, doing what the person asks the nurses to do, performing what the physician prescribes, giving injections and measuring blood pressure (Table 4). The nurses usually had to work alone and sometimes do tasks they had never done before. Nurses should
also support the enrolled nurses in order to support them when they worked with persons at home.

Table 4. Examples given in the interviews about what nurses had performed during home visits.

<table>
<thead>
<tr>
<th>Tasks</th>
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<tbody>
<tr>
<td>Assessments e.g. assessing health status, symptoms, skin control with Norton and risk assessments in home environment</td>
<td></td>
</tr>
<tr>
<td>Measurements e.g. measuring blood pressure, blood tests and weight</td>
<td></td>
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<tr>
<td>Assistance and guidance e.g. conversations and responding to questions, give advice, give information and education, and supporting next of kin and enrolled nurses</td>
<td></td>
</tr>
<tr>
<td>Interventions e.g. facilitate and support the person’s everyday life, calm, console and relieve anxiety, treatment of wounds, massage and preventive care in home environment</td>
<td></td>
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<tr>
<td>Follow-ups e.g. care plans, ADL-status and nutrition status</td>
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</tbody>
</table>

During a one-off visit, the focus was often on doing and the encounter was usually more distanced, which meant that the intention was not primarily to build a relationship. This changed when the nurse knew that she would meet the person on a regular basis. The issue of whether they should focus on building a relationship was often an ethical question for nurses in particular when they worked as a stand-in nurse. The face-to-face encounter included an initial assessment of what needed to be done and this assessment often changed during the communication. It seemed as there was a risk that too much focus on doing in the encounter meant that the person was not seen.

_I notice myself that when I start as a stand-in…it feels I know myself that I'm not committed because I think that I cannot build a deeper relationship because I'm only here now...because sometimes I feel the need to continue time after...you cannot sort of begin to tear or get a human open up and then goodbye and thanks...but then I stay distanced that I have felt that one does...at least I stick only to what I should do...and I think that's sufficiently, everything else [primary nurse] can deal with (DN2:52)_

Supervisory visits to meet the person and get a sense of their situation were made when nurses deemed it necessary but were not encouraged by their employers. In those cases the nurses often invented an excuse of some doing as measuring the blood pressure to legitimate the visit. An encounter via distance-spanning technology was sometime an alternative when doing were required, but it also had its limitations. An assessment over the phone could be a
challenge in particular when the person had difficulties in explaining and specifying the problem and it was usually easier and safer to make decisions at distance when the person was known. Making decisions over the phone or via other modes of remote communication is a skill that takes time to learn and the nurses had the experience that they sometimes made a decision over the phone that they later had to revise.

but I do not think that uh...you go to somebody like that just because... you only must have a reason why you are coming (DN6:106)

Provides unique information and understanding
The nurses had the experience that face-to-face encounters could provide unique information and special understanding that was necessary for good and safe care of the person. They felt that the face-to-face encounter was necessary in order to get a holistic picture of the person and their situation at home. In comparison, the remote encounter provided less information and understanding, and the holistic picture was difficult to achieve.

Much of the important information needed in the assessments was made when being with the person, information that was perceived difficult to get without a home visit. This included, for example, information about moods and the atmosphere in the family. Trust and confidence were essential to build and the respect of the person was a prerequisite for a genuine encounter where information could be exchanged freely. Needs were identified through conversation, observation and assessment, and evaluation was done by observation. How nurses listened, spoke, used body language and physical contact were important when supporting the person. The experiences were that the nurses’ own stress could be transferred in the encounter but also that their presence could provide peace and calm. The person could read the nurses e.g. if the nurse was interested in the person and how the nurse related.

you become more confident of what you...you prescribe or assess yes in the face-to-face encounter? Yes you get it there (RN9:81)

A unique understanding was sometimes achieved when the encounter was good. In face-to-face encounter this meant to meet at the same level i.e. nurses encounter the person with dignity at the person’s level despite differences as social class, drug addiction and sexual
orientation. This could provide an understanding of the person behind all facades, frailties and different behaviors. Face-to-face encounters gave possibilities to understand the person’s background and personality i.e. take part of the person’s life story and not just present symptoms and diseases. The experience was that in order to understand the whole they had to dare to be close to the person.

but if it’s about for example you have a dressing it might be difficult for a person to describe but uh...it's impossible to do without the personal encounter...either it’s not possible to get a real idea how it looks...even if they're trying to describe...so yes it's necessary to do that visit to get a comprehensive view (DN9:34)

The encounter at home included contact with next of kin and nurses had to understand and meet their needs too. A mutual communication between the person, next of kin and the nurses was a prerequisite for understanding where needs were identified and understood. It was common that drinking coffee or eating together, small talk and touching when accepted could provide special understanding.

they [the persons] can also have a family member or...and it’s also very important not to forget them that I’m so...they care for those closest...so that I don’t forget about them because many times there are two personal encounters during a visit (DN6:126)

During remote encounters the conversation over the phone often gave less information and it required a skill and previous knowledge of the person to compensate. Videoconferences added more information in the interaction, but the experience was that it was still difficult to get a holistic picture since subtle information that could lead to identification of additional nursing needs was often missing. Touch was missing, the atmosphere could not be read and the sense of control was lost. Remote encounters were positive and useful when the technical quality was good, but poor sound decreased the sense of security. In situations with long travel distance between the person and the nurse the remote communication was perceived as very useful since the number of encounters could be increased. The experience of the nurses was that it was more useful with remote communication in the interaction with colleagues than when supporting a person at home.

Facilitates by being known
In general, nurses knew how to create a good encounter, although there was no simple recipe for a successful encounter in the home. The experience was that many things could influence the outcome of an encounter that was connected to people, the situation at a special moment and conditions on that particular day. Despite the variation in factors and situations, a common thread in a nurse’s experience was that knowing the person was an important facilitator for the encounter. Encounters when not knowing each other could lead to a wait-and-see approach while knowing the person meant knowing how to approach the person. Knowing the person was especially important during remote encounters. The experience was that an unknown nurse could frighten and make the person in need of healthcare uncertain while a known nurse could stimulate the communication and support the person in telling them about their needs. Relationships were developed when nurses showed engagement and gave a sense of caring for the person.

