In Pursuit of the Common Thread

Nursing Content in Patient Records with Special Reference to Nursing Home Care

BY

ANNA EHRENBERG
Dissertation for the Degree of Doctor of Medical Science in Health Services Research presented at Uppsala University in 2000

ABSTRACT


The purpose of this thesis was to study different aspects of nursing content in patient records with special reference to nursing home care. The thesis focused on the content, comprehensiveness, accuracy and auditing of records, as well as the practice and perceptions of nurses in relation to recording. A national sample of nurses was asked to complete a questionnaire. The effects on recording and nurses’ practice and perceptions in nursing homes following educational intervention were studied. Accuracy was examined through record reviews and interviews with nurses and patients. A literature review of record auditing methods was performed and findings from this search were applied in the assessment of a set of records.

The results indicate that the VIPS model, as a structure for nursing recording, is widespread and shows validity across various areas in Swedish health care. After the educational intervention program, documentation in nursing home care improved significantly in the study group concerning notes on nursing history, nursing status, nursing diagnoses, interventions and discharge notes. Systematic and comprehensive assessment grounded in research-based criteria were not used in the records. Accuracy varied considerably and was significantly better for some areas in the study group. After intervention, the nurses in the study group indicated that they recorded assessments of patients with greater frequency, showed greater satisfaction with their documentation and spent less time on oral reports. Procedures in auditing patient records were found to encompass four approaches: formal structure, process comprehensiveness, knowledge based and accuracy.

In conclusion, the evidence suggests that there are serious flaws in the nursing content of nursing home records though improvements can be achieved through educational means. Presently, there are serious limitations in using the patient record as the sole source of data for care delivery, quality assessment and evaluation of care.

Key words: nursing records, nursing process, nursing homes, nursing audit, intervention study.

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ISSN 0282-7476
ISBN 91-554-4783-X
Printed in Sweden by Universitetstryckeriet, Uppsala 2000
“Appropriate recording is itself an important dimension of the quality of care…because the record is a major instrument of communication in the management of care and, as such, an indispensable tool whenever two or more persons must co-operate in the provision of care. It is the major vehicle for the co-ordination of care during any one episode and for the continuity of care over time… Most students of the field would agree that good recording is likely to be associated with good care mainly because the conditions that bring about good care are also responsible for bringing about good recording.”

(Donabedian 1969, p. 46).
This dissertation is based on the following papers, which are referred to by their Roman numerals:


IV. **Ehrenberg A, Ehnfors M.** The accuracy of patient records in nursing homes: Congruence of record content and the nurses’ and patients’ descriptions of some health-related problems. Submitted.

V. **Ehrenberg A.** Nurses’ perceptions and practice concerning patient records in Swedish nursing homes. Submitted.

VI. **Ehrenberg A, Ehnfors M, Smedby B.** Auditing nursing content in patient records. Scandinavian Journal of Caring Sciences (Accepted for publication).

Reprints of studies I, II and III and preprints of study VI were made with permission from the publishers.
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INTRODUCTION

In my previous employment as a nurse in nursing home care, rehabilitation and acute hospital care, I often experienced situations in which pertinent information about the patients was either partly or completely unavailable. This was not only the case for psychosocial needs but also basic physiological data were sometimes omitted in the records. I often found it difficult to arrive at the connecting theme – the “common thread” – of the patient’s care. There were scarcely any signs of nurses’ systematic assessment of patients in the records. Nurses’ notes about the care to support the daily life of the patient were not regarded as significant information and were often discarded after discharge. Most information was communicated through oral reports which resulted in all staff members keeping their own personal notes on the care of the patients. This implied that there were flaws in the communication process on patient care within and across institutions. Consequently, patients needs were not always identified or met, and preventable conditions sometimes developed to manifest problems. Especially for frail elderly patients with severe cognitive impairments, this imperfection in the system could result in needless suffering and increased dependency. Furthermore, pertinent information was not accessible for patients or their family.

In my nursing training, problem solving skills and systematic care planning were clearly deficient. Proficiency in recording was rarely practised, and when it was exercised, it only focused on medical observations and actions. This tendency has been the case for most nursing students in Sweden until the last decade.

The inspiration for this thesis is the strong desire to implement a systematic procedure to assess patient care needs from a nursing perspective, describe nursing interventions and evaluate care and make this information readily available in nursing recording. The rationale for this aspiration was the belief that an accurate and systematic patient record, encompassing relevant aspects in care, could represent an important gateway to enhance the quality of care for the individual patient as well as to provide a basis for aggregated data for improved knowledge in nursing.
BACKGROUND

The changing healthcare environment

The expected demographic changes in the Swedish population in the near future are dramatic. By the year 2025 about 20 percent of the population is expected to be 65 years or older. The group over 80 years of age increases by about 30 percent from 1990 to 2005 (SCB 1997). This group of elderly adults today constitutes about 4.5 percent of the Swedish population, which makes Sweden one of the leading nations in the world with respect to the proportion of very old citizens. These older citizens are also those in the population that require the most from public health care and social support. According to a recent study, in 1996 twenty-three percent of persons 80 years or older lived in accommodations for the elderly in local municipalities (Thorslund 1998). From population-based surveys, it has been reported that adults over 77 years of age suffer, on average, from three diseases or functional disabilities (Zarit et al. 1993, Styrborn 1997). In the group of 85-89 year-olds, every fifth person suffers from dementia while in the group of 90 year-olds or older, every third person suffers from this disease (Fratiglioni et al. 1991). Thus, the people who require health care the most are ageing, requiring more complex care needs and often suffering from severe cognitive impairments.

Moreover, changing conditions in the health care sector, such as advanced care interventions, together with decreased lengths of stay in hospitals and a shift to more care in the homes of the patients, have increased the need for more effective communication in patient care. More caregivers need to collaborate in the implementation of care for the elderly. Caregivers have to cope with an increasing number of decisions and care interventions (Socialstyrelsen 2000a). At the same time, patients and their families increasingly demand to be partners in care and require continuity and safety in care, claims that have in fact been recognised in Swedish legislation (SFS 1982). To comply with these requests, it is necessary that essential information about the patient’s care is recorded and made readily accessible (Socialstyrelsen 2000a).

The development of technology to support health care has been evident over the past few decades. Concurrently, support for communication of vital information in health care has experienced slow progress. The format and content of the core of health care information – the patient record – has changed very little, despite the available technology (Dick & Steen 1991, Hammond 2000). With the emerging new technology, computerised patient records have the potential to facilitate communication and improve accessibility of data for those
involved in the care of the patient (Dick & Steen 1991, Linnarsson 1993). However, this new abundance of technological applications also calls for the development of a new structure for record data. It is reasonable to suggest that a well organised and structured record will promote quality of care, more effective care and save time in the long run. Poor documentation may result in fragmentation of care since it is likely to hamper clinicians in viewing each problem in its proper context. This was the presupposition underlying the first proposal for a problem-oriented medical record (Weed 1968).

As a consequence of these changes in health care and society, roles that are more autonomous have emerged for nurses, particularly with respect to the provision of care for the frail and the chronically ill (Aiken 1983). In Sweden, health care conducted by local municipalities, which includes nursing home care, is one area where nurses are accountable for the major portion of care provision. Professional development within nursing has been expressed as an aspiration for a unifying terminology for nursing (Clark & Lang 1992, Wake et al 1993). This development of a unified structure and terminology is called for to estimate and allocate resources and to study variations and effects of nursing interventions at local, national and international levels (Clark & Lang 1992).

This thesis focuses on the nursing content in patient records, particularly nursing home care records. The major reason for this undertaking is the possibility of developing a unified structure and terminology to enhance individualised care-planning, communication and accumulation of nursing knowledge.

**Care of the elderly**

In 1992, a major responsibility for health care of the elderly and disabled in Sweden was transferred from county councils to local municipalities (SFS 1990/1991). Nursing homes were included in this transfer process and considered as residential arrangements together with homes for the elderly, sheltered houses and group dwellings for demented persons. The aim of this new reform was to provide permanent care for people with extensive care needs, as well as to offer rehabilitation for patients that could return to their own homes. Responsibility for care by the municipalities includes nursing and medical care, except when physician participation is required. Accordingly, nurses have an essential role in managing care for these residents. The medical record is sometimes stored separately from the nursing home and therefore is inaccessible for the care team (SOSFS 1991). Nurses have to keep...
records, including relevant medical and nursing data, for the care and safety of the patients. Therefore, the demands on nurses’ documentation in patient records have increased dramatically.

**Nursing care**

Nursing has no single, universal definition. The International Council of Nurses (ICN) has defined nursing as: “The unique function of nurses in caring for individuals, sick or well, is to assess their responses to their health status and to assist them in the performance of those activities contributing to health or its recovery or to dignified death that they would perform unaided if they had the necessary strength, will or knowledge and to do this in such a way as to help them gain full or partial independence as rapidly as possible” (Henderson 1977, p. 4). Nursing has been described as including both tasks/actions and relational dimensions (Athlin & Norberg 1987).

In contrast to medicine’s focus on pathology, nursing care concentrates on human responses to health problems, illness, treatment or disabilities (ANA 1980). Carnevali and Thomas (1993) described nursing care as meeting the individual’s needs in daily living as the daily living is affected by the functional health status.

The Swedish concept of “omvårdnad” corresponds to the English concepts of “caring” and “nursing.” It is used both in its wider meaning, encompassing caring in a human and multi-professional perspective, and in its narrower sense, being limited to the domain of nursing expertise (MFR 1993). In this thesis, the focus is on nursing practice as expressed in patient records. The perspective is on caring from a professional nursing framework. It involves independent functions of the nurse and dependent actions within the medical domain as performed by the nurse.

