Telephone Nursing

Stakeholder views and understandings from a paediatric and a gender perspective

ELENOR KAMINSKY
Abstract

‘First line healthcare’ is offered via telephone in many Western countries. The overall aim of this thesis is to describe Telephone Nursing (TN) from three viewpoints: telenurses, parents calling for their children, and operation managers. Four empirical studies were conducted. Telenurses described their work in five different ways: ‘Assess, refer and give advice to the caller’, ‘Support the caller’, ‘Strengthen the caller’, ‘Teach the caller’ and ‘Facilitate the caller’s learning’, which all constitute a TN ‘work map’. Authentic paediatric calls between parents and telenurses revealed that 73% of callers were mothers and children were aged between 5 days and 14.5 years. The top three contact reasons were ear and skin problems, and fever, with a median call length of 4.4 minutes. More than half of the calls resulted in referrals and 48% received self-care advice. The likelihood of fathers being given referrals as a result of their call was almost twice as high as that for mothers, while mothers were almost twice as likely to receive self-care advice as fathers. Parents described their degree of worry and trust that influenced their decisions whether to contact SHD or not. Their calls were carefully prepared, and the parent calling often depended on family routine. Parents reported to follow recommendations. Most relied upon their own intuition if further worried, but some indicated they would never seek healthcare unless it was recommended. Operation managers described four main goals of TN work: ‘create feelings of trust’, ‘achieve patient safety’, ‘assess, refer and give advice’, and ‘teach the caller’. Equitable healthcare was regarded as important, whereas health promotion was not considered as part of the goals.

Conclusion: The studied TN viewpoints present concordance and discrepancies. Paediatric health calls appear mostly to be a woman-to-woman activity. Telenurses’ increased gender competence might increase TN safety. For that matter, telenurses’ collaboration with parents and making parents aware of holding the ultimate responsibility for their child’s condition is important. Goals of TN work and their relationship with healthcare obligations such as equitable healthcare and health promotion need further clarification. The viewpoints described in this thesis may contribute to the development of TN.

Keywords: Children; Equitable Healthcare; Gender; Health Promotion; Managers; Paediatric; Paediatric Health Calls; Parents; Registered Nurses; Telenurse; Telephone Nursing; Qualitative Research

Elenor Kaminsky, Uppsala University, Department of Public Health and Caring Sciences, Health Services research, Box 564, SE-751 22 Uppsala, Sweden.

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Research is to see what everybody else has seen, and to think what nobody else has thought.
(Albert Szent-Gyorgyi)
List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.


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<tr>
<td>DST</td>
<td>Decision Support Tool</td>
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<tr>
<td>NHS-D</td>
<td>The National Health Service Direct, the former name of the British national telephone health service</td>
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<tr>
<td>NHS 111</td>
<td>The National Health Service 111, the new name of the British national telephone health service</td>
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<tr>
<td>NPM</td>
<td>New Public Management</td>
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<td>RN</td>
<td>Registered Nurse</td>
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<td>SHD</td>
<td>The Swedish Healthcare Direct, 1177, the Swedish national telephone health service</td>
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<td>TN</td>
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Prologue

About ten years ago, a man called the Swedish national pharmacy line to ask about the available selection of breast milk substitutes. Being a paediatric and district nurse, I worked as a self-care advisor at the national pharmacy line, answering over-the-counter pharmaceutical questions at that time, and answered his call. The workplace was a call centre with well over a hundred employees. The director, who lacked healthcare and pharmaceutical education and experience, encouraged all personnel at the workplace to only answer the customers’ questions. My reply to the current question should therefore only include information about the different breast milk substitutes in stock at the pharmacy. I did however ask the man, how old the child was, and he replied: ‘three days’. Then I asked the man, who turned out to be the father, if he and the mother intended to breastfeed their baby and he burst out: Yes! In the background I could hear the sound of a constantly crying child emerge. Instead of reciting the different breast milk substitute products in stock, I explained to the father that a mother and child belong to the maternity ward at least a week after a baby has been born, even if discharged early from the hospital, and they are always welcome to go back with questions and for consultations regarding all kinds of issues. I advised the couple to immediately call the breastfeeding advisor at the local hospital, for an appointment.

As an experienced paediatric nurse, with a background in neonatal care, I had no doubt about how to handle the fathers’ question. I had confidence in my professional knowledge and no problem with neglecting the director’s recommendation. I could easily back up my actions with research evidence if questioned and felt satisfied with the way the conversation went. But for ten years, I have now and then contemplated what would have happened if the father had spoken to someone complying with the manager’s request. Would the father then simply have received the names of all available breast milk substitutes that he could buy for the baby? That would certainly have been a shorter call, in line with commercial interests and a ‘better’ statistical outcome for the monitored calls to the pharmacy line, congruent with the director’s efficiency wishes mirrored in the encouragement to only reply to the customer’s questions. But my possibly longer conversation with the father hopefully contributed to helping the new parents to fulfil their wishes of breastfeeding their child, with all that comes with that, for example reaching the public health goals for breastfeeding in line with research evidence.
This is only one of the examples I have experienced during my work in three different contexts of telephone nursing: a university paediatric emergency department, the national pharmacy line and the national helpline for women subjected to threats and violence. I have noticed and learned how multifaceted a telephone conversation can be. Many different things can influence a call, such as persons involved, content and urgency of calls, and feelings of pressure due, for example to queue situations or the recommended time frame for calls. The above example is the starting-point for my thesis, since it evokes the complexity of telephone health calls and the actors involved. This prompted my interest in future study of this challenging area of nursing.
Introduction

The context of this thesis is Swedish Healthcare Direct (SHD), the apparently largest healthcare provider in Sweden. The focus is telephone nursing (TN) from the three stakeholder viewpoints: telenurses, parents calling for their children, and the SHD operation managers as representatives of the telephone healthcare organisation. Further focus and examples are paediatric health calls, which constitute a large percentage of calls to SHD. Despite children being the focus of these calls, the calls are mostly made by their mothers and fathers.

Large economic investments are made to make Swedish healthcare more efficient through SHD. The service employs nurses to deal with vulnerable patients, often through second-hand information, without visual clues and yet without a telenurse specialty education. What the varying stakeholders, here related to as persons with interest in SHD from different perspectives, expect from this service is rarely researched. It is expected to give insight into TN work and how it can be further developed. The origins of SHD are described first, followed by a deeper description of TN.

In Sweden, the central state has overall responsibility for healthcare policy, while the local and regional authorities are responsible for the provision and financing of healthcare. Swedish healthcare is tax financed and patients pay a maximum yearly fee of approximately €120 (1100 SEK). Telephone calls to registered nurses (RNs) are free of charge, except for the cost of the call. Swedish healthcare is, however, as in many other Western countries, facing great challenges of financial constrains. There are a variety of attempts to meet these challenges, such as trading systems, the privatisation of care and the introduction of telephone health services, in order to reduce the burden of the remaining healthcare system. In Sweden the ‘Healthcare direct: telephone nursing in collaboration’ project\(^1\) was launched in 2003, on behalf of the Ministry of Health and Social Affairs and the Swedish Association of Local Authorities and Regions. The objective was to investigate the prerequisites for a nationally coordinated telephone health service. A few county councils participated in a pilot project in 2003. Thereafter, SHD has gradually expanded by connecting the Swedish regions and county councils one by one. The last county council joined in the autumn of 2013\(^2\) and the whole Swedish population of 9.6 million people are now expected to use SHD as their ‘first line healthcare’. More than 6 million calls per year\(^2\) are estimated to be handled by around 1100 telenurses, of whom the majority are
women. Repeatedly mentioned objectives of SHD have been to increase access to healthcare, increase citizens’ sense of security and increase the effectiveness of healthcare services\(^1\). Further stated objectives are to strengthen the preventive aspects of care and to improve the possibility of achieving equitable healthcare, in line with legal regulations\(^1,3\).

Telephone health services are broadly defined in this thesis as healthcare services engaging RNs, who work as telenurses. They deliver healthcare to callers via the telephone from healthcare call centres, in a work referred to as TN work. The above concepts are jointly labelled ‘TN’, defined as nursing care via telephone\(^4\). As in other Swedish healthcare, a large number of SHD patients are children and adolescents\(^5\). Up to half of the calls to the service are estimated to deal with this age group\(^6-9\). Calls about children to telephone health services, are referred to as paediatric health calls. All Swedish healthcare has to follow the regulations and requirements of the Health and Medical Services Act (1982:763)\(^3\), which for example requires ‘good health and healthcare on equal terms for the entire population’ and work to ‘prevent ill health’. Although this law does not specifically mention children, there is no doubt that it also concerns paediatric patients. The consensus of ‘what is best for the child’ prevails in all kinds of care, in line with the United Nations Convention on the Rights of the Child\(^10\).

When parents ‘meet’ telenurses in paediatric health call conversations, both actors are likely to view and influence the calls in varying ways. The parents are in the vulnerable situation of having a sick child. The telenurses replying to these calls are faced with difficult professional tasks. How telenurses deal with these tasks are, among other things, likely to be influenced by the organisation they work for. The operation managers\(^11\) in the telephone healthcare organisation may thus affect the calls in varying ways. For example, they have to ensure that the service follows the provider’s stated commission and legal obligations.

How do these stakeholders view TN? How do telenurses understand the core of their work? What are parent caller expectations and their experiences of calling the TN service? What are the reasons for, content and outcome of calls when parents call telenurses regarding their children? And what do operation managers at SHD perceive as the primary goals of TN work? Little is known about these different viewpoints, all likely to make valuable contributions to the development of TN. This thesis searches for answers to these questions and starts with the conditions of the emerging telephone health services and the rather new professional area in nursing, TN. Education for telenurses, their work as such and paediatric nursing are then described. This is followed by two paragraphs considering parent callers, and the SHD operation managers who manage the service. Two of the many obligations of Swedish healthcare, equitable healthcare and health promotion are then discussed in relation to TN. The theoretical framework of competence and gender theories is brought to light, prior to describing the rationale
for the thesis. Thereafter, the aims, methods, findings and discussion of the four empirical studies are presented.

**Telephone Nursing internationally and in Sweden**

Telephone healthcare services have developed significantly in many Western countries over the past two decades and are likely to continue to grow internationally. Some reasons reported for this development are, in addition to increased healthcare costs mentioned previously, long waiting times for doctor’s appointments and people’s distance from family, who traditionally gave advice when living nearby. It is also influenced by the convenience of having healthcare only a phone call away.

The calls are replied to by telenurses, sometimes called healthcare ‘gate keepers’ who triage patients to an appropriate level of care in line with political decisions. The care levels telenurses must consider are emergency care (‘highest level’), primary care (‘middle level’) and self-care in callers’ home (‘lowest level’). In order to make health services more efficient, telenurses assist patients to seek the appropriate level of care. This is part of the Swedish New Public Management (NPM) reform trend, associated with objectives of efficiency, cost control and performance evaluation. The basic idea of NPM, is to make the public sector organisations and the people working in these, more ‘business-like’ and ‘market-oriented’.

SHD is reached through one telephone number, 1177, for the entire country. The initial calculation of an average of 0.5 call per person and year has been surpassed. In 2012, SHD received 5.2 million calls, and the future prognosis is around 6.2 million calls per year. The approximately 1100 telenurses replying to the calls are located at 33 workplaces, each comprised of five to 70 telenurses. These are led by 23 operation managers. Each county council and region is self-governing and part of the local healthcare organisation, responsible for its own telephone health service. The county councils and regions share technology, decision support tool (DST) and working methods for their telephone health services through a mutually owned network. SHD shares many traits with the National Health Service 111 (NHS 111), introduced in 1997 in the UK, at that time called the National Health Service Direct (NHS-D). One difference is that British callers communicate with call handlers before getting through to telenurses, whereas Swedish callers reach telenurses directly.