"it depends on who it is and how well I know them if I have had they've lived here for ten years already well then I know them quite well [laughs] maybe then I can assess over the phone and if it's something common and it also depends on what it is also" (RN7:1)

The way the encounter developed had an impact on if it was going to be a superficial or nurturing caring relationship. The ultimate encounter takes place face-to-face at home and gives opportunities to develop good relationships. Encounters that never reach a personal level could lead to harm, especially in illness and it seemed that nurses have to fight for having good encounters. With sadness they stated that encounters on a personal level were not promoted or rewarded by the management in the home-based nursing care.

"it should be included in work descriptions that you will actually establish...you will have meetings, encounters and established good contact with care recipients" (RN4:74)

*Brings energy and relieves anxiety*

During face-to-face encounters the sense of being with the person in need of care could develop and become a dominant feeling, a feeling that could influence and alter the atmosphere and mood, both of the nurses and the persons in need of care. This feeling was rare to sense in remote encounters through distance-spanning technology.
Altered atmosphere and mood meant, for example, that the person’s and the nurse’s negative emotions could turn into positive feelings during the face-to-face encounter. The encounter brings joy and energy in spite of difficult situations when emotions were shared. This sense of presence could relieve anxiety, give support and comfort to the person at home. The nurses’ willingness to meet with the next of kin together with the person with health problems was regarded as an expression of the nurse’s appreciation of them as persons, especially when nurses had to travel long distance for a home visit.

and when I went outside, I felt God what a good work I did she felt so heavenly and I felt so good I got such an energy when she was so happy that I came in and I did nothing more I just stood there talking I didn’t really do anything and....so you felt yes this is what I want to experience every day that’s why I’m a nurse (RN1:22)

During remote encounters, the personal level and the feeling of being present were more difficult to obtain. For example, encounters via a web camera often gave a different contact and it was difficult to sense energy in the interaction. When unfamiliar with the videoconference encounter the focus was often on technical issues and appearance, which sometime created a tension between the nurse and the person in need of healthcare. Part of the body language can be read but certain cues were hard to read and situations with small talk were rare in videoconferences. Encounters via the phone were complicated by the loss of body language.

you can probably sense a mood when you get to meet a person in the same room and you can never feel that when using a computer screen absolutely not, it is important to capture...but then it may change during the encounter, it needs not be static because it is living (RN4:55)

Can reach a spirit of community
The face-to-face encounter could sometime develop to a sense of reciprocity and deeper fellowship between the nurse and the person. The experience was that this sense of community could be reached both in silence and in conversation. An increased focus on being during the encounter gave the opportunity to achieve a sense of community. The experience was that extensive work experience as a nurse increased the courage to focus on being. On the other hand, much use of remote encounters reduced the possibility of sensing a spirit of community. During encounters in the home there were periods when no words were spoken, when words were not necessary. Silence meant calm and peace where thoughts and questions
could be formulated and deeper understanding occurred in the spirit of community, when silence could facilitate seeing each other’s reactions. The sense of a spirit of community could also be reached through conversation about important issues and when having something in common. Reciprocity and deeper fellowship during encounters was important for both the person with caring needs and the nurse and sharing in a spirit of community means promoting a sense of being together.

we humans are such beings who needs each other, even if I am the one that gives at that occasion, it’s still I...I get of it as a human being...simply get from another human being it’s hard to know and that could mean...it’s actually also love yes then you get love it is something like that yes...some exchange that you get then maybe you could call it...or mutual understanding....undoubtedly there are needs for me to give and to help for this particular mutual needs to be there for other human beings...you have needs to give that’s also a part, it’s not only yes not only to receive (RN5:23)

it can be quiet but then it may also be that they start to tell you more, things are being brought up that would not have come up otherwise if we had not had this silence...that I need to know to provide good nursing care yes to give adequate care (RN5:43)

I’ve been in encounters where you almost have not said anything because there have been no words...there haven’t been any words to use no but I have been there and been supportive and comforting in this being (DN1:81)

Remote encounters reduced feelings of thinking and solving problems together and it was a different way of interacting than sitting next to each other. Nurses described that “real” encounters must take place in the same room. The nurses perceived that the future will bring more remote encounters in healthcare at home, but still they hoped that face-to-face encounters were possible when it is time to be cared for.

at least I want to meet people [laughs] that someone can sit next to me...me and I can talk...uh even I also can talk through video contact but it it’s different (RN12:52)

DISCUSSION
The aim of the study was to explore the encounter in home-based nursing care based on registered nurses’ experiences. The analysis resulted in six themes; Follows special rules, Needs some doing, Provides unique information and understanding, Facilitates by being known, Brings energy and relieves anxiety, and Can reach a spirit of community.
The findings indicate that the encounter has a personal meaning for both the nurse and the person. It is important and fundamental in home-based nursing care and there are various dimensions of it. The importance of the encounter is emphasized by the Buber’s argumentation (1923/1994) about the interpersonal encounter. Buber described human existence as the encounter I and Thou, and he argues that all authentic life is encounter.

Viewing the findings of the present study, in the light of Halldorsdottir’s theory (1996) of different modes of nursing encounters it provides the possibility of a greater understanding. A fundamental concept in the theory is that the human encounter should not be described as a dichotomy of caring encounter/uncaring encounter, instead encounters can be viewed as a continuum of caring and uncaring dimensions. The theory includes five basic modes of being with another and the themes of the present study support the importance of being with the person in the encounter.