**Theoretical perspectives on nursing recording**

Nursing has been described as an intuitive art that can not be subject to simple descriptions (Hyslop 1994). Josefson (1991) asserts that striving for precision in terminology is not desirable in nursing since it may lead to abstraction of obvious matters. Yet, others have advocated that the main content of nursing knowledge can be captured and described (e.g., Ehnfors 1993b). Rolf (1991) reasons that there is a risk in regarding certain knowledge as intangible and that can be understood only by experienced practitioners. Such a position may
endanger the development of competence within a profession and may serve as an alibi for maintaining inadequate practice. Benner (1984) agrees that within nursing there is a certain degree of embedded knowledge that cannot be the basis for growth and development until it is systematically documented. The supposition taken here is that important knowledge within the nursing domain can be represented in patient records for the benefit of patient care. The conceptualisation and development of common terms in nursing has the power to contribute in expanding knowledge of patient care needs, appropriate interventions and their outcomes.

The written word is a powerful tool for communication among people. As suggested by Ong (1982), thought processes and expressions are determined by means of communication. Written communication is governed by conscious thinking and enables reflection and further consideration (Ong 1982). The development of the written word and the act of formulating concepts has had a major impact on human cognition. The written word is a cultural and technical tool that supports abstract and scientific thinking. It enables the accumulation of knowledge and, by that, the growth of knowledge (Olson 1977).

To record nursing care implies something more than merely making notes of particularities or observations. Nurses should make sound assessments, and validate the patient’s experience of the situation and make visible the evidence base for conclusions and actions. This process can be compared with the research process in which researchers continuously suggest new hypotheses for interpretation and understanding (Eriksson 1996).

Already in the 19\textsuperscript{th} century, Florence Nightingale was concerned about the shortcomings of patient records, as expressed in the following excerpt:

\begin{quote}
“In attempting to arrive at the truth, I have applied everywhere for information, but in scarcely an instance have I been able to obtain hospital records fit for any purpose of comparison. If they could be obtained, they would enable us to decide many other questions besides the one alluded to. They would show subscribers how their money was being spent, what amount of good was really being done with it, or whether the money was not doing mischief rather than good” (Nightingale 1863, p.176).
\end{quote}
These concerns still hold to be true today, nearly 150 years later. Nevertheless, records are being used for the assessment of the quality of health care. The patient record has been predominantly adopted for auditing the process of care since it is considered a reasonably adequate account of this perspective on care (Donabedian 1985).

The nursing process

Early proposals about organising care based on patient needs or nursing problems rather than on medical diagnoses first appeared in the 1950s. The idea of the nursing process as a framework for nursing care was introduced during a lecture by Lydia Hall (de la Cuesta 1983). The model has its origins in the general systems theory later described by von Bertalanffy (1968) and can be described as a dynamic, systematic problem-solving, decision-making method (WHO 1982). The nursing process has been delineated extensively over the past 40 years (Abdellah et al. 1960, Orlando 1961, Marriner 1975, La Monica 1979, Roper et al. 1985, Yura & Walsh 1988 and Eriksson 1988). It has served different purposes, including as a form for documentation in patient records, as a means of organising nursing care, as an educational tool and as a professional philosophy (Walton 1986). Originally, the process was described in terms of four phases: assessment of patient status, planning of care, implementing care and evaluation of outcomes (Orlando 1961, Yura & Walsh 1988). A fifth phase, the nursing diagnosis, was appended subsequently (Gebbie & Lavin 1974). Nursing diagnosis has been depicted as a clinical judgement or a second level judgement based on assessment data about individual, family, or community responses to actual or potential health problems/life processes (Carroll-Johnson & Paquette 1993). In Sweden, the concept “nursing process” is often used interchangeably with the concept “individualised care planning” (individuell vårdplanering, IVP). It has been defined as a method to implement continuity and safety in nursing care (SBU 1994).

Legal requirements on recording in Sweden

The Swedish Patient Record Act was enacted in 1986. The act asserted that all patients should have a record that includes relevant data on the reasons for care, diagnosis, planned and implemented care interventions and outcomes of care. All registered or certified health professionals are obliged to keep records of their practice (SFS 1985).

The patient record has several fields of application. The primary goal of the record, however, is continuity in care for the patient. The Swedish National Board of Health and Welfare has
described the record as a tool in care, as a source of information for the patient, for quality assurance, for supervision and control, as a legal instrument and for research (SOSFS 1993b). The record should reflect the process of care for the patient. It should facilitate follow-up of the care process, especially for chronically ill patients with multiple diseases, and for care at the final stage of life. A prerequisite is that the record holds valid and reliable information (SOSFS 1996). These claims demand that nurses’ recordings are able to display the “common thread” that encompasses the whole care process from assessment to evaluation of patient care.

**Nursing content in the patient record**

The oral tradition in communicating information about patient care is strong. Oral inter-shift reports have been, and still are, common means of exchanging information in many Swedish health care institutions (Kihlgren et al. 1992, Ekman & Segesten 1995). These activities are time-consuming and information is not perpetual. When the recording has improved, some units have shifted from oral shift reports to communicating primarily by the records.

Traditionally, nursing recording in Sweden has centred upon medical aspects of care. Nursing content has mostly been invisible (Rinell-Hermansson 1990, Hamrin & Lindmark 1990, Ehnfors et al. 1991, Ulander et al. 1991). Until recently, nursing content has been poorly structured in the form of separate pieces of information in progress notes arranged according to chronological order (Ehnfors & Smedby 1993). Now, more records in Sweden follow the structure of the nursing process and information is subdivided under key words. Most records are hand-written though the change to computerised records is increasing rapidly (Socialstyrelsen 1998).

Swedish nurses have been legally compelled to keep patient records since 1986 (SFS 1985). This obligation has been specified to embrace an assessment of the patient’s previous and current status, nursing diagnoses, goals, a nursing-care plan with prioritised nursing interventions, notes on the implementation of care, evaluation of care and discharge notes (SOSFS 1993a). This description corresponds to the phases of the nursing process. Additional to the accountability of nursing care, nurses also record medical assessments and interventions for which they are responsible.
Research on the nursing process and nursing recording

Demands for improved recording is frequently considered an administrative imposition and a burden, rather than as a vehicle for planning and co-ordination of care. de la Cuesta (1983) examined the implementation of the nursing process in clinical practice, especially focusing on its use for documentation purposes. From her observations, de la Cuesta concludes that patient data are seldom used as a foundation for nursing diagnosis and care planning. The care plans traditionally concentrated on medical aspects and physical functions rather than on nursing. Nurses considered these plans superfluous. Similar findings have also been presented internationally (Howse & Bailey 1992, Davies et al. 1994, Webb & Pontin 1997), as well as in Swedish studies of nursing records (Ehnfors & Smedby 1993, Nordström & Gardulf 1996). A tension is becoming evident between demands for recording and the reality of work in health care. Allen (1998) describes how nurses routinely include certain patient problems in the records in order to satisfy demands from the quality assurance program. Some Swedish studies reported nurses’ lack of practise in expressing their clinical knowledge in writing (Jerlock & Segesten 1994, Björklund 1995). Major inhibitors, as reported by nurses, were poor skills in recording, shortage of time and lack of a uniform structure of the records (Ehnfors 1993a, Törnkvist et al. 1997). Thorell-Ekstrand and Björvell (1992) and Löfmark (2000) found considerable shortcomings in the training of students in applying the nursing process concept.

Knowledge representation in nursing

In health care, development of classifications for medical diagnoses has been of vital importance for the growth of knowledge and research. Early work on conceptualising illness included that of the Swedish scientist and explorer Carl von Linné in 1763 (1949). In 1893, publication of the first work on a common international classification of diseases appeared. The International Statistical Classification of Diseases and Related Health Problems, now in version 10 (ICD-10), is an important basis for health care data that has an important impact on health policy and planning world-wide (WHO 1992). Further development of a controlled medical vocabulary is the component that could link patient data and medical knowledge (Linnarsson 1993).

The computer-based patient record facilitates information access that necessitates a nursing language system and a terminology for nursing with a defined structure and syntax (McCormick 1995). This development is one emerging part of the information science often
labelled as “nursing informatics.” It has been referred to as an intersection of computer science, information science and cognitive science (Turley 1996). The nursing informatics workgroup of the International Medical Informatics Association (IMIA-NI) defines nursing informatics as “The use of nursing science, computer science and information science in processes for patient/client care which provides data, information and knowledge to the individual and the organisation in such a way as to change/influence society whilst protecting the individual and achieving health for all” (Scholes et al. 2000, p. 59). Nursing informatics aims at developing the management, handling and processing of nursing data, as well as enhancing knowledge to support clinical nursing, education and research (ANA 1995). An informatics infrastructure for evidence-based nursing practice is needed, not only to apply evidence to practice but also to generate evidence from practice (Bakken 2000).