TN is reported to be a much appreciated type of healthcare service for example in supplying safe out of hours care, meeting caller needs, resulting in high provider, patient and nurse satisfaction, being cost-effective and avoiding journeys to healthcare centres, waiting time and contagious bacteria in waiting rooms. It is also described as an easily accessible service for nearby and distant callers, which reduces the workload of
primary and secondary care\textsuperscript{22, 28}, decreasing costs and time spent by families and easing children’s emotional distress\textsuperscript{29}. Nevertheless, nursing over the phone is multifaceted and sometimes problematic\textsuperscript{30}, particularly with regard to children’s health issues\textsuperscript{31}. This is because children belong to a vulnerable patient group, which will be further addressed on page 22.

A professional area in nursing

Nurses working in other clinical nursing areas have questioned whether TN is real nursing or not\textsuperscript{24}. Telenurses themselves claim to practice holistic nursing\textsuperscript{32}, and defend their identity as nurses rather than call centre workers. The care telenurses ideally want to provide has, however, been described as conflicting with the professional caring reality they face\textsuperscript{16}. For example, there might be limited healthcare providers to which they can refer callers\textsuperscript{33}. This forces telenurses to carry the responsibility for politicians’ prioritisation of healthcare resources, resulting in stress and frustration among telenurses\textsuperscript{102}.

In Sweden, TN is often referred to as a nursing specialty despite the fact that specialty education is yet not available. This is further discussed on page 20. To perform TN work, however, requires a professional RN license. In the USA, TN is reported to be questioned whether being a profession or not\textsuperscript{15}. The two well known TN researchers Rutenberg and Greenberg, claim nursing is nursing, no matter whether practiced face-to-face or over the telephone and argue that TN is indeed a profession. They justify this through four major characteristics, legitimising a profession\textsuperscript{34}: education with licensure, standards, role clarity and ethical foundation. These characteristics will here be discussed in the context of Swedish TN.

First, a prerequisite for working as a telenurse in Sweden is graduation from a three-year undergraduate RN program resulting in a Bachelor’s degree and an RN license. The license can be withdrawn if the RN is convicted of malpractice due to not performing work according to regulations. Secondly, there are Swedish nursing standards for RNs\textsuperscript{35} as well as for telenurses\textsuperscript{36}, describing the appropriate competence and clarifying working roles. Thirdly, regarding additional role clarity, the telenurses at SHD help callers and to a certain degree use clinical knowledge, skills and critical thinking autonomously to make decisions and deliver nursing care independently. At the same time, telenurses are directed by the SHD organisation to simultaneously use, for example, a DST as they communicate with callers, which telenurses have reported to be useful, but also limiting in their work\textsuperscript{37}. The SHD organisation’s rather general work requirements are for telenurses to: ‘answer questions, assess care needs, give advice and refer callers to an appropriate level of care’\textsuperscript{38}. There is as yet no explicit work description. Finally, telenurses in Sweden work from the ethical platform of the Ethical Guidelines of the International Council of Nursing\textsuperscript{39}.
Against this background, Swedish TN is argued to be an RN specialty, based on the RN profession (which is, as it seems, yet not subject to competition from occupations other than RNs). Telenurses have to deal with the ideological clash between medical and the managerial aspects of quality in their work. This is far from TN in its early stages, which is described next.

Nursing Care via Telephone

A recognised phenomenon for nurses

In this section, the characteristics of nursing care via telephone will be considered, but first we will look at the history of health calls.

The very first health call described was also the very first telephone call, when Alexander Graham Bell, on the 10th of March in the year 1876 asked Mr Watson for medical assistance after spilling sulphuric acid on his clothes. The first reported paediatric health call is dated three years later, in 1879, when an infant with croup was evaluated via telephone. From the 1920s, physicians regarded telephones as necessities in their medical work and by the 1960s, nurses had also started to use telephones for the provisions of care. TN in primary care in the 1980s has been described as the provision of information rather than advice. At this time, RNs spent part of their working hours on telephone work and this function still exists at many health care centres. Thus, giving advice over the phone is not a new phenomenon for nurses. What is new is that today there are telenurses working with telephone calls as their principal task, in call centre environments.

Before the start of SHD, Swedish parents called child health services, a district health care centre or the paediatric emergency room when their child was ill. Child health services are still offered to families in Sweden free of charge. Presently, their main focus is on growth, development, nutrition and innoculation, but it is still possible to reach the child health services by phone within limited day hours, and outside these hours, they are referred to SHD, healthcare centres or emergency services. Emergency services however today rarely offer telephone counselling.

Support for decisions

While the working procedure for supporting TN assessments used to involve use of medical literature, telenurses at SHD use computers as their principal working tool, to which they are connected with telephone headsets. The computers provide a DST to aid assessments and also monitor audio-recording and statistics, such as the number of calls replied to per hour, call length, the queue situation and the time between calls. The DST is an evo-
dence-based tool, which, for example, uses symptoms and diagnoses as entry points. It is designed to improve medical safety, however, a DST does not in and of itself assure good quality of care, not even standardised advice. In fact, the DST has been described as supporting the assessments that telenurses make rather than their decisions and to sometimes be inconsistent with actual practice. It is further suggested that the DST give limited support for learning and instead challenges telenurse communication with callers. Thus, the DST should always be moderated through telenurses’ own knowledge and experiences and cannot replace their responsibilities for decisions. The medical record may also be a source of information and support, when the caller provides a national identification number, which is not mandatory. Another way for a telenurse to receive support is to ask a colleague for their second opinions, if time allows.

**Recommended time frame**

As mentioned above, calls are monitored for statistics such as call length, and peer consultations will thus take time for two nurses, possibly constituting an obstacle for asking colleagues for second opinions. SHD telenurses are advised to reply to six to eight calls per hour, which amounts to an average of seven to ten minutes per call. At NHS 111 in the UK, calls ought to last eight to ten minutes, and in the USA average call times have gradually increased from three to seven to twelve, or more recently, 15 to 20 minute calls. This means that the time frame for calls varies in different countries, with the shortest recommended call time in Sweden. Rutenberg and Greenberg argue it is not reasonable to manage a telephone call in less time than it takes to evaluate and manage patients face-to-face, which is 15 to 20 minutes. In the report foregoing the initiation of SHD, it was noted that time-limited calls could be associated with risk. It was argued that having only short or no time for giving advice and care would reduce the potential for efficiency and leave callers exposed to medical risks. Nevertheless, in 2009, one private SHD healthcare provider was criticised in the Swedish media for rewarding telenurses with an increased monthly salary of approximately €109 (1000 SEK) if calls were limited to less than 3.48 minutes. The time-limit was claimed to have caused the death of a young boy since his parents had received self-care advice twice from telenurses, without further referral until the third contact, despite his serious condition. The telenurses blamed their mistakes on stress and requests to manage each call within a limited time. After this incident, the recommendation returned to the original six to eight calls per hour.

One way to structure TN calls beyond time-limits is the nursing process, which is further described in the next section.
The Nursing Process and a model for Telephone Nursing

The nursing process is described as the core and essence of nursing, applicable in any setting and central to all nursing actions. It has been developed since the 1950s, and involves five phases: assessment, diagnosis, planning, implementation, and evaluation. In the context of TN, the nursing process has in the USA been used to examine consumer satisfaction and the follow up of calls. The evaluation phase is a difficult subject in TN work, since telenurses rarely receive feedback on what happens after a call. Benner et al. argue that professional feedback helps expert nurses sharpen and expand their clinical judgment skills. The lack of feedback is thus a negative aspect of TN work, and a possible barrier to work satisfaction and professional growth.

The TN researcher Greenberg has published a theoretical model of the process of TN, which has not been implemented in Sweden. It is based on the nursing process and captures the nature and entirety of TN. The model is intended to identify and meet caller needs and to increase the quality of calls. It describes a dynamic and goal-oriented process with three phases: gathering information, cognitive processing, and output of calls. Each of these phases contains a number of items. Throughout the process, there is a comprehensive interpretation process, translating data from caller to healthcare information and vice versa. The model is a useful framework for training, practice, and future research in TN, although Greenberg suggests it needs support and refinement from further research. The Greenberg model of the process of TN is illustrated in detail in Figure 1.

![The Model of the Process of Telephone Nursing according to Greenberg](image)

Figure 1. The Model of the Process of Telephone Nursing according to Greenberg.

The SHD organisation uses a ‘dialogue process’ for their in-service communication training of telenurses. This process is experience-based and
developed within the organisation. It is more simplistic compared to the
nursing process and the model of the process of TN according to Greenberg,
and contains five dialogue parts: open, listen, analyse, motivate and close. It
is unclear in what way the dialogue process is evidence-based. ‘Open’, ‘lis-
ten’ and ‘close’ seem essential in all telephone calls. The parts ‘analyse’ and
‘motivate’ lack detailed description. Unlike the model of the process of TN
according to Greenberg, the ‘dialogue process’ does not seem to highlight
collaboration with the caller.

Telephone Nursing Education

In the 2004-2005 International Telenursing Survey, nurses from 36 countries
suggested that certification of the TN profession is important and that TN
should be part of all basic nursing education. The argument was that certi-
fication would benefit a definition of appropriate education and subjects for
TN work and clarify what should be its central focus. Certification might
facilitate the establishment of work descriptions for TN work.

At SHD, almost 90 per cent of the telenurses have 10 years of clinical ex-
p erience as RNs and 85 per cent also possess specialist or supplementary
education. As explained earlier, a specialist education in TN is not yet
available in Sweden, although shorter supplementary courses are occasion-
ally offered. Education is of high importance, since the range of reasons for
calling telephone health services, as well as the diverse ages of the callers,
requires telenurse knowledge in all aspects of healthcare. In a telenurse’s
head there is always the question of whether a caller’s problem may be life-
threatening, not least in paediatric health calls.

Almost half of the SHD telenurse working hours are spent on paediatric
issues. One county council offers parents the choice of reaching a specialised
paediatric telenurse, while the others distribute paediatric health calls by
random to all telenurses. A common specialty among the SHD telenurses is
district nursing. It requires a 1.5 year course, in addition to the RN Bache-
lor’s degree, containing theoretical education in paediatrics and primary care
paediatric training, among other subjects. Some SHD telenurses are paediat-
ric nurses, and have undergone a one year course, which, unlike the district
nursing course, also includes inpatient paediatric care training. Completing a
nurse specialty education in Sweden, results in a Master’s degree. That a few
telenurses in each county council and region are specialised in paediatrics,
is often regarded as valuable for the team competence. Some telenurses hold
other specialties such as midwifery and critical care, but undergraduate RNs
are also recruited to the service. Bolli et al. report that other European nurs-
ing schools no longer regularly train nurses specifically in paediatrics and
Sweden is going in the same direction. Since some telenurses only hold un-
dergraduate RN degrees, it is thus possible to work as a telenurse, assigned
to handle paediatric health calls, without possessing paediatric nursing training or experience.

**Paediatric Telephone Nursing**

According to the United Nations Conventions on the Rights of the Child, a child is defined as any human younger than 18 years of age. This age interval is also the usual Swedish paediatric age definition of a child. The closer they are to adult age, the more likely a child will call SHD for themselves. In paediatric telephone nursing, the most common parties are however the telenurse and the parent, who is speaking on behalf of the child.

**Talking to someone other than the person in need**

That paediatric health issues constitute almost half of the telenurse working hours means that telenurses often communicate with parents. Consequently, in addition to assessing concerns without the advantage of visual inspections given by face-to-face interactions, a further complicating factor for telenurses is that paediatric health calls are almost always second-hand calls. In these, the messages of children’s conditions are forwarded in a step-by-step procedure. Children express their health conditions differently to adults. Anxious parents interpret, estimate and report their children’s health issues in different ways. Telenurses may interpret parents’ messages in a variety of ways. To assess children over the telephone is thus significantly different from making a detailed physical examinations when meeting a child face-to-face.

Children are sometimes asked by telenurses to come to the phone, even when the call is initiated by an adult. To a small child, the telenurse might just say ‘hi, how are you?’ without expecting a proper answer, but listening for clues such as breathing and coughs. The older a child is, the more it can understand and express itself, in order to communicate with a telenurse.