The five modes of caring encounters can be described as a continuum of modes from the most uncaring to the highest quality of caring mode (Halldorsdottir, 1996). In present study the nurses gave no examples that can be referred to the life-destroying mode, which is a destructive mode when the nurse depersonalizes the person and increases the person’s vulnerability by humiliating approaches (Halldorsdottir, 1996). The findings show no explicit dimensions of life-restraining mode however the nurses described the importance of taking time and not rush the encounter which could be understood as avoiding life-restraining mode. Life-restraining mode is for example when the person feels that she is bothering the nurse when asking for help which negatively affect the person’s well-being (Halldorsdottir, 1996). There were many examples that can be referred to the life-neutral mode, for example when the nurse focused on doing the encounter was more distanced and the intention was not primarily to build relationship. Another example was the wait-and-see approach that often occurred when the nurse and the person were strangers for each other. Most of the description of remote encounters, could be understood as a life-neutral mode, which is when the nurse is detached from the true center of the person and there is no or limited effect on the energy or life of the person. The nurse cares about routines and tasks to perform but not about the person as a person, and the person’s specific needs. In this mode the nurse is not perceived to affect the person’s well-being neither positively or negatively and relates to making and maintaining the contact (Halldorsdottir, 1996).
The positive caring encounter was characterized by the nurse confirming the person. The nurse takes part of the person’s life story, their next of kin, symptoms and diseases. Face-to-face encounters were important to get unique information, understanding and a holistic picture. Knowing each other was also important. This could be understood as the life-sustaining mode and means that the nurse is genuinely interested in the person and is skillful and committed to the provision of personalized care, and safeguards the person’s integrity and dignity which affect well-being positively (Halldorsdottir, 1996). The encounter could sometime reach a spirit of community with reciprocity and deeper fellowship with the person in need of care. Being together could bring energy and relieves anxiety. This could be understood as a life-giving mode. The life-giving mode is being with each other i.e. nurses being with the person rather than working on the person. The nurse connects in a caring way, relieves vulnerability and supports the person to increase well-being, healing and learning. This mode is the truly human mode of being and is represented by healing love (Halldorsdottir, 1996).

The findings emphasize that the good caring encounter means an encounter on a person-to-person level where the person is seen behind all facades and roles. According to Buber (1923/1994) the I and Thou encounter is a concrete encounter because the persons encounter one another in their authentic existence without any qualification or objectification of one another. Buber argues that all authentic life is encounter where I encounter Thou. A study (Rehnsfeldt & Eriksson, 2004) shows that the encounter should be at the level where the person is spiritually and existentially situated and when the nurse and the person work with meaning-creating of the situation, it can alleviate suffering. In present study when nurses focused on doing the encounter tended to be more distanced and this can be a threat to the I and Thou encounter. Ford (1990) describes a caring encounter as “caring for is a way of doing while caring is a way of being”. Halldorsdottir’s theory (1996) presents the professional caring within nursing to involve competence, caring and connection, and is described with the metaphor the bridge. Lack of professional caring involves perceived incompetence, indifference and disconnection, and is described with the metaphor the wall. In the present study the balance between being professional and private was emphasized and the components of being professional were described in a similar way as in the Halldorstottir’s theory (1996). The balance meant to be professional and personal but not private, which
according to Öresland, Määttä, Norberg, Winther Jörgensen and Lützén (2008) is difficult. Beverley (1992) points out the need to conceptualize the nurse as a person not only as a professional role, a person who shares the everyday human qualities of the persons they care for.

The present study indicates that remote encounters could sometimes be useful in home-based care, but it also provides limitations to the encounter. There were experiences were the videoconference gave more information than the phone but also that distance-spanning technology limited the possibility of having a holistic picture. There are examples of research that indicate that remote consultations can reach higher levels of quality in encounters then just life-neutral mode (Halldorsdottir, 1996). It was as an example shown that teleconsultations could provide feelings of nursing presence in remote communication with elderly persons in nursing homes when familiarity, safety and interest were promoted (Sävenstedt, Zingmark & Sandman, 2004). Distance-spanning technology could increase the number of encounters especially in situations with long travel distance, which is an important dimension of quality and a study (Pols, 2010) points out that remote encounters could lead to more specialized contacts between nurses and persons in their homes.

The present study indicates that it is not the different technologies for remote encounters that are the problem, but rather if the needs in the communication with the person with a health problem and their next of kin are in focus or not. There is a risk that the cost efficiency will promote a technology solution for remote encounters instead of face-to-face encounters despite the need. Buber (1948/2005) describes this risk as the modern man’s crisis. Technology was created to be a tool and support the human but the technology took the human into its service and the human became its extension. The human’s task became peripheral, to feed the technology and take care of what it produces. In order to handle this risk nurses in home-based nursing care need to learn how to use the distance-spanning technology as a tool in situations when it can serve to promote competence, caring and connection in the encounter (Halldorsdottir, 1996).

**Methodological Considerations**

The sample for this study was chosen to reflect a variation of experience of encounters in home-based nursing care in selected territories of a county of northern Sweden. All nurses in
each selected territory were asked to participate in the study and there was a good variation of working experiences between nurses in remote settings and experiences from more urban areas and home-based nursing care. The intention was to carry out the interviews in a respectful manner and avoid leading questions that could hamper the free narration of the nurses, and the experience was that the nurses provided rich realistic stories. The strength of this study was that the nurses had extensive experiences of both face-to-face encounters as well as remote encounters in home-based nursing care, even though they had more experiences of face-to-face encounters than remote encounters. This could have affected their descriptions of the encounter and the findings.