An early publication on terminology and classifications for nursing included Werley and Lang’s (1988) paper. These authors propose a minimum data set to be included in all patient records. Extensive development of nursing terminologies has occurred during the last decade. These contributions have varied in focus and scope. The subdivision can roughly be described in the categories of assessment of patient status or nursing diagnoses, nursing interventions and outcomes of nursing interventions. An overview of some of the internationally most known terminologies covering assessment/diagnoses, interventions and outcomes in nursing care are displayed in Table I, together with the Swedish VIPS model (Ehnfors et al. 1991). The International Classification of Nursing Practice (ICNP) is an effort by the international community of nurses to bridge the gaps in terminologies and achieve transferability among them on a world-wide basis (Clark & Lang 1992). There are ongoing international efforts to develop a reference terminology model for nursing concepts based on existing terminology knowledge (Ehnfors et al. 1999, Bakken 2000).
Table I. Terminologies for representing nursing knowledge

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Reference</th>
<th>Assessment/Diagnosis</th>
<th>Intervention</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Minimum Data Set (NMDS)</td>
<td>Werley &amp; Lang 1988</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>The VIPS model</td>
<td>Ehnfors et al. 1991, Ehrenberg et al. 1996</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Omaha System</td>
<td>Martin &amp; Sheet 1992</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Home Health Care Classification (HHCC)</td>
<td>Saba 1994</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Nursing Intervention Lexicon and Taxonomy (NILT)</td>
<td>Grobe &amp; Hughes 1993, Grobe 1996</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>North American Nursing Diagnosis Association (NANDA)</td>
<td>NANDA 1999</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Classification of Nursing Practice (ICNP)</td>
<td>ICN 1999</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nursing Interventions Classification (NIC)</td>
<td>McCloskey &amp; Bulechek 2000</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Nursing Outcomes Classification (NOC)</td>
<td>Johnson et al. 2000</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

The purpose of the Swedish VIPS model is to develop criteria for basic nursing information in patient records (Ehnfors et al. 1991). Since its introduction in 1991, the model has been further developed and revised (Ehrenberg et al. 1996). VIPS is an acronym for the Swedish spelling of the key concepts well-being, integrity, prevention and safety. The model consists of key words on different levels and follows the structure of the nursing process, which corresponds to the Swedish advisory instructions for nursing recording (SOSFS 1993a). One level of key words exists for nursing history, status, diagnosis, goal, intervention, outcome and nursing discharge notes. Nursing history, status and interventions are further divided into more specific key words (Figure 1). Each key word has an explanatory text with prototypical examples to guide recording. Key words have not been subdivided into more specific levels since the aim was to maintain a basic perspective and to provide a generic view of the nursing process.

The VIPS model is not a classification of nursing practice; rather, it is a nomenclature, a unifying structure and an initial step in the conceptualisation of essential elements in nursing care. It contains complex concepts that are not mutually exclusive. The model gives a
structure for nurses recording of both nursing and medical aspects of care which facilitates comprehensive documentation of the care process. Since its publication, the VIPS model has been widely used within different areas of Swedish health care and in nursing education. Its key words have been included in nationally approved terminology for Swedish health care (Spri 1999) and its intervention section contributed to the development of the proposal for an International Classification of Nursing Practice (Wake et al. 1993). Some applications for specific nursing care specialities have been presented (Engvall 1994, Engvall 1996, Marklund 1998, Rising 1998, Björkdahl 1999) and translations have been made into several languages (Norwegian, Danish, Finnish, Estonian, Latvian and German).
Improving professional practice

Implementation of changes in clinical practice based on scientific knowledge is a complex
demand. Previous studies do not give clear directions as to the most effective methods.

Oxman and co-workers (1995) concluded from a systematic review of intervention studies
that dissemination-only strategies, such as distribution of material, demonstrated little or no
change in clinical practice. More complex interventions, while moderately effective, were
unable to provide unequivocal outcomes. A systematic review of 75 intervention studies in
medical primary care showed that the most effective single strategies for change were
individual instructions, feedback and reminders (Wensing & Grol 1994). Cheater and Closs
(1997) cautioned that these findings might not be generalised to nurses. However, in a
literature review Cheater and Closs found no research-based studies on the effectiveness of
implementing change in nursing practice. Thomas and associates (1998) concluded from their
review of a series of controlled studies that there was some evidence suggesting that a
combined strategy of lectures and opinion leaders had a stronger impact on change than did
either strategy alone. Single factors that may influence implementation of research findings in
practice are the strength of the evidence, care organisation and leadership and facilitation
(Kitson et al. 1998). In a survey of Swedish nurses’ perceptions of research utilisation in
clinical practise, the major barriers were reported to be related to the work organisation and

Figure 1. Flow chart of the VIPS model (Ehrenberg et al. 1996).
the difficulties in communicating research findings with colleagues (Nilsson Kajermo et al. 1998). From an effort to implement the nursing process in Finland, Lauri (1982) concluded that the following conditions are important for successful outcomes: an open and flexible organisation, professionalism, attitudes and creativity of the nurses and the support of a competent consultant.

**The rationale for the study**

Several descriptive studies exist on the use of the nursing process and nursing recording. Research suggests that the nursing process is poorly implemented in practice and has little influence on patient care. Few experimental designs have been used in this research, however. It was of interest to determine whether a common terminology could promote the use of the nursing process as displayed in patient records. In addition, the content and accuracy of nursing information in patient records was a domain of inquiry. The interest was particularly focused on nursing homes as an increasingly important setting for nursing care.
AIMS

The purpose of this thesis was to study different aspects of nursing content in patient records with special reference to nursing home care. The specific aims of the study are as follows:

*To describe the experience of the VIPS model and develop a revised version of the model (I).*

The specific research questions are:

- What is the experience of clinical and educational use of the VIPS model?
- How valid and reliable is the VIPS model as a representation of nursing care in patient records?

*To study the effects on content and comprehensiveness of the nursing documentation in patient records in nursing homes after educational intervention based on the VIPS model (II).*

The specific research questions are:

- How comprehensive is the documentation of certain patient problems before and after the educational intervention program?
- Are there any differences between the study group and reference group in the content and comprehensiveness of nursing documentation in patient records?

*To explore the patient problems, needs, risks and nursing diagnoses as described in nursing home records (III).*

The specific research question is:

- Which signs and symptoms concerning decubitus ulcers, falls, constipation and pain were recorded in nursing home records?

*To determine the degree of concordance between the nursing recording in nursing homes and nurses’ and patients’ descriptions of some specific mental and physical conditions of the patients (IV).*

The specific research questions are:

- How is the concordance between nursing recording and nurses’ and patients’ descriptions of some specific problems.
• What is the effect on the concordance between nursing recording and nurses’ and patients’ descriptions of some specific problems after special training of nurses in structured recording relative to the nursing process.

To compare the perceptions and practice in recording of nurses that received training in care planning and recording versus nurses that did not receive such training (V).

To explore different approaches in reviewing patient records and to develop a conceptual framework for record audits (VI).

The specific research question is:
• What are the consequences of applying the various approaches to auditing record data?
MATERIAL AND METHODS

Design
Quasi-experimental and descriptive designs were used for the studies as displayed in Table II (Polit & Hungler 1999). A quasi-experimental design was chosen because the nature of the inquiry in the field setting did not allow for a randomised controlled design. The record audits were retrospective in Papers II, III and VI and concurrent in Paper IV.

Table II. Design and data collection methods used in the different studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Data collection method</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>Survey, descriptive</td>
<td>Questionnaire to nurses</td>
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<tr>
<td></td>
<td></td>
<td>Interview with key informants</td>
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<tr>
<td></td>
<td></td>
<td>Interview with faculty</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Literature review</td>
</tr>
<tr>
<td>II</td>
<td>Quasi-experimental, intervention, pretest, posttest</td>
<td>Record audit</td>
</tr>
<tr>
<td>III</td>
<td>Descriptive</td>
<td>Record audit</td>
</tr>
<tr>
<td>IV</td>
<td>Quasi-experimental, posttest</td>
<td>Record audit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interview with residents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interview with nurses</td>
</tr>
<tr>
<td>V</td>
<td>Quasi-experimental, posttest</td>
<td>Questionnaire to nurses</td>
</tr>
<tr>
<td>VI</td>
<td>Descriptive</td>
<td>Literature review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Record audit</td>
</tr>
</tbody>
</table>

Settings
The studies, conducted in different settings, were run between 1993 and 1995. In paper I, nurses attending three national conferences on nursing recording served as participants. The conferences covered various clinical areas throughout health care in Sweden. Nursing homes in six municipalities in one Swedish region were involved in the intervention study (II, V) and Study III. Two of the municipalities primarily covered urban town areas and four municipalities were rural. Nursing homes in the two urban municipalities participated in Study IV. In Study VI, additional nursing homes as well as other facilities for the elderly in a municipality in another part of Sweden were allocated.
The intervention consisted of an educational program followed by a series of seminars. The program was arranged as a two-day course in small groups for all nurses in the study group. It concentrated on the nursing process, individualised care planning and structured documentation based on the VIPS model (Ehnfors et al. 1991). Emphasis was on the identification and documentation of the individual needs of the patient, the problems and risks associated with care and on how to analyse, plan and evaluate nursing care. Work-group sessions involving authentic patient cases were held as a part of the educational program and seminars.