Unlike calls to child health services, where RNs often are familiar with children and families, the SHD telenurses’ only source of information, besides the information from the caller, is the patient records, provided through an available national identification number. Telenurses have reported that second-hand calls are problematic, and constitute ethical dilemmas in their work. As humans and professionals, telenurses are influenced by aspects such as their knowledge and experience as well as what kind of day they are having. The final professional decision is arguably based mainly on the information callers choose to reveal, which highlights the risk of obtaining information from someone other than the person in need. The reasons for needing a highly skilled assessment when the patient is a child are described next.
The paediatric patient

The vulnerability of a paediatric patient is a further complicating factor in paediatric health calls. For example, the smaller child, the larger is the child’s skin surface area in relation to their weight, with a higher risk of dehydration. Children’s conditions can therefore worsen more quickly than those of adults. When ill, children may give vague and unclear signals, nor do teenage children necessarily explicitly express their needs. Consequently, there are various opinions about whether paediatric health calls are safe or not and parent-to-telenurse communication is crucial to the call’s outcome.

Exclusively paediatric telephone help lines are available in Australia, Switzerland and the USA. The average reported call time for these services is around ten minutes, but call time information for paediatric health calls at general services, such as SHD, is lacking. Paediatric nurses have however been found to need less time to assess children with a rash or fever and to refer to a lower level of care, than registered nurses. Although the DST is reported to be most appreciated when used for areas outside a telenurse’s own expertise, it cannot compensate for specialist paediatric RNs.

The parent caller

In this thesis a parent is defined as a person presenting themselves as the parent when calling SHD. The SHD telenurses are however neither obliged to ask whether someone calling for a child has this responsibility nor to register the person calling for the child. It is thus possible for other people, such as aunts, uncles and grandparents to call SHD on behalf of a child. Whether the caller’s identity is noted in the patient record is voluntary.

It has been noted that the goal of a telephone health service is to meet or exceed what callers expect from the service and that more attention should be paid to the discrepancies between the expected care and the care offered. This discrepancy may be associated with negative caller evaluations of TN consultations. Parents are common callers to SHD, since paediatric health calls constitute at least 40% of calls to telephone health services. Three-quarters of paediatric health calls are made by mothers. Callers in general are reported to expect personalised care, to receive reassurance and individually tailored information, be listened to, respected and included in the decision-making process.

Knowledge of what parents wish for when calling SHD is lacking. In Norway, parents have expressed a need to seek confirmation for care measures already taken. They further wished for telenurses to call them back or recommend further healthcare if the child’s condition worsens. While callers
are generally satisfied with the telephone health services, according to re-
ports from Sweden, Canada, the USA, and Australia\textsuperscript{6, 19-21, 88-90}, parents report
a variation of high\textsuperscript{81, 90, 91} and low\textsuperscript{87} satisfaction with these services. The three
studies reporting high satisfaction were from solely paediatric telephone
health services in the USA and Australia, whereas the one reporting low
satisfaction concerned the general service in one of Sweden’s county coun-
cils. One example of dissatisfaction was that parents felt they were not being
treated with respect\textsuperscript{87, 92}, and fathers rated the service quality lower than
mothers\textsuperscript{82}.

Mothers possibly make the majority of paediatric health calls\textsuperscript{68, 82, 84, 85} be-
cause it is traditionally women who predominantly assume caring responsi-
bilities on behalf of other family members\textsuperscript{93}. A father’s responsibility for
children is in some cases dependent upon mothers relinquishing some as-
pects of care\textsuperscript{85}. For example, fathers have been reported to seek care when
calmness or assertiveness is needed. The traditional roles for contacting
health services seem to be renegotiated, with “new dads” arriving\textsuperscript{85}. These
fathers share the responsibility for caring of the child equally with the other
parent. This might be because it has become more socially expected and
accepted for fathers to be involved in the care of children and to call tele-
phone health services. Once fathers have used these services they tend to use
them again\textsuperscript{85}. The extent to which men and women are aware of the tele-
phone health services also appears to influence the level of using the
service\textsuperscript{94}.

### Operation managers at SHD

In 1997, the Health and Medical Services Act (1982:763)\textsuperscript{3} changed regula-
tions regarding the management of Swedish healthcare (SOSFS 1997:8)\textsuperscript{11}. The management of healthcare practices is thus required to be organised so
as to achieve a high level of patient safety, good care quality and promote
cost effectiveness. Operation managers (verksamhetschef\textsuperscript{r}) should be pre-
sent within all healthcare, responsible for healthcare activities and represent-
ing the healthcare provider. One reason for this is that patients, relatives,
healthcare personnel and supervisory authorities need someone to attend to
operating questions\textsuperscript{11}. Despite the operation manager responsibilities, tele-
nurses still hold professional responsibility for their work performance.

In this thesis an operation manager is defined as a manager having that ti-
tle in the SHD organisation. According to regulations, health service provid-
ers decide competences for their operation managers, which do not necessar-
ily have to be within healthcare\textsuperscript{11}. SHD in four county councils and one re-
geon are currently, as of 2013, privately run, employing three of the 23 SHD
operation managers. Since the SHD service in the county councils and re-
geons are contracted out to different public and private providers, the tele-
nurses might periodically change employers. This makes the service and provision of care dynamic and varying.

The managerial role has been associated with changes since the introduction of NPM in healthcare. In nursing, for example, the work of leading and supporting the delivery of care has changed to work with policy implementation, quality measures, budgetary matters, performance evaluation, and so forth. As mentioned earlier, calls to SHD are closely monitored. The statistics are considered by the operation managers, who report them to the telenurses and may thus influence the performance of TN work in varying ways. For example, they may influence working routines, such as requiring health promotion to callers. The SHD operation managers are also likely to balance dual roles of finding ways for the service to be efficient as well as fulfilling legal obligations, for instance efforts of keeping caring aspects. The question of whether SHD operation managers encourage telenurses to perform their work in line with legal regulations and guidelines, such as providing equitable healthcare and health promotion to callers in situations of stress and limited time is investigated in this thesis. One objective for introducing SHD was to fulfil these obligations.

**Equitable healthcare**

Equitable healthcare implies that people with the same needs should have the same service and access to healthcare, regardless of geographic residence, gender, age, social group, functional capacity and so on. In the UK, men and older people have however been reported to call NHS-D (now NHS 111), to a lesser extent than other groups. People who are already disadvantaged by their distance from facilities or by socioeconomic circumstances, may continue to be at a disadvantage even if services are provided by telephone. People from rural areas have lower call rates, but deprivation appears to be a greater determinant in urban areas. People with communication difficulties are reported to use the telephone health service to a lesser extent than others.

The formal languages offered at SHD are Swedish and English. In practice, some telenurses also hold competence in other languages, which is valuable in their work, but used sporadically. SHD has, from spring 2013, an ongoing interpreter service project, offering Arabic and Somali in three regions. The project is likely to continue and progress, aiming for increased accessibility for concerned callers. The number of people excluded from calling SHD due to language difficulties is unknown. Children born outside Sweden or having two parents born outside Sweden constitute 20% of the Swedish child population, but measures of language competence among Swedish citizens are lacking. It has been estimated that 15% of the population have other native languages, but many of these are also fluent in Swed-
ish and/or English\textsuperscript{108}. A person may, however, be proficient in a second language in general, but still have difficulties discussing medical issues. Now, we proceed to the earlier mentioned obligation\textsuperscript{3} of health promotion.

**Health promotion**

The prevention of ill health is an important requirement of Swedish healthcare, according to the Health and Medical Services Act (1982:763)\textsuperscript{3}. It is also given in the 2011 National Guidelines for Disease Prevention\textsuperscript{100}, the Competence Descriptions for RN\textsuperscript{35} and Telenurse\textsuperscript{36}, the Strategy for RNs Health Promotion\textsuperscript{109}, and the ICN Code of Ethics for Nurses\textsuperscript{39}. The key message is that health promotion should systematically be integrated into all aspects of healthcare and be a natural part of the chain of care. This message was also emphasised in the final report from the national inquiry into coordinated telephone nursing\textsuperscript{1}, referring to the fact that SHD is regulated in the same way as other Swedish healthcare. It was claimed that a national telephone health service would strengthen the preventive activities of healthcare. How this would be achieved was, however, not described.

The Ottawa Charter for Health Promotion states that health promotion is a process of enabling people to increase control over, and to improve, their health and well-being, physically, mentally and socially\textsuperscript{110}. In this thesis, health promotion is used for the three overlapping activities of health education, prevention and health protection\textsuperscript{111}. Prevention that addresses a specific risk and known cause of a disease, is therefore seen as integrated with the more comprehensive concept of health promotion, which generally strives to support people in fully utilising their inherent resources for health.

The high number of citizens in contact with SHD every year suggests a great potential to meet the law’s intention of health promotion through TN work. Since paediatric health calls are common, investments in health promotion is likely to have long lasting value. Approximately half the calls to telephone health services result in self-care advice to callers\textsuperscript{7, 80, 112}, which is claimed to be an integral part of health promotion\textsuperscript{113}. In fact, that the Health and Medical Services Act (1982:763) also states *good health and healthcare on equal terms for the entire population*\textsuperscript{3}, implies that health promotion should be performed in an equitable manner.

**Theoretical framework**

This thesis has been inspired by two theoretical perspectives:

- Competence theory
- Gender theory
The reasons for using these theories are, in short, as follows:

Competence theory, deriving from phenomenography, has been demonstrated as a useful approach for studying the variation in which a group of people perceive or understand a phenomenon\textsuperscript{114, 115}. Competence theory is therefore likely to be useful for studying how telenurses understand TN work.

Gender theory is increasingly used to understand and explore the way people are treated in healthcare. Gender theory is thus likely to be applicable to telephone health services, a new Swedish healthcare arena, where most employees, as well as users, are women.

The theoretical perspectives are further elaborated in the following text.

\textbf{Competence theory}

Knowledge and competence are not synonymous. A person can possess theoretical knowledge but still not be competent, for example healthcare personnel may pass theoretical exams during their education but lack clinical competence. Practical skills are important, but do not automatically imply high competence. Traditionally, competence has been considered to consist of knowledge, skills and attitudes. Attitudes are referred to as feelings, knowledge and behaviour in connection with the surrounded world\textsuperscript{116}. Competence theory argues that competence contains a fourth component, namely how work is understood\textsuperscript{117}. This alternative way of understanding human competence at work has emerged from seeing the worker and the work as one entity, through the understanding of work\textsuperscript{115, 118}. Competence is thus constituted by the meaning work takes on for workers in their understanding of it, rather than being composed of a specific set of attributes (such as the knowledge and skills used in performing a particular type of work). The theory originates from the research approach of phenomenography, introduced by an educational research group at Gothenburg University in the 1970s\textsuperscript{119}.

A number of studies in healthcare settings have reported on ways work can be understood differently\textsuperscript{120-122}. The way work is understood also influences how it is performed\textsuperscript{115} and some ways have proved to be more comprehensive and efficient in clinical work\textsuperscript{115, 118}. This is because people's different ways of acting are related to the ways they understand a phenomenon\textsuperscript{117}. To explore the core of TN work and to improve professional competence among telenurses, it is important to record the variety of ways in which TN work can be understood (Study I). This can give telenurses the opportunity to reflect on other possible understandings besides their own, allowing them to develop their professional competence by expanding their understanding. What professional telenurses consider to be the core of their TN work is valuable and useful knowledge for the SHD organisation.
Gender theory

Gender has become an increasingly studied aspect of health inequalities. The concept of gender refers to the social and cultural construction of femininity and masculinity, while sex signifies biological differences between females and males. However, most gender research today states that gender cannot be seen as completely separate from sex, and that the two concepts must be seen as related.

A central idea within gender theory concerns the power relations between men and women in society and how hierarchical power relations are built up and constantly replicated within the current gender system. An additional fundamental aspect, is that gender is seen as constantly constructed, in “doing gender”, and not as a naturally given. Constructions of gender can vary within societies. Gender relations are always being made and remade, and gender would not exist if we did not bring it into being in daily life, as constituted of routine interactions.

In a Western context the construction of gender has been studied by Connell among others. Connell argues that masculinity and femininity are contextually and relationally constructed. In the same context, several forms of masculinity and femininity can be constructed, and hierarchically ordered in relation to each other. For example, the most valued form of masculinity in a Western context is defined as “hegemonic masculinity”. This form is characterised as being constructed as superior to femininity, which in turn is constructed as complaisant. Hegemonic masculinity is distinguished from other subordinated masculinities, for example homosexual masculinity and masculinity based on equality with women. It does not need to be ‘normal’, or indicate majority, in a statistical sense, but is certainly normative in many contexts. It can be understood as the pattern of practice that allows men’s dominance over women.