In order to avoid unreasonable interpretations when identifying the themes, all authors took part in the analysis and the writing of the article and alternative interpretations were tried, which increase the trustworthiness of the interpretation (cf. Berg, 2006). The presentation of the results of the three most important words describing a positive encounter as a “word cloud” should be viewed as a snapshot, indicating a direction and not an exact measurement. The transferability of the results has to be viewed from the standpoint that this is a qualitative study that is carried out in a special context (cf. Stake, 2005). However the topic of the study relates to a common human phenomenon where we all have some experience. Stake (2005) stated that people make generalizations from personal or others’ experiences and this can sometimes be an unconscious process when new and old experiences are put together. This means that the reader of this article can determine whether these findings can be transferred to the context in which the reader is located and how these findings can be connected to the readers own existing knowledge. Transferability of the results of this study is supported by the fact that parts of the findings confirm previous findings in nursing research and add some new dimensions which further develop the understanding of the encounter. The findings are also, to large extent, supported by Halldorsdottir’s theory (1996) about encounter in nursing care. We did not ask for descriptions of destructive encounters which might be an explanation as the lack of these expressions in the results compared to the theory.

CONCLUSION
The findings indicate that there are three important dimensions in the nurse-person encounter in home-based nursing care, the dimension of being private, being personal and being professional. A positive encounter contains dimensions of being personal and being
professional and that there is a good balance between these. The encounter in home-based healthcare constitutes a special context where the nurse is a guest and where the balance between being personal and professional is a challenge. In a situation where more remote encounters through distance-spanning technology are encouraged, the nurse have to learn to develop work strategies that can promote competence, caring and connection in the encounter in home-based nursing care.

CONFLICT OF INTEREST
Non-declared.

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REFERENCES


TITLE: Caring relationships in Home-based Nursing Care – Registered Nurses’ experiences
SHORT RUNNING TITLE: Relationships in Home-based Nursing Care

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ABSTRACT
The caring relationship between the nurse and the person in need of nursing care has been described as a key concept in nursing and could facilitate health and healing by involving the person’s genuine needs. The aim of this study was to explore registered nurses’ experiences of their relationships with persons in need of home-based nursing care. Individual interviews with nurses (n=13 registered nurses and 11 district nurses) working in home-based nursing care were performed. A thematic content analysis was used to analyze the transcribed interviews and resulted in the main theme Good nursing care is built on trusting relationship and five sub-themes, Establishing the relationship in home-based nursing care, Conscious efforts maintains the relationship, Reciprocity is a requirement in the relationship, Working in different levels of relationships and Limitations and boundaries in the relationship. A trusting relationship between the nurse and the person in need of healthcare is a prerequisite for good home-based nursing care whether it is based on face-to-face encounters or remote encounters through distance-spanning technology. A trusting relationship could reduce the asymmetry of the caring relationship which could strengthen the person’s position. The relationship requires conscious efforts from the nurse and a choice of level of the relationship. The trusting relationship was reciprocal and meant that the nurse had to communicate something about themself as the person needs to know who is entering the home and who is communicating through distance-spanning technology.

Keywords
Relationship, home-based nursing care, registered nurses, experiences, distance-spanning technology, interviews, thematic content analysis
BACKGROUND
One of the key concepts in nursing is the caring relationship between the nurse and the person in need of care, and the care relationship together with the task to be undertaken form the core of nursing care (Meleis, 2011; Norberg et al., 1992). The care relationship could be described in a poesis perspective and means that there is a goal of nursing action outside the relationship. The nursing relationship could also be described from a praxis perspective where there is no goal of nursing actions beyond the relationship itself (Elstad & Torjuul, 2009; Norberg et al., 1992).

A systematic literature review (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009) shows that the concepts of interaction, communication and relationship are not clearly defined in nursing literature. The concepts are close to each other and strongly intertwined and are sometimes used interchangeably. In the literature there are also different concepts of relationships for example, care relationships, nursing relationships, interpersonal relationships, therapeutic relationships and caring relationships and it is not always clear what the differences are and also these concepts are sometimes used interchangeably.

Kasén (2002) argues that a care relationship could develop to be a caring relationship. In a caring relationship the whole person is included, which is physical, mental and spiritual aspects. The caring relationship could enable human growth. A caring relationship could be seen as a mutual relationship that requires trust between the both parties. Within the caring relationship the caregiver gives a promise of care and implicit promises of alleviation of suffering and also a promise of togetherness and personal contact (Kasén, 2002). The caring relationship can be understood as balancing between vulnerability and dignity i.e. decreasing vulnerability and maintaining dignity (Berg, Berntsson & Danielsson, 2006). The caring relationship could also be understood as a relationship that facilitates health and healing by involving the person’s genuine needs (Attree, 2001). An uncaring relationship was described when the person was an object to be cared for and the caregiver performs the task. When the caring relationship is absent the person is left alone in their anxiety, pain and fear (Kasén, 2002).

Løgstrup (1956/1992) considers that when two people enter a relationship with each other an ethical demand appears, which is related to the fact that we as human beings are
interdependent. Naturally, we encounter each other with trust which is fundamental to all social intercourse. The trust makes us vulnerable when we expose ourselves to each other and trust means that we expect the other to preserve our dignity. During the encounter we have power and responsibility for each other as we hold each other’s lives in our hands. The trust will persevere and the power will be used to promote the other’s potential.

In nursing care, maintaining a helping relationship is a way of caring for human needs. This caring relationship means that the nurse focus on needs, limitations and the potential of the person (Gámez, 2009). The nurses have to be authentic and adaptive to the person in need of care and the situation (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009). Good relationships might also improve persons’ satisfaction with nursing care (Walshe & Luker, 2010). The professional relationship is an important aspect of nursing care and can have both positive and negative effects on persons’ experiences of the nursing care (Fleischer, Berg, Zimmermann, Wüste & Behrens, 2009) and quality care (Attree, 2001).