**Populations and samples**

In Paper I, all nurse participants (N=1166) at three national conferences were administered a questionnaire, resulting in a 44 percent (n=514) response rate. Telephone interviews with faculty members (n=36), one from each of all nursing schools in Sweden, were performed and comments from key informants/nurses (n=20) were gathered. The key informants were nurses with special clinical or educational experience in using the VIPS model. For the intervention study, a sample of six municipalities was selected (II, V); this sample was also used in Study III. All six municipalities volunteered to participate in the intervention. Three of these...
municipalities were allocated to a study group while the remaining three, comparable municipalities, were assigned to a reference group. Patient records for Papers II and III were selected as a stratified randomised sample from each municipality before and after the intervention program. The randomisation of patient records was based on records from all discharged residents during a period of eight months, resulting in a sample of 13 percent of the total population from both groups. Paper V included a questionnaire that was administered to all registered nurses (N=192) in the six municipalities; the response rate was 86 percent (n=165). In Paper IV, two of the municipalities participated, one from the study group and one from the reference group of the intervention study. A random sample of residents was drawn, stratified by five residents/patients from each of 17 nursing home wards, resulting in a sample of 85 patients and their records. Then, the nurse in charge of the care of each patient that was on duty on the day of data collection was selected. This procedure resulted in a sample of 22 registered nurses. Paper VI consisted of a stratified random sample of patient records (n=298) from a population of 873 patients in three diagnostic groups from 21 nursing facilities in another municipality. An overview of the populations and samples is presented in Table III.

Table III. The populations and samples as a function of studies.

<table>
<thead>
<tr>
<th>Paper</th>
<th>Number of records Total (sample)</th>
<th>Number of nurses</th>
<th>Number of patients</th>
<th>Sampling procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
<td></td>
<td>514</td>
<td>Convenience</td>
</tr>
<tr>
<td>II</td>
<td>928 (120)&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>Convenience +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>stratified random</td>
</tr>
<tr>
<td>III</td>
<td>928 (120)&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>Convenience +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>stratified random</td>
</tr>
<tr>
<td>IV</td>
<td>333 (85)&lt;sup&gt;c&lt;/sup&gt;</td>
<td>22</td>
<td>85</td>
<td>Convenience +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>stratified random</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td>165</td>
<td></td>
<td>Total population</td>
</tr>
<tr>
<td>VI</td>
<td>873 (298)</td>
<td></td>
<td></td>
<td>Stratified random</td>
</tr>
</tbody>
</table>

<sup>a</sup> Divided in the study group = 60 records and in the reference group = 60 records  
<sup>b</sup> The same set of records was used as in Paper II  
<sup>c</sup> Divided in the study group = 40 records and in the reference group = 45 records
Patients
The patients were all elderly and all suffered from severe medical diseases (Tables IV and V). In Paper VI, patients were selected from three diagnostic groups, resulting in a sample of 108 patients with a circulatory system (congestive heart failure) disorder, 90 with endocrine, nutritional and metabolic diseases (diabetes) and 100 patients with diseases of the nervous system (dementia).

Table IV. The patient characteristics.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Studies II + III (n=120)</th>
<th>Study IV (n=85)</th>
<th>Study VI (n=298)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>60 (50%)</td>
<td>28 (33%)</td>
<td>95 (32%)</td>
</tr>
<tr>
<td>Women</td>
<td>60 (50%)</td>
<td>57 (67%)</td>
<td>203 (68%)</td>
</tr>
<tr>
<td>Age, mean years</td>
<td>82</td>
<td>82</td>
<td>83.1</td>
</tr>
<tr>
<td>SD</td>
<td>7.1</td>
<td>9.2</td>
<td>7.0</td>
</tr>
<tr>
<td>Range</td>
<td>37-95</td>
<td>51-98</td>
<td>65-101</td>
</tr>
<tr>
<td>Length of stay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean days</td>
<td>232</td>
<td>747</td>
<td>510</td>
</tr>
<tr>
<td>Range</td>
<td>2-3000</td>
<td>4-3387</td>
<td>1-730¹</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

¹ Time exceeding two years was not included
Table V. Medical diagnoses classified according to ICD-10 in the reviewed records (II, III, IV).

<table>
<thead>
<tr>
<th>ICD-10 chapter</th>
<th>Number of diagnoses</th>
<th>Studies II + III (n=120)</th>
<th>Study IV (n=85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX Diseases of the circulatory system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thereof cerebrovascular disease</td>
<td>48</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>IV Endocrine, nutritional and metabolic diseases</td>
<td>22</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Thereof diabetes mellitus</td>
<td>18</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>VI Diseases of the nervous system</td>
<td>20</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>(including dementia)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XIII Diseases of the musculoskeletal system and connective tissue</td>
<td>14</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>II Neoplasms</td>
<td>11</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>XIX Injuries</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>X Diseases of the respiratory system</td>
<td>9</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>XIV Diseases of the genitourinary system</td>
<td>9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>V Mental and behavioural disorders</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>XI Diseases of the digestive system</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>I Certain infectious and parasitic diseases</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>VIII Diseases of the ear</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>VII Diseases of the eye</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>III Diseases of the blood and the immune mechanism</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>XVIII Symptoms not classified elsewhere</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>XXI Factors influencing health status and contact with health services</td>
<td>11</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Records with missing diagnoses</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>183&lt;sup&gt;a&lt;/sup&gt;</td>
<td>153&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Forty-seven records had more than one medical diagnosis.

<sup>b</sup> Fifty-three of the records had more than one medical diagnosis.
Nurses

As shown in Table VI, no significant differences were observed between the nurses in the two groups of the intervention study.

Table VI. Characteristics of the nurses and their working conditions in the intervention study (IV, V).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Study IV (n=22)</th>
<th>Study V Group (n=80)</th>
<th>Reference group (n=85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>79</td>
<td>84</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mean age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>44.2</td>
<td>41.3</td>
<td></td>
</tr>
<tr>
<td>Mean time since registration as a nurse (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>9.8</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td>Mean work time in present place (years)</td>
<td>6.3</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>SD</td>
<td>5.0</td>
<td>6.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Work level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time (100%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shift</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day</td>
<td>22</td>
<td>59</td>
<td>66</td>
</tr>
<tr>
<td>Night</td>
<td>0</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Institution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home</td>
<td>22</td>
<td>51</td>
<td>56</td>
</tr>
<tr>
<td>Old-aged homes, sheltered houses or group dwellings for demented persons</td>
<td>17</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Combination</td>
<td>12</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Instruments and data collection

Record audit instruments

The records were reviewed using several approaches. Initially to obtain an overview and understanding of the contents the nurses notes were scrutinised. The text was analysed to identify phases of the nursing process corresponding to the recommendations of Swedish regulations (II). A further categorisation was made based on the key words of the VIPS model (II).
**Formal Structure of Records.** A 20-item instrument with a three-point ordinal scale was used to study certain formal aspects of the patient record, including the presence of information on patient identity, significant others, primary nurse, primary physician, date, signature, readability, use of key words, reason for contact, nursing history, nursing status, nursing diagnosis, nursing goals, planned nursing interventions, individualised care plan, implemented nursing interventions, patient participation, health prevention, priority of interventions, outcomes and nursing discharge notes (Ehnfors et al. 1998) (II).

**Comprehensiveness of Nursing Recording of Problems** (Ehnfors & Smedby 1993). Each problem was scored on a five-point scale, with scoring based on the following five criteria (II, III):

1. The problem is described or interventions planned or have been implemented.
2. The problem is described and interventions are planned or have been implemented.
3. The problem is described and interventions are planned or have been implemented. The nursing outcome is noted.
4. The problem is described, interventions are planned and have been implemented. The nursing outcome is noted.
5. All steps comprising the nursing process are recorded (including nursing history, diagnosis, goals and discharge notes). There is an adequate description of the problem. The recording is of relevance to nursing.

**Diagnosis specific audits.** Audit protocols for reviewing contents of the records pertaining to specific nursing diagnoses were developed for this study. These protocols were based on findings from research and agreed signs and symptoms for these areas (III). The audit of recording of decubitus ulcers was based on the modified Norton scale and covered the following components: mental condition, physical activity, mobility, food intake, fluid intake, incontinence and general physical condition (Ek 1987, Ek et al. 1991). Assessment criteria for falls were disturbed balance, dizziness, intake of certain drugs, laxatives, walking aids, human walking aids, aggressiveness, confusion, earlier falls and disturbed sleep (Udén 1986, Udén 1997). The criteria employed for reviewing the recording of constipation included alterations in the usual defecation pattern, hard-formed stools, palpable mass, feeling of rectal fullness, painful defecation, decreased bowel sound, nausea and vomiting, use of laxatives and other medications, decreased appetite, fluid intake, dietary intake and physical activity (Carpenito 1995, Kim et al. 1995). Recording of pain assessment covered injuring agents, patients’
verbal descriptions, guarding behaviour, narrowed focus, distracting behaviour, facial mask of pain, alteration in muscle tone and autonomic responses (Carpenito 1995, Kim et al. 1995). The items were checked on a nominal scale as being either present or absent in the records (III).

For the study of accuracy of records, an audit protocol covering 17 items with response alternatives on nominal and ordinal scales was developed (IV). The questions dealt with the patients’ mental condition, nutritional and hydration status, oral status, status regarding urinary incontinence, skin condition, physical activity, mobility, disturbed balance and sleep. The protocol items were based on Ek (1987) and Ek and associates’ (1991) work on criteria for risk assessment for decubitus ulcers and on criteria for assessing risk of falls developed by Udén and associates (1999).

**Questionnaires**

*Experiences with using the VIPS model.* A questionnaire for nurses was devised to examine the use of the VIPS model. It covered 21 items on nominal scales and 40 questions on experience using the key words of the VIPS model were rated using a four-point ordinal scale (I).