The performance of care has long been identified as a central characteristic of womanhood in a Western context. This is reflected in the understanding of nursing as a female task, as well as in the distribution of work within the family. Even in Sweden, despite its long history of equality, it is still predominantly women who undertake the caring responsibilities within a family and it could thus be argued that caring tasks are still central to the social construction of women’s gendered identity. Gender has also been related to the distinction between public and private, whereby femininity has been connected with the private sphere and masculinity to the public sphere. Prevailing research reports different speech styles according to gender, revealing men as having more talking space in formal contexts. What is valid for telephone calls, being a formal context in which private matters are discussed, is unexplored.

Gender and sex are likely to influence how we think about people and treat patients in healthcare. For example, female patients are reported to
have less access to healthcare in a range of areas, such as: waiting time for general practitioners, ambulances, rehabilitation, heart-, knee-, hip- and cataract operations, dialysis and transplantation in cases of kidney deficiency, bronchoscopy and new and expensive medicines\textsuperscript{147}.

There are many issues related to gender in TN\textsuperscript{148}. The TN profession, for example, consists mostly of women, and female callers are in the majority. Female telenurses report female callers being easier to talk to and easier to convince to wait and see\textsuperscript{148}, and calls attention to the need for increased gender competence among telenurses. The equity goal of Swedish healthcare\textsuperscript{3} implies that telenurses must treat maternal and paternal callers equally on the SHD service. This raises interest in possible gender differences regarding parent callers and access to care in receiving referrals from a telenurse (Study II). How parents reason before calling SHD is of further interest (Study III) as is how the operation managers do view equitable healthcare at the emerging telephone health service, SHD (Study IV).

**Rationale for this thesis**

The Swedish national telephone health service was fully operational in all Sweden 2013. Despite telenurses responding to a high quantity of calls at Sweden’s apparently largest healthcare provider, there is no TN work description. Knowledge captured from various stakeholder views of TN is of great importance in order to deliver high quality care in line with caller expectations and law obligations. Such knowledge can contribute to TN work descriptions and further develop the TN service. Research about what telenurses in the service, and the operation managers directing them, regard as the core or goal of TN work, is thus required. Other important stakeholders, who need to be heard, are parent callers. Since paediatric issues constitute a large part of TN calls\textsuperscript{6, 7, 9}, parents are common callers\textsuperscript{82}, and a majority are mothers\textsuperscript{68, 82, 84, 85}. Despite dealing with a vulnerable patient group, these calls are mostly handled by telenurses lacking paediatric specialty education. These calls are also less studied than adult calls\textsuperscript{6, 19-21, 88-90}. Questions about the reasons, timeframes and outcomes of these calls require answers. It is also interesting to study the phenomenon of mother callers being in the majority, and the rarely-described gender perspectives of paediatric health calls. The Swedish healthcare national objectives of equitable healthcare and health promotion\textsuperscript{3} imply, for example, that telenurses should promote health among callers in an equitable manner. Whether these legal objectives are being met within the goals of TN work in the era of NPM trends of efficiency and cost control\textsuperscript{100, 149, 150} has not been studied until now.
Overall and specific aims

The overall aim of this thesis is to describe Telephone Nursing from the three stakeholder viewpoints: telenurses, parents calling for their children, and the SHD operation managers as representatives of the telephone healthcare organisation.

Specific aims

The aim of Study I was to describe the different ways of understanding work among a group of telenurses.

The aim of Study II was to describe authentic paediatric calls between parents and telenurses.

The aim of Study III was to explore and describe parents’ expectations and experiences of calling SHD regarding paediatric health issues and to discuss the findings in the light of gender theory.

The aim of Study IV was to explore and describe what SHD managers perceive as the primary goals of TN work and how they view health promotion and equitable healthcare implementation at SHD.
Methods

Design
The different research steps in this thesis have been inspired by research questions arising along the way, so that each step has been inspired by those previously. For instance, the telenurses in Study I primarily described paediatric health call examples, when talking about their work. This brought attention to paediatric health calls as an extensive part of TN work. Study II was accordingly designed to describe and compare the content and outcome of paediatric health calls. After identifying gender aspects in these calls, this was kept in mind when designing Study III. Finally, the design of Study IV was influenced by Studies I and II.

Information about study design and an overview of the sample and analyses are presented in Table 1.

Table 1. Overview of design, sample and analysis of the four studies.

<table>
<thead>
<tr>
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<td>II</td>
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<td>III</td>
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Setting
Studies I and II were performed at a call centre in mid-Sweden, which covered sparsely populated areas to urban areas. Study III was performed in a mid-Swedish county, with sparsely populated areas, urban areas and one SHD site. The setting for Study IV involved all the SHD sites, since participants were all employed operation managers in the 21 Swedish county councils and regions.
Participants and data

**Study I**
Twelve of the 20 telenurses working at a TN call centre in Sweden participated in Study I. They were all female and their ages ranged from 39 to 63 years. No male telenurse was employed at the call centre in question at the time of the study. The participants had between 14 and 40 years of clinical experience in a mixture of specialities (5 medical/surgical, 2 paediatrics – of which one was also intensive care and medical/surgical, 2 intensive care, 2 district nursing, 1 occupational health care). Their TN work experience varied from 4 months to 35 years.

**Study II**
The material for Study II consisted of 110 authentic telephone calls between eleven telenurses and 110 parent callers, collected at a TN call centre in Sweden. The eleven telenurses were those out of 20 that gave consent for their study participation. The participating telenurse characteristics are described above (in Study I). The participating parent callers gave their consent for participation with approval in two steps. First they were asked about participation in the initial automatic caller service, when calling SHD. Parents could press 1 or 2 on the telephone, for ‘yes’ or ‘no’, to the question of participation. Parents giving approval were then connected to a telenurse working station with recording equipment. Participating telenurses were encouraged to work at this station as much as possible. When the calls made by parents accepting participation were replied to by the participating telenurses, telenurses repeated the question about whether parents consented to their participation in the study. The inclusion criteria were 1) parents calling for a child 0-16 years of age, 2) a complete call conversation, and 3) call made in Swedish. The age interval was chosen after deciding that children from 17 years of age were more likely to call for themselves. No calls were however excluded according to age and the oldest child involved was 14.5 years.

**Study III**
To reach a maximum variation sample\(^{151}\), 21 parents with varying gender, ethnicity, age (children and parents), number of children, education, occupation, city or provincial living and civil status were included in Study III. For example, participants were represented by: five fathers, five foreign-born, and five single parents. Inclusion criteria for participation were: parents who had called SHD for their children, aged 0-16 years, within the past six months. The recruitment process was performed through 1) advertisement in local newspapers and 2) bill-posting and personal enquiries in a primary
healthcare waiting room, a day-care centre and a city mission centre. The participating parents reported usage of SHD 1-20 times a year (m 4.38).

**Study IV**

All 23 SHD operation managers responsible for the 33 TN working places belonging to the 21 county councils and regions in Sweden participated in Study IV. The managers were responsible for one to three county councils or one part of a region. One region had five employed managers, of which one was a coordinator. Each of the managers managed one to six TN working places and in at least one case also managed other departments outside SHD. Operation manager ages ranged from 43 to 65 years and all but two were female. All managers except two had an RN degree, with a range of specialties and RN experiences between nine and 36 years. The remaining managers were a psychologist and a mental health worker. Managerial experience as an SHD operation manager ranged from one to 13 years, with a mean of more than five years. As with all Swedish healthcare, SHD is publicly financed and at the time of Study IV, four county councils were privately outsourced, and two of the managers were therefore privately employed. Among the SHD operation managers, 16 had clinical experience as telenurses. Of these, eight sometimes still took patient calls, to cover for staff vacancies, while the other eight had stopped working with callers after becoming operation managers.

**Data collection**

**Study I**

Data were collected through phenomenographic interviews with twelve telenurses, during 2004 and 2005. The interviews lasted between 45 to 90 minutes. Three open-ended questions were used in the interviews: *When do you feel you have succeeded in your work?*, *What is central to or the core of your TN work?* and *What do you find difficult in your work?* These were also followed up by further probing questions. All questions were intended to capture the telenurse’s understanding of the phenomenon under study: the TN work. Since the telenurse workplace was about to be connected to SHD, implying changed working routines, five follow-up interviews were conducted a year later. Seven telenurses were thus interviewed once and five telenurses twice, resulting in a total of 17 interviews. All interviews were performed by co-author IH.

**Study II**

Data, consisting of 110 paediatric health calls, were randomly selected from a call database of 5,000 TN calls, recorded over a period of eleven months
during 2004/2005. Ten paediatric health calls from the early part of ten different working shifts were collected for full-time working telenurses, while ten paediatric health calls from the early part of five to eight working shifts were collected for part-time telenurses. This was done with the intention of collecting calls made under the same circumstances.

**Study III**

After one pilot interview, which was transcribed and discussed in a research seminar, the 21 parental interviews were performed face to face. These were carried out from September 2010 to February 2011. The participating parents chose the location of the interviews. Ten were performed in a university office, six in participant homes, three in a community centre and two in a day-care centre. All interviews were conducted by E.K. The interviews were semi-structured and lasted 37-76 minutes. Participants were encouraged to speak freely about expectations and experiences of calling SHD for their child. The opening interview question asked was *Please tell me about a situation when you called SHD for your child*, followed by probing questions.

**Study IV**

After two pilot interviews, which were transcribed and discussed among the co-authors, the 23 SHD operation manager interviews were performed via telephone. The interviews were performed by E.K. from March to May 2012 and lasted between 35 and 70 minutes. The interview questions were semi-structured and focused on how managers viewed the goals of TN work, and their views on health promotion and equitable healthcare implementation, with paediatric health calls as an example. They were also asked about their views on what telenurses had reported to be the core of their work\(^\text{152}\) and their thoughts on the unequal parent gender distribution of SHD paediatric health calls\(^\text{153}\).

**Data analysis**

**Study I**

The transcribed telenurse interview data was analysed according to Sandberg\(^\text{115}\) and Åkerlind\(^\text{154}\) in the empirical research tradition of phenomenography. It aims to describe what is manifested\(^\text{155}\) and discover the qualitatively different ways in which people experience a phenomenon\(^\text{119}\). When a researcher focuses on and explores the different ways people experience a phenomenon, it is called a *second order perspective*\(^\text{114,119,156,157}\) and contrasts with the more common way of performing research, in which the
researcher explores and describes the phenomenon in itself, a first order perspective.

The transcripts were listened to, read, reread and analysed. An inductive approach with no predetermined categories was used. Text referring to what the telenurses talked about regarding their work and how they talked about it was marked and cut out in short sections. An iterative process, i.e. moving from the whole transcript to condensed descriptions and back again, was used throughout the analysis. When preliminary description categories that emerged from data were found to be mutually exclusive, these were settled. Their relationship to each other and final category names were discussed by all the authors. The description categories were established on the basis of similarities and differences and were used to develop an “outcome space”. This is a phenomenographic term describing the internal, and often hierarchical, relationship between categories. The “outcome space” describes the wholeness of phenomenographic findings according to researchers’ cognitive work, instead of simply listing descriptive categories.

Study II

A number of research questions for the 110 telephone calls transcribed were examined using descriptive and comparative statistics. The research questions were: (1) Who calls for whom, and what are the reasons for contacting health services? (2) How long are the conversations and who speaks the most in the conversations (according to word count)? (3) Do the call length and word count differ by results of calls (self-care advice or referral to other health services), gender of children and parents, or age of children? and (4) What are the results of the calls and do these differ by gender of children and parents, or age of children?

The calls were categorised according to parent specified reasons for calling, for example cough or fever, as inspired by Bolli et al. and St George et al. This was performed by E.K. and supervisor I.H., both experienced paediatric nurses. The results of calls were divided into telenurse advice or referral to other health services, i.e. physician or nurse referrals. Word count for telenurse and parent caller communications respectively was made independently by E.K. and a project assistant, using Microsoft Word version 2003. Data was analysed using statistical software SPSS 16.0. and SAS 9.1.3.