The relationship in nursing has been studied widely, particular in psychiatric care (Hörberg, Brunt & Axelson, 2004) and in palliative care (Iranmanesh, Hägström, Axelsson & Sävenstedt, 2009; Mok & Chiu, 2004). A study (Iranmanesh, Hägström, Axelsson & Sävenstedt, 2009) shows that nurses created a close relationship when caring for dying persons and the study also shows differences in nurses’ experiences when caring for dying persons in hospital and in home care. In the hospital settings, the nurse had to provide the family with the opportunity to take part in the care of the person and in home care settings the nurse was invited to the family’s daily life and their means of caring for the dying person. A realist review of literature (Walshe & Luker, 2010) shows clearly the importance of the relationship between district nurses and persons in need of palliative care. It also shows that few studies explore what a relationship meant and what its purpose is to the nurse. Gámez (2009) emphasizes that the attention of nursing is determined by the uniqueness of the nurse who is caring, regardless of the context or the person cared for.

Since the relationship seems essential for the outcomes of the nursing care and also affects the person’s experiences of received nursing care it is important to study the relationship further in home-based nursing care where the context of the relationships usually is different compared to hospital care. Another important reason for study the relationship further is that
the literature has shown that care suffering arises from negative relationships despite the fact that it is supposed to promote health and well-being (Dahlberg, 2002). The nurse is responsible for the caring relationship and that the relationship turns out positive. The aim of this study was to explore registered nurses’ experiences of their relationships with persons in home-based nursing care.

METHODS
A qualitative approach with individual interviews and a thematic content analysis were chosen for this study (Berg, 2006).

Participants and Procedure
Healthcare managers (n=8) in four territories in the northern Sweden were contacted and gave their consent for the study. The healthcare managers were asked to name registered nurses (RNs) and district nurses (DNs) who had at least one year’s experience of working in home-based nursing care, which was the inclusion criterion for the study. A total of 24 RNs and 18 DNs received letters with information about the study and they were asked to participate in an individual interview. Thirteen RNs and 11 DNs agreed to participate. All participants were female. Six RNs and six DNs declined to participate and five RNs and one DN did not reply. The participants were given written and verbal information about the study and that their participation was voluntary with possibility of withdrawing without any explanation at any time. Assurance was given that the presentation of the findings would be used in such a way that none of them as individuals could be recognized by others. The study was approved by the Regional Ethical Review Board in Umeå, Sweden (Dnr 2010-224-31M).

Context and Concepts
The four chosen territories represent one city area and three remote areas. In each territory both healthcare managers in primary healthcare and healthcare managers for social welfare services are responsible for home care service. This means that in the same territory, both county council and the municipality are responsible for healthcare. The DNs were employed by the county council and responsible for healthcare in ordinary homes. The RNs were employed by the municipality and responsible for healthcare in sheltered housing. The DNs have no staff they can delegate assignments to and the RNs have enrolled nurses who they can supervise and delegate some assignments to. All participants had extensive experience of
home visits as well as distance-spanning technology especially telephone contact, in their daily work in home-based nursing care. The policy in Sweden is that the most care should be carried out at the healthcare center, where DNs work, and only for special reasons DNs should make home visits. The RNs do not need a prescription but can decide when they make home visits. The participants had a large variation in the distance travelled to the person in need of healthcare at home. In present study the idea of a nurse is used and includes RNs and DNs.

*Primary nurse* means a nurse who has primary responsibility for nursing care and healthcare for a person. *Secondary nurse* means a nurse who is responsible for but does not have primary responsibility for a person’s nursing care and healthcare. *Stand-in nurse* means a registered nurse who is deputize for a primary nurse. The conception *home* includes ordinary homes and sheltered housing. In Sweden sheltered housing can be a residential home and a nursing home. *Distance-spanning technology* in the present study means a telephone, web camera and videoconferencing equipment. Selected concepts are based on our interpretation of the participants’ descriptions and our knowledge of the organizations.

**Data Collection and Analysis**

Data was collected through open individual interviews. The interview questions grew out of the nurses’ argumentations about the need for encounters in order to establish and maintain a relationship and the importance of relationships in home-based nursing care. The narration was supported with follow-up questions and clarifying questions such as “You say that the relationship is important, can you explain and describe more?”; “Can you give examples?”; “What happened within the relationship in home-based nursing care?” (cf. Kvale & Brinkmann, 2009). According to the participant’s wish, the interviews were carried out at the participant’s home (n=2), at the participant’s place of work (n=21) and at the interviewer’s office (n=1). The interviews were tape-recorded and lasted for 60-90 minutes. The interviews were carried out by the first author between October 2010 and December 2010, except of one interview that was done in March 2011. The interviews were transcribed verbatim.

The analysis started with a reading of the text several times to get a sense of the whole (cf. Sandelowski, 1995). The interview text from the RNs and DNs were viewed as one text and was later divided into two main areas, relationship and encounter, which were identified in the text and analyzed separately. All interview text was the focus for analysis. The present study is an exploration of the relationship and the analysis of the encounter will be published.
elsewhere. The analysis continued with a thematic content analysis inspired by Berg (2006), which meant that the text about relationship was read several times and then divided in meaning units and condensed. The condensed meaning units were sorted according to similarities and differences and the analysis process was stored in NVivo 9 which provides an audit trail from the original interview text during every single step of the analysis to the themes (cf. Richards, 2009). Text units were step-vice grouped into categories of content and merged into higher abstraction level. Finally, themes (cf. Berg, 2006) and a main theme (cf. Baxter, 1991) were interpreted. To ensure trustworthiness in the analysis process the categories and themes were regularly compared with the original interview text and all authors took part in the process (cf. Berg, 2006).

RESULTS
During the analysis both explicit and implicit themes were identified (cf. Berg, 2006) that reflect dimensions of relationship in home-based nursing care. Altogether one main theme and five sub-themes were identified (Table 1), where the main theme describes the thread of implicit meaning of the whole interview text (cf. Baxter, 1991). Each sub-theme should be viewed as an interpretation of the content in part of the text. Metaphorically speaking the main theme is the warp that runs through the entire weave of content and the weft are sub-themes that represent different patterns in the weave (cf. Häggström, Axelsson & Norberg, 1994).