*Nurses’ perceptions and practices in recording.* Because there was no instrument that was suitable for our purpose, it was necessary to formulate a new questionnaire. The questionnaire consisted of two sections. One section was composed of nine statements concerning perceptions of documentation based on questions used in previous studies (Bowman et al. 1983, Edelstein 1990, Tapp 1990). The statements dealt with the importance of the record for the safety of the patient and as support for nurses in their work. The statements were also concerned with the time aspects of documentation and the role of oral shift reports in relation to the written record. Responses were given on a three-point Likert scale. The second section consisted of questions about the nursing-process model, use of the VIPS model, the rationale for recording and any problems seen as inhibiting the documentation process. The questions had fixed response alternatives on a four-point ordinal scale, except for those questions pertaining to recording motives and the obstacles to recording, which were open-ended. In addition, the questionnaire contained items for which the nurses were asked to estimate the average time required to write in the records and to give oral shift reports (V).
**Interviews**

Structured interview guides were formulated and included 17 items with response alternatives on nominal and ordinal scales (IV). The questions dealt with the patients’ mental condition, nutritional and hydration state, oral status, problems associated with urinary incontinence, skin condition, physical activity, mobility, disturbed balance and sleep. The questions were based on the work of Ek (1987), Ek and co-workers (1991) and Udén and co-workers (1999).

**Validity and reliability**

Interrater reliability was assessed for the review of records. To take chance agreement into account, Cohen’s kappa values were computed in addition to percentages. The kappa value for the Formal Structure of Records instrument was 0.72 (82%) in Paper II. For the Comprehensiveness of Problems in Nursing Records instrument the values were 0.65 (78%) in Papers II and III and 0.72-1.0 (88-100%) in Paper IV. In all studies agreement ranged from good to excellent (according to Fleiss 1981). The instruments that were constructed for the studies were all tested in pilot studies.

**Literature search**

A search of scientific papers and reports concerning the VIPS model was done using the Swedish database “Spriline” for the period 1992-1996 and through contacts with the heads of the nursing research units in Sweden (I). For Paper VI, a search was performed using Medline (PubMed) and CINAHL databases for the period 1990-1999. In addition to these searches, a search of the Current Contents and a manual search of several scientific journals and conference proceedings were made.

**Procedure**

Questionnaires for Study I were distributed to all nurses that were participating in three national conferences held in Sweden in 1994. The nurses were asked to complete the questionnaires and return the forms before leaving the conference. All nurses in Study V received the questionnaire by mail to their home address. The forms were returned in pre-stamped and addressed envelopes. Reminders were sent to those not answering within the specified time frame. Telephone interviews for Study I were conducted by one of the researchers on the project.
For Studies II and III, the records were collected, photocopied and sent to the researcher team by the nurse with responsibility for the quality of medical care (MAS) in each municipality. One researcher abstracted all records for Study IV and conducted all interviews with nurses and residents on the same day that the records were collected at each ward. With the assistance of the nurses on each unit, a research assistant obtained the records for Study VI.

**Ethical considerations**

All data were treated with confidentiality. Permissions for each study was obtained from the director of services for the elderly in each municipality. Residents and nurses gave their informed consent for the interviews and permission was sought from patients for the concurrent audit of records in Study IV. Study IV was approved by the Medical Ethics Committee at Uppsala University (Dnr 191/95). The retrieval of records for Study VI was made on commission from the Swedish National Board of Health and Welfare.

**Analysis and statistical procedures**

In analysing the record content, the text was processed in its smallest, meaningful units. The meaning of these units could sometimes be understood in isolation, but most frequently they had to be interpreted in their context to make sense. Units of text were categorised according to phases of the nursing process and key words of the VIPS model.

For descriptive purposes, means, standard deviations, range and percentage were used. For comparisons between groups, Student’s t-test was performed for continuous variables that were approximately normally distributed. The chi-square tests was used for comparisons of non-parametric data between the groups. For categorical data with less than five observations per cell, Fisher’s exact test was computed. Statistically significant differences were assumed when \( p < 0.05 \). Cohen’s kappa and percentage agreement were used to calculate interrater reliability (Soeken & Prescott 1986, Topf 1986, Brennan & Hays 1992). Interpretation of the kappa measure was based on the work of Fleiss (1981) and Landis and Koch (1977). To study differences between kappa values in two groups the chi-square test based on squared standard error was computed (Fleiss 1981).
RESULTS

Paper I
Experience of the use of the VIPS model
The purpose of this study was to examine nurses’ experience with the VIPS model and to present a revised version of the model. The sample was based on all nurses participating in three national conferences on nursing recording during 1994, two years after the first Swedish publication of the VIPS model. Altogether, 71 percent of the responding nurses (n=514) had actually used the model in practice. Of those using the model, 35 percent had experience with the model of less than six months and 44 percent had practised using the model for six months or more. The assessment phase, including nursing history and nursing status, was reported to be most frequently recorded (83% and 84%, respectively). Fifty-nine percent of respondents reported that they recorded nursing interventions, 63 percent recorded nursing outcomes and 66 percent recorded nursing discharge notes. Least frequently used were nursing diagnoses (40%) and nursing goals (43%). Nurses were also asked to rate the extent to which they used the key words of the VIPS model. The key words covering nursing history and status were more often used than those for interventions. “Life style” (46%) was the least frequently used key word for nursing history, as were the nursing status key words “Sexuality” (8%) and “Spiritual” (16%). Among the key words for nursing interventions, “Promotion of patient participation” was reported to be least frequently recorded (18%).

Telephone interviews with senior faculty members showed that 86 percent of all Swedish nursing schools were teaching the VIPS model in 1994. The literature review, conducted in 1995, included 14 studies on the use of the VIPS model in clinical practice and education. The findings from these studies showed good validity for the key words. Suggestions for the development of the model were gathered and analysed and, based largely on this information, a revised version of the VIPS model was generated.

Paper II
Effects of training on content and comprehensiveness
The purpose of Paper II was to study the effects of an educational intervention in nursing homes with respect to content and comprehensiveness of nursing documentation. In all records, notes on nursing status and implemented interventions were most frequent. Nursing diagnoses and goals were less frequent in both groups. Nursing interventions dealt largely
with notes on medications. After the intervention, significant increases were noted in the study group concerning the number of records with notes on nursing history, including notes on hypersensitivity, care experience, social history and life-style ($p<0.005$). The number of notes on nursing diagnoses changed from 0 to 33, goals from 7 to 33 and discharge notes from 2 to 23 in the study group. In the reference group nursing diagnoses changed from 12 to 7, goals from 5 to 7, and discharge notes from 0 to 1. When assessing the quality of the information, the notes on nursing history, status, diagnosis, planned and implemented interventions and discharge notes in the study group showed significant improvement after intervention ($p<0.005$). No significant changes were detected in the reference group.

The most frequent patient problems in the records were impaired skin, disturbed elimination and pain. Concerning comprehensiveness in the description of problems after intervention, only a small change occurred in the study group (from a mean of 2.0 to 2.3 on a five-point scale). No problem was assigned the highest score, implying that a record did not meet the requirements of the Swedish regulations for recording or did not follow the phases of the nursing process thoroughly.

After the educational intervention, a change (from 53 to 83 %) of records with an acceptable dating of notes in the study group was observed. In the study group 63 percent of the records were type-written after the intervention. Before the intervention, all notes had been handwritten, which was still the case for all records in the reference group at the time of the second data collection. After intervention, the number of records giving the name of a patient’s primary nurse increased in the study group ($p=0.001$). The content of the records could easily be categorised according to the key words of the VIPS model.

**Paper III**

**Patient problems, needs, and nursing diagnoses**

One purpose of this study was to explore the problems, needs, risks and nursing diagnoses. A second purpose was to examine the descriptions of signs and symptoms concerning decubitus ulcers, falls, constipation and pain in nursing home records. In the 120 patient records, pain was the most frequent problem, appearing in two thirds (66%) of the records. Pain was followed by anxiety (32%), constipation (28%) and hyperthermia (28%). The records did not reflect the process of care. The mean score for comprehensiveness in recording was 2.1 (on a scale ranging from 1 to 5). Only one problem in one record received the highest score. This
means that for most records there was only a description of patient status and the action taken, without information concerning the aetiology, analysis, priorities, plans and evaluation of the problem. Fifty-two problems were labelled or expressed as a nursing diagnosis, problems that mostly focused on impaired self-care ability of the patient.

A closer review of the contents on major patient problems revealed little use of systematic and research-based criteria for determining patient care needs. Decubitus ulcer was identified as a potential or manifest problem in 23 records. The assessments were unsystematically recorded, and no record had a comprehensive assessment including all relevant criteria. Notes on food intake occurred in only two records, despite evidence that it is a major diagnostic factor in the risk of developing decubitus ulcers.

Notes on falls, injuries from falls, or risk of falling occurred in 25 records. In more than half of these records notes were registered on confusion and earlier falls. In 15 (60%) records, three or more assessment criteria of relevance were on file. However, no record displayed a deliberate assessment according to research-based criteria for the risk of falls.

Constipation appeared as a problem in 34 records. The most frequent assessments connected to this problem were notes on nausea and vomiting in 56 percent of the records. Dietary intake and fluid were only recorded in about one third of the records. Two records included more than five criteria relevant for the assessment of constipation.

Notes indicating that pain was a major problem were present in 79 records. In close to half (47%) of these records, there were notes about the underlying cause of pain or injurious agents. Distractive behaviour in patients was the most frequent assessment criterion, appearing in 25 (32%) records. Other signs of pain were scarce. For example, the patient’s own verbal description was recorded in only one record. Nineteen records had no recording at all about observations made to assess pain, although pain appeared to be a major problem for many patients.
Concordance between nursing recording and patient and nurse reports on mental and physical conditions of the patients

One goal of this study was to determine the degree of concordance between the contents of the nurses’ recording in nursing home care and the reports of patients and nurses regarding the occurrence of patient problems concerning mental condition, nutrition, hydration, oral status, urinary incontinence, skin condition, physical activity, mobility, balance and sleep. A further goal was to study the effects on the concordance between patient records and nurse and patient reports after special training in recording. A comparisons was made with a reference group of nurses that had not been exposed to such training.