The result of a call (referral to health services or not) was analysed using a logistic regression model that accounts for the correlation between calls received by the same nurse, since every participating nurse (n=11) had replied to ten calls. To avoid mixing independent and dependent measures within the same analysis of the 110 calls, these were assigned to the nurse that had replied to the call. An average estimation was then made for the ten calls each nurse had handled.
Since call length and word count were not normally distributed, non-parametric methods were used. The differences between who mothers and fathers called for were analysed using a chi-square test. Spearman’s rank-order correlation was used to assess the relationship between call length and word count.

Study III
The transcribed parent interview data were analysed using qualitative content analysis methodology, which is a useful method for analysing unstructured texts. All authors read through the transcripts to obtain a sense of the whole. The first author then read the transcripts several times, the other authors were acting as co-readers. Text related to the study aim, with the same central meaning, was divided into meaning units that were condensed and coded. The codes were sorted according to content and grouped into seven categories according to commonalities. These seven categories were divided into three content areas. Finally, one theme of the comprehensive content was identified after reflecting on what the underlying text in the seven categories implied.

Study IV
The transcribed manager interview data was analysed using deductive directed content analysis, which is useful when prior research about a phenomenon would benefit from further description. Such a directed approach of content analysis is guided by a more structured process than in a conventional content analysis. The prevailing prior research borne in mind was how telenurses have described the core of their work and that the outcome of paediatric health calls has been found to be unequally distributed. The starting point for the analysis was thus (1) what the managers described as the goals of TN work and whether (2) health promotion and (3) equitable healthcare were included. The first author read the interview transcripts several times, to obtain a sense of the whole, and the other authors acted as co-readers. Text related to the study aim was highlighted, coded and distributed in the above 1, 2 and 3. The manager descriptions of the goals of TN work were finally compared with the way telenurses described the core of their work in Study I. The analysis was conducted by the first author, with all other authors acting as co-readers and discussed in research group seminars.

The English language has in all manuscripts been revised as suggested by professional English editing reviewers.
Ethical considerations

Study I and II
These studies were approved by the regional ethical review board: Ups02-366. Following good practice of scientific work, the informants were included in the study after informed consent. The telenurses in Study I and II were informed about the study at a group meeting and in writing. Further information in relation to the interviews was given verbally. The telenurses gave their written and oral informed consent and were also informed that their participation was voluntary and that they were free to withdraw from the study at any time, without giving a reason. The results are presented in a way that guarantees confidentiality for all parties. The parent callers in Study II were prepared for study participation through advertisements in local newspapers. Since parents are in a vulnerable situation when calling for their children, they were asked on two occasions whether their conversation with the telenurse could be recorded. The parents were informed that their participation was voluntary and that they were at liberty to stop the recording whenever they wished without giving a reason.

Study III
The study was approved by the Regional Ethical Review Board: Dnr 2010/050. Following the ethics of scientific work, the informants were included in the study after giving informed consent. The parents were informed about the study through advertisements in local papers, billing and personal enquiries at a primary healthcare waiting room, a children’s daycare centre and a city mission centre. When parents contacted the first author regarding interest in the study, they received further information about it. They were also informed that their participation was voluntary, that they were guaranteed confidentiality and that they could withdraw from the study whenever they wished, without giving a reason. The results are presented in a way that guarantees the informants’ confidentiality.

Study IV
The study followed the ethical regulations and guidelines according to Swedish law, and conformed to the ethical principles defined in the World Medical Association Declaration of Helsinki. The participating SHD operation managers were first contacted by mail, where brief information about the study was given and told that the first author would make contact via telephone within two weeks. The first author then called all managers personally, gave further information about the study and received consent for participation from all the SHD operation managers. They were guaranteed confidentiality and informed that their participation was voluntary, and that they were at liberty to withdraw from the study at any time.
Findings

Study I

The interviews in Study I revealed five descriptive categories and different ways of understanding TN work: 1) *Assess, refer and give advice to the caller*; 2) *Support the caller*; 3) *Strengthen the caller*; 4) *Teach the caller* and 5) *Facilitate the caller’s learning*. These will first be described one by one and then how they relate to each other.

1) *Assess, refer and give advice to the caller*

In the first category the telenurses described the core of their work as assessing, referring and giving advice to callers. The assessment phase was compared to a detective’s work of asking questions and listening carefully for clues. The importance of quickly determining the caller’s problem was underlined. Limited healthcare resources reminded the telenurses to preferably give self-care advice before referring to other health services.

2) *Support the caller*

In the second category, the core of the work was described by the telenurses as giving callers a feeling that telenurses are always there for them, like family. The telenurses expressed how they advocated and guided callers faithfully supporting them at the time of the call.

3) *Strengthen the caller*

In the third category, the telenurses described the core of their work as being a discussion partner and coach for callers. They could praise and confirm self-care actions callers had already performed. Sometimes they could encourage sick persons to come to the telephone when someone else made the call.

4) *Teach the caller*

In the fourth category, the telenurses described educational aspects as the core of their work. The teaching process was not, however, individually directed, but rather standardised, based on what the telenurses thought the caller needed to know. The telenurse was depicted as having the active part in conversations, while callers had the role of attentive listeners.
5) **Facilitate the caller’s learning**
Finally, in the fifth category, telenurses talked explicitly about focusing the caller’s learning as the core of their work. Telenurses describing this category also described all other categories. These telenurses had both short and long experience as telenurses. The caller’s current understanding of symptoms and treatment was used by telenurses as a point of departure in dialogues. In other words, the teaching process was individually tailored for each particular caller.

**The outcome space and TN ‘work map’**
The last step in a phenomenographic analysis is the researcher’s cognitive work of finding the relationship and hierarchical order of the established description categories and creating an outcome space, which in this study is depicted in Figure 2. It represents a collective understanding of TN work in a TN ‘work map’. The telenurses described from one to five of the description categories. The first, **assess, refer and give advice to the caller**, is placed in the lower part of the figure, as it was described in all interviews. It can be seen as the basis for TN work. The second, **support the caller**, was described together with description category 1 and the third, **strengthen the caller**, together with description category 1 and 2, therefore these categories are placed on top of each other. The fourth, **teach the caller**, was described either together with description categories 1, 2 and 3 or together with description category 1. Therefore, description category 4 is placed vertically in the figure. Finally, telenurses who described the fifth category, **facilitate the caller’s learning**, also included all other description categories as the core of their work, therefore this category is highest in hierarchy among all categories and placed at the top of Figure 2.

![Figure 2. The outcome space and TN work map.](image)
Study II

The 110 authentic paediatric health calls examined in Study II were made by 73% mothers and 27% fathers, who called to the same extent for girls (47%) as for boys (53%) and regardless of age. The top three reasons for calls were ear problems, skin problems and fever and the children called for were between 5 days and 14.5 years of age. The majority of the children (65.5 %) were under the age of five and the median call length was 4.4 minutes (range 1.7-19.0). The distribution of words for callers and telenurses was even and just slightly to the caller’s advantage (50.5%) in the overall calls. When calls were divided into results of advice or referral, however, word count was in favour of the telenurses to an extent of 53% when self-care advice was the result. When referral was the result, word count was instead in favour of the callers to an extent of 56 %. Call length and total word count did not differ according to referral or self-care advice as result of calls. Neither did they differ according to parents or children gender.

Almost half the calls, 48% (n=53) were handled through telenurse self-care advice to the callers. Referral results were in a 51% (n=56) majority, of which 4.5% (n=5) of calls were referrals to a district nurse or child welfare nurse. This amounts to 53% nurse results and 46% physician results (with the remaining 1% being a call with an unknown result).

A consideration of gender differences according to the results of self-care advice or referral, indicated that the likelihood of fathers receiving referrals as a call result was almost twice as high as that of mothers (fathers 63% vs. mothers 47%, OR 1.96, 95% CI 1.10-3.47, p = 0.022) and thus the likelihood of mothers receiving self-care advice was almost twice as great as that of fathers (mothers 53% vs. fathers 37%, OR 0.51, 95% CI 0.29-0.90, p = 0.022). There were no gender differences in the children regarding results of self-care advice or referral (sons 54% vs. daughters 48%, OR = 1.28, 95% CI 0.66-2.50, p = 0.469) or regarding the age of children younger and older than two years of age (25-174 months 55% vs 0-24 months 47%, OR = 1.42, 95% CI 0.70-2.87, p = 0.326).

Study III

The interviews for Study III revealed seven categories describing parent expectations and experiences of calling SHD. These are presented under the three content areas: before, during, and after the call. Recurring feelings of worry and trust appeared to be intertwined throughout the parental process of making paediatric health calls, and emerged as an overall theme of the findings. Theme, content areas and categories are presented in Table 2. A description of each category will follow.
Table 2. Content areas, categories and theme constituting the main findings.

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**Before the call**

**Hesitation and/or determination**
Parents described either trusting SHD as their first instance of health care, or going straight to other health services without calling, when worried about a sick child. The decision to call could be associated with hesitation and critical considerations. Certain complaints, such as stomach problems, difficulty in breathing and poor general condition, accelerated the decision. Telenurses encouragements to call for all kinds of questions were appreciated, particularly by foreign-born parents.

**Preparation for telenurse’s questions**
Parents described the way they prepare answers to telenurses’ questions, when being worried and preparing to call SHD, for example regarding days of illness, fever development, medication and their child’s general condition. An active preparation for questions contributed to calmness and decreased worry.

**Predetermined reasons for being the caller**
Whether a child’s parents discussed contacting SHD with each other varied. Who would call appeared to be based on family routine, from one parent making all the calls to equally sharing. Both mothers and fathers said they called due to worry, or because they were asked to by their partner. Mothers reported preferring to call and speak to the telenurse, regarding it easier to explain the child’s condition and ask for help. Some admitted a wish for control, lacking trust in the father’s ability and only permitting them to call when otherwise occupied. Mothers also declared that once they had called, they often continued doing so. Fathers stated that they called due to language ability. Both fathers and mothers had been asked to call when assertiveness was felt necessary. There were also parents who described calling SHD equally, depending on their presence with the child. Some mothers con-
firmed having the main responsibility for children in the family, and some believed children need mothers more and mothers to understand children better than fathers. Fathers varied in viewing SHD as a “masculine thing” or not: they saw it as either an easily accessible service with transfer to other health services, or something men want to manage without.

**During the call**

**Individualised and professional dialogue**

Parents claimed to prefer to be given the chance to speak first in their communication with telenurses, without interruption. They also wished for individualised dialogues, exploring their worry and needs, with plenty of time to answer questions. They emphasised knowing their child best, and the importance of relying upon and trusting their own intuition. Foreign-born parents believed themselves to communicate differently to native Swedes, which was likely to affect descriptions of illness. These parents also described an extra need for a clear communication.

**Impact of worry and trust**

Worry and anger was explained as aggravating parent descriptions and increasing their demand for referrals. Paediatric health calls were deemed more urgent, worrisome and demanding of competence than adult calls, due to transmitting second-hand information. Telenurse caring skills, such as commitment to problem solving, empathic listening and pronouncing children’s names, made parents less worried and lead to increased trust in SHD, with a reduced desire for referrals. Single parents valued telenurses for their second opinion on own assessments. Telenurse paediatric experience and knowledge was particularly valued, as was listening to or talking to children in supplementing parental descriptions, and telenurses consulting colleagues. Telenurse questions about parent satisfaction regarding recommendations received also increased parent trust in the service. Furthermore, ‘safety netting’ advice, where telenurses encouraged parents to call back or contact emergency services if necessary, decreased parent worry. In contrast, there was discontent with being interrupted, trivialised or disrespected, which made parents feel bad, call for a second opinion or visit emergency services. Parents’ trust in SHD was reported to influence future use of the service.

**After the call**

**Following telenurses’ recommendations or not**

The reactions to telenurse recommendations varied from following the recommendations to listening only to parent’s own judgment. Five of the par-
ents reported following recommendations exclusively, regardless of own intuition and worry. Others felt conflicted and thus experienced anxious hours before following their own intuition and making a doctor’s visit. A lack of referral was initially hard to accept, but acceptable in hindsight.