Table 1. Main theme (n=1) and sub-themes (n=5) found in nurses’ experiences of relationships in home-based nursing care.

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Sub-themes</th>
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<td>Good nursing care is built on a trusting relationship</td>
<td>Establishing the relationship in home-based nursing care</td>
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<td>Conscious efforts maintain the relationship</td>
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<td>Reciprocity is a requirement in the relationship</td>
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<td>Working in different levels of relationships</td>
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<td>Limitations and boundaries in the relationship</td>
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Good nursing care is built on a trusting relationship
It was obvious from the nurses’ narrations that the relationship was important in home-based nursing care. The relationship seemed to be the vehicle through which the nurses could approach and reach the persons in need of care and was essential and a prerequisite for
providing good nursing care. In situations with superficial relationships there were experiences of nursing care where the person’s needs were not met and a risk for harm occurred. Trust was an important component in a well-functioning relationship and could increase the sense of security, especially when the person was dependent on care. A trusting relationship could also contribute to make the person feel better. It seemed as the relationship in home-based nursing care was equally important regardless of which phase in life the person was in, palliative care or curative care. Nurses described that home visits and the relationship seemed to be of more importance for lonely persons with limited supporting social network.

Establishing the relationship in home-based nursing care

The relationship in home-based nursing care was established by the first encounter and the nurse and the person had contact with each other and from there built the relationship. The first encounter and the first contact were characterized by normal socialization and were perceived as important, since it could affect the further development of the relationship between the nurse and the person. The first time nurses visit the person’s home they entered as strangers and presented themselves by name and as a professional role. Entering the person’s home meant acting to like a guest in respecting the person’s conditions. Nurses tried in the first contact to read the person and sense if the person was ready for further contact and a relationship with the nurse. When the first encounter and contact developed well, a good relaxed relationship could be built where the nurse and the person got to know each other. Knowing each other also meant that the nurse still was professional but the conversation could be more personal without being private. The relationship was growing when nurses made home visits and gave support. The experience was that home visits could give a deeper and more intimate relationship than in hospital-based nursing care. The relationship at home meant that nurses were informed of more details and got a more comprehensive picture of the person’s life story.

There were also barriers for a close relationship and it was obvious that each home visit and contact did not develop well. Examples given by the nurses of the barriers for the relationship were previous negative encounters with the nurse, the person’s wish to maintain integrity and distance, and a threatening home environment and old family feuds. In situations where distance-spanning technology was used in the encounter it seemed that it was important to
know each other’s faces when the nurse and the person tried to establish a relationship through distance-spanning technology. When the nurse and the person had previous knowledge of each other and the relationship was established, remote communication could facilitate the maintenance of the relationship.

*we have met, I know what you look like…well then it becomes an entirely different level [over the telephone], I think uh…if I have no face of the person I think I’m groping around… something I haven’t really got control of RN8:63*

**Conscious efforts maintain the relationship**

Relationships in home-based nursing care did not occur by itself and it required conscious efforts for both establishing and maintaining a working relationship. The effort meant, among other things, to prioritize the building and maintenance of relationships by nurses. An example was when nurses experienced during home visits lack of contact or the contact was not experienced as good, they made the effort to visit the person’s home several times since the experience was that repeated contacts could facilitate and maintain a relationship. Usually it took time to reach a level where confiding occurred and patience was often necessary to develop the relationship. To make an effort to show humility, empathy, respect and treat the person well seemed to be the prerequisites for a good working relationship in home-based nursing care.

The nurses’ experience was that the confidence that their presence in the home could contribute facilitated the relationship. The secure presence was characterized by reciprocity between the nurse and the person and gave an opportunity to share time together and being seen and confirmed. Being able to sit quietly together meant that the relationship had advanced. Reciprocity could be achieved when the person was allowed being involved in the person’s own nursing care or when nurses showed interest and commitment to the person. Showing interest and commitment meant among other things listening, asking questions and touching. Based on nurses’ descriptions it seems that commitment also meant finding a good balance between being personal and being professional. The already developed relationship could be maintained through home visits or by keeping in touch with each other through distance-spanning technology, such as phone calls.
you should not be stressed when you make contact and that…you may have patience too…you have to yes make several visits because it might not be as good the first times or become oh well contact or…but then you have to work on it RN9:85

and they can call and also I’m calling, I do that…many times when you don’t do home visits you call and ask how it is…it’s important that they know that they also can call…so that’s also an option, I’m calling and we do so…we call and ask how things are and so on DN4:60

Reciprocity is a requirement in the relationship

The nurses experienced that reciprocity was a requirement for a good relationship, where the nurse and the person supported were interdependent and mutually contributed in order to have a working relationship. The relationship could work when there was a mutual giving and taking between the nurse and the person in need of care. The reciprocal relationship was stimulated by conversations where nurses avoided interviewing the person. The conversations were about other things than illness and problems and knowledge of people made it easier to find suitable topics of conversation. This kind of conversation meant that the person and the nurse opened up and had a more personal conversation. This meant that the roles of nurse and care receiver were less pronounced and were characterized by the nurses as being a professional friend. The experience was that reciprocity was hampered when too much focus was on the professional role and tasks. At the same time tasks could also open the door to the reciprocal relationship. The personal knowledge of people’s situation and a reciprocal relationship could facilitate nurses’ assessments in home-based nursing care both during home visits and via encounters through distance-spanning technology. There was an experience that there was a tendency that conversations via distance-spanning technology more often focused on the illness and was more task-oriented than face-to-face encounters and that affected the sense of reciprocity and community.

when I’m sitting down and talking to them…it’s not as…it’s really not as a district nurse but it’s more like human to human DN10:65

I think that in order to get that feeling it’s important to both give and take…do you understand…I have to give a little of myself but that means you have to do the same RN8:39

I think it’s more difficult with…with a camera to get that feeling that here we are together and pondering RN10:69

Working in different levels of relationships
The experience of the nurses was that they made a difference for the importance of relationship between the person for whom they were administratively responsible, i.e. a primary nurse, and others. The nurses prioritized the person that she had most contact with and those she felt responsible to solve problems for, answered questions, and those she knew well. When the person showed confidence and told the nurse about their thoughts and problems and the nurse could meet their needs, so that a deeper and special relationship occurs. The deeper relationship meant that nurses became more engaged, and reflected more extensive for the person and their situation, which also affected the relationship. The situation was very different when the nurses worked as a stand-in nurse and or a secondary nurse. In those situations the relationship could also work well but it was often at a different more shallow level compared with the relationship when they were the primary nurse.