Based on nurses reports, the most frequent patient problem was urinary incontinence, appearing in 67 (79%) of the residents. Alterations in mental condition were found in 66 (78%) residents, problems with restricted mobility (walking) in 58 (68%) residents and problems in mobility (in bed) in 38 (45%) residents. Problems with nutrition were reported in 25 (29%) residents, disturbed balance in 22 (26%) residents, skin problems in 20 (24%) residents and sleep disturbances in 19 (22%) residents. Least frequent were alterations in oral condition (13 residents or 15%) and fluid intake (7 residents or 8%).

Nurses reported patient problems more frequently than they recorded the problems in the patient records. Between 11 and 59 percent of the patient problems identified and reported by nurse were recorded. Agreement between the nursing interview data and recorded data varied considerably, with kappa values ranging from 0.00 (poor agreement) to 0.74 (good agreement). In comparison with the reference group, agreement between nurses’ reports and records was better in the study group. Significantly better figures were observed for the areas of mental condition, mobility (in bed) and urinary incontinence ($p<0.05$). However, for skin condition, there was significantly better agreement in the reference group ($p<0.05$).

Because many of the residents suffered from severe cognitive impairments, only 43 (51%) were capable of responding to questions. The agreement between patients’ statements and recorded data was generally poorer than between nurses’ reports and records, with kappa values ranging from −0.15 (poor agreement) to 0.74 (good agreement).
Paper V

Nurses’ perceptions and practices in recording

The purpose of this study was to compare the perceptions and practices in recording by nurses that had received training in care planning and recording with nurses that had not received such training. More nurses in the reference group were dissatisfied with their documentation after the intervention ($p<0.005$). Fifty-four percent of the nurses in the study group and 35 percent in the reference group agreed that the care record gave good guidance in care planning and implementation. The primary purpose of the patient record was described by both groups as the daily basis for care delivery and as a means of establishing the security of the patient. The nurses in the study group mentioned the record as a legal document more often than the reference group ($p<0.05$). More nurses in the study group reported always documenting nursing history and nursing status ($p<0.05$). About equal numbers of nurses in both groups considered verbal reports as more important for communication about patient care than information from reading the record. The mean time for recording was reported to be 52 minutes per day in the study group and 62 minutes in the reference group. The study group reported spending less time for oral reports ($p<0.001$).

Paper VI

Auditing nursing content in patient records

The purposes of this study were to explore the different approaches in reviewing patient records reported in the literature and to develop a conceptual framework for record audits.

The literature review ($n=56$) showed that audits of patient records were performed using four approaches of varying aims. The focus of the four approaches can be described in terms of formal structure, process comprehensiveness, knowledge based and accuracy with actual care. Studies with a knowledge-based approach were most frequent and appeared in 41 (73%) of the papers. The formal structure approach was used in 19 (34%) studies. Least frequent were audits using the process comprehensiveness approach, appearing in 7 (13%) studies, and the accuracy approach, which appeared in 5 (9%) studies. Sixteen papers combined two or more approaches.

When the data from three of the approaches were used in an audit of patient records from nursing homes ($n=298$), a clear trend materialised (Figure 3). The presence of the formal structure approach, in accordance with criteria derived from laws and regulations, varied
between 73 and 91 percent in the audited records. When the process comprehensiveness approach was used on the same set of records, the percentage of records complying with the criteria for completeness, according to the nursing process, decreased, varying between 14 and 33 percent. When the record data were analysed in relation to diagnosis-specific nursing content (the knowledge based approach), the proportion of records complying with the criteria decreased even more; between 3 and 23 percent of the records contained relevant data when using this approach.

Figure 3. Percentage of patient records complying with established criteria (n=298).
DISCUSSION

General aspects

The aim of this thesis was to acquire knowledge about different aspects of nursing content in patient records. Special attention was given to recording in nursing home care. The intent was to focus on aspects that could have an impact on the delivery of good and safe nursing care and that should support a systematic and comprehensive documentation of specific data to enable growth of knowledge and development of nursing care. Only a few wefts in the complex warp of the patient record have been studied. An essential issue has been the ability of the records to “tell the story” of the patients’ care, displayed as the presence of a common thread in the fabric of text.

I believe the present findings illustrate the current stage of development in nursing recording in Sweden but they should not be generalised. The widely used model for documentation of nursing in patient records – the VIPS model – has contributed to more thorough assessments with descriptions of patients’ health history and status (II, V). However, comprehensive recording of the process of care – the common thread – encompassing all phases from assessment to evaluation of care, has not been improved to the same extent, demonstrating that the legal demands on recording have not yet been accomplished (I, II). The recording did not reflect a systematic use of research-based assessment (III) and the accuracy of recording assessments varied considerably when compared with reports from nurses and patients (IV). Based on the reports of nurses, the educational intervention seemed to have a positive effect on nurses’ satisfaction with their recording and was found to contribute to less time spent on oral report (V).

The study also explored methods of record auditing. Different approaches in reviewing patient records were found in the literature and a conceptual framework for record audits was developed based on these findings. When some of these approaches were used for auditing a set of nursing home records, it was concluded that, in addition to reviewing more formal aspects of the record, it is essential to examine the process in recorded data and the knowledge-based criteria for recording (VI).

The studies in this thesis were largely based on record data, rather than on observations of the situation of the patient or the actual care given. Thus, conclusions drawn denote the quality of
the content of records. Consequently, any assumptions can only be made about the quality of care, and even these assumptions have to be made with extreme caution. The aim of the thesis was not to demonstrate a direct relationship between good record keeping and effective nursing care. However, negative effects of poor records can be inferred. Deficiencies in records, inadequate assessments, missing data, inaccuracies or omissions may cause serious errors in care since vital information for the patient is not present in the records to guide decisions.

The direction of this thesis has been on outcome variables, such as the quality, quantity and accuracy of nursing content in records and nurses perceptions of recording, and not on the immediate outcome variables, such as the effects on quality of patient care and patients perceptions of the benefits of systematic assessment, recording and care planning. In a recent literature review, only a few studies were found adopting this latter approach (Asplund et al. 2000). A possible explanation for the failure to follow this approach is that there are significant difficulties in designing controlled studies in natural settings of hospital wards or in home care. Consequently, it is hard to isolate the independent and dependent variables that is necessary to allow firm inferences of such complex phenomena as care planning and recording.

A danger exists that nursing documentation becomes a goal in itself. There is a tendency among Swedish nurses to interpret the demands for improved recording in terms of a need to increase the amount of notes in the records. Criticism has emerged that too much time is being spent on “paperwork” instead of the real goal of caring for patients (Socialstyrelsen 2000a). This concern should not be ignored. Nonetheless, a more fitting question is whether the documentation supports quality and safety in care. There is a growing risk today that nurses overemphasise the legal demands on recording. This has become apparent over the past few years when flaws in recording have been given attention in several Swedish liability issues involving nurses (Socialstyrelsen 2000a). The idea of the VIPS model is to give a nursing framework to facilitate the documentation of relevant aspects of care for the individual patient. Nursing documentation has lacked specificity and sometimes has even been superfluous. Thus, it needs to focus more on pertinent problems of the patient (Ehnfors et al. 1991, Ehnfors et al. 1998). Yet, it is still unknown what nurses perceive as pertinent information needed in the record for them to be able to give quality nursing care.
Content and comprehensiveness in nursing recording

A controlled study design was used for the intervention study. Randomisation of the nursing homes, however, was not an option, though random sampling was used for patient records for the reviews (II-IV). The quasi-experimental design was chosen as a feasible strategy to test the causal hypotheses in a field setting. Because a quasi-experimental design was applied, questions about the internal and external validity of the study must be taken into account. The major shortcoming is that it is unknown whether the effects were due to the educational intervention program only or to other, extraneous variables (Brink & Wood 1989). The samples of municipalities may have caused selection bias (II -VI). From my experience, however, the nursing homes in these studies represented a variation in documentation skills and practice that reflected the situation within nursing homes at a national level.

Another issue is that the number of records used in the studies was small. Because all records were paper-based and most of them hand-written and extended over long periods, the audit process was cumbersome. Larger samples would not have been feasible. From the experience of the record audit and experiences from previous studies, it is reasonable to assume that a larger sample of records would not have contributed further to our knowledge of the nature of nurses’ notes.

In the intervention study, the mean length of stay was longer and a greater number of patients expired in the reference group than in the study group, which may have influenced the findings. These differences were probably an explanation to the scantiness of discharge notes in the reference group since it is rare that summary notes are written after the death of a patient. Other confounding factors in the intervention study may have been variations in nurses’ background characteristics and working conditions, including educational background, care organisation and work assignment for the nurse for specific patients. These factors have not been examined in this thesis.

The purposefulness of the intervention may be discussed. Dissemination through educational means alone may not be sufficient to enhance improvement. There is some evidence that targeted education involving active participation leads to changes in practice (Grimshaw & Russell 1993). In our study, education combined with seminars containing small group work sessions demanding active participation of the nurses was practised. Facilitation on a regular
basis and the leadership and working context at the unit may support better outcomes (Kitson et al. 1998). These aspects, however, were not explored in our study.