Parental learning reduces need for future calls
Many parents learned from calls to SHD. They described a wish to learn so as to proceed from their level of knowledge, to decrease their worry, and have an increased future trust in own ability to care for sick children.

Study IV
In Study IV, the SHD operation managers described four themes for what they conceived as the main goals of TN work: (a) ‘create feelings of trust’, (b) ‘achieve patient safety’, (c) ‘assess, refer and give advice’ and (d) ‘teach the caller’. Three of the 23 SHD managers stated health promotion as included in these goals. Equitable healthcare was regarded as an important issue. The findings are presented under the domains: goals of TN work, health promotion, and equitable healthcare.

Goals of TN work according to operation managers

(a) To create feelings of trust
One described theme was that telenurses should establish a relationship with callers to increase caller feelings of trust and security, in line with SHD’s general aim: ‘increased public sense of security’. Telenurse collaboration with parents was strongly believed to facilitate parent delivery of information, also facilitating a correct assessment, and to make parents comfortable with the advice received.

(b) To achieve patient safety
Another theme described was to achieve patient safety. To reach this, structured work with use of TN tools, such as the DST and in-service trained ‘dialogue process’ was claimed to be important in TN work. Parent understanding and approval regarding agreements in calls were believed to increase patient safety.

(c) To assess, refer and give advice
The theme of assess, refer and give advice to callers was recurrently mentioned and explicitly matches the SHD service described TN tasks.
(d) To teach
The last theme, ‘teach the caller’ was described by the managers in connection with referrals. Learning aspects were not discussed.

Operation manager views on health promotion
Health promotion was explicitly stated by 14 of the 23 SHD operation managers as not included in the SHD commission. Of the remaining managers, 6 were doubtful about health promotion implementation at SHD while 3 instead emphasised that health promotion can indeed be implemented at SHD. Barriers noted were a lack of awareness of the social determinants of health, lack of time, lack of support from the DST, and lack of continuity of care. SHD was stressed as handling short questions primarily aimed at treating illness and disease. On the one hand, most managers claimed lack of time, due to long patient queues. On the other hand, a few managers claimed that there are no time-limit demands at SHD. The DST was believed to lack health promotion components and to focus more on whether a doctor’s appointment was needed. Lack of possibilities for follow-ups was reported to be a hindrance to health promotion. Some managers stated that callers should not be provided with more information than they actually request. Health promotion was described to rarely be encouraged and possibly only when telenurses demonstrated individual interest in this practice. According to the managers, health promotion is performed sporadically at SHD and orientation and strategies for this appear to be lacking.

Operation managers’ views on equitable healthcare
Equitable healthcare was reported to be an important issue. The mother caller majority in paediatric health calls was, however, regarded as a family issue. Advertisements picturing father callers were the only suggestion for attracting fathers to SHD to fathers, suggested by one manager. That father callers were referred to other health services more often than mothers concerned the managers, who ranged from being upset to rejecting the results as unreliable. Most managers however believed fathers and mothers were treated differently at SHD. They had various suggestions for how to achieve more equitable healthcare, such as recognising fathers’ concerns and their need for reassurance to the same extent as for mothers, and that both parents should be seen as appropriate persons for child care. It was discussed whether fathers need to be asked more explicit questions, to try to help them describe their children better. There was an expressed desire that gender issues be highlighted at SHD. The managers wished telenurses to be aware of, and reflect on, unequal gender treatment and not let non-professionals make decisions for them.
Discussion

Summary of findings

The overall aim of this thesis was to describe Telephone Nursing from three stakeholder viewpoints: telenurses, parents calling for their children, and the SHD operation managers as representatives of the telephone healthcare organisation.

It was found that TN work was understood in a variety of ways by a group of telenurses running the service. Swedish paediatric health calls turned out to be congruent with internationally described paediatric health calls and parental gender appeared to play a role for who calls and what calls result in. Parent callers reported high confidence in telenurse recommendations. Some stated that they would not seek healthcare unless being recommended to by a telenurse, despite continuous and serious concern for the child. The operation managers mainly echoed the SHD organisational goals in their expressed goals for TN work. Equitable healthcare was regarded as important, whilst health promotion was not considered to be included in the goals of TN work.

The findings present both concordance and discrepancies. Telenurses in Study I and operation managers in Study IV mutually present ‘assess, refer and give advice’ and ‘teach the caller’ as part of TN work - the first, a seemingly important basis for TN work, the latter a prerequisite for the by telenurses emphasised learning aspects. Parents in Study III expressed a wish for being listened to and being accorded respect from telenurses. To have needs and understandings explored was reported to decrease parental worry, with increased trust, learning and concordance with telenurse recommendations as a result. Many parents had learned from calls, and learning was believed to increase with decreased worry. This corresponds to the operation mangers’ highlighted goals of ‘creating feelings of trust’ and ‘teach the caller’ in Study IV and the categories ‘support’, ‘strengthen’, ‘teach’ and ‘facilitate the callers’ learning’ as the core of TN work in Study I. Both operation managers in Study IV and parents in Study III claimed that parents possibly give more complete information about a child when feeling secure and trusting the service. Only telenurses expressed ‘facilitate the callers’ learning’, although operation managers agreed this was relevant when presented to the TN ‘work map’ (containing telenurses’ expressed core of work in Study I). That the majority of operation managers did not include health promotion in
TN work raises interest for what they do regard as the subject for callers learning.

In contrast to learning, only operation managers suggested safety as a goal of TN work. That telenurses did not explicitly highlight safety, might be because they were asked about the core of their work, and the operation managers about the goal of TN work. Safety might be a natural part of work and be the context in which telenurses work, with the question of whether a caller’s problem may be life-threatening more or less constantly present. Whether viewed as a goal or a means, safety is undoubtedly an important aspect of TN, as explicitly highlighted by the operation managers, and a nevertheless important issue also for telenurses.

Parental feelings of worry, intertwined with trust, were reported by parents in Study III to be present from their first thought of contacting SHD to after the calls ended. Without trust in the SHD service, some parents reported they would not call at all. Others reported such great trust in telenurses that they would not seek healthcare unless encouraged to by telenurses, despite continued concern for their child after a call.

That gender seems to play a role for which one of the parents that will call SHD and for what is the recommended outcome for paediatric health calls are noticeable findings and are discussed on the following pages. The SHD operation managers stated equitable healthcare to be important in TN work, whilst health promotion was not, a finding discussed on page 50. But first, the expressed ways for the core of TN work, in the TN ‘work map’, will be scrutinised.

Telephone Nursing ‘work map’

The five established ways of understanding TN work (Assess, refer and give advice to the caller; Support the caller; Strengthen the caller; Teach the caller; and Facilitate the caller’s learning) in the ‘TN work map’ created in Study I, are all likely to be valuable in TN work. All ways do not necessarily need to be used in all calls; it depends on, for example, type of call, individual caller, and queue situation. Similar ‘work maps’ of ways of understanding work have been described in other health professional contexts. Such ‘work maps’ can be used for in-service training and competence development, to make telenurses reflect and increase professional awareness of how work is understood by others. Since all telenurses might not extend their understanding to all five ways, it is possible that telenurses perform ‘different jobs’ despite working within the same telephone health service. Following this line of thought, callers might, despite calling the same number, receive different responses depending on which telenurse is replying to their call.

The telenurse coach function in ‘Strengthen the caller’ partly corresponds to the expressed wish for confirmation of care measures already performed,
as reported for Norwegian parents\textsuperscript{84}. The majority of them also said they had learned from calls, just like parents in Study III. This is consonant with (as highlighted by telenurses) ‘Facilitate the caller’s learning’ in Study I and points to the public health potential of TN work. The three telenurse categories ‘Support’, ‘Strengthen’ and ‘Educate the caller’ in Study I (whereof the last was also highlighted by operation managers in Study IV) correspond to the ‘Supporting’ heading in the Greenberg model of the process of TN\textsuperscript{64}, depicted in Figure 1 on page 19. In the model, ‘Supporting’ does comprise reassuring, encouraging, validating, teaching, and after care, but lacks caller learning components. The model would thus possibly benefit from adding ‘Facilitate the caller’s learning’, as proposed by telenurses in Study I. This category was considered highest in the hierarchy for TN work, since it was expressed by telenurses that expressed all other ways of understanding the TN work. Telenurses viewing all five ways of understanding TN, are probably what Benner calls expert nurses\textsuperscript{169}. However, the description is not necessarily dependent on years of experiences in work, but rather on how TN work is understood. According to competence theory, these experts are likely to perform TN work in the most effective way\textsuperscript{115, 118}. How the telenurses who participated in Study I actually perform their work in everyday life was not studied in this thesis.

Gender aspects of paediatric health calls
Study II revealed that mothers comprise three-quarters of parent callers to SHD, which is in line with international reports for paediatric health calls\textsuperscript{68, 82, 84, 85}. Hence, a gendered pattern for paediatric health calls seems present also in a Swedish context, despite ongoing equality work. The result of 73\% mother callers confirms the picture of mothers having the role of caring and of calling SHD in the family\textsuperscript{137} and that families possibly have greater trust in mothers’ ability to talk to telenurses\textsuperscript{148}. The gender norms in society\textsuperscript{130}, reflected in the family gender roles, are like a set of social and behavioural norms, considered to be socially appropriate for individuals of a specific sex\textsuperscript{170}. Consequently, femininity seems to be constructed through mothers’ responsibility for paediatric health calls, while contacts with health services are still not included to the same extent regarding the construction of masculinity\textsuperscript{94}.

Besides the fact that caring tasks are central in the social construction of women’s gendered identity, mothers might, according to power relations\textsuperscript{127, 128}, exclude fathers from calling SHD, based on rational or irrational reasons. This was expressed in Study III, where some mothers claimed to prefer to call SHD themselves instead of letting the father call, owing to a desire for control. Women possess less power than men in the gender order\textsuperscript{130}, particularly in public contexts\textsuperscript{139, 144}. In relation to the private sphere, e.g. caring for children and family, women instead commonly possess more power than
men\textsuperscript{130}. It might thus be double deprivation for mothers to devolve the responsibility of calling SHD to fathers. Since mothers would probably gain no other power in exchange, the consequence of including fathers in contacting health services would be a loss of power for women.

Calls to SHD can be seen as a borderland for public/private in that the service is public but deals with intimate private matters. Since femininity is argued to relate more to the private sphere and masculinity to the public sphere\textsuperscript{131, 139, 140} the majority of women’s calls to SHD could be interpreted as calls of a private matter, coinciding with societal gender norms\textsuperscript{130, 170}. The private matters are, however, contradicted by the equally distributed word count for mothers and fathers in Study II, in that women have been reported to talk more than men in private contexts\textsuperscript{139, 141}.

Some of the mothers highlighted that mothers more often work part time or take sick leave for children, compared with fathers. To the contrary, one father in Study III reported that he was the parent who worked part time and took sick leave for children in his family. He is possibly one of the ‘new dads’ referred to by Goode et al.\textsuperscript{85}, who argue that fathers will become more involved in children’s needs and will make contact with health services when it becomes more socially acceptable and expected for fathers to do so. There are also possibilities that ‘lone’ dads call SHD owing to their being single parents\textsuperscript{171}. Nevertheless, the result of 27\% father callers reflects the process for a slowly emerging change to a more equal gender distribution, which is in line with reports from Australia\textsuperscript{172} and Canada\textsuperscript{173}.

The SHD operation managers regarded the issue of a ‘mother majority’ to be a family matter and nothing SHD can possibly do anything about. Only one manager gave a suggestion, which was to advertise SHD with pictures of men and father callers. No operation manager considered the possibility that men might not feel welcome at the SHD service. Since telenurses have reported finding men to be more difficult to talk to\textsuperscript{148} compared with women, this is a relevant issue. How to make SHD more attractive to men in general and fathers in particular is an important issue for the SHD organisation, to fulfil the legal goals of equitable healthcare which concerns the whole of Swedish healthcare.