I absolutely think without a relationship it will not work...you have to build a relationship with the person you should take care of in order to be able to provide the best care, because otherwise it becomes very superficial...you go in and take care of the wound and then out, by by DN2:55

as a stand-in nurse you’re just in...one can really just get volatile relationships there...but I felt she...I know she would recognize me and talk if she saw me...yes so in some way we create...well some little a relationship to her anyway RN1:25

Limitations and boundaries in the relationship

There were factors that limited the relationship in home-based nursing care. One example was limited time due to nurses’ high workload, which meant that nurses sometimes had to cut down on time for building and maintaining relationships. Limited time could lead to a limitation of relationships and broken relationships. It was obvious that the relationship with the person to whom the nurse was a primary nurse was given a higher priority. Good communication was important for the relationship and when the language barrier occurred it was another limitation of the relationship.

The experience was that the relationships in home-based nursing care also needed some frames and boundaries. Examples of nurses’ self-imposed restrictions were among other things when they knew the person in private or when they could sense that the relationship was not healthy for either the person or the nurse. The relationship was also restricted by nurses when the person came too close and the relationship tended to be too personal and
private and they could sense the risk to lose their professionalism. The professional relationship meant being personal but not private and the nurses’ challenge seems to be to manage the balance between a personal and private relationship.

but at the same time you should not uh…it must be a confident and a secure relationship...you should take time to listen and so on but at the same time you cannot let them eat you up either, you must be able to draw the line, now I have taken care of the wound, now I have listened for a while, we have talked now I have to leave though in a week I will be back again or whatever it might be DN6:47

DISCUSSION

The aim of the study was to explore registered nurses’ experiences of their relationships with persons in need of home-based nursing care. The analysis resulted in a main theme Good nursing care is built on trusting relationship and five sub-themes Establishing the relationship in home-based nursing care, Conscious efforts maintains the relationship, Reciprocity is a requirement in the relationship, Working in different levels of relationships and Limitations and boundaries in the relationship.

The findings indicate that the nurses were aware of the importance of the caring relationship in home-based nursing care and they worked consciously to develop the relationship. The caring relationship in this study could be understood as a trusting relationship, which is needed in order to provide good nursing care at home. This is in line with Berg and Danielson’s findings (2007) that show that both nurses and persons in need of hospital care in a medical ward were aware that they were striving for trust through forming a caring relationship and they used their specific skills to form a caring relationship. The finding shows that a personal caring relationship could make trust possible and also that several encounters could create trust on which a relationship can be built. A concept analysis of nurse-patient trust (Bell & Duffy, 2009) defines trust as the optimistic acceptance of a vulnerable situation, following careful assessment, in which the truster believes that the trustee has his best interest as paramount importance. In addition, Hagerty and Patusky (2003) showed that the person in need of healthcare might trust the nurse in one area but not in another. A trusting relationship is one where the nurse cares for and about the person (de Raeve, 2002). This is also in line with the nurses’ experiences in present study. According to Hupcey, Penrod, Morse and Mitcham (2001) the outcome of trust is an evaluation of the
congruence between expectations of the trusted person, i.e. the nurse, and the nurse’s actual behaviours.

In present study, the trusting relationship at home is, among other things, a reciprocal relationship that does not occur by itself and needs the nurses’ to consciously work at. Kasén (2002) argues that the caring relationship can never be fully reciprocal as this would mean that the person’s suffering would not be alleviated. The caring relationship is inherently asymmetrical and means that the person with health problems is a suffering human and the nurse is caring and responsible. Buber (1923/1994) highlights that a fully reciprocal therapeutic relationship would be at the expense of its healing characteristics. The choice to embrace the approach I-Thou and entering the relationship and abandon the approach I-It (cf. Buber, 1923/1994) could be understood as an ethical choice (Runquist & Barbosa da Silva, 2000) in home-based nursing care. On the other hand the asymmetry that exists in the caring relationship could potentially be unethical if it is not balanced with reciprocity (Fredriksson & Eriksson, 2003). According to the findings in present study it seems that the context of home-based nursing care encourages the reciprocal aspect of the relationship and reduces the asymmetry within the caring relationship. The encouragement of reciprocity in the caring relationship seems to relate to the fact that the nurse enters the home as a guest and has to balance between being personal, and in that encourage reciprocity, and being professional. This does not mean an equal relationship, and should not be confused with the ethical demand within the relationship (Løgstrup, 1956/1992).

Løgstrup (1956/1992) asserts that all human relationships are in some aspect reciprocal in that humans are interdependent and influence each other. Interdependence can be understood as what the nurse does for the person the nurse also does to herself. Despite the interdependence the nurse in home-based nursing care cannot, as a professional, demand to receive from the relationship as it is always an ethical relationship where what the nurse gets could be seen as a gift. Giving and receiving gifts could lead to confirmation of each other within the ethical relationship and not accept the other’s gift may be perceived as a lack of confirmation (cf. Løgstrup, 1956/1992). Buber (1951/1996) asserts that the desire for confirmation and the ability to confirm others is fundamental to human life with others and being personal. We can assume that the nurse’s ability to provide confirmation is an important part of building the relationship in home-based nursing care.
The findings of present study also indicate that nurses work in different levels of the relationship and closeness was not always the primary goal. Using the description by Buber (1951/1996) it can be described that the nurses had two movements, one to enter the relationship with the person in need of care and another to preserve a distance. The choice of the primary nurses in present study was to consciously chose to enter the relationship and work towards a deeper level of the relationship. This meant that the nurse had more contacts, was engaged with the person, knew the person well, and developed a common story. A common story, is according to Kasén (2002), defined as the person’s request for the alleviation of suffering and the nurse’s answer to the request. The importance of a common story could be an argument for a higher continuity with the primary nurse in healthcare at home, in order to protect the caring relationship.