In intervention studies, there is often a risk of “contamination” between the experimental group and controls. By the end of this intervention, beyond the control of the researchers, the VIPS model was introduced in one of the nursing homes of the reference group. This confounding factor may have diminished the differences between the groups. Similar development took place in many other parts of Sweden during the same period, in that the interest for developing nursing recording was increasing in general.

Special methodological problems emerge when using patient records for research purposes. von Koss Krowchuk and co-authors (1995) suggest it is necessary to consider the following parameters when using such secondary data: comprehensiveness of the record, inter-observer variability, confidentiality in relation to patients, qualifications of data abstractors and conflicting data. In the present studies, the records were often extensive and unstructured with narrative texts, records that obviously demand considerable interpretation. The researchers were trained in reviewing records and interrater reliability tests were performed to secure agreement among raters in the analysis of data. All personal identification of patients was removed from the records before photo copying. In contrast to earlier studies, the figures for interrater agreement were lower (Ehnfors & Smedby 1993). A possible explanation for this result might be that some records in the present study were more extensive in time. This complicates the audit process, which has also been recognised by Björvell and her colleagues (2000).

The instruments for the record reviews were basically founded on the criteria for record keeping that are expressed in Swedish rules and regulations (SFS 1985, SOSFS 1993a). However, the instruments have not been formally tested concerning construct validity. Recently, the instrument on “Comprehensiveness of Nursing Recording of Problems” has been subject to testing for criterion-related validity and showed a significant correlation with another Swedish record audit instrument (Björvell et al. 2000).

There were some significant improvements in the study group on important aspects in recording. The significant increase in notes on nursing history may be interpreted as an expression of the increased consciousness of the need to capture information about the health
history and earlier life of patients in nursing home care. This manifestation is done in order to individualise care. The comprehensiveness – the possibility to follow the process of care in recording – improved only slightly. All records lacked a clear connecting common thread in care, which would show progress in care and demonstrate the analysis and problem-solving process. This problem may have occurred because the nurses were not assigned to specific patients and more than one nurse was often involved in the care of each patient. The nurses were often responsible for the health care of large groups of residents. The knowledge is still scarce concerning the impact of the organisation of care on care planning and individualised care (Segesten 1996).

The recording of patients’ status mostly displayed “objective” assessments by the nurse and descriptions of the patient’s or the family’s perceptions were rarely made in the recordings. An explanation could be that a large group of the residents in the sample suffered from cognitive impairments. Nevertheless, this was probably also a reflection of the tradition in health care recording to focus on “objectively” measurable conditions, rather than on patients’ perceptions and experiences.

It is notable that there was no record with a systematic and comprehensive assessment based on established criteria or research-based assessment instruments for such serious and frequently occurring conditions as decubitus ulcers, falls, constipation and pain. Similar findings have been reported in a recent study of decubitus ulcers in patients with hip fractures using the same record audit instrument for comprehensiveness (Gunningberg et al. 2000). One plausible explanation for this serious flaw is that these assessment skills are not practised sufficiently in basic nursing training. This assumption is supported by recent findings in a study of Swedish nursing students’ final examinations. According to the findings, less than one third of the students displayed adequate skills in pain assessment (Löfmark 2000). The insufficient training of systematic observations and care planning in clinical education has also been displayed in other Swedish studies (Thorell-Ekstrand 1994). Nursing diagnoses were rare in our study and when present there was seldom a clear linkage to preceding assessment data. Thus, diagnoses appeared as a separate and static elements in the records.

Some recent studies of nursing recording in Swedish geriatric care settings and nursing homes support some of our findings (Fagrell et al. 1998, Hansebo et al. 1999, Udén et al. 1999). Studies in hospital settings (Nordström & Gardulf 1996, Stokke & Kalfoss 1999), as well as
in primary health care (Törnkvist 2000), suggest that the defectiveness in recording appears to be similar in nature, independent of type of care setting. None of these studies used a design with parallel control groups. Udén and co-authors (1999) and Törnkvist (2000) demonstrated the potential impact of introducing clinical guidelines for assessment and recording of specific patient problems, which is an important area in need of further investigation.

**The accuracy of patient records**

The accuracy of patient records was determined by comparing recorded data with the reports of nurses and patients (IV). This type of method to ascertain accuracy involves using an intermediate source of information and is not a “gold standard” for determining the accuracy of the records. The study could have relied on observational methods to capture information on the actual problems of the patients. Observational methods, however, demand a great deal of time to acquire comprehensive and relevant information concerning complex assessment data (e.g., nutritional intake, urinary incontinence and sleep). There were differences between the groups with respect to nurses’ assignment to specific patients. These differences might be a confounding factor when comparing the accuracy of the records. Interviews with residents were limited by the occurrence of communicative impairments, which resulted in a large drop-out rate.

The findings of this study were somewhat conflicting. The accuracy for mental condition, mobility in bed and urinary incontinence was significantly better in the study group, though the accuracy for skin condition was found to be better in the reference group. The implementation of a more structured format of recording had positive effects on the accuracy of the records, a relation that corresponds to the findings in other studies (Hogan & Wagner 1997). However, factors other than the intervention program may have had effects on recording practices since accuracy before the intervention was not studied.

**Nurses’ perceptions and practice in recording**

Nurses’ experience and practice in recording were studied from a national sample (I) and in connection with the intervention study (V). It should be recalled that a “post-test only” design was used in this part of the intervention study (Polit & Hungler 1999) (V). Although the two groups of nurses did not deviate in background characteristics, no firm conclusions can be drawn about the effects of the intervention since it is not known whether there were any differences between the groups regarding perceptions and practice before the intervention.
Because the experience of the use of the VIPS model at the time of Study I was limited, it was considered reasonable to collect a convenience sample of nurses from national conferences devoted to the issue. No inclusion criteria were used and the questionnaire was distributed to all participants at the conferences. The response rate (44%) was very low. However, some respondents returned one questionnaire answering for common practice at their units and, therefore, responded for more than one conference participant. No systematic analysis has been done on the non-responses, but it is reasonable to assume that some of the loss constitutes nurses without experience in using the VIPS model and hence these nurses were not able to respond to the questions. Some sections of the questionnaire had been used in previous studies, but the instrument as a whole was not subject to psychometric testing. Naturally, such testing would have strengthened the validity of the instrument.

The responses from the nurses in Study V indicated a lack of integration between the recording and the actual care of the patient. Recording appeared to be perceived as a legal constraint and duty. This discrepancy between legal demands and practice may be interpreted as a reflection of the traditional subordinate role of the nurse. Nurses may not perceive the recording of nursing matters as vital for care delivery if they do not define themselves as accountable for analysing, planning and evaluating care. Similar findings have been reported by Newman and co-workers (1998). Many of the nurses stated that they were uncertain about how to describe nursing care in writing and that they were lacking adequate skills to make entries in the patient record. These deficiencies (uncertainty and poor writing skills) were more pronounced in the reference group. Corresponding results have been reported in some other Swedish studies (Larsen et al. 1995, Törnvist et al. 1997).

The insufficient time for recording that many nurses reported can be seen as a failure to reconsider traditional practices when new demands arise. In this study, the findings demonstrate that the nurses, in addition to recording, spent almost as much time on oral shift reports. There were equal numbers of nurses in both groups that believed that information in the oral reports was of greater importance than the patient record for the care of the patient. The reference group, in comparison with the study group, reported devoting more time for oral reports. The reported time spent on recording corresponded to recent figures from the National Board of Health and Welfare (Socialstyrelsen 2000a). There are only a few studies on the content of oral shift reports. However, studies in Swedish psycho-geriatric care have
demonstrated that the content was unspecific; in essence, the same basic facts were repeated day-after-day and there was seldom any reasoning about the patient’s problems or needs (Norberg & Asplund 1987, Kihlgren et al. 1992). The continuing use of oral reports, parallel with the increasing emphasis and demands on written information, can be best understood as an expression of a lack of confidence in the record as a reliable source of information on patient care. Nonetheless, about half of the nurses agreed that, if the contents of the records were improved, a materially decrease in the time taken for oral reports could be achieved.

Studies from Sweden and other countries support our basic findings, describing difficulties in integrating the structured approach of the nursing process and in expressing the contents of nursing care in everyday practice (Davies & Billings 1994, Lofthus 1994, Törnkvist et al. 1998). Preparation in basic nursing education, in addition to role acceptance, influences the attitudes and skills of the nurse. Legal obligations, regulations and guidelines, as well as informal values expressed in norms and traditions probably have an influence on the documentation practice of the nurse (Tapp 1990). The impact of these factors needs further study. An understanding of the purpose of the record probably has influence on perceptions and practices in recording. In this study, a large proportion of the nurses stated that the patient record should be a tool in everyday nursing practice and only a few considered the record to be of direct use to the patient or as a source of information for evaluation or feedback for quality improvement. The recorded data appear to be viewed as "perishable goods" that are only of use in immediate connection with the notation but is not useful in the longer term. If the record becomes a recognised source of direction for nursing care, evaluation, quality assessment and decision making in care, it is likely that nurses’ motivation for accurate recording will be greatly enhanced.