That telenurses almost exclusively are women links to the conception of caring/nursing as a female task. The mother majority implies paediatric health calls to be a mostly female-to-female activity, seemingly valued by telenurses in regard to conversations with women which are easier to handle\textsuperscript{148} than those with male callers. None of the eight participating fathers in Study III, however, addressed this issue. Study II though revealed that when fathers do call, they are further referred to other healthcare providers more often than mothers.
Inequitable call outcome

In Study II, it was found that mothers were twice as likely to receive self-care advice as a result of the calls as fathers. Fathers were instead, to the same extent, more likely to receive referrals to other health services - this, despite the fact that the children on whose behalf the fathers called were not found to suffer from problems any more severe than those for whom the mothers called. Explanations were instead sought in gender theories. The normative hegemonic masculinity\textsuperscript{133}, described in the theoretical framework, might be at work when telenurses at SHD refer fathers to other health services to a higher extent than they do with mother callers. Taking care of children is not included in the hegemonic masculinity. It is also possible that fathers disapprove of the gate-keeping function telenurses possess in healthcare, owing to hegemonic masculinity.

Besides the ‘new dad’ mentioned earlier, Goode et al.\textsuperscript{85} claim there are fathers that are ‘assertive callers’, which is also discussed by Höglund and Holmström\textsuperscript{148}. Following this line of thought, assertiveness for doctor’s appointments would be one explanation for why fathers received referrals to a higher extent than mothers in Study II. In Study III, assertiveness was, however, described to characterise both mothers and fathers, which contradicts stereotyped societal expectations of gendered roles and assigning assertiveness as a paternal quality. The families consequently seem to send forth the assertive parent in a family when this feels to be required. Assertiveness is, however, commonly interpreted as a male characteristic and yet not accepted to the same extent among mothers as among fathers in society\textsuperscript{85}. From the SHD operation managers’ perspective, it was in Study IV argued that professional telenurses must not let non-professional callers make decisions for them. In order to achieve patient safety - a highlighted goal for TN work, according to the operation managers - the assessment needs to be based on the condition of the child and not the gender of the parent.

In Study III, fathers were revealed to receive referrals to a higher extent than mothers without being remotely assertive. The earlier stated family role for mothers to care\textsuperscript{137} and call SHD might play a role also in telenurses’ work. Hence, fathers might be referred just because they are not trusted to deal with self-care. Since telenurses have reported that they find it easier to talk to female callers\textsuperscript{148}, this is a possible explanation for their higher extent of giving self-care advice to mothers. Telenurses might also ‘suffer’ from ‘gender vertigo’\textsuperscript{174, 175}, which refers to what happens when a human acts outside the borders for what is accepted according to gender norms\textsuperscript{176}. A telenurse might hence regard a father caller as notable, as fathers rarely call SHD. This might lead to that fathers’ child issues are taken under more careful consideration, as men do not contact health services in the first instance\textsuperscript{94}. Telenurses thus seem to contribute to ‘doing gender’\textsuperscript{131} in their work, similar to reports in contexts of medicine\textsuperscript{177} and occupational therapy\textsuperscript{178}.
Telenurses are argued to be in a position of power relative to the caller in their gate-keeping function of healthcare services. For example, they might use power over patients perceived as unpopular or difficult. The question is whether fathers are regarded to be either of these. The ‘gender vertigo’ mentioned above might confuse telenurses. If fathers wish for a doctor’s appointment without having a need for this, telenurses should, in line with NPM objectives and equitable care, contribute to an efficient, cost effective and equitable healthcare, and thus recommend self-care advice for fathers to the same extent as for mothers. In this way, fathers’ worries - one of the stated reasons to why fathers had called in Study III - will be met to the same extent as that of mothers, as emphasised by the operation managers in Study IV. Fathers will consequently, to the same extent as mothers, benefit from the learning opportunities in calls, as reported by both telenurses and parents, with increased ‘competence’ for taking care of sick children as result.

Again, from a safety aspect, if telenurses do not grasp a child’s condition based on the communication with the father, a referral will be a correct measure for the child. Telenurses thus need to develop their communication skills in order to facilitate their communications with fathers and teach them to trust their ability in self-care. By treating fathers and mothers equally and avoiding gender stereotyping according to prevailing gender norms, telenurses will contribute to equitable healthcare, in line with healthcare regulations. An important prerequisite for a competent (male or female) telenurse is thus the ability to assess the child’s health status regardless of parent gender. In this way, the political intentions of guiding callers to the lowest possible care level will affect not only mother callers.

Worry and trust

In Study III, both mothers and fathers reported that contacting SHD for a sick child was worrisome and was intertwined with a varying degree of trust in the service and its telenurses. It is hence important that vulnerable parents do not fear being criticised and that the worry for bothering health services unnecessarily, highlighted in Study III, is met with understanding when parents call SHD. Worry was reported to be a reason why a parent was the one in the family that had called SHD, among both mothers and fathers. Since the sample was only represented by parents that had contacted SHD, it is however uncertain whether parents that never call worry less than those who do call. The findings give insight into the process of the parental caller perspective for making a decision to contact SHD. Whether to call or not seemed to be influenced both by the degree of parental worry and trust in the service.

A good first impression was reported to be valuable in phone calls, as with face to face encounters. This is a supportive prerequisite for the coll-
laboration between telenurses and parents, belonging to the ‘Gathering information’ call phase in the Greenberg model of the process of TN\(^6^4\). This phase involves getting started and getting to know, in which trust is likely to be built between parent and telenurse. This is in line with Study III parental wishes for receiving telenurses’ full attention and respect during calls, to increase parental trust. The parents further reported that being asked about satisfaction and reliance in telenurses’ recommendations lead to enhanced trust in the telephone health service and promote shared decision-making\(^{8^9, 1^8^2, 1^8^3}\). This is congruent with the ‘output’ phase in the Greenberg model of the process of TN\(^6^4\), which includes for example supporting and collaborating components. Parents might, however, still worry after calls. Despite strong continuing worrying for the child, as many as five parents (out of 21 informants) said they would not visit health services without being encouraged by a telenurse. Since telenurses are not infallible, it is important they are aware that parents might interpret their recommendations literally\(^{1^8^4}\). In line with the operation managers’ expressed goal of achieving patient safety and the wishes of Norwegian\(^8^4\) and Study III parents, telenurses should encourage parents to trust their ‘parental competence’ of knowing one’s child best, and ask them to call back or contact emergency services whenever they feel it necessary. It is important to make parents aware that they have the ultimate responsibility for the proceeding measures in relation to their child’s condition.

Similar to telenurses\(^3^0\), parents in Study III regarded second-hand calls (when speaking to someone else than the person in need) to be worrisome activities. That one of these parents had experienced a telenurse equating her child with an adult makes the demand for paediatric competence among telenurses relevant. Children are not adults, they are vulnerable patients\(^7^4\), and most often represented by a third (parent) party in calls, in which telenurses also assess the child without visual cues\(^6^7, 6^9\). Assessing children via the telephone thus brings the issue of telenurses’ professional competence to a head.

**Telephone Nursing professionalism**

In the rationale of this thesis the question whether objectives of health promotion and equitable healthcare are being met in the era of NPM trends of efficiency and cost control\(^1^0^0, 1^4^9, 1^5^0\) was raised. The telenurses in Study I seemed to use their occupational professionalism\(^1^8^5, 1^8^6\) in the interest of coaching callers and facilitating their learning, despite requirements of time-limited calls. That learning had occurred in calls to SHD was confirmed by the Study III parents. The operation managers did not, however, highlight caller learning as a TN work goal, and further stated that health promotion does not have a place at SHD (although arguing equitable healthcare to be important). They reported the DST to lack health promoting elements and
that they rarely encouraged telenurses to implement health promotion in calls, which depicts health promotion as a ‘non-question’ at SHD. Accordingly, SHD operation managers may direct telenurses towards organisational professionalism. A remaining issue is thus to what extent telenurses will continue using their occupational professionalism, for example, caller learning activities, despite not being encouraged to do so by the organisation they work for. Health promotion might, in the short run, counteract efficiency in requiring more time in calls, which was also proposed as an obstacle to health promotion, according to the operation managers. Another argument was that callers should not be provided with more information than they request, in line with the manager proposing to only answer the customers’ question, in the prologue of this thesis. That an operation manager at 1177, where callers are cited patients, phrased the same words as a director of the pharmacy telephone service, where callers are cited customers, manifest influences of NPM. Healthcare cannot, however, outright be likened with a customer service. Patients do possibly not possess knowledge to be motivated to ask for and ‘shop’ health promotion. Telenurses might instead need to use motivational interviewing in their health promoting dialogues with callers. They are, in their professional occupation, like all health professionals, obliged to systematically integrate health promotion work into all aspects of healthcare as a natural part of the chain of care, according to the Health and Medical Services Act (1982:763), the National Guidelines for Disease Prevention Methods and several other documents. There are no exceptions, such as working for an organisation which does not encourage this.

According to nursing ethics, caring is more essential than short-term commercial interests, but need not be in opposition. Telenurses’ investments in health promoting activities might, despite possibly time-consuming in the short run, in the long run contribute to meet the SHD objective of saving resources for the whole health services sector and promote NPM interests of efficiency and cost control. Further, as stated by the parents in Study III, investments can in parental learning possibly lead to a decreased future need of the SHD service. A 15 minute call recommendation can thus be looked upon as a relevant time frame for giving optimal advice and caring. Moreover, this can possibly minimise the risk of callers seeking treatment elsewhere, which Swedin noted as a risk with short calls. The operation managers’ echo of organisational goals for TN work might not be surprising in the era of NPM trends, but might imply a risk of undermining professional caring and nursing ethics of TN work. The TN profession thus needs to take a stance in defending these components of their work, and define appropriate subjects and central focus for TN work. Different stakeholder viewpoints can facilitate TN work descriptions, which can then be used to design a future Swedish specialty TN education as well as contents for TN in basic nursing educations.
Future studies
Since TN work can by telenurses be understood in a variety of ways, it would be of considerable interest to observe the impact these different ways have on how TN work is actually performed.

The findings that parent gender plays a role for the outcome of 110 randomly selected paediatric health calls, raises questions about whether a replication quantitative study of national paediatric health calls handled at SHD would come to the same conclusion. Such a study could be performed when SHD starts to register which of the parents, or other person, makes the call.

It would also be interesting to study whether increased gender competence among telenurses would change the outcome of paediatric health calls. Would the results of paediatric health calls to a group of telenurses who have undergone gender education intervention differ compared to results of paediatric health calls to a group of telenurses who have not undergone such education?

That both mothers and fathers report calling the SHD service due to worry for their children raises interest in the reasons that some parents have never been in contact with SHD. Are they unfamiliar with, or have they not needed the SHD service? Do they worry less; do they visit the ED or other health services directly when their child gets sick, or are there other circumstances that might hinder them from calling SHD?

Most of the SHD operation managers regarded health promotion to not be part of TN work, which raises questions about how the public health authorities view the SHD commission regarding health promotion. How are the preventive aspects of healthcare, regulated in the Health and Medical Services Act (1982:763), the National Guidelines for Disease Prevention Methods and several other documents to be implemented at SHD?

Methodological considerations
Pre-understanding
All research implies an importance in being aware of the researcher’s own pre-understanding, which can be used for better or worse. Pre-understanding is often particularly emphasised in qualitative research, but is also valid within quantitative research. For example do the researcher’s deeply layered conceptions about how scientific research is to be performed, and what is considered as important and interesting to study, have an impact on the chosen research questions? In this thesis, all studies were repeatedly discussed among the authors, within the health services research group and in research
seminars. There are many interdisciplinary backgrounds in these contexts. This helped to constrain own theories and prejudices. Research ideas, pilot interviews and draft manuscripts were also discussed during research seminars at the Department of Public Health and Caring Sciences at Uppsala University. To maintain an interpretive awareness, the studied phenomena were kept constantly in focus through all the research processes. All the studies in this thesis aimed for credible and trustworthy results, often defined as trustworthiness in qualitative research or rigour in quantitative research. These two concepts will be further explored and explained below.