In situations of being the secondary nurse and the stand-in nurse, the movement of preserving distance (Buber, 1951/1996) often was the choice of the nurses in present study, where they consciously chose to work in a more shallow level of the relationship. This choice of a more distanced relationship in home-based nursing care could be understood as a way to respect the person’s integrity when nurses knew that they could not continue with the nursing care and the relationship. We can assume that it could be experienced as unethical for a secondary nurse and a stand-in nurse to ask the person to share deeper feelings and then leave the person without any follow-up.

The choice of level in a relationship in home-based nursing care is also dependent on the will of the person in need of care. An example of this was described in a study by Ejneborn Looi and Hellzén (2006). Staff at municipal psychiatric group dwellings described some of their relationships with long-term psychiatric clients as characterized by distance. The distance was reflected in that the staff could not reach and get the contact with the client when clients did not invite them and refused the staff’s support.

The findings in present study also indicate the presence of intentional and unintentional professional boundaries in the relationship, which according to Ejneborn Looi and Hellzén (2006) occurred when the staff chose to adhere to their professional role and not be too personal with the clients (Ejneborn Looi & Hellzén, 2006). Reasons for professional distance...
in a caring relationship could, according to Bergum and Dossetor (2005), be fear of getting too involved or fear of not having the time to get involved at all. A standpoint of distance in a caring relationship means the risk of not being able to establish and build a trusting relationship with the person in need of nursing care at home and thereby no fruitful caring relationship.

A study (Öresland, Määttä, Norberg, Winther Jörgensen & Lützén, 2008) shows that time and geographical distance are important factors when building relationships between nurses and persons in home-based nursing care. Another study (Eriksson & Nilsson, 2008) shows that time and the continuity between the nurse and the person are preconditions for establishing a trusting relationship. It is especially the first visit that requires time to build the base for a trusting relationship. It is also important that the person can reach the nurse by a telephone call. Present study shows that the trusting relationship could be maintained through contacts by distance-spanning technology which also meant that the continuity could be supported. Knowing each other’s faces seems to be important for trust when using distance-spanning technology. Lévinas (1982/1990) asserts that the relationship to the other’s face is an ethical relationship with a particular responsibility. This means that nurses are responsible in home-based nursing care to protect the trusting relationship when different technology applications for distance communications are used in contemporary home-based care. A previous study (Wälivaara, Andersson & Axelsson, 2009) shows that when the person trust the DNs they also felt confident with the use of technology in healthcare at home. The development of different distance-spanning technologies can open up new solutions to perform care and maintain relationships at home (Milligan, Roberts & Mort, 2011; Szczepura, 2011). As a reaction to this development of increased use of distance-spanning technology, Meleis (2011) argues that many theorists in nursing are going back to basics in human relationships, where the sharing of information during situations of health and illness and the interaction is a tool for building relationships. This emphasis on the importance of basic human interaction highlights the importance when implementing distance-spanning technology in home-based healthcare to work consciously to build and protect the trusting relationship in order to provide good healthcare.

Methodological Consideration
The data about relationships in present study was elicited from interview text where nurses were narrating about their experiences about encounters in home-based nursing care. During the narrations the nurses made detailed descriptions of the relationship and its importance for good nursing care at home. The interviewer followed the nurses’ stories and asked clarifying questions without guiding them towards a specific focus on relationships (cf. Kvale & Brinkmann, 2009). However, it is obvious that the narrations contained limited experiences of harmful or negative relationships in home-based nursing care. This can be seen as a limitation and might have emerged if the nurses had received specific questions about these kinds of relationships.

In the analysis of present study the warp (main theme) and the weft (sub-themes) was used as a metaphor to show how core content of dimensions of relationship in nurses’ narrations developed. A qualitative interpretation of text is always dependent, in part, on the researchers’ theoretical orientation and other authors may have emphasized other parts of the contents of text or used another metaphor for synthesizing the findings. The authors have consciously used their theoretical orientation and their understanding of the text and discussed the different steps of the analysis thoroughly (cf. Berg, 2006). In addition, the rigor of the process was supported by using NVivo 9 computer program (Richards, 2009), which altogether strengthen the trustworthiness of the analysis (cf. Berg, 2006).

The topic of the study relates to common human phenomenon and is therefore possible to transfer to other similar context in home-based care. The finding could be transferred in the manner of naturalistic generalization (Stake, 2005) where the reader interprets and determines which findings can be generalized to another context and also adds to previous knowledge. The transferability is also supported by the fact that it is supported in other nursing literature.

CONCLUSION
A trusting relationship is a prerequisite for good home-based nursing care whether it is based on face-to-face encounters or remote encounters through distance-spanning technology or a mix of both, and it is by nature an asymmetric relationship where the nurse has the responsibility to care for the person in need of care.
In order for nurses to build a trusting relationship in home-based nursing care they have to accept that they enter the home as a guest and communicate something about themself as the person in need of healthcare needs to know who is entering and visiting the home, or who is communicating through distance-spanning technology. The relationship in home-based nursing care requires conscious efforts from the nurse and a choice of a suitable level of the relationship when maintaining the relationship through home visits as well as through distance-spanning technology. The working context of home-based care is anticipated to change, with the introduction of new technology and revised templates of care. In this process nurses have to safeguard the possibilities of building trusting relationships with the persons in need of home-based care.

CONFLICT OF INTEREST
Non-declared.

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