**Approaches in auditing patient records**

An analysis of scientific papers was performed to explore different approaches in auditing records. It was suggested that the approaches could be used as a framework for understanding different dimensions in reviewing records for research and clinical purposes. The first approach to tackling record data – the formal structure approach – can be useful on a basic level in obtaining an overview of the current practices in recording, though it must be recognised that it yields only fragmented information on content. The process comprehensiveness approach focuses on the course of events in care of the patient – the common thread – and thus can display information that is more meaningful on the quality of
care. It indicates the degree to which the nurse purposefully assesses, analyses, plans, implements and evaluates the care of the patient. The third approach to auditing records is based on scientific knowledge or evidence-based clinical guidelines and is helpful in answering questions on the relevance of recording in relation to the diagnosis or specific needs of the patient. A crucial question in all applications of record data is how accurately the record reflects the situation of the patient and the actual care given. This fourth approach has been only briefly explored and has shown great variation with respect to types of data (Hogan & Wagner 1997). The application of the first three approaches to a set of records displayed weaknesses in using only the formal structure approach and calls for caution in drawing conclusions about the quality of care based on record reviews. Knowledge on methodological aspects and considerations about using data from patient records needs to be further developed and reported in the health care literature.

Implications and future research
The care of the elderly and disabled in the communities exacts about 80 percent of the expenses for the social services of the municipalities on a yearly basis (Socialstyrelsen 2000b). From this knowledge, it seems imperative to ensure that reliable information on this aspect of health care is available. Such information is necessary to support patient care, improve quality and allocate resources. It is also needed for clinical and epidemiological research, policy determination and health planning. Nurses have the potential for making major contributions to the improvement of patients and their families in nursing homes. In order to achieve this end, nurses are required to make systematic and structured entries in patient records using a standardised terminology for nursing care. Nurses must use research-based assessment criteria to capture and describe patient’s problems and needs. In nursing home care assessment of risks for pressure ulcers and falls are examples of areas where joint efforts are demanded, both nationally and internationally, to create a database for growth of epidemiological knowledge. The analysis and prioritising of patients’ problems and needs are vital for care planning. This process is often embedded in the minds of individual nurses and is therefore not negotiated and communicated with patients, family and other staff members. Nursing diagnoses, together with medical diagnoses, are an important focus for integrated care planning. Common terminology for patient problems or nursing diagnoses needs to be developed and to achieve harmony of opinion for Swedish health care. For the further development of a terminology for nursing, surveys in specific areas of nursing care are called
for to explore defining characteristics for patient problems, diagnoses, common interventions and outcomes.

Data in records must be accessible and reusable for clinical decision-making and for growth of knowledge about the patient’s needs, interventions and subsequent outcomes. The computerised patient record is essential for this development. It will enable information to be integrated and available for communication across care giving institutions to ensure continuity in patient care. Furthermore, electronic records will facilitate access to aggregated data on a group level, which will facilitate development of new knowledge based on clinical experience. In nursing home care there is a growing realisation of the need for comparable data on specific quality indicators on a national level to support improvement of care (Socialstyrelsen 2000b). The present thesis has made an effort to address some of the known problem areas (e.g., decubitus ulcers, falls, constipation, pain and nutrition).

It is noteworthy that the care-givers at the nursing homes we observed often did not have access to complete records of the patients. The recording of physicians were often kept in repositories out of the reach of the nursing home staff. The reason for this condition is the divided responsibility for the care of the elderly in which medical care is the concern of the county and nursing care is a matter for the municipality. To safeguard the integrity of the patients, each care-giving institution keeps its own records and does not share information freely. Clearly, this lack of availability of care information is not for the best of the nursing home residents. Nurses must have timely information on medical care and this information should be readily available and closely linked to the patient. The future patient record must comprise integrated data from all care-givers. To attain this goal the contribution of all professionals and all relevant aspects of care have to be clarified in order to obtain a full picture of the patients’ needs, appropriate care interventions and outcomes of care. In the care of the elderly at the municipal level collaborative care planning and contributions from the social services are necessary as well.

This thesis focuses on nursing recording because it constitutes the major information source, and sometimes the only available source, on the care of patients in nursing home care. It would be of interest to broaden future studies to encompass the recording of all health care professionals that are involved in patient care. Such an inquiry may yield a somewhat different picture of the quality of recording.
Further study is necessary on the involvement of patients and participation of family in care planning and recording of that co-operative care. Patients’ contributions in entering data in the record is likely to promote more adequate and accurate information and would empower patients and families in the care process. For instance, patients themselves could make a valuable contribution by writing down information for the initial assessment concerning previous health, their current situation and preferences in care. In the care of individuals that suffer from dementia, families could contribute with essential information on the earlier life and preferences of the patient.

Demands for evidence-based nursing practice calls for controlled studies of the effects of care planning and structured recording on patients and families. Economic aspects and cost-effectiveness in relation to computerised and structured care plans are other unexplored areas of concern.
CONCLUSIONS

The major conclusions drawn from the studies in this thesis are as follows:

- The dissemination and implementation of the VIPS model are widespread among nurses in Swedish health care and in nursing education. The model appears to reflect what is essential for nursing documentation in various clinical areas.

- Following the educational intervention program, documentation in nursing home care improved significantly in the study group. This was true for notes on nursing history (both in numbers and quality) and in the quality of notes on nursing status, diagnoses, interventions and discharge notes.

- Serious flaws in recording were noted in that systematic and comprehensive assessment, grounded in research-based criteria of patients’ problems and needs for nursing care, were not reflected in the records. Because recording was fragmented, it did not provide a comprehensive view of the patient’s total situation.

- Nursing diagnoses were often lacking a clear linkage with the preceding assessment data.

- The agreement between nurses’ verbal reports and their recorded data on patient problems varied considerably. Nurses reported problems orally more frequently than they recorded them in the records. The accuracy was significantly better for record data on mental condition, mobility in bed and urinary incontinence in the study group; skin condition showed significantly better accuracy in the reference group.

- Despite the low level of input from physicians in Swedish nursing homes, nursing recording did not reflect a high level of independence of the nurse in assessing, planning and evaluating care.

- Nurses in the study group were significantly less dissatisfied with their documentation, they recorded nursing history and status more frequently and stated that they spent significantly less time on oral reports after the intervention program.

- Approaches to auditing patient records were found to encompass four distinct approaches: formal structure, process comprehensiveness, knowledge base and accuracy. Audits of patient records should not be limited to embrace the formal structure of recording only. To gain a more complete and reliable picture of the quality of recording the process comprehensiveness approach, in combination with the review of the knowledge base for data in the records, is highly recommended.
• The present findings suggest serious limitations when using the patient records as the only data source for care delivery, quality assessment and evaluation of care.
ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to:

- Associate professor Margareta Ehnfors, my primary supervisor and co-writer, for excellent guidance, support, constructive criticism and friendship.
- Professor Björn Smedby, my co-supervisor and co-writer, for encouragement, never-failing support and constructive criticism.
- Dr.med.sci. Alice Rinell Hermansson, for support during the initial phase of the study.
- Assistant professor Ingrid Thorell-Ekstrand, my co-writer, for inspiration and friendship.

Special thanks to:

- The residents at the nursing homes for their kind participation in the study.
- The nurses for their co-operation and enthusiasm to participate in the educational intervention.
- The Dalarna Research Institute, and especially Marianne Omne-Pontén, for believing in and supporting the initial phase of the study.
- The Department of Public Health and Caring Sciences at Uppsala University, and especially Professor Urban Rosenqvist at the section for Health Services Research and Professor Per-Olow Sjödén at the section for Caring Sciences, for supporting the study.
- My employer, Högskolan Dalarna (University College of Dalarna), and especially Solveig Hannersjö, for providing me with generous working conditions and support for the completion of this thesis.
- The staff at the Department of Public Health and Caring Sciences, and especially Monika Forsling and Lola Billås, for help with all practical matters for a ”long-distance” doctoral student.
- Neil Tomkinson and Leslie Shaps for skilled and instant language revision.
- Jan Ifver for invaluable statistical advice.
- Kerstin Nordstrand for kind assistance in the observer-agreement test and in collecting data for study VI.
- The Medical Library at Falun hospital and the Library at Högskolan Dalarna, and especially Solveig Sundin, for excellent service.
- Professor Susan Grobe, School of Nursing, University of Texas at Austin, for constructive comments.
• All colleagues at the unit for Health and Caring Sciences at Högskolan Dalarna for constructive discussions and sharing every day concerns.
• All colleagues at the Department of Public Health and Caring Sciences/Sections for Health Services Research and Social Medicine for interesting interdisciplinary discussions and constructive criticism through the years.
• All my dear friends, no one mentioned – no one forgotten, for keeping in touch through these years and for chats, lunches or exercise when I needed it the most.

Last but not least:
• Lars, my dear husband and best friend, for co-work and support in all aspects of life; in our family, at work and in research.
• Our three sons, Jakob, Jesper and Johan for being the joy in life and always reminding me of the importance of simultaneous living in all aspects of life.
• My dear parents, Gerd and Anders for love and support through the years and for giving me the self-confidence to accomplish this work.
• My dear brother, Jarl for reminding me that life is more than just work.

The studies were supported by grants from the Swedish Foundation for Health Care Science and Allergy Research (VÄRDALSTIFTELSEN), the Swedish Foundation for Knowledge and Competence Development (KK-stiftelsen), the Dalarna Research Institute, the Department of Public Health and Caring Sciences at Uppsala University, the Dalarna Hospital Group (Sjukhusgruppen Dalarna), Högskolan Dalarna/Health and Caring Sciences and the Department of Caring Sciences at Örebro University. The printing of this thesis was generously supported by the Department of Public Health and Caring Sciences, Uppsala University and Högskolan Dalarna/Health and Caring Sciences.


Rinell Hermansson A. (1990). Det sista året. Omsorg och vård vid livets slut (Caring in the last year of life). Uppsala University Dissertations from the Faculty of Medicine, Uppsala University, Uppsala (In Swedish).


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By
Anna Ehrenberg