**Trustworthiness (Study I, III and IV)**

There are four widely used concepts for discussing trustworthiness of qualitative studies: confirmability, credibility, dependability and transferability. These concepts were introduced by Lincoln and Guba and basically correspond to the commonly used concepts of objectivity, validity, reliability and generalisability within quantitative research tradition.

**Confirmability** refers to objectivity and neutrality and aims to measure the degree to which the findings of a study derive from the data and not from the researchers’ interpretations and biases. In this thesis, this was addressed by choosing appropriate research methods in relation to the research questions. Data analyses aimed to be systematic and thorough. These were first performed separately by two researchers and then discussed in the research group. Findings were presented alongside quotes, to confirm that findings are well-grounded in data, and to promote the confirmability criterion.

**Credibility** is one of the most important aspects of trustworthiness, since it concerns the extent to which the chosen research methods interpret data in the most appropriate way. In this thesis, credibility was aimed at through a thoroughness of data collection and analysis, using a carefully selected sample from different settings and through including participants from three different angles of TN, through skilled interview techniques, and transparency in data collection and analysis. Study IV aimed at credibility by including all the employed SHD operation managers for participation in the study.

**Dependability** relates to how consistent the results are for the collected data. Is it, for example, possible for the reader to agree with the results according to the given data? Further, is it possible for the reader to judge the logic of the findings? Can the study be reproduced by reading the method descriptions? In this thesis, the research processes aimed to be described in a transparent way, to be easy for readers to follow, and to present the findings with quotes, to meet the dependability criterion. That no new ways of understanding TN work emerged in the follow-up interviews in Study I, strengthens the dependability of the findings. Further, some findings of Study I and II were acknowledged by the operation managers in Study IV.
Transferability deals with the extent to which findings can be transferred to other contexts and settings\textsuperscript{191}. In order to help readers judge their transferability to other settings and contexts, results need to be presented in a comprehensible way, and to provide a rich description of research participants, settings and processes for collecting, analysing and interpreting data\textsuperscript{191}. In this thesis sample, settings and process descriptions aimed at transparency to facilitate reader assessments of transferable findings. That SHD has much in common with other Western telephone health services, such as NHS 111, strengthens the likeliness of transferability. In relation to qualitative studies, more studies in different locations could be conducted in order to reveal the extent to which the findings are transferable to other settings.

Rigour (Study II)

Objectivity refers to the extent to which two independent researchers will arrive at similar conclusions, absent from bias such as personal values or believes. The requirements of reliability and intersubjectivity are used to define objectivity. Intersubjectivity implies that a hypothesis or argumentation in principle will be assessed on an equal basis regardless of who is performing the research. The 110 calls in Study II were randomly selected and collected with an intention of objectivity. Calls from the early part of five to ten different working shifts for the participating telenurses were therefore collected with the intention that the received calls were comparable to each other.

Internal validity deals with to which degree the research results are congruent with empiric ‘reality’. That is, whether the researcher has collected data and measured what was meant to be measured, and to what extent the study conclusions are correct. To avoid bias threats to the internal validity, a random selection of 110 calls from a database of 5,000 calls were performed in Study II. Calls were found to be congruent with internationally described paediatric health calls, regarding contact reason\textsuperscript{68, 84, 193}, age of children\textsuperscript{80, 194} and a 50% self-care advice result\textsuperscript{7, 80, 112}, which strengthens the internal validity and conclusions drawn from the study.

Reliability refers to research that has been performed in a reliable way and that it is possible to repeat in order to reproduce the same results. High reliability does not guarantee high validity, but high validity presupposes high reliability. The selection of paediatric health calls described earlier strengthens the reliability.

Generalisability deals with the likelihood that research findings are valid in a setting other than the current research context of a study. Contact reasons\textsuperscript{68, 84, 193} and self-care advice outcome of calls\textsuperscript{7, 80, 112} in Study II were congruent with other reported paediatric health calls, which strengthens the likeliness for generalisability of findings.
Strengths and limitations

The use of three different stakeholder viewpoints of TN is a significant strength of this thesis. It must however be remembered that Study I, III and IV consist of self-reported data, not aiming at “real life” observations. It is therefore unknown how the telenurses in Study I perform their work, what parents in Study III expect and experience when calling SHD in real-time and how the SHD operation managers in Study IV actually carry out their obligations at SHD. That Study I and II were conducted at one TN call centre might be seen as a limitation, although it was one of the largest sites in Sweden at the time of the study, with a catchment including both rural and urban areas. The Study II congruence of contact reasons and percentage of self-care, compared to internationally described paediatric health calls, suggests high reliability. The intersected sample in Study III is a strength, while a possible limitation might be that the sample solely consisted of people who had been in contact with SHD. Regarding Study IV, it is both a strength and limitation that interviews were performed via telephone. This enabled participation for all the employed SHD operation managers. Although it is not the same dynamic to interview via telephone as it is face to face, the current interviews dealt solely with organisational matters. Despite this, it is possible that the participating operation managers were content with the anonymity offered in telephone calls.

Regarding social desirability bias, the interviewers emphasised their university association to participants in Study I, II and IV, with no commitments to the telephone service. The thorough and exhaustive answers offer prospects for low social desirability bias. That the methods within this thesis are both of qualitative and quantitative characters is a further strength.
Conclusions

- TN work can be understood by telenurses in a variety of ways, which according to theory implies that work also is performed in different ways.

- Parental gender seems to play a role in who is the caller and in the outcome of paediatric health calls to SHD. The majority of mother callers, contact reasons and outcome of these calls appear to be congruent with internationally described paediatric health calls.

- Parents want to be listened to carefully and to be accorded respect by telenurses. To have their needs and understandings explored is likely to reduce parental worry, increase learning and result in increased trust in SHD and concordance with recommendations. Telenurses need to be aware of the possibility that some parents, despite strong worry for their child, might not seek healthcare unless recommended to do so by the telenurse.

- The SHD operation managers mainly echo the organisational goals of TN work: ‘create feelings of trust’, ‘achieve patient safety’, ‘assess, refer and give advice’ and ‘teach the caller’. Equitable healthcare was regarded important, while health promotion was not.
Clinical implications

The “outcome space” and TN ‘work map’ can be used for competence development. This can make telenurses aware of other ways of understanding their work, for developing more comprehensive ways of working. Therefore, the likelihood that callers might receive different services despite calling the same telephone number, depending on who replies to their call, will decrease. The ‘work map’ and core of work according to telenurses are also important information for the SHD organisation and the development of TN.

Telenurses need to improve their gender competence and avoid being led by gender stereotypes in their clinical work. Consequently, the results of paediatric health calls should be judged according to the condition of a child, separated from parent gender. This, in order to achieve safe care on equal terms for a vulnerable patient group, children, in line with objectives of individualised care, prescribed in ethical guidelines and law regulations.

It is important that telenurses understand the depth of parent worry for a sick child, which, if met, will facilitate the assessment of the child and gain parental trust in the SHD service. Telenurses therefore need to listen carefully and meet parent callers with respect. Telenurses should also be aware that parents might interpret recommendations literally and relinquish seeking care unless it is recommended, despite a child’s potentially severe illness. Hence, telenurse use of ‘safety netting advice’, in which they encourage parents to call back or contact emergency services whenever they feel necessary, is of vital importance. Of further importance is telenurses’ collaboration with parents and to make parents aware that they have the ultimate responsibility for the proceeding measures in relation to their child’s condition.

The general and specific goals of TN work at SHD need to be clarified and considered in relation to the obligations of Swedish healthcare. The lack of time argument for not practicing health promotion should be looked upon critically as it might be counterproductive to the efficiency goals of SHD in that the callers will seek treatment elsewhere. Time investment in health promotion, performed in an equitable manner at SHD, is presumed to be timesaving elsewhere in the health care system. This is a possible way to face the potential challenges of European health systems.
Sammanfattning (Summary in Swedish)


Det övergripande syftet med denna avhandling är att beskriva telefonrådgivning från tre intresseperspektiv: telefonsjuksköterskor, föräldrar som ringer för sina barn samt verksamhetschefer vid 1177, i sin egenskap av representanter för organisationen.

att ha uppringarens inlärning i fokus, vilket däremot utgjorde den femte kategorin. Telefonsjuksköterskor som uttryckte denna femte kategori, inkluderade även alla övriga kategorier som kärnan i sitt arbete. De framkomna kategorierna kan fungera som en arbetskarta för telefonsjuksköterskearbete.


Syftet med Studie IV var att undersöka och beskriva vad verksamhetschefer vid 1177 anser vara målet med telefonsjuksköterskors arbete och hur de ser på realisering av hälsopromotion och en vård på lika villkor vid 1177. Samtliga 23 verksamhetschefer vid 1177 intervjuades och data analyserades med riktad innehållsanalys. Resultatet visar fyra teman för vad verksamhetscheferna ser som mål för telefonsjuksköterskearbete. Dessa är ”inge trygghet”, ”ästadkomma patientsäkerhet”, ”bedöma, hänvisa och ge råd” samt ”undervisa”. De två sista överensstämmer väl med hur telefonsjuksköterskor beskrivit kärnan i sitt arbete, där verksamhetschefernas uttryckta mål om patientsäkerhet dock ej fanns med. Det av sjukköterskor uttryckta underlätta
uppringarens inlärning, saknades däremot i chefernas mål. Majoriteten verk-
samhetschefer ansåg inte att hälsopromotion bör ingå i telefonsjuksköterske-
arbeitet vid 1177, medan vård på lika villkor bedömdes vara angeläget i detta.

Konklusion:
Resultatet i Studie I visar att det finns en variation för hur telefonsjukskö-
terskincare kan förstås. Således kan innehåll och resultat i samtal till det
gemensamma telefonnumret 1177 variera, beroende på vem som besvarar
samtalen. Detta strider mot Hälso- och sjukvårdslagens intention om vård på
lika villkor.

Pediatriska samtal till 1177 överensstämmer enligt Studie II med interna-
tionellt beskrivna pediatriska samtal, beträffande kontaktitorsaker, majoriteten
mödrauppringare samt andel samtal som utmynnar i egenvårdsråd. I motsats
till Hälso- och sjukvårdslagens mål om vård på lika villkor, påverkades re-
sultatet i pediatriksamtalen av om mamma eller pappa ringt för barnet. För-
bättrad genuskompetens hos telefonsjuksköterskor kan sannolikt öka möjlig-
heten för en mera objektiv och säker bedömning av barns tillstånd i pedia-
triska samtal.

Pediatriska samtal har stor folkhälsopotential. Telefonsjuksköterskor bör
vara medvetna om sin viktiga roll och att föräldrar kan tolka deras rekommendationer bokstavligt, trots fortsatt stark oro för sitt barn. Det innebär en
säkerhetsrisk, om rekommendationen skulle visa sig vara incorrekt eller
barnet försämras snabbt. Uppmuntran att ringa igen eller söka sjukvård vid
stark oro för sitt barn, är således av stor vikt i telefonsjuksköterskearbete,
enligt Studie III. Det är viktigt att föräldrar görs medvetna om sitt yttersta
ansvar och åtgärder beträffande sina barns hälsa.

Verksamhetscheferna vid 1177 uttrycker i Studie IV huvudsakligen
1177:s generella organisationsmål som mål för telefonsjuksköterskearbete.
Att hälsopromotion inte ansågs ingå i telefonsjuksköterskearbete väcker
frågor. Klargörande av generella och specifika mål för telefonsjuksköterske-
arbete i relation till skyldigheter för svensk hälso- och sjukvård behövs. Att
tidsbrist ses som hinder för implementering av hälsopromotion bör synas
kritiskt. Detta, eftersom tidsbrist kan vara kontraproduktivt till målet om en
mer effektiv hälso- och sjukvård, då uppringare riskerar att söka behandling
annorstädes. Investeringen i hälsopromotion och jämliga dialoger vid 1177
kan sannolikt ge utdelning i form av sparad tid och kostnadsreduktion för
andra sjukvårdssutförare. Detta var också ursprungssyftet med att skapa tjäns-
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A doctoral dissertation from the Faculty of Medicine, Uppsala University, is usually a summary of a number of papers. A few copies of the complete dissertation are kept at major Swedish research libraries, while the summary alone is distributed internationally through the series Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine.