The evaluation process of nutrition interventions for patients at risk of malnutrition

From a person-centred perspective

LINA AL-ADILI
This thesis is aimed at exploring the process of evaluating nutrition interventions for patients at risk of malnutrition from a person-centred perspective.

An explorative cross-sectional study was conducted based on data from the International Nutrition Care Process and Terminology Implementation Survey (INIS). Associations between the reported documentation of goals and outcomes and the reported implementation of the nutrition care process and its terminology, demographic factors, and factors associated with the workplace were explored. Responses were received from 347 Scandinavian dietitians. Strong associations were found between the implementation of nutrition monitoring and evaluation terminology and the documentation of goals and outcomes. Standardisation may support the documentation of goals and outcomes, and improve nutrition monitoring and evaluation.

Focus group interviews were held with Swedish dietitians working in hospital and primary healthcare settings. The dietitians’ reflections on the process of nutrition monitoring and evaluation (Paper II) and the goal-setting process (Paper III) with patients at risk of malnutrition in nutrition intervention were explored. A lack of routine and structure in the process of evaluation and a lack of shared decision-making (SDM) in goal-setting was found. Dietitians described qualitative subjective outcomes as being most important to patients but that these are only implied in the nutrition intervention. They highlighted discrepancies between their clinically oriented goals and the patients’ own goals. The clarification of patients’ perspectives in the evaluation process is necessary to promote person-centredness, improve communication, and support the evidence-informed practice of nutrition intervention.

An interview study with patients at risk of malnutrition was conducted. Patients’ experiences, perspectives and needs concerning goals in nutrition intervention were explored. Patients rarely reflected on goals in nutrition interventions, instead they described striving towards increased strength and energy. Goal-setting is part of the dietitian’s structured way of working, while the patient’s life-world is complex and unstructured. Elucidating patients’ goals may counteract the discrepancies between the dietitians’ clinically oriented goals and patients’ perspectives.

In summary, this thesis highlights the need for tools and strategies for the improvement of the evaluation process in nutrition intervention. The person-centred practice of the evaluation process is described in this thesis as key to improving this process. This can be achieved through exploring what matters to patients in terms of perspectives, goals, and priorities, creating partnerships through involving patients in goal-setting and communicating feedback, and documenting and evaluating outcomes that are meaningful to patients.

Keywords: Risk of malnutrition, goal-setting, shared decision-making, person-centred care, qualitative research, nutrition intervention
To my beloved mother
List of Papers

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


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Contribution of authors

The papers are presented in chronological order as the studies were conducted.

Paper II-III
Lina Al-Adili, Ylva Orrevall, Elin Lövestam, Margaretha Nydahl, Anne-Marie Bostrom, and Jenny McGreevy were actively involved in the conception and design of the study. Lina Al-Adili and Jenny McGreevy were responsible for data collection and transcription. Lina Al-Adili conducted the analysis of Paper II under the supervision of co-authors, and drafted and revised the manuscript in collaboration with co-authors. Lina Al-Adili took a leading role in the analysis process for Paper III and was responsible for writing and revising the manuscript in collaboration with the other authors. Lina Al-Adili was the corresponding author for Papers II and III.

Paper I
Elin Lövestam, Ylva Orrevall, Anne-Marie Boström, Nanna R Lang, Lene Thoresen and Charlotte Peersen designed the study and developed the INIS-tool. Elin Lövestam was responsible for data collection with assistance from Ylva Orrevall, Anne-Marie Boström, Nanna R Lang, Lene Thoresen and Charlotte Peersen. The analysis and the selection of appropriate statistical analysis methods was performed in dialogue with Inger Persson. Lina Al-Adili was responsible for the data analysis and for drafting the manuscript; all authors contributed with critical revisions. Lina Al-Adili was the corresponding author for Paper I.

Paper IV
Lina Al-Adili, Lena Nordgren, Ylva Orrevall, Elin Lövestam, and Jenny McGreevy were involved in the conception and design of the study. Lina Al-Adili was responsible for data collection and transcription. Lina Al-Adili took a leading role in the analysis process and had the main responsibility for writing and revising the manuscripts, in collaboration with co-authors. All authors contributed with critical revisions during data
analysis and manuscript writing. Lina Al-Adili was the corresponding author for Paper IV.
Abbreviations

AND        The Academy of Nutrition and Dietetics
EHR        Electronic Health Record
INIS       The International Nutrition Care Process and Terminology Implementation Survey
NM&E       Nutrition Monitoring and Evaluation
NCP        Nutrition Care Process
NCPT       Nutrition Care Process Terminology
SDM        Shared Decision-Making
PROM       Patient Reported Outcome Measurements
PREM       Patient Reported Experience Measures
PCC        Person-Centred Care
Introduction

This thesis explores the process of evaluating nutrition interventions in patients at risk of malnutrition. It elucidates the role of this process in supporting person-centred nutrition intervention\(^\text{1-3}\). The three pillars of person-centred care are discussed: exploring patients’ narratives, creating a partnership, and documentation\(^\text{93}\). This thesis highlights the necessity of incorporating these person-centred elements in the evaluation process in nutrition intervention.

There is a need to improve the evaluation process in nutrition interventions, in order to promote systematic and effective documentation and measurements of outcomes in nutrition care\(^\text{43,17,18}\). The evaluation process involves outcome management and goal-setting\(^\text{5}\). This thesis includes studies that contributes research in the fields of dietetics and applied healthcare sciences. As part of this interdisciplinary approach, dietitians’ communication of goals, outcome evaluation, and documentation in the Electronic Health Records (EHR) of goals and outcomes were explored through the lens of person-centred care.

The evaluation of the dietitian’s contribution to healthcare outcomes is essential to identify, develop and promote evidence-based strategies in nutrition intervention\(^\text{1,3,6,7}\). The high prevalence of malnutrition in health care and its complex implications have been reported\(^\text{8-13}\) and this thesis identifies areas in need of improvement in the process of evaluating nutrition interventions in patients at risk of malnutrition. It stresses the importance of developing new strategies and tools that support comprehensive, accurate, and person-centred outcome evaluations.
Dietetic research and practice

The research field of dietetics is defined by the Academy of Nutrition and dietetics (AND) as\(^1\)4: “the integration, application, and communication of principles derived from food, nutrition, social, business, and basic sciences, to achieve and maintain optimal nutrition status of individuals and groups”. This interdisciplinary subject involves research from different fields ranging from nutritional and medical scientific research to professional-related research\(^1\)4. The latter involves research that supports the identification of effective methods for the delivery of dietetic services and research on methods that develop and improve dietetic education.

Dietetic communication has been described by Simunaniemi as a professional research field, which involves communicating and adjusting evidence-based guidelines and nutritional science to individuals or groups\(^1\)5. It is an interdisciplinary subject emerging from nutritional and dietetic studies and practices of health communication. Health communication focuses on the relationship between health and communication, health behaviour, attitudes, and beliefs\(^1\)5. Dietetic communication entails various areas, such as the communication between authorities and population, communication around food and health between individuals, and food labelling\(^1\)5. While there is no general definition of dietetic communication\(^1\)5, dietetic communication in this thesis includes all kinds of communication between dietitians and patients within the clinical encounter, as well as the written communication in EHR. The main focus in this thesis is on dietetic communication in the process of evaluation, where the dynamics in nutrition counselling and the sharing of information are discussed. Since communication is central in person-centred care (PCC), and there is a need to work towards PCC in health care\(^1\)6-19, aspects of importance for dietetic communication highlighted in this thesis may provide new insights into how to improve the dietetic profession and the quality of evidence-based and person-centred nutrition intervention. The thesis provides a knowledge base that can be used for the development and implementation of new strategies in nutrition interventions.
Internationally, the implementation of this systematic framework, called the Nutrition Care Process (NCP), has increased in recent years, not least in Sweden\textsuperscript{20}. International and national dietetic organisations are supporting the endorsement of this framework\textsuperscript{14,20}. The NCP aims to improve the dietetic working process toward systematic, structured, and evidence-based nutrition care\textsuperscript{2}. The NCP includes four steps: nutrition assessment, diagnosis, intervention, and monitoring and evaluation\textsuperscript{2}. This thesis focuses on the NCP’s last step, nutrition monitoring and evaluation (NM&E), and explores dietitians’ and patients’ reflections on the process of evaluating nutrition intervention. Although the patient-dietitian relationship is central in NCP, the framework has been developed from the perspective of dietitians. Studies suggest that there is a need to develop the dietitians’ working process towards embracing a more person-centred perspective\textsuperscript{1,2,21,22}. Hence, this doctoral project focuses on a person-centred perspective and explores strategies to balance this with the professional dietetic perspective.
Background

Evaluation and documentation of outcomes in nutrition care

Outcome evaluation in nutrition care is necessary for being able to communicate treatment results with the patient and with healthcare professionals\(^1,3,6,7\). It is crucial to be able to provide proof of efficacy and identify the impact of nutrition interventions on various outcomes\(^1,3,6,7\). Nutrition care is provided by a multidisciplinary team, including for example physicians, nurses, and dietitians\(^23\). Dietitians play a key role in optimising nutrition for patients throughout the course of care\(^24-29\) and they are trained to deliver evidence-based nutrition intervention\(^2,6\). It is recommended that malnutrition should be addressed and managed by dietitians\(^30\). While each profession within the healthcare team has different working processes\(^2,3,31,32\), evaluation of nutrition care has been described in various research studies as an area in need of improvement\(^1,3,6,7\). This thesis focuses specifically on the dietetic process and the nutrition intervention, which are provided by professional dietitians.

The role of dietitians within a multidisciplinary team in the management of malnutrition is not always recognised according to a systematic review by Fleurke et al. (2020)\(^23\). Other healthcare professionals are sometimes not acquainted with the role of dietitians. Since most nutrition interventions are part of multi-modal interventions, it is difficult to separate outcomes directly related to nutrition interventions from those related to other interventions\(^1,6\). Hence, the impact of nutrition intervention on patient outcomes is described in several studies as indistinct\(^1,3,6,7\). Although the dietetic profession is relatively new (19\(^{th}\) century) compared to other healthcare disciplines, it is developing and there is an increased demand for dietitians in health care internationally\(^33\). Demonstrating intervention outcomes enables proof of efficacy, which from a professional perspective is important to strengthen the dietitian’s position in health care\(^6\). The evaluation of healthcare outcomes is essential to identify, develop and promote evidence-based strategies in nutrition intervention\(^1,3,6,7\).
EFAD (European Federation of the Associations of Dietitians) released a policy paper in 2020 on the importance of outcome management in dietetics, recommending that dietitians should monitor and evaluate nutrition interventions. Outcome management is a process involving outcome documentation and evaluation. It allows healthcare organisations to define and use specific indicators to frequently measure how successful an intervention is in leading to the desired results. This supports healthcare organisations in allocating their resources and improving the quality of health care. The analysis of outcomes enables interpretation, validation, and comparison of nutrition intervention. Outcome management is described in the EFAD policy paper as being used to demonstrate the value of interventions provided by dietitians, either individually within the dietetic community or as part of a multidisciplinary team. It intends to answer the questions “what works best, for whom, and at what cost”.

The evaluation of nutrition interventions is also important for patient-safe, person-centred, and high-quality interventions. In recent years, patients’ participation in the evaluation of their care has been increasingly promoted in health care. Holdoway et al. (2020) emphasise the need for individualising nutrition care for the improvement of outcomes for patients with malnutrition. One way of individualising care is to use tools that investigate patient perspectives. The use of Patient Reported Outcome Measures (PROM) and Patient Reported Experience Measures (PREM) has increased over the past decades. PROM tools enable the identification of aspects of importance to patients’ well-being and health-related quality of life, which may deteriorate/improve during intervention. PREM tools evaluate patients’ views of their experience of health care. While these tools are increasingly used in health care, they are still lacking in nutrition care, not least for patients at risk of malnutrition.

The documentation of outcomes in the EHR enables sharing of data within the dietetic research community. EFAD emphasises that every dietitian should systematically and effectively document outcomes in nutrition care. The nutrition intervention should follow a structured model and a clear process leading to measurable outcomes. The WHO’s European Health Initiative (EUHII) aims to harmonise health information systems in Europe to facilitate the aggregation and comparison of data within Europe. To enable this, the use of standardised terminology is proposed. EFAD stresses the value of harmonising the documentation of outcomes to facilitate this process.
Standardised frameworks and the Nutrition Care Process

Different strategies and standardised frameworks are used in health care to facilitate the evaluation of outcomes\textsuperscript{2,3,31,32}. For example, the International Classification of Functioning, Disability, and Health (ICF) was developed by the World Health Organization (WHO) to measure health and disability\textsuperscript{36}. The Nursing Outcome Classification is widely used to assess and evaluate clinical progress\textsuperscript{31,32}. The internationally implemented Nursing Process was developed to provide structure in nursing care, including the evaluation of outcomes\textsuperscript{37}. Likewise, the structured model of the Nutrition Care Process (NCP) was developed by AND to provide dietitians with a framework that facilitates systematic problem-solving and evaluation in nutrition interventions\textsuperscript{2}. It also has its own associated Nutrition Care Process Terminology (NCPT), thus contributing to a common professional language for dietitians. According to AND, the NCP and its terminology is aimed at promoting critical thinking, communication, and collaboration with the patient, improving documentation, and increasing the quality of nutrition interventions\textsuperscript{2,3}.

The NCP consists of four steps\textsuperscript{5}: 1) nutrition assessment, which entails collecting, classifying, and synthesising relevant information; 2) nutrition diagnosis, which identifies the existing nutrition problem that the dietitian is responsible for treating; 3) nutrition intervention, which is the action that resolves or improves the nutrition diagnosis, and 4) nutrition monitoring and evaluation (NM&E), which includes the identification and evaluation of outcomes related to the diagnosis, nutrition intervention plans and goals\textsuperscript{7,8}.

Other models exist internationally, for example the Model and Process for Nutrition and Dietetic Practice used in the United Kingdom\textsuperscript{38} and the ICF-dietetics used in The Netherlands\textsuperscript{39}. In Europe there are currently two international nutrition and dietetics terminologies used, i.e. the Nutrition Care Process Terminology (NCPT) established by AND, and the Classification and Coding List for Dietetics (CCD) based on the ICF\textsuperscript{39}. The latter was developed by the Dutch Association of Dietitians and the Dutch Institute of Allied Health Care. Buchholz et al. conducted a literature search and interviews with experts from EFAD to compare different dietetic models used in Europe\textsuperscript{38}. The conclusion from this study was that the different processes were similar. Both these frameworks are circular and have a similar methodological process, with four main essential steps; assessment, diagnosis, intervention, and monitoring and evaluation. Likewise, a mapping exercise conducted in 2017 aiming to highlight
similarities and differences between the NCPT and ICF-dietetics showed that the majority of the NCPT terms were covered by the ICF-dietetics (86.5%)\(^3\). According to AND, the NCP is more specific to dietetic outcomes since it was developed specifically for nutrition interventions whereas the ICF-dietetics is based on a model that was originally developed for other healthcare professions\(^3\).

**Nutrition Monitoring and Evaluation**

While different nutrition care models are used internationally, these models include similar aspects of nutrition monitoring and evaluation\(^6\). In Sweden, as well as elsewhere in Scandinavia, dietitians are increasingly implementing the NCP-model\(^2\). The studies in this thesis are conducted within a Swedish context. The NCP and its terminology are therefore used as a framework to explore, define and understand the evaluation process in nutrition intervention.

Although the NCP is divided into four steps, in practice, it is a dynamic process wherein each step is interwoven with the other\(^2\). For example, nutrition assessment is included as part of monitoring and evaluation where data is re-evaluated and new relevant information is collected for each interaction with the patient, and the nutrition diagnoses and interventions are revised when necessary. To simplify this process, this thesis focuses on the three actions described in the NCPs last step NM&E: monitoring progress, measuring outcomes, and evaluating and determining changes in specific outcomes\(^5\).

The NM&E entails monitoring whether the nutrition intervention is changing the patient’s behaviour or state, gathering data for measuring outcomes, and comparing the current state with previous states and intervention goals to evaluate the impact of the nutrition intervention on the patient’s outcomes\(^5\). Goals agreed upon with the patient are either achieved or modified as necessary, and factors that can help or hinder progress are identified, enabling adjustment of the intervention to suit the patient’s needs (Table 1).

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Monitoring</td>
<td>“Pre-planned review and measurement of selected nutrition care indicators of the client’s state relevant to the defined needs, nutrition diagnosis, nutrition intervention, and outcomes”</td>
</tr>
<tr>
<td>Evaluation</td>
<td>“The systematic comparison of current findings with the previous state, nutrition intervention goals, recommendations, effectiveness of overall nutrition care, or a reference standard”</td>
</tr>
<tr>
<td>Goal</td>
<td>“A goal is a desired outcome agreed to by a patient and the dietitian. Clear, measurable, achievable, and time defined”</td>
</tr>
<tr>
<td>Outcome</td>
<td>“The results of nutrition care that are directly related to the nutrition diagnosis and the goals of the intervention plan”</td>
</tr>
</tbody>
</table>

Outcomes in Nutrition Monitoring and Evaluation

Different outcomes in NM&E are described in the NCP terminology⁵. The NM&E is organised into seven domains in the NCPT (Table 2). These domains contain various outcomes ranging from quantitative outcomes, such as measuring intake or anthropometric measurements of weight, body mass index (BMI), etc. to outcomes with a more qualitative character, such as a patient’s perception of his or her nutrition intervention and its impact on everyday life. In this thesis, the term qualitative subjective outcome is used when referring to outcomes concerning a patient’s subjective experience of their health, such as quality of life, well-being, and symptoms, while still recognising that these types of outcomes might also be used as quantitative measures through scales or other tools. Using terms that distinguish between the observations of patients (describing them as subjective), and observation of healthcare professionals (describing them as objective) has been previously problematised⁴¹. While acknowledging this, these terms are used in this thesis to simplify and categorise the different outcomes.

A standardised set of outcomes and measurement of qualitative subjective outcomes for nutrition-related conditions are internationally lacking⁶. Qualitative subjective outcomes are, according to EFAD, currently insufficiently measured in dietetic care⁴. Studies exploring the effectiveness of nutrition interventions have focused mainly on length of stay, survival, anthropometric measurements rather than on patients’ subjective experiences of their condition¹,⁴,⁶. The development of tools that
enable the articulation, reporting, and identification of various nutrition care outcomes, including qualitative subjective outcomes, is required\textsuperscript{1,4,6,42}.

Table 2. Nutrition Care Outcomes in the Nutrition Terminology Reference Manual (eNCPT)\textsuperscript{5}.

<table>
<thead>
<tr>
<th>Nutrition Care Outcomes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food/Nutrition-related History</strong></td>
<td>Food and nutrient intake, food and nutrient administration, medication, complementary/alternative medicine use, knowledge/beliefs, food and supplies availability, physical activity, nutrition quality of life</td>
</tr>
<tr>
<td><strong>Anthropometric Measurement Outcomes</strong></td>
<td>Height, weight, body mass index (BMI), growth pattern indices/percentile ranks, and weight history</td>
</tr>
<tr>
<td><strong>Biomedical Data, Medical Tests, Procedure Outcome</strong></td>
<td>Lab data (e.g., electrolytes, glucose) and tests (e.g., gastric emptying time, resting metabolic rate)</td>
</tr>
<tr>
<td><strong>Assessment, Monitoring, and Evaluation Tool</strong></td>
<td>Tools used for health or disease status or risk assessment, reassessment, and monitoring and evaluation</td>
</tr>
<tr>
<td><strong>Nutrition-focused Physical Finding Outcomes</strong></td>
<td>Physical appearance, muscle and fat wasting, swallowing function, appetite, and affect</td>
</tr>
<tr>
<td><strong>Etiology Category</strong></td>
<td>Categories to communicate the type of nutrition diagnosis etiology</td>
</tr>
<tr>
<td><strong>Progress Evaluation</strong></td>
<td>Evaluation of progress toward a nutrition-related goal(s) and resolution of a nutrition diagnosis(es)</td>
</tr>
</tbody>
</table>

Goal-setting in nutrition interventions

Goal-setting is an essential part of the evaluation process\textsuperscript{5}. By setting goals and evaluating if goals are achieved it is possible to determine whether or not an intervention was successful. In 2021, the NCP added the domain progress evaluation in which nutrition-related goals and resolution of a nutrition diagnosis are evaluated. The goal-setting process is an important part of the evaluation process since it determines the direction of the nutrition intervention. Since the NCP is a dynamic process, goal-setting is integrated into NCP’s third step, nutrition intervention, as well as in NM&E in which goals from the nutrition intervention are evaluated. The NCP includes terms for progress evaluation. Intervention Goal Status includes evaluation of progress toward meeting goals set in the course of nutrition intervention. There are six terms described in the Nutrition Terminology Reference Manual (eNCPT)\textsuperscript{43}: “New goal identified, Goal
achieved, Goal discontinued, Goal not achieved, Some progress toward goal, and Some digression away from goal.”

Goals might represent patients’ values. Values motivate and guide the selection of actions. Individuals decide what to do based on their beliefs of what is good or bad and what is valuable and possible for them to do or to avoid. Goals can also reflect individuals’ priorities and needs. Setting SMART goals is advised in nutrition intervention, meaning that they should be specific, measurable, achievable, relevant, and time-framed.

Evaluation and documentation in nutrition care

The evaluation process in nutrition interventions is, according to EFAD, an area in need of further improvement. For example, the International Nutrition Care Process and Terminology Implementation Survey (INIS) (data collection during 2016-2017) showed that dietitians in ten countries, including Sweden, have mainly implemented NCP step two, where they assess, prioritise, identify and formulate the patient’s nutritional problems. Significantly fewer countries reported implementing the last step, which entails monitoring patients and identifying and evaluating outcomes from the nutrition intervention. The reported documentation of outcomes in the EHR systems has also been shown to be low. Barriers to the structured monitoring and evaluation of interventions have been described in a systematic review by Duncan et al. (2012). Lack of knowledge among healthcare professionals about how to monitor and measure outcomes of healthcare interventions has been described as a barrier. The level of support from organisations and peers is highlighted by Duncan et al. as an important factor influencing the implementation of evaluations in health care. Work experience and clinical judgment are other factors that may influence documentation practices. For example, higher education among nurses is associated with proficiency, and improved quality of care. In the NCP model update in 2017, Swan et al. underline that evaluation of outcomes requires expertise and professional skills. Regularly evaluating outcomes of care is essential for being able to clearly communicate outcomes to individuals, collaboratively identify goals and plan the intervention effectively. Investigating associations between dietitians’ reported documentation practice concerning goals and outcomes with different factors may provide information that can be used to facilitate dietetic documentation and the evaluation of nutrition interventions.
EHR systems are used in Swedish health care\textsuperscript{51}. The Swedish eHealth Agency emphasised in a report (2019) the importance of developing electronic platforms for the aggregation of data in health care\textsuperscript{51}. They concluded that the NCPT is sufficiently developed to be used as a common national e-health platform. Enabling the aggregation of dietetic outcomes in the EHR is described by EFAD as important for the improvement of data compatibility\textsuperscript{4}. In a recent NCP audit using an electronic platform developed by AND in the United States, various issues with dietetic documentation were identified\textsuperscript{42}. The frequency of a missing or only partially documented monitoring and evaluation plan was very high (91.9%), and the documentation of goals was often missing (83.2%). According to an international survey of the professional practice committee of EFAD, outcome data is documented in daily dietetic practice\textsuperscript{4}. However, structured documentation is lacking, which hinders the evaluation of outcomes.

**Malnutrition**

While the evaluation of outcomes in health care entails challenges\textsuperscript{45}, the target group of patients at risk of malnutrition poses additional challenges since these individuals often have complex needs\textsuperscript{1,51-54}. Malnutrition is, moreover, a widespread problem in health care in both primary health care settings\textsuperscript{55} and hospital settings\textsuperscript{11,55}. It is recognised that malnutrition can worsen patients’ outcomes\textsuperscript{8-13}, increase the financial burden on health care, and increase the risk of infections, morbidity, and mortality\textsuperscript{8-13}. The prevalence is estimated to be around 15-20% in hospital outpatients\textsuperscript{56,57} and 20-50% in hospital inpatients\textsuperscript{11,55}, where many patients have been shown to have malnutrition already on admission. The risk of malnutrition is described in research to be underrecognized in health care\textsuperscript{8,55,58}. An audit of databases in primary care in the United Kingdom showed that the EHR lacks information about whether patients are at risk of malnutrition\textsuperscript{55}. In a comparison of five malnutrition screening tools, more than half of individuals at risk of malnutrition were not identified\textsuperscript{58}. Stratton et al. (2012) reported, using the Malnutrition Universal Screening Tool (MUST), that the risk of malnutrition was around 30% among outpatients and ranged from 19-60% for inpatients\textsuperscript{59}. These disparities in estimations can be explained by a lack of common understanding and inadequate routines in detecting the risk of malnutrition among patients in health care\textsuperscript{8,55,58}. 

23
Malnutrition refers to insufficiencies, excesses, or disproportions in a person’s intake of energy and/or nutrients. It covers two conditions: undernutrition and overnutrition/overweight. The term used in this thesis refers to undernutrition, in line with the European Society for Clinical Nutrition and Metabolism’s (ESPEN) definition:

"a state resulting from lack of intake or uptake of nutrition that leads to altered body composition (decreased fat-free mass) and body cell mass leading to diminished physical and mental function and impaired clinical outcome from disease”.

To provide a common understanding and definition of malnutrition, a consensus document from the Global Leadership Initiative on Malnutrition (GLIM) was published in 2019. Since 2021 the Swedish Association of Clinical Dietitians (DRF) has recommended that Swedish dietitians diagnose malnutrition according to the GLIM-criteria. Criteria for the diagnosis of malnutrition involves an initial risk assessment with the use of a validated screening instrument, for example the Subjective Global Assessment of Nutritional Status (SGA) (which has been translated into Swedish). A minimum requirement, according to the guidelines of the Swedish National Board of Health and Welfare, is to register three risk factors: involuntary weight loss (regardless of time and extent), eating difficulties (e.g., loss of appetite) and underweight (BMI <20 kg/m² at <70 years, <22 kg/m² at >70 years). A patient who has one or more risk factors at the same time is at risk of malnutrition. Setting a malnutrition diagnosis according to GLIM involves the assessment of five criteria: three phenotypic criteria (non-volitional weight loss, low BMI or reduced muscle mass) and two etiological criteria (reduced food intake/assimilation or inflammatory condition). At least one phenotypic and one etiologic criterion must be met for the diagnosis of malnutrition.

Nutrition intervention for patients at risk of malnutrition

Nutrition intervention for patients at risk of malnutrition involves strategies to improve an individual’s nutrition status and quality of life, and counteract deterioration in health. The causes of malnutrition are often complex and are associated with reduced appetite and intake, and increased energy- and protein requirements due to illness and inflammation. With reduced physical activity (which is common in illness), the energy requirement is lower, but the need for nutrients is usually unchanged. Appetite often decreases, and an adaptation of the diet is needed to counteract deterioration in health. Increased nutrient, protein
and energy density in meals is required to satisfy the needs. The first-line intervention entails increasing energy, protein, and nutrients through food-based changes to meet the patient’s energy and nutritional needs. Adaptation of food consistency might also be needed in cases of dysphagia or other severe eating difficulties. If these changes are not sufficient, dietary supplements are used, such as Oral Nutritional Supplements (ONS), and vitamin and mineral supplements. Enteral nutrition may be given through a tube into the gastrointestinal tract or parenteral nutrition administered directly into the bloodstream when the above mentioned options are not possible and eating ability is impaired.

Nutrition Impact Symptoms (NIS), such as difficulty in swallowing, loss of appetite, vomiting, early satiety, diarrhea, and nausea, are common. Several studies have shown that malnutrition leads to a reduced health-related quality of life. In this thesis quality of life is defined in line with the World Health Organisation’s (WHO) definition:

“individual’s perception of their position in life in the context of the culture and value systems in which they live, and concerning their goals, expectations, standards, and concerns.”

Wellbeing concerns individuals’ emotional response to their condition, intervention, and their future. Malnutrition can lead to anxiety around eating and drinking and affect daily routines and social interactions. In a literature overview Nyberg et al. (2015) described emotional distress and practical challenges in preparing meals among patients with malnutrition, particularly those with severe malnutrition. In a systematic review of eating difficulties, aspects such as the feeling of loss, social isolation, anxiety, negative sensations, and depression were highlighted. These aspects negatively influence a patient’s condition, outcomes, wellbeing, and quality of life.

Untreated malnutrition can lead to physical or mental frailty, disease, and possibly death. With the reduced length of hospital stays due to resource allocation, an increased number of persons with malnutrition are referred to primary care. Since the majority are discharged home, additional attention to support patients in self-management has been proposed. Supporting self-management in health care has been shown to improve patients’ outcomes. One way of supporting individuals in self-management and promote behavioural change in health care is through providing counselling.
Counselling in nutrition interventions is defined in the eNCPT as\textsuperscript{75}:

"A supportive process, characterised by a collaborative counsellor–client relationship to establish food, nutrition and physical activity priorities, goals, and individualised action plans that acknowledge and foster responsibility for self-care to treat an existing condition and promote health."

Spahn et al. (2010) defines counselling in nutrition interventions similarly in a literature review\textsuperscript{76}.

**Person-centred care**

Persons with or at risk of malnutrition are a vulnerable group with complex needs\textsuperscript{1,51-54}. Person-centred care (PCC) acknowledges this vulnerability, yet emphasises an individual’s capabilities in taking control of their situation and health condition\textsuperscript{77}. PCC is an increasingly promoted approach in western countries, wherein the partnership between patients and healthcare professionals is seen as a fundamental prerequisite for good quality care\textsuperscript{1,69,77,78}. Patients are active in all parts of the care process, and goals are set according to the patient’s lifestyle, preferences, beliefs, needs, values, and health problems\textsuperscript{77}.

In line with the WHO definition of people-centred care\textsuperscript{79}, The American Geriatrics Society Expert Panel (AGS) defines person-centred care comprehensively (2016)\textsuperscript{80}:

“Person-centred care means that an individuals’ values and preferences are elicited and, once expressed, guide all aspects of their health care, supporting their realistic health and life goals. Person-centred care is achieved through a dynamic relationship among individuals, others who are important to them, and all relevant providers. This collaboration informs decision-making to the extent that the individual desires.”

To realize this definition the following elements are emphasised in this report\textsuperscript{80}: creating an individualised, goal-oriented care plan based on the person’s preferences, continuously reviewing the person’s goals and care plan, sharing information, providing feedback, evaluating whether goals are being met and selecting relevant measurable outcomes that focus on the successful implementation of care plans. Communicating and evaluating goals is highlighted as an essential aspect for the implementation of PCC\textsuperscript{80}. 

26
Different concepts are used in the literature to describe PCC, e.g., patient-centred care\textsuperscript{81} or people-centred care\textsuperscript{1}. Using “person” instead of “patient” emphasizes the individual behind the patient role, which has been acknowledged by Ekman et al\textsuperscript{82}. The basis of PCC according to Ekman et al. is that healthcare professionals are attentive to the person and responsive to the individual’s perspectives and experiences. People-centred care is a broader term that comprises the perspectives of carers, families, and communities\textsuperscript{1}. This thesis focuses on the relationship between dietitians and patients, and the concept of person-centred care is used in line with Ekman et al. which highlights three key aspects of PCC: patient narratives, partnership, and documentation\textsuperscript{82,83}. These aspects cover the elements described by the AGS and are deeply grounded in ethical standpoints (described in the next section).

While the evaluation of quantitative objective outcomes, (such as biomedical data, anthropometrics, etc.) is common in clinical practice, Ekman et al. highlights the necessity of including the subjective experience of patients to promote good quality care\textsuperscript{82}. A person-centred approach entails listening to patients’ narratives and acknowledging the person’s desires, goals, and resources. Healthcare professionals act as listeners, observers, and comforters. This approach enables the identification of what is meaningful to patients, which directs the intervention in PCC\textsuperscript{82}.

According to Ekman et al., a partnership is created by sharing information; the patient shares his/her story and the healthcare professional shares evidence-based knowledge about the patient’s condition. Mutual interdependence requires that both patients and healthcare professionals are active in the intervention and work as a team\textsuperscript{77}. Establishing a relationship requires both verbal and non-verbal communication (such as body language). Goals and healthcare plans are set collaboratively in line with patient desires, preferences, and needs\textsuperscript{77}. Documentation in the EHR is described by Ekman et. al. as essential to ensure that the goals are met and to enable evaluation of progress. The documentation facilitates communication, and the clinical decision process promotes transparency of care and improves the transfer of clinical information\textsuperscript{46,84-87}. Ekman et al. highlight that patients’ narratives and partnerships expressed in a healthcare plan should be documented in EHR and be accessible to patients. The Swedish Association of Local Authorities and Regions promote person-centred care and emphasise the necessity of involving patients in their care\textsuperscript{88}.
Person-centred strategies and goal-setting in nutrition care

PCC has been shown to increase patient satisfaction, wellbeing, health-related quality of life, and clinical outcomes, as well as shorten hospital stays and lower healthcare costs\(^{18,19,77,89-94}\). Adherence to dietary advice has been shown to be low, yet it can be improved through person-centred strategies\(^{16-19}\). Making dietary changes requires motivation and self-management skills\(^{16-18}\). Persons who are involved in their care tend to agree on treatment advice to a higher extent\(^{18,19,89-91}\). In nutrition care, patient participation is particularly important for successful interventions, since behavioural changes are often required\(^{16-19}\). There are different person-centred strategies used in health care to empower and motivate patients\(^{92}\).

Motivational interviewing (MI) is a communication style used to change health behaviour\(^{95}\). MI is characterised by partnership, acceptance, compassion, and evocation. A cohort study testing the efficacy of MI delivered by dietitians showed that it had positive effects on outcomes\(^{92}\).

Shared decision-making (SDM) is a person-centred approach - a jointly undertaken process by patients and healthcare professionals in which the best clinical evidence and the person’s perspectives, needs, and preferences are considered\(^{19,93,94}\). Lenzen et al. (2018) developed a conversation approach to SDM for nurses and highlighted that SDM is believed to lead to increased patient autonomy and results in better healthcare outcomes\(^{19}\).

The assessment and evaluation of patients’ goals in nutrition counselling is necessary to select strategies that support behavioural changes\(^{96,97}\). Goal-setting is widely used in health care to endorse behavioural change\(^{96,97}\). Nevertheless, the goal-setting process for patients with malnutrition has been given less attention in research\(^{19,94}\). These individuals have often complex needs which make the selection of relevant treatment options particularly challenging\(^{1,69}\). Using SDM in the goal-setting process enables the selection and prioritisation of goals that are meaningful to individuals\(^{19}\). Different SDM models have been developed and implemented in health care\(^{19,90,91}\). Nevertheless, Lenzen et al. argue that most of these models lack the goal-setting process\(^{19}\). According to a frequently cited systematic review by Makoul and Clayman (2006) about SDM models, presenting and discussing treatment options are the most frequently deliberated elements of SDM\(^{90}\). Lenzen emphasises the necessity of initially discussing goals for the selection of relevant treatment options\(^{19}\). Shared decision-making in goal-setting requires a collaborative agreement and selection of feasible goals adjusted to patients’ perspectives, needs, and preferences\(^{19}\). There is a need for evidence facilitating the best practice of SDM in goal-setting in healthcare interventions\(^{94}\). Exploring dietitians and patients’ reflections on
this topic may provide new insights that can be used to improve the evaluation process in nutrition interventions.

Theoretical aspects of person-centred care

PCC is a practice that can serve as a means to achieve higher quality and efficiency in health care\(^98\). There is a philosophy behind PCC, and ethics that emphasise individual autonomy and describe patient participation in health care as valuable in itself\(^82\). While there are different studies discussing PCC in practice and theory\(^1,80,81,99\), Ekman’s (2020) description of PCC covers both aspects and adds philosophical dimensions to its definition, using the perspectives of hermeneutics and the viewpoints of philosopher Paul Ricoeur (1913-2005)\(^82,83\). This thesis focuses on the practice of PCC. Tomaselli et al. (2020) argue that in order to better understand PCC and implement it in practice, it needs to be understood from an ethical perspective\(^99\). The ethical perspectives behind the three pillars of PCC are therefore described\(^82,83\) in this section.

The view of the patient has changed in recent years in health care with a shift from being a "recipient" of care to a "co-creator"\(^77\). The basis of PCC is to recognise the person behind the patient role and be responsive to the individual’s perspective and experience of their disease. There is an identity behind the patient role, a person with legal responsibility for his/her actions and behaviour. By being attentive to the person, the patient’s capabilities and responsibility over his/her own life are emphasised. Ekman et al. emphasise that the three pillars of PCC\(^98\), patients’ narratives, partnership, and documentation, are not linear but triangular, dynamically integrated into each other and mutually reinforcing each other. The patient’s narrative is a prerequisite for establishing a partnership, and documentation enables clarification of the patient’s perspectives. Tomaselli et al. highlights that when healthcare professionals establish the three pillars, create a partnership with their patients and listen to their narratives, they are exercising ethical behaviour\(^99\).

The rationalisation, automation, and specialisation within medical research and practice have led to the development of health care. According to Ekman et al., this development has yet to generate some dilemmas\(^93\). The dominating biomedical perspective in health care necessitates the isolation of the pathological process in the objectified body. By viewing the body as an organ, that is as a chemical or psychological process, which is a controllable object for observation, a diagnosis can be made. This entails the objectification of the body and neglect of the person. Ekman et al. argue
that pathology and disease are not only descriptions of conditions in patients’ bodies that can be objectively observed, they are also connected to the existential dimension that can arouse fear and anxiety within individuals.93.

There is, according to Ekman et al., a tension between the two different knowledge cultures of science, objectiveness and technology, and humanistic culture, ethics, and personal convictions.93. Ekman et al. raise the question of how to combine the clinically oriented biomedical perspective with a phenomenological world view that considers the human experience of the living body. Using a phenomenological standpoint, a distinction between the body as a lifeless material thing and the living body as an embodied living person, is discussed by Ekman et al. Phenomenology highlights the body as both an object and subject. This implies two different views, namely the objectifying biomedical perspective of the body and the suffering patient’s experience in the living body. PCC aims to consider and balance both of these two perspectives.98.

Being a “patient” entails, according to Ekman et al., threefold inferiority.93. Healthcare organisations are hierarchical and patients are often placed at the bottom, which leads to an institutional disadvantage. The person seeking health care has an existential disadvantage because of the vulnerability of being a patient. There is also knowledge inferiority. The limitation and threat against one’s existence entails a cognitive disadvantage. This aspect affects consistency in healthcare intervention and explains the challenges that patients face in a clinical encounter. Ekman et al. highlight that there is an inevitable asymmetric power distribution.82 However, asymmetric mutuality is described as a middle ground. This is established by mutual trust between patients and healthcare professionals where patients’ vulnerability and autonomy are equally acknowledged. The concept of autonomy emphasises the individual’s right to choose and the capacity to make decisions. Nevertheless, Ekman et al. underline the necessity of recognising and balancing this with the individual’s fragility and vulnerability. This vulnerability is not a problem to solve but rather a constructive part of human beings that gives the living person a dynamic character. Ricoeur describes this as “homo capax”; the capable human being defined as a performer and sufferer.100 While suffering is connected to disease, Ricoeur suggests that the most challenging suffering happens when human capabilities are neglected; when individuals are reduced to one role.100 Herlitz et al. (2016) question the Ekman et al. viewpoint of patients being capable of taking control of
their situation\textsuperscript{101}. They argue that patients may have limited capabilities and are not able to take responsibility and concord with their own rational decision. Combining the viewpoints of Ekman et. al. with other approaches is described as a middle ground\textsuperscript{101}. According to Herlitz et al. this is made possible by giving more attention to how goals are adopted by patients, how they view their choice situation, and the feedback they are receiving. Ekman et al. stress that patients want to be recognised as human beings and to be treated accordingly\textsuperscript{93}. Hence, acknowledging that patients are capable of taking responsibility for their situation supports this ethical perspective.

Hansson et al. (2020) emphasise that patient narratives have a key role in PCC\textsuperscript{102}. The patient emerges as a person through their narratives. It is through this communication that personal identity is constructed, created, and explored. It is described by Hansson et al. as the sick person’s account of his/her disease, symptoms, and their influence on her/his life\textsuperscript{102}. While medical narratives reflect the procedure of diagnosing and treating the illness, personal narratives capture the person’s suffering in an everyday context. The narration has, moreover, a therapeutic function. Ekman et al. emphasise that it enables the discovery of oneself and it makes “tacit knowledge” accessible to healthcare professionals\textsuperscript{93}. The tacit knowledge is embedded in the world the patient lives in as a person.

The concept of “patient” is a role to which individuals are attributed in the context of health care, separated from the person’s everyday life. While the patient can be identified through diagnosis and signs, personal identity can be identified through the person’s history and narratives. Being a “patient” involves inferiority (as described above). A “person” is expected on the other hand to be an equivalent party that is respected and taken seriously. Establishing a patient’s narrative shifts the focus from the disease and diagnosis to the individual’s life-situation and needs. According to Hansson et al., this is necessary to build a partnership between patients and the healthcare professional, which empowers and acknowledges the lived experience of the person\textsuperscript{102}. Ekman et al. emphasise that to give legitimacy to patients’ perspectives and facilitate the partnership, patients’ experiences, preferences, values, and beliefs need to be documented in the EHR\textsuperscript{93}.
Identified research gap

The evaluation of outcomes is important to ensure patients’ safe and good quality nutrition care\textsuperscript{1,4,6}. Measuring outcomes in nutrition care is necessary for accountability and transparency of care. By collecting and demonstrating outcome data, dietitians can show their commitment to providing high quality nutrition care. Through the evaluation process, dietitians can ensure that they are providing optimal nutrition interventions to their patients and promote evidence-based decision making in nutrition care. If structured data is not routinely collected, measured, and/or analysed, the effect of nutrition intervention on outcomes will remain underrecognised\textsuperscript{1,4,6}.

Examining dietitians’ reflections on the evaluation process for patients at risk of malnutrition is necessary to find new strategies that facilitate the process\textsuperscript{1,4,6}. Little is known about how dietitians reflect on the evaluation process in nutrition interventions. In addition, the literature describes the need to understand the process of goal-setting in healthcare both from a professional’s and a patient’s point of view\textsuperscript{19,103}. Goal-setting is described in the literature as vital for the implementation of PCC, as well as for the process of evaluation in health care\textsuperscript{1,19,93,94}. This thesis, therefore, explores outcome evaluation and goal-setting in patients at risk of malnutrition. It highlights dietitians’ perspectives on outcome evaluation and goal-setting for patients at risk of malnutrition, the reported documentation of goals and outcomes in the EHR, and the perspectives and needs of patients at risk of malnutrition in the nutrition intervention.
Aims

The purpose of this doctoral project is to provide knowledge that can be used to improve dietetic practice regarding the evaluation process for patients at risk of malnutrition. The overall aim is to explore the evaluation process of nutrition interventions for patients at risk of malnutrition from a person-centred perspective. The specific aims of Papers I-IV were:

I. To investigate the dietitian’s reported documentation in the Electronic Health Record of patients’ nutrition-related goals and outcomes.

II. To gain an understanding of dietitians’ reflection on the process of nutrition monitoring and evaluation of patients at risk of malnutrition.

III. To explore the goal-setting process in nutrition intervention for patients at risk of malnutrition from the perspectives of dietitians.

IV. To describe the perspectives and needs connected to goals in nutrition intervention of patients at risk of malnutrition.
Material and methods

Studies in this thesis are mainly based on qualitative research methods (Papers II, III, and IV). Paper I was conducted with a quantitative design. An overview of the methods, material, and analysis for each study included in this thesis is presented in Table 3.

Table 3. Overview of the studies included in this thesis

<table>
<thead>
<tr>
<th>Paper</th>
<th>Focus</th>
<th>Methods</th>
<th>Material</th>
<th>Analysis</th>
<th>Study period</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Documentation in the EHR of patients’ nutrition-related goals and outcomes</td>
<td>Cross-sectional survey study</td>
<td>N= 347 Scandinavian dietitians</td>
<td>Logistic regression</td>
<td>Data collection: February to April 2017 Analysis: 2021</td>
</tr>
<tr>
<td>II</td>
<td>Outcome evaluation of patients at risk of malnutrition</td>
<td>Qualitative focus group study</td>
<td>N= 29 dietitians Six focus groups</td>
<td>Reflexive thematic analysis</td>
<td>June-December 2019</td>
</tr>
<tr>
<td>III</td>
<td>The process of goal-setting with patients at risk of malnutrition from the dietitian’s perspectives</td>
<td>Qualitative focus group study</td>
<td>N= 29 dietitians Six focus groups</td>
<td>Reflexive thematic analysis</td>
<td>June-December 2019</td>
</tr>
<tr>
<td>IV</td>
<td>Patients at risk of malnutrition perspectives and needs in the nutrition intervention</td>
<td>Qualitative interview study</td>
<td>N= 15 Patients</td>
<td>Reflexive thematic analysis</td>
<td>September 2020- and December 2021</td>
</tr>
</tbody>
</table>
Evaluation of self-reported documentation of goals and outcomes of nutrition care (Paper I)

An explorative cross-sectional survey study of reported documentation of goals and outcomes among Scandinavian dietitians was performed.

Study participants and data collection

This paper is based on data from the web-based survey *International Nutrition Care Process and Terminology Implementation Survey* (INIS), performed in 2017. The survey was used to evaluate NCP and NCPT implementation internationally. Using email lists, e-newsletters (via national dietetic associations), local dietetic networks, and social media, the web-based survey was disseminated to registered dietitians in ten different countries. Responses from clinically active dietitians working in Scandinavia were assessed. There were 494 responses from dietitians working in Scandinavia, Sweden (n=325), Norway (n=88), and Denmark (n=79). The respondents excluded were those who reported not being clinically active, did not have a dietetic education to at least a bachelor’s degree level, and omitted the main questions of interest.

The validation of INIS

The survey INIS used in Paper I has been previously validated\(^{104}\). International experts (n=42) from 10 countries reviewed the survey for the assessment of content validity and clarity. Dietitians from the different countries participated in cognitive interviews (n=30), and in a pilot study (n=210), where 40 dietitians involved in the pilot study completed the survey twice (at 2 to 3-week intervals). The survey showed high content validity (content validity index average of 0.98) and high test-retest reliability (Krippendorff’s $\alpha=0.75$) in seven different languages, including Swedish, Norwegian, and Danish.

Statistical analysis

For Paper I, logistic regression was used to investigate the associations between dietitians’ self-reported documentation concerning patients’ goals and outcomes (dependent variables) with different variables; demographic factors, self-reported implementation of NCP’s 4th step and its terminology, and factors associated with the workplace (independent variables).
Descriptive statistics were used to describe the reported level of documentation on goals and outcomes, NCP implementation, demographic factors, and factors associated with the workplace. Pearson’s chi-squared test was conducted to examine associations between countries. Before conducting the logistic regression, variables were tested for multicollinearity. Spearman’s correlation coefficient was used for pairs of variables with strong correlations. Variables with the lowest odds ratio were removed and variables with the highest odds ratio were included in the final model.

Focus group studies (Paper II and III)

Study participants
Focus group interviews with dietitians (n=29) working with patients at risk of malnutrition were performed for Papers II and III. Dietitians with at least one year’s experience working with patients at risk of malnutrition (at least 50% full-time) were recruited through purposive sampling. Dietitians working in primary care, district hospitals, and university hospitals in three regions in central Sweden were invited to participate.

Data collection
Six focus groups with dietitians were performed using a semi-structured interview guide. Focus groups were used to capture the dynamic conversation between participants and gain a deeper insight into the investigated topic. The dietitians were asked to reflect on their practice of monitoring patients at risk of malnutrition, goal-setting, and evaluating nutrition interventions. The data collection stopped when no additional information concerning these aspects was obtained. Interviews were held in Swedish and selected quotes were translated into English in a later phase. The interview guide was based on open-ended questions including probes.

The analytic process
Data was analysed using reflexive thematic analysis following Braun and Clark’s guidelines. The six phases are described in Table 4. The process of immersion with the data was initiated by the transcription of the data. The transcribes were read several times to gain a deeper understanding of the material (phase 1). All parts of the data were coded to capture
reoccurring concepts and to make sure that all aspects connected to the research aim of *exploring the dietitian’s reflection on the process of nutrition monitoring and evaluation of patients at risk of malnutrition* were covered (phase 2). In phases 3-4, theme generation and development took place. Initially, a search for semantic meanings of the data was conducted, yet the interpretation evolved toward deeper meanings in phase 5. The data was first refined, defined, and written (phases 5-6), focusing on the dietitians’ reflections on outcome evaluations (paper II). Since the analysis was data-driven, a pattern concerning the goal-setting process (Paper III) was identified already in phases 1-3. Having completed Paper II, a secondary analysis was conducted focusing on the goal-setting process. All parts of the data were read again to ensure that all aspects connected to the research aim of *exploring the goal-setting process in nutrition interventions from the perspectives of dietitians* were covered.

The research team took part in and provided input throughout the analysis process (for Paper II and III), which resulted in a final consensus regarding identified themes and sub-themes. To extend the understanding for Papers II and III, theoretical methods were included in a later phase. Person-centredness was used as a theoretical standpoint in both studies. In Paper III the concept of SDM was used to better understand the goal-setting process in nutrition interventions from a person-centred perspective.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Familiarising yourself with the data</td>
</tr>
<tr>
<td>2</td>
<td>Coding</td>
</tr>
<tr>
<td>3</td>
<td>Generating initial themes</td>
</tr>
<tr>
<td>4</td>
<td>Developing and reviewing themes</td>
</tr>
<tr>
<td>5</td>
<td>Refining, defining, and renaming themes</td>
</tr>
<tr>
<td>6</td>
<td>Writing up</td>
</tr>
</tbody>
</table>

**An interview study with patients (Paper IV)**

**Study participants**

Patients were recruited through dietitians working with patients at risk of malnutrition in three primary care settings and one district hospital in mid-Sweden. The dietitians were provided with written instructions on how to assist in the recruitment of patients. Eligible patients were adults (>18
years) meeting the criteria of the risk for malnutrition (according to the Swedish National Board of Health and Welfare’s guidelines\textsuperscript{64}). Further criteria were: patients that should have been in contact with a dietitian for nutrition counselling during the past month, where the main diagnosis was in the somatic area, where the patient had good cognitive ability, good language skills in Swedish and the aim of the nutrition intervention is to improve nutritional intake \textit{i.e.} for patients with expected survival $>3$ months. The recruitment of patients stopped when the information discussed in the interviews was considered by the research team as sufficient to understand patients' perspectives and needs in nutrition interventions. No new themes were found after 12 interviews, yet the data collection proceeded to ensure that the collected data covered all aspects of interest to answer the research question.

Data collection
The experiences, perspectives and needs of patients at risk of malnutrition in nutrition intervention were described through individual qualitative interviews, conducted by phone (n=13) or video meeting (n=2). A semi-structured interview guide was used, categorised in line with the 4-circle tool developed by Lenzen et al (2019)\textsuperscript{19}. The 4-circle tool includes the four domains from the International Classification of Functioning, and Disability\textsuperscript{108}; \textit{my health, my activities, my own way, and my environment}. These domains are central in patients’ lives and are used to support clinicians and patients in identifying patients’ goals\textsuperscript{19}. Hence, the strategy behind this was to seek meanings and understand the investigated phenomena within context, including aspects that the participants themselves did not consider to be connected to goal-setting. A phenomenological approach in forming the questions was used. The open-ended questions were formulated to support patients in elaborating their thoughts and share their experiences concerning the investigated topic\textsuperscript{109}.

Analysis
The analysis of the data was an ongoing process that occurred both during and after the data collection phase. The transcripts were reviewed multiple times. A reflexive thematic analysis based on Braun and Clarke's guidelines were used\textsuperscript{106,110}. Every interview was given equal consideration during the coding process. After developing themes in phase 4 (see Table 4), the data was subsequently read again and categorised into final reflexive themes (phases 5-6). The coding and themes were discussed and confirmed.
by the research team. In order to provide a summary of the characteristics of the participants, descriptive statistics were utilised.

Reflexivity

Reflexivity played a central role in the approach taken in this thesis. This entailed constantly reflecting on my preconceived ideas and the meanings of the phenomena being described. Before starting my Ph.D. journey, I worked as a clinical dietitian in primary health care. I have reflected a lot on my role as a dietitian and how it influenced my research. The studies included in this thesis are oriented towards the dietitian profession. Because of my background, I could understand and relate to the dietitian’s experiences and perspectives. However, my experiences in primary health care might have shaped the research questions and the perspectives I have focused on. Having the experience of working in hospital settings would have affected the perspectives I discuss in my thesis. Having another profession as a researcher might have raised other questions and supported other discussions among participants. I attempted to be reflexive in each part of the analysis, and discuss my perspectives and thoughts with my supervisors to promote the credibility and dependability of the findings. Researchers in qualitative studies are viewed as a tool for data collection and cannot be separated from the phenomenon they are investigating. Therefore, my background and experiences directed the methods used in this thesis. The professional dietetic perspective informed the development of the research questions in this thesis. The analyses were data-driven and not theoretically driven. PCC was used as a framework in a later phase (after completing the six phases in the reflexive thematic analysis) to gain a deeper understanding of the findings, with a special focus on the three pillars of PCC: patient narratives, partnership, and documentation. Using PCC as a framework to understand my findings has supported me in directing my attention from the dietitian’s clinically oriented perspective to the patient perspective.

Critical realism is the ontological paradigm that informs the studies performed in this thesis. According to critical realism, there is a reality that exists independently of a researcher’s ideas, yet it can be viewed, interpreted, and presented from different perspectives. Findings from Papers II and III do not represent individual participants’ actions or opinions. These reflect rather an anticipated or normatively accepted reality constructed by the participants in a certain social context.
Ethical considerations

Ethical approval for the qualitative studies included in this thesis (Papers II, III, and IV) was obtained from the Swedish Ethical Review Authority (Dnr 2019-02568). All participants received verbal and written information about the study and provided informed consent. Voluntary participation was emphasised through both verbal and written information on participants’ right to terminate their participation at any time. The ethical principles of the Declaration of Helsinki were followed in all studies.

The cross-sectional study (Paper I) was based on data from the INIS study conducted in 2017. The INIS study was approved by the ethics review board in Uppsala (Dnr 2016/258). The participants were anonymous and it was not possible to track or identify the dietitians responding to the survey.

Concerning Papers II and III, most of the participants in the focus group discussions knew each other and were colleagues which might involve a risk that some felt pressured to participate. Therefore, the possibility to terminate participation was emphasised before and during the focus group meeting. It is not possible to guarantee confidentiality since focus group participants might disseminate information about the focus group discussions. However, to increase confidentiality, audio tapes and the transcribed material were not accessible to unauthorised persons.

The interviews with patients (Paper IV) were conducted on the phone or in video meetings in line with patients’ preferences. This was to minimise the burden on patients and the risk of Covid-19 infections. These patients were in vulnerable situations, yet agreed to participate in this study. They were given a small gift with a value of 30 kr (around 3 euros). The gift was symbolic to thank them for their participation. Pseudonyms were used to protect participants’ identities. Several participants were severely affected by their illnesses, thus the time for the interviews was short to minimise the burden.
Results

This section will describe the results from each study included in this thesis (Papers I-IV) separately with key examples.

Paper I

Participants
Out of the 494 responses from clinical dietitians working in Scandinavia, 347 respondents met the inclusion criteria and were included in this study; Sweden (n=249, 72%), Norway (n=60, 17%), and Denmark (n=38, 11%).

Respondents worked with either inpatients only (41%) or both outpatients and inpatients (40%) or with outpatients only (19%). The majority completed their dietetic education ten years ago or more (43%) and six to ten years (24%) at the time of data collection (2017). Around 30% reported that their workplace expected them to document patient outcomes from the nutrition intervention. Less than half of the respondents (44%) reported having implemented the process of nutrition monitoring and evaluation, the NCP. Few reported having implemented the terminology of nutrition monitoring and evaluation (19%), the NCPT. Most respondents reported documenting patients’ goals (72%). Fewer reported documenting outcomes from the nutrition intervention (57%).

Associations between countries
A Chi-square test was conducted to investigate the associations between countries. There were associations between countries in the implementation of NCP’s first step, Nutrition Assessment (p<0.001). No significant associations in the implementation of Nutrition Diagnosis, Nutrition intervention, and Nutrition Monitoring and Evaluation between countries was found.

Concerning the terminology of the NCP, there were significant associations between countries of the implementation of NCPT for all steps.
except for Nutrition Monitoring and Evaluation (p<0.001). Nearly half of the dietitians from Denmark (47%) reported that their workplace expected them to document patient outcomes from the nutrition intervention. Fewer dietitians reported such expectations from Sweden (27%) and Norway (29%, p=0.045).

**Correlations between independent variables**
Spearman’s correlation test showed (>0.7) multicollinearity between the four steps of NCP, nutrition: assessment, diagnosis, intervention, and monitoring and evaluation. Since nutrition monitoring and evaluation showed the strongest association with the documentation of goals and documentation of outcomes (OR=10.28 and 4.49, respectively) it was included in the final model, and the other steps were removed (NCP step 1-3). Nutrition monitoring and evaluation was used to represent all parts of the NCP. There were correlations between educational level and country, therefore, the variable education level was included in the final model and the variable country was removed.

**Factors associated with the documentation of patients’ goals and outcomes**
Associations between higher extent of reported documentation of patient goals and a higher extent of reported implementation of nutrition monitoring and evaluation (OR=2.60; p=0.002) and its terminology (OR=5.26; p=0.009) were found (Table 5). The association was stronger for the implementation of the terminology (NCPT) than for the process (NCP). A higher extent of documentation of patients’ goals was also associated with perceived expectations in the workplace to document outcomes (OR = 4.0 p<0.001). Documentation of the patient’s goals and years since completed dietetic training, and area of practice showed no significant associations with reported higher extent of documentation of patients’ goals.

A higher extent of documentation of outcomes was associated with the level of implementation of the terminology of nutrition monitoring and evaluation (OR=3.56; p=0.003), while the association for the implementation of the process was lower (OR=1.7; p=0.055) (Table 5). A higher reported extent of documentation of outcomes was also significantly associated with perceived expectations in the workplace to document outcomes (OR=8.89, p<0.001). Dietitians working with inpatients reported a significantly higher extent of documenting outcomes compared to dietitians working with outpatients (OR = 2.02, p=0.017). No significant associations concerning education level and years since completing dietetic training were found.
Table 5. Logistic regression analysis of the relationship between documentation of outcomes and goals (dependent variables) and the independent variables: demographic factors, NCPT implementation, monitoring and evaluation, and organisational factors.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Document patient goals</th>
<th>Document outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 324</td>
<td>n = 323</td>
</tr>
<tr>
<td></td>
<td>Nagelkerke pseudo $R^2 =$ 0.198</td>
<td>Nagelkerke pseudo $R^2 =$ 0.332</td>
</tr>
<tr>
<td></td>
<td>Odds ratio (OR)</td>
<td>Lower 95% CI</td>
</tr>
<tr>
<td>Demographic factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education level (bachelor's degree)</td>
<td>.812</td>
<td>.463</td>
</tr>
<tr>
<td>Years since completed dietetic training</td>
<td>.438</td>
<td></td>
</tr>
<tr>
<td>5 years or less (reference category)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 5 years and up to 10 years</td>
<td>.509</td>
<td>.246</td>
</tr>
<tr>
<td>10 years or more</td>
<td>.737</td>
<td>.387</td>
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<tr>
<td>NCP's 4th step (high extent)</td>
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<td>2.600</td>
<td>1.409</td>
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<tr>
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<td>1.509</td>
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<tr>
<td>Outpatients</td>
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Paper II

Six focus groups with registered dietitians from primary healthcare and hospitals (n=29) in central Sweden were conducted (2019 June-December) lasting 90-100 minutes respectively. The dietitians worked with either outpatients (n= 11) or inpatients (n=3) or with both (n=15). Most participants (70%) had a working experience of over 10 years. All had experience of working with patients at risk of malnutrition with diverse underlying diseases and diagnoses.

The analysis of the six focus groups (A-F) with dietitians lead to three categories of nutrition monitoring and evaluation of patients at risk of malnutrition: quantitative explicit outcomes, quantitative estimated outcomes, and qualitative implicit outcomes (Figure 1). The dietitians highlighted an endeavour to measure and document quantitative explicit outcomes, such as weight and body composition. Resources and routines for measuring body composition were described as lacking. The focus of the intervention was therefore on weight goals:

*Unfortunately, often only weight ... Not only weight but that's what I write as the goal, weight stability or BMI over 22 ... (Group F, person 1)*

The quantitative explicit outcomes were described as rigorous and measurable and therefore explicit in the nutrition intervention and documented in the EHR.

The dietitians discussed quantitative estimated outcomes, such as nutritional intake, food frequency, and portion sizes. These were described as being based on estimates, and therefore less rigorous. Hence, these were less documented in the EHR.

*Maybe we shouldn’t be afraid to write the estimated values but we don’t dare to because we haven’t measured them (Group F, person 2)*

Outcomes related to patients’ quality of life and changes in symptoms were highlighted as the qualitative implicit outcomes. They described discussing these outcomes with patients, yet these were less frequently evaluated and documented in the EHR. The difficulties of measuring these outcomes and the lack of tools to enable their evaluation were emphasised.

*That question is always there ... for my patients, they may maintain their weight [...] but ... the food doesn't taste good or it's boring just sitting there ..., how does it affect the way they feel, that's what you would like to find out. ... you can't, there's no way of measuring that (Group C, person 1)*
The findings highlight that dietitians’ endeavour to quantify and measure rigorous outcomes to enable the process of nutrition monitoring and evaluation of patients at risk of malnutrition. They acknowledged the importance of measuring qualitative subjective outcomes for person-centred evaluations of nutrition interventions.

Figure 1. Explicit and implicit Nutrition Care Outcomes in Nutrition Monitoring and Evaluation

Paper III

The analysis of the six focus groups (A-F) with dietitians (n=29) resulted in three themes connected to goal-setting in nutrition interventions for patients at risk of malnutrition: a) Exploring patients’ narratives, resources, and capabilities b) Different skills and approaches in counselling patients and c) Discrepancy in goals and the asymmetric power distribution. (Participant characteristics are described in the result section under Paper I.)

The dietitians described exploring patients’ narratives, resources and capabilities before deciding on goals. They described assessing food and
nutrient intakes, health status, and health literacy. They reflected on patients’ capabilities and resources, as well as on physical, intellectual, social, and economic aspects. These were described as varying between patients, depending on the patient’s age, diagnosis, and severity of the condition.

"Yes, age matters and medical diagnosis [...] we have 95 year old persons who are very alert and of course you give quite a lot of input there [...] but if they are 100 years old, have multiple sicknesses, can’t eat anything and are satisfied with everything, then you have to respect that, I think that’s just as important” (Group C, person 3)

"Or if the patient refuses to eat something you have to accept it” (Group C, person 6)

"Individual goals I think are based on the patient’s situation” (Group C, person 1)

Exploring patients’ perspectives was described as important to set attainable goals adjusted to the patient’s situation and needs. They emphasised that patients might not have specific goals, and yet, through exploring patients’ narratives, patients’ personal goals can be identified.

Although the dietitians acknowledged the requirement in health care of involving patients in healthcare intervention, they highlighted a lack of patient participation in the goal-setting process. Different skills and approaches in counselling patients were described. Some emphasised the importance of adjusting the counselling to patients’ resources and capabilities. Others described an approach that could be seen as paternalistic.

"[...] Maybe difficult for the patient but also nice to hear some guidelines, this is the bit that you have to contribute, if you can’t manage it then we’ll stop." It can be used as a good motivation although it can be very difficult for the patient.” (Group D, person 3)

The focus groups reflected that the dietitians’ repertoire of SDM skills is essential in the implementation of collaborative goal-setting. Identifying patients’ goals and discussing intervention goals were stressed as necessary to enable shared decision-making in the goal-setting process.

The dietitians highlighted a discrepancy between their clinically-oriented goals and patients’ personal goals. They described the process of setting
feasible goals with patients at risk of malnutrition as challenging and underlined interactional dilemmas when contradicting goals arise.

“It can be challenging to get the patient to agree on a reasonable goal... some patients want to continue to lose weight because they’re overweight but there are patients who, yes, now I’ll gain 10 kg [...] but in the situation you’re in, you have an incurable cancer, weight gain won’t be a reasonable goal and saying that in a respectful way without making the patient give up"[...]")(Group D, person 1)

"I think it’s the hardest part of the job" (Group D, person 2)

Some indicated the necessity of guiding patients toward feasible goals since patients lack knowledge and expertise. There was an asymmetric power distribution between dietitians and patients illustrated in the discussion. Some described for example patients’ goals as unrealistic. Yet the dietitians acknowledged their role in motivating patients, individualising the intervention, and involving patients in goal-setting.

Paper IV

Interviews conducted by phone (n=13) or through video meetings (n=2) with patients, living at home, recruited from three primary care centres and one hospital in mid-Sweden were conducted (September 2020- December 2021). Males (n=5) and females (n=10) with a median age of 76 years, from primary care (n=7) and hospitals in outpatient clinics (n=8) participated. Four had employment, one was on sick leave, two were students, and nine were retired. Eight participants lived alone and seven shared a household. Three had immigrant backgrounds. Most participants had cancer (n=9). The rest had other diagnoses, such as chronic obstructive lung disease, heart failure, celiac disease, lung emboli, rheumatic disease, osteoporosis, diabetes, and gastrointestinal diseases.

The analysis from the interviews (n=15) with participants at risk of malnutrition resulted in three themes connected to goals in nutrition intervention: a) their desires: highlighting the main driving force behind making dietary changes, which is maintaining strength and energy and fear of harm, and deterioration in health; b) their needs: reflecting on the role of nutrition counselling in managing Nutrition Impact Symptoms. Some described the need for support and others emphasised the need for dietary advice matching their preferences and health situation, and c) their views:
on prescribed diet and ideal weight, reflecting discrepancies in perspectives and weight goals.

While participants had rarely articulated goals, all patients described a desire for improved wellbeing, “having more energy” “feeling stronger” and a desire for counteracting the deterioration in health. They reflected on the vulnerability of their condition and discussed their role in taking control of their condition. Fear was described as a driving force in making dietary changes, to avoid complications and deterioration in health. Losing weight was emphasised as a sign of gradually disappearing, leading to deterioration in health, and reflecting a loss of control over their health situation. For some patients, preventing weight loss was thus the most important.

It’s also to do with the importance of the whole thing, that you don’t want to waste away. Hopefully I’ll stay feeling about the same, it’s maybe sometimes better or sometimes worse and so on. That’s the only outlook I have really. So it’s... my condition is serious, so ... I do what I can to hang on in there, so to speak./ Christopher

The participants discussed the role of nutrition counselling in managing Nutrition Impact Symptoms. Receiving positive feedback and having contact with a dietitian who regularly controls and monitors their weight was described as particularly helpful in managing Nutrition Impact Symptoms. A supportive approach from the dietitian was highlighted as empowering.

And their whole attitude that: "It’s okay, you can manage this and we’ll help you as much as we can,..." This helps you to cope with all the difficulties, you feel supported all the time. I have never experienced this before./Lena

Some participants underlined the importance of being informed and involved in their health care. Finding strategies that facilitate eating was highly appreciated.

Differences in perspectives concerning a healthy diet for individuals at risk of malnutrition and ideal weight were discussed. Some described the prescribed diet as unhealthy and some were unwilling to gain weight. Those participants described resistance to making dietary changes according to the dietitian’s recommendations. They were sceptical of the information they received in nutrition counselling.
Participants’ views about their ideal weight varied. Some female participants described a desire to be slim. Other participants emphasised a desire to gain weight. However, some of them were unwilling to eat energy-rich food.

> *But I think [...] doctors should advise their patients to eat as sugar-free as possible. But now, you have to eat this white bread and pasta and things like that which are converted into unhealthy carbohydrates, so it doesn’t feel right. / Marie*

Those participants described fear and harm connected to food. Some persons with cancer described sugar as particularly harmful to their condition. Since the prescribed ONS contain sugar, some participants were sceptical about drinking them. They described resistance to increasing their energy intake to gain weight, emphasizing a discrepancy between their weight goals and the dietitians’ goals.

> *No, she talked about BMI, that at my height I should be 62 kilos and I weighed 57 at the time. She thought I could easily gain a few kilos./ Sara*

> *Interviewer: What do you think about that, do you have any goals...*

> *No, my weight is fine as it is. ... I don’t feel the need to gain a couple of kilos./ Sara*

The findings highlight that patients rarely reflected on their goals. Instead, they described a desire to maintain strength and energy.
Identified areas in need of improvement in the evaluation process

This section provides a summary of the identified areas in need of improvement in the evaluation process of nutrition intervention for patients at risk of malnutrition according to findings from Papers I-IV. Figure 2 illustrates these findings.

- The findings highlight a lack of structure in the evaluation process, which is illustrated in the described implicit and explicit outcomes (Paper II), the different approaches used in goal-setting (Paper III), and the low reported implementation of the structured framework of the NCP model and its terminology (Paper I).

- Insufficient patient participation in the evaluation process was emphasised both in patient interviews (Paper IV) and in focus groups with dietitians (Paper III). This was exemplified in the lack of SDM in goal-setting, the insufficient communication concerning intervention goals in nutrition counselling (Papers III, IV), and the lack of evaluation of qualitative subjective outcomes (Papers II, III).

- Findings indicate insufficient documentation in the EHR, since qualitative subjective outcomes were described to be rarely documented (Paper II) and only 57% reported documenting outcomes in the EHR (Paper I).
**Figure 2.** Identified areas in need of improvement in the evaluation process of nutrition intervention for patients at risk of malnutrition according to findings from Papers I-IV.

*Shared Decision-making (SDM) *Nutrition Care Process (NCP) *Electronic Health Records (EHR)
Discussion

Person-centred evaluation is described in this thesis as the process of setting goals and evaluating outcomes that are meaningful to patients. The three pillars of PCC\(^9\): patient narratives, partnership, and documentation are used to discuss the evaluation process from a person-centred perspective. The evaluation process refers to three actions in line with the NCP: monitoring progress, measuring outcomes, evaluating and determining changes in specific outcomes\(^5\). According to findings in Papers II-IV there is a lack of patient participation in this process. Exploring and elucidating patients’ goals is key to identifying patients’ priorities, preferences, and needs and to tailoring the nutrition intervention accordingly. This can be done by implementing SDM in goal-setting and the use of goal-setting tools that facilitate the identification of patient’s goals.

Creating a partnership in the evaluation process involves sharing information from both sides, the patient and the dietitian respectively. One way of supporting partnership and patient participation is by using nutrition-specific tools that enable the evaluation of patient’s subjective experience and outcomes. The documentation in the EHR is necessary to be able to demonstrate these outcomes\(^7\)\(^8\). Findings in Paper I indicate that standardisation can support the documentation of goals and outcomes. The person-centred evaluation process requires professional and person-centred skills\(^9\)\(^3\)\(^2\). These aspects are discussed in more detail below. A practice model for the implementation of person-centred evaluation in nutrition intervention for patients at risk of malnutrition is suggested in the section clinical implication.
Elucidating what matters to patients

Although measuring outcomes is beneficial to patients and important for patient-safe and high-quality nutrition interventions, these evaluations do not necessarily reflect the clinical encounter between the dietitian and the patient. Working towards PCC in nutrition care requires patient involvement in every part of the dietitian’s working process, not least in the evaluation process. Since implementing PCC has been shown to improve communication and the quality of care, a person-centred approach in the evaluation might be key for improving this process. Involving patients in goal-setting is crucial for this to take place since a patient’s goals reflect a patient’s priorities. Selecting relevant goals that correspond to the patient’s values, preferences and needs is, according to Holdoway et al., a prerequisite for the evaluation of person-centred nutrition intervention.

Balancing the different roles

In Papers III and IV goals in nutrition interventions were discussed from the viewpoints of dietitians (Paper III) and patients (IV). Patients had not articulated goals. Instead, they contemplated their preferences, desires, and needs in their daily life and used words that reflect their life world, outside the clinical context. On the other hand, the clinical perspective informed the discussions with the dietitians. The dietitians discussed goal-setting concerning their professional practice and the NCP. These perspectives reflect the different roles in the clinical encounter, i.e. patients as individuals with certain conditions and needs, and dietitians as professionals with evidence-based knowledge and expertise, using a structured working process. Ekman et al. emphasise that PCC aims at balancing the different roles by distributing more power to patients. The discrepancies in perspectives and goals (Papers III and IV) highlight challenges in the dietetic practice in dealing with these different roles. While the goal-setting process is healthcare professional-oriented, it falls outside the scope of the patient’s reality and life world. Patients described rarely reflecting on or having certain goals. Exploring what matters to patients in nutrition counselling is vital to be able to support them in elucidating their goals. Patients at risk of malnutrition often have multifaceted needs. Hence, identifying what matters to them enables the selection of goals and outcomes that correspond to the individual’s priorities in the evaluation process.
Shared decision-making in goal-setting

Findings illustrate (Papers III and IV) some person-centred elements in dietetic practice. The dietitians described exploring patients’ narratives, priorities, and needs, which is a fundamental part of PCC. A practical framework for shared decision-making concerning goals developed by Lenzen et al. describes three steps in the goal-setting process: exploration of the patient’s current and desired situation, providing information tailored to the patient, and supporting patients in formulating feasible goals. Shared decision-making in goal-setting starts with an exploration of the patient’s current and desired situation. This step entails listening to patients’ narratives and understanding patients’ backgrounds and perspectives, which in turn supports the identification of what matters to the patients. The described discrepancies in perspectives and goals (Papers III and IV) highlight the necessity of exploring all aspects of relevance to patients and the nutrition-related problem. This is essential for tailoring the information and action plans to the patient’s situation and needs, which in turn supports the formulation of feasible goals that correspond to patients’ priorities. The dietitians described exploring patients’ perspectives and informing them about nutritional strategies matching their health situation. However, supporting patients in formulating feasible goals was described as lacking.

Establishing a good relationship in the clinical encounter is significant for the patient. Professional qualities, such as empathy, positive respect, and authenticity, have been shown to have a substantial effect on the intervention results. These can vary depending on the dietitian’s person-centred skills and level of professionalism. This was illustrated in the dietitian’s discussion about patient involvement in goal-setting (Paper III). Some dietitians described deciding themselves on relevant goals and some were keener to involve patients in this process.

Goal-setting for patients at risk of malnutrition

Findings from Papers I, III, and IV highlight aspects that are particular important to consider in goal-setting for patients at risk of malnutrition. Commonly, weight goals seem to be central to nutrition intervention for these patients. According to findings discussed with patients in nutrition counselling, weight is monitored and documented. The different perspectives of patients and dietitians concerning ideal weight have not been problematised. Other studies have found that patients may view weight loss as beneficial for their health. Many individuals are not
aware of the negative consequences that underweight can lead to and are influenced by social norms of slimness in society. Communicating with patients about how their weight status can impact their muscle mass and their health is necessary. However, these perceptions are difficult to change just by providing information. Nutrition literacy is another aspect discussed in the findings (Papers III and IV). Nutrition literacy is defined as “the degree to which individuals can obtain, process, and understand nutrition information and skills needed to make appropriate nutrition decisions.” Kohlenberg-Muller et al. highlight that individuals with low nutrition literacy are less likely to agree on the dietary recommendation. Tailoring the provided information to patients’ nutrition literacy might support patients in clarifying their priorities and views, giving them new perspectives.

Participants (Paper IV) described fear as a driving force in implementing dietary changes. According to Rogers et al. fear is an important aspect to consider in health-related behavioural change since it can affect adherence. Some participants described the diet recommended by the dietitian to increase weight as harmful to their health. Addressing patients’ fears connected to food and eating is thus important to tailor the information provided in nutrition counselling to patients’ perspectives.

All patients described a desire to make dietary changes to improve their symptoms and wellbeing (Paper IV). In a survey study of older patients with malnutrition, a supportive and motivating approach was described to characterise high-quality nutrition interventions. This was confirmed in Paper IV where patients valued the role of nutrition counselling in motivating and empowering them. Implementing dietary changes is challenging, especially for patients with complex conditions. In line with a qualitative study on dietitians’ experience of PCC, the dietitian’s person-centred skills seem to be important for supporting patients at risk of malnutrition in identifying what matters to them and motivating them in accomplishing their desires. The desire to “feel good” and improve wellbeing can be realised by providing strategies that facilitate patients’ eating and promote enjoyment of food. This can support patients in their struggle to manage their eating difficulties.
Goal-setting tools and strategies

Papers III and IV reflected discrepancies in goals and perspectives between patients and dietitians. Balancing these perspectives is necessary to work towards person-centred goal-setting of the nutrition intervention. This requires skills training and can be facilitated according to Nagy et al. through the use of practice models and tools that promote better communication\textsuperscript{123}. To select the most relevant action plans adjusted to patients’ situations and needs, patients’ goals need to be initially elucidated\textsuperscript{19,93,94}. If goals are not addressed, the nutrition intervention might not correspond with what is meaningful for patients. Melin et al. (2021) suggest an approach to identify goals that are meaningful to patients: MEANING (Meaning, Engage, Anchor, Negotiate, Intention-implementation gap, New goals, and Goals as behaviour changes)\textsuperscript{124}. Combining this approach with setting SMART goals can support structured and person-centred goal-setting. Several tools have been developed to identify patients’ priorities and goals, such as the goal hierarchy tool\textsuperscript{125} or the Lenzen et al. practice framework of goal-setting, as well as the 4-circle tool\textsuperscript{19}. These are generic and can be used in nutrition care. However, findings indicate that these and similar tools are rarely used by dietitians. Therefore, education and training for dietitians in shared decision-making and how to use existing tools to identify patients’ goals and priorities are warranted in nutrition intervention. Furthermore, new strategies that help the identification of patient’s goals and facilitate the communication of goals, are suggested.

Creating partnerships in the evaluation process

While the dietitians described (Paper III) exploring patients’ perspectives and communicating with patients, creating a partnership in the evaluation process seemed to be more challenging. This was illustrated in the lack of negotiation regarding goals and patient engagement in the selection of outcomes. Patient engagement is a frequently stated goal for healthcare organisations. It is described as the foundation of quality of care in a systematic review\textsuperscript{126}. A high level of patient engagement represents a partnership in healthcare interventions\textsuperscript{126}. Creating a partnership is a cornerstone of PCC, and entails establishing a patient-healthcare professional relationship, sharing information, and collaboratively forming individual action plans\textsuperscript{83}. In PCC the information is reciprocal, which means that patients’ feedback on their treatment is just as important as the feedback provided by the healthcare professionals\textsuperscript{83}. Hence, patient
engagement in the evaluation process is necessary to enable the mutual sharing of information.

The role of positive feedback

The communication between patients and healthcare professionals has been described as essential for the quality of care\textsuperscript{16-19,117}. In the evaluation process, according to findings, this entails: identifying the patient’s capabilities, resources and capacities, designing counselling sessions accordingly (Paper III), communicating progress and providing positive feedback (Paper IV). The patients in Paper IV emphasised the value of receiving feedback and having a professional who monitors their nutrition status and weight status. In previous studies, patients at risk of malnutrition have described the loss of control over their bodies\textsuperscript{127,128}. Various symptoms and weight loss have been shown to contribute to these feelings. Correspondingly, patients in Paper IV described similar feelings and a fear of “wasting away”. Receiving positive feedback from a professional can empower patients and give them a sense of control\textsuperscript{83}. In line with Holdoway et al,\textsuperscript{1} identifying and communicating progress concerning various outcomes, particularly those of interest to patients, is one way of engaging patients and establishing partnerships.

Communication and evaluation

Monitoring progress, communicating, and providing feedback involves sharing information in nutrition counselling. Dietitians use their skills in translating their evidence-based knowledge into comprehensible information for patients. Another way of sharing information is through patients’ evaluation of their care. The use of patient satisfaction tools, PROM\textsuperscript{34} and PREM among others, has increased in the past decades\textsuperscript{4}. Feedback and shared reflection are of great importance when selecting relevant action plans and finding better strategies that work for the patient, and therefore increase the chances of achieving goals. “Qualitative subjective data”, such as improvement of symptoms, function, wellbeing, and readiness for change, are rarely included in the dietitian’s evaluations\textsuperscript{6}. This was also illustrated in Paper II where the dietitians described the qualitative subjective outcomes as implicit in nutrition intervention. Measuring both quantitative and qualitative subjective outcomes in the evaluation process can support a more comprehensive and accurate evaluation of the nutrition intervention. This can also facilitate the
partnership since aspects important to patients are considered equally in this process.

The dietitians (Papers II and III) discussed the challenge of evaluating progress in nutrition interventions. The findings highlight that dietitians are selective in documenting outcomes, focusing mainly on rigorous and measurable outcomes. According to Kohlenberg-Müller et al. (2019), psychological aspects connected to eating, such as fatigue, anxiety, and emotional distress, are crucial to assess in the nutrition intervention in order to facilitate behavioural change\textsuperscript{120}. Furthermore, patients’ wellbeing and Nutrition Impact Symptoms have been described in the literature as necessary to consider in the evaluation of nutrition interventions\textsuperscript{1,51,52,71}. Holdoway et al. highlight that improving aspects related to quality of life might in turn affect the overall health outcomes, such as survivorship and function\textsuperscript{1}. They argue that evaluating these aspects helps patients understand the impact of nutrition intervention on various outcomes, which in turn supports self-management among patients\textsuperscript{1}. The dietitians described a desire to evaluate outcomes that matter to patients, yet emphasised the lack of tools that enable measurement of such outcomes. This gap makes the evaluation process more challenging, places greater demands on the dietitian’s clinical judgment, and requires active reflection and professional skills. Therefore, tools that identify outcomes that matter to patients may have a function in minimising the risk of omitting important aspects of patient care, promoting partnership, and improving and structuralising the evaluation process.

Evaluating outcomes that matter to patients

Although dietitians have an important role in preventing and treating malnutrition, nutrition-specific tools to evaluate nutrition intervention for these patients are currently lacking. The most widespread PROM tools are the Short Form Health Survey (SF-36 Health Survey)\textsuperscript{129}, (in Swedish "RAND-36") and EuroQol 5-Dimension, 5-Level (EQ5D)\textsuperscript{130}. These tools focus, among other things, on patients’ functional abilities in everyday life, pain experiences, and mental health, but lack nutrition-related aspects. Other tools have been developed for measuring patients’ nutrition-related aspects in research. These are the European Organisation for Research and Treatment of Cancer (EORTC) quality of life forms for various cancer diagnoses, and the Functional Assessment of Anorexia Cachexia Therapy which investigates quality of life in cachexia (FAACT)\textsuperscript{131-133}. Nevertheless,
these tools may be less relevant in clinical practice since they are not developed to measure the effect of different nutrition interventions.

There are tools that investigate Nutritional Impact Symptoms, i.e. symptoms associated with eating difficulties. However, these tools only measure nutrition-related symptoms, such as the Nutrition Impact Symptoms score, and do not measure other aspects relevant to the nutrition intervention. The PROM tool is expected to provide a broader picture of patients’ perceived health, where aspects such as nutrition-related physical, social and psychological factors in patients at risk of malnutrition can be evaluated. The lack of validated and patient-centred tools in nutrition care is a gap in healthcare, which, among other things, makes it difficult to evaluate the effect of different nutrition interventions from a patient perspective. PROM provide valuable insight into patients' experiences and perceptions of healthcare intervention. Using these tools can support the adjustment of the nutrition intervention to better meet the need and preferences of the patient, which in turn leads to improved outcomes. PROM can be collected throughout the course of the intervention, which allows the dietitian to identify areas in need of adjustment and improvement. PREM can be used to identify areas where the nutrition intervention is not meeting a patient’s needs. By regularly collecting this data the dietitian can recognise issues in care that need to be addressed and improved. Since these tools are based on self-reports, under- or over-reporting may affect validity. Using these tools in the dietitian’s clinical practice is a practical and effective way to support the identification and measurement of outcomes that matter to patients. PROM instruments that patients fill in via their phone before the visit are being increasingly used in health care. Based on the findings from this thesis, there is a need to develop tools that can be used to improve the evaluation process in nutrition intervention for patients at risk of malnutrition. It has yet to be investigated how these tools can be used to help patients rather than constitute an additional burden.

**Documentation in the Electronic Health Record**

Documentation in the EHR is one form of communication in PCC. Ekman et al. emphasise that it serves as a contract between the patient and healthcare professional in the individual’s healthcare plan and goals. The documentation promotes transparency of care and improves the handover of information between healthcare professionals. It is a professional
responsibility and a way of ensuring planned care. Without the documentation of care, the evaluation process is not possible. Hence, the documentation in the EHR is key for this process to take place. According to findings (Paper I), the documentation of outcomes in the EHR (57%) among dietitians seems to be insufficient. These findings can be compared with the results of previous research indicating the same pattern. While the implementation of NCP has increased internationally, the use of NM&E is still not fully established in dietetic practice. Some dietitians questioned (Paper II) if measuring and demonstrating outcomes makes a difference to individual patients and their quality of care. Patients may value other aspects such as good communication and person-centred skills in nutrition counselling. The areas identified as being in need of improvement in the evaluation process may not influence every patient. Vanherle et al. underline that inadequate evaluation can impact the quality of nutrition intervention on a macrolevel.

Patient records were initially developed to facilitate the work of professionals and to enable the evaluation of the care provided. Nowadays, the EHR are fulfilling other purposes, such as promoting patient engagement and accessibility of information. PCC includes documentation of individual healthcare plans and provides information on all aspects of importance to a patient’s health and condition. To enable this, the identification of the implicit qualitative subjective outcomes described by dietitians in Paper II is important. These are the outcomes that are significant to patients, yet to date are insufficiently measured in nutrition intervention and therefore less likely to be documented, according to the dietitians in Paper II. The findings highlight the need for discussions about how to make these currently non-measurable aspects visible in the dietetic documentation.

Barriers and facilitators for measurement and documentation of outcomes

The findings (Papers I and II) can be compared to the systematic review by Duncan et al. on barriers and facilitators to routine outcome measurement. Some key factors were highlighted: professionals’ level of knowledge of and confidence in using outcome measures, and the degree of organisational and peer-support professionals received. In Paper II, the dietitians described ambivalence towards the measurement and documentation of the “less rigorous” outcomes, which may reflect a lack of knowledge about how to measure these outcomes. The eNCPT includes a variety of tools for the evaluation of outcomes. Nevertheless,
the lack of a standardised measurement of qualitative subjective outcomes for nutrition-related conditions\textsuperscript{4,6} may also explain the ambivalence described concerning measurement and documentation of qualitative subjective outcomes.

Duncan et al. report that low organisational support may hinder the measurement of outcomes\textsuperscript{45}. Peer support and managerial support were recognised as facilitators for outcome measurement\textsuperscript{45}. Managerial support was not explored in Paper I, yet findings showed an association between reported managerial expectation of documenting outcomes and a higher reported extent of documentation of goals and outcomes. Healthcare leaders who recognise the importance of documenting outcomes are more likely to support the documentation practice among healthcare professionals\textsuperscript{45}. While Ekman et al. highlight the role of managerial support in implementing PCC, they also emphasise the healthcare professional’s role in creating and improving the healthcare organisation\textsuperscript{83}. Hence, if healthcare professionals are aware of the value of PCC and the evaluation process, they may be more likely to implement it. The dietitians acknowledged the necessity of evaluating outcomes, collaboratively setting goals with patients, and working towards person-centredness (Papers II and III). The dietitians stated that the focus group gave them new insights into this topic and increased their motivation to consider these aspects. The findings reflect a need for education and further discussion about these issues among clinical dietitians. The NCPT has been shown to facilitate structured documentation when integrated into the EHR\textsuperscript{103}. However, findings indicate that the NCPT is still insufficiently used and might not yet be recognised as a facilitator for dietetic documentation. Managerial support and departmental policies are important for supporting the implementation and improving the quality of the documentation\textsuperscript{136-138}. Hence, education targeting healthcare leaders and organisations on the benefits of improving documentation practice among dietitians may support the use of structured frameworks and improve dietetic documentation.

**Standardisation in Nutrition Monitoring and Evaluation**

The quality of documentation has been associated with quality of care and patient safety in a systematic review of nursing documentation\textsuperscript{135}. The NCPT aims at improving the quality of dietetic documentation\textsuperscript{2}. The documentation represents an agreement concerning healthcare plans. Facilitating the information and the language in the EHR is emphasised in
Concerns regarding patients’ understanding of their records have been raised. The terminology used in the EHR may be difficult for patients to understand and the standardised terms may not reflect patients’ complex conditions. However, many studies indicate that standardised terminology improves communication and increases the validity and reliability of data collection in health care. Similarly, findings (Paper I) highlight that using standardised terminology may support the documentation of goals and outcomes in nutrition intervention. The reported documentation of goals and outcomes was strongly associated with the implementation of the terminology (NCPT), more so than the process (NCP). This highlights that standardised terminology should be considered when developing and improving the evaluation process.

Professional skills and the Nutrition Care Process

The professional skills of healthcare professionals are associated with improved patient outcomes and clinical decision-making. According to AND the implementation of NCP and its terminology requires professional skills. However, a static model cannot describe the dynamic process that occurs in meetings between the patient and the dietitian. In practice, the process proceeds continuously, where all the steps are interwoven with each other. Swan et al. highlights that the dietitian’s clinical judgment and expertise are crucial for this to take place, particularly in the evaluation process and the implementation of PCC.

While some outcomes were described as implicit in Paper II, some dietitians described following their intuition and monitoring these outcomes visually by observing patients, without documenting these in the EHR. A significant aspect of clinical judgment emphasised by Benner et al. is intuition, which is a response without rational calculation. Intuition develops through experience and constitutes a significant part of the everyday practice of experts. Swan et al. argue that outcome evaluations, in particular, require advanced practice and the ability to see the whole situation. They underline that selecting appropriate outcomes and explaining variance from expected outcomes requires expertise.

Documenting what matters to patients is an important element of PCC. Nevertheless, Holdoway et al. argue that considering patients’ needs, preferences, values, and goals while using a structured framework is challenging. A qualitative study of Swedish dietitians’ experiences of NCPT concluded that the structured way of working can be at variance.
with the flexible and person-centred approach that is in demand in healthcare\textsuperscript{144}. The NCP is, according to AND, aimed at promoting critical thinking, improving the process of NM\&E and increasing the quality of nutrition intervention\textsuperscript{2,145}.

Relying on the dietitian’s clinical judgment and professional skills is not enough for the evaluation process. Swan et al. highlight that the NCP and its terminology support structured, coherent, and common routines in the evaluation process, which in turn improves the documentation and evaluation\textsuperscript{2}. In line with this, dietitians who reported implementing the NCPs terminology were, according to findings in Paper I, more likely to report the documentation of goals and outcomes in the EHR. Documenting and evaluating qualitative subjective outcomes and goals that are meaningful to patients through the use of person-centred tools, and incorporating these in the NCP, might balance and support these practices.

**Methodological considerations**

The purpose of this doctoral project is to provide knowledge that can be used to improve the dietetic practice of the evaluation process for patients at risk of malnutrition. Since the main interest was in participants’ perspectives and reflections, the frameworks used in Papers I, III, and IV were experiential and not theoretically driven. The reflexive thematic analysis offered the opportunity for an inductively established analysis, with both descriptive and interpretative accounts of the data. The theoretical flexibility of thematic analysis meant it could be informed by a person-centred approach in a later interpretative phase of analysis, after the identification of themes (Papers I, III, and IV respectively), to explore the evaluation process from the perspectives of dietitians and patients. The analysis from these studies was frequently discussed with members of the research team who have wide knowledge of qualitative research and malnutrition. This promoted the credibility and dependability of the findings. Being reflexive entails an understanding that knowledge is contextual and influenced by the interaction between the researcher and the data.

**Paper I**

The INIS is based on previously tested and validated question sets used earlier in US, Canadian, and Australian surveys. These were modified and combined in the INIS. The INIS tool has been validated showing a high
content validity (0.98) and test-retest reliability (Krippendorf’s $\alpha=.75$). Cognitive interviews, expert assessment and pilot surveys were conducted to increase its applicability and validity for each country.

The data collected for Paper I is based on self-reports and does not necessarily represent the dietitian’s actual practice. Swedish dietitians were overrepresented and the response rate was low (494 out of around 2700 dietitians in Scandinavia), which may have influenced the findings. While both users and non-users of the NCP and its terminology were invited to participate in the international INIS, the dietitians participating in this study might have had more knowledge and interest regarding the NCP/NCPT compared with typical dietetic practitioners in the other countries. However, the focus of this study was on identifying patterns and associations of interest and not on generalising findings. For the regression analysis, the sample size was considered adequate with over ten events per explanatory variable and a relatively large total sample size. Not all factors associated with documentation practice were addressed in this study, such as time, technical issues, knowledge, and motivation. The findings give a limited picture of the dietitian’s documentation practice. More research is needed to address these associations in dietetic documentation.

The data used in Paper I was collected in 2017. The NCP and its terminology have recently been updated and the implementation of this process is increasing in Scandinavia. A new INIS study is planned in 2023. Comparing findings in Paper I with new data from an INIS study, which is focussing on the reported documentation of goals and outcomes by Scandinavian dietitians, would provide interesting information on the progress of the evaluation process in nutrition intervention.

Papers II and III
Most of the focus groups were held at the dietitians’ place of work. Many of the participants therefore knew each other. Some participants were also acquainted with the research group. The dietetic corps in Sweden is small and many are aware of ongoing research in the country in this area; this may have influenced the discussions. Including participants from different regions in Sweden may have provided more information. The participants were recruited from different settings and worked with patients at risk of malnutrition with diverse diagnoses, which promoted valuable discussions. The participants reported that the focus group discussions had yielded new
insights and reflections on the topic, which are captured in Papers II and III.

The findings reflected the dietitian’s perceptions and views as expressed and developed during a discussion with professional peers, and should not be interpreted as illustrating how they actually practice the evaluation process. Focus group discussions do not aim to reflect the individual opinions or actions of participants, but are instead a socially constructed reality that is considered desirable or normative within a specific social context113.

Collecting data on the level of implementation of the NCP among participants may have provided valuable insights into the use of the NCP and the dietitians reflections on the evaluation process. Further research is needed to address these associations.

Paper IV

A phenomenological approach was used in the development of the interview guide to facilitate the formulation of the questions, enabling the reporting of patients’ lived experiences and perspectives within the scope of the research question149. According to Dahlberg et al., human beings and our world cannot be disconnected109, the researcher moves between subjectivity and objectivity. The use of the author’s expertise in interview techniques, open-ended questions, and a flexible interview guide based on Lenzen et al.’s 4-circle tool enabled participants to freely discuss the ideas that were most important to them from various perspectives. Although the 4-circle tool was developed for clinical practice, using this tool in the development of the interview guide provided structure and facilitated a holistic approach.

Individuals with severe conditions may not be able to communicate with the dietitian. In these cases, caregivers, family members and relatives have an important role; however, this thesis does not cover their role. The focus was instead on the communication and the relationship between patients and dietitians. Further research is needed on the role of family members to promote a person-centred evaluation process in nutrition intervention.

The diversity of the sample, which included participants from both hospital and primary healthcare settings, facilitated the transferability of the findings. The participants were given the option to conduct interviews via phone or video call. In-person interviews may have allowed for a more
thorough discussion on the topic. Some participants were severely affected by their illnesses, so the interviews were kept brief to minimise the burden on them. Nevertheless, the interviews were sufficient to capture patients’ reflections concerning the investigated topic.

Clinical implication

PCC is a practice with a quest for optimal care, a care that sees the human being in its entirety\textsuperscript{83}. Barriers may hamper the process, such as a poor working climate or lack of time. In the end, however, it is the dietitian’s approach and person-centred repertoire that characterises the meeting with the patient. Training in PCC can create a good foundation for its implementation, but continuous reflection is required to maintain it. There is a need to improve the evaluation process and the quality of nutrition intervention. Nevertheless, improving the quality of care requires more than one approach. A structured framework that clarifies the impact of nutrition intervention fulfills an important role in the dietetic profession. The use of standardised terminology can support dietetic documentation and the evaluation of care. Standardisation and person-centredness might be seen as counter-intuitive since the standardised terms might not reflect patients’ complex needs and situations. However, combining the use of a structured framework with a person-centred approach is recommended for good-quality, patient-safe care\textsuperscript{83}. New tools and strategies that support person-centred evaluation in nutrition care are warranted. The findings from this thesis can be used to develop strategies that promote person-centred evaluations. The findings highlight that this can be done by identifying patients’ goals, measuring qualitative subjective outcomes, and documenting and evaluating goals and outcomes that are meaningful to patients.

Person-centred evaluations for patients at risk of malnutrition

Based on the findings from Papers I-IV, a practice model for person-centred evaluations of nutrition interventions for patients at risk of malnutrition is suggested (Figure 3). The three actions in the evaluation process according to the NCP are described: monitoring progress, measuring outcomes and evaluating and determining changes in specific outcomes\textsuperscript{5}. In line with PCC\textsuperscript{83}, the findings highlight that communicating progress and providing positive feedback to individuals are important to increase patients’ motivation and self-management. Paying attention to, identifying and verbally communicating both the clinically oriented
objective quantitative outcomes and qualitative subjective outcomes that reflect patients’ desires and needs are suggested to balance the different perspectives and enable the demonstration of progress. The results and achievement of goals should be constantly evaluated to ensure good-quality nutrition intervention\textsuperscript{1,4,6}.

The three key aspects of PCC form the basis of Figure 3: patients’ narratives, partnership, and documentation in the EHR\textsuperscript{83}. In line with Lenzen et al. exploring what matters to patients is vital to be able to identify patients’ perspectives and goals\textsuperscript{19}. This can be done by using person-centred goal-setting strategies and tools. One way of establishing a partnership is by sharing information. This can be facilitated through the use of person-centred tools, such as PROM or PREM, which enables the selection of outcomes that are meaningful to patients. The documentation should comprise the agreement on relevant goals, describe what matters to patients, and include both the quantitative objective outcomes and the qualitative subjective outcomes. The use of a structured framework and nutrition-specific terminology gives structure to this process and enables the aggregation of data in the EHR for outcome evaluation and proof of efficacy in nutrition interventions. This can in turn support the progress of the dietetic profession and the quality of nutrition care.
Figure 3. Person-centred evaluation based on the Nutrition Care Process, Person-Centred Care and findings from paper I-IV.

Counteracting the discrepancies in nutrition counselling

Strategies to counteract the discrepancies in goals and perspectives based on findings from Papers III and IV and the Lenzen et al. practice framework for goal-setting\textsuperscript{19} are described in Figure 4. This figure focuses on parts of the practice model described above (Figure 3): Exploring what matters to patients and create partnerships in the nutrition counselling. It can be used to promote person-centred nutrition counselling for patients at risk of malnutrition. The discrepancies in perspectives and goals can be countered by using person-centred strategies such as SDM and MI in nutrition counselling\textsuperscript{18,19,89-92}. The dietitian identifies the person’s priorities and supports them in articulating their goals. Information adjusted to the person’s nutrition literacy is provided. Discussing patients’ perceptions of ideal weight is important to ensure agreement on weight goals. Furthermore, discussing the person’s emotions connected to food and eating is particularly important to support them in their struggle with Nutrition Impact Symptoms. Individuals feel more motivated and empowered according to Ekman et al. when they are taken seriously and
respected. Providing positive feedback and evaluating what matters to patients is one way of empowering and motivating patients.

Figure 4. Strategies to counteract discrepancies in goals and perspectives between patients at risk of malnutrition and dietitians based on findings in Papers III-IV and the Lenzen et al. practice model for goal-setting.
Conclusion

This thesis explores the process of evaluating nutrition interventions for patients at risk of malnutrition from a person-centred perspective. It highlights gaps and challenges in this process. The target group of patients at risk of malnutrition presents these challenges at their peak, since these individuals often have complex needs. The dietitians play an important role in the prevention and treatment of malnutrition. Enabling and improving the evaluation process is particularly important to ensure good quality nutrition intervention. This thesis highlights the necessity of elucidating what matters to this vulnerable group and extending the knowledge base for the development of the evaluation process towards person-centredness.

Paper I showed strong associations between the implementation of NM&E terminology and the documentation of goals and outcomes. This indicates that standardisation may support the documentation practice and improve the evaluation process. Strategies to support dietitians in using standardised terminology and the development of tools for comprehensive documentation of the evaluation of goals and outcomes are warranted. Furthermore, education targeting healthcare managers and dietitians on the role of standardised terminology in improving the evaluation process may support this practice.

In Paper II, a lack of routine and structure in the evaluation process was found. Dietitians described qualitative subjective outcomes as being most important to patients, yet these were implicit in this process. They described striving towards documenting and evaluating quantitative objective outcomes. The identification of outcomes that matter to patients in the evaluation process is necessary to promote person-centredness, improve communication, and support the evidence-informed practice of nutrition intervention. This can be done by using person-centred tools developed for patients at risk of malnutrition, such as PROM and PREM in nutrition interventions.

In Papers III and IV, a lack of patient involvement in goal-setting and discrepancies between dietitians’ goals and patients’ personal goals were
described. Patients rarely reflected on goals in nutrition intervention (Paper IV). Implementing SDM in goal-setting may support patients in identifying their perspectives, priorities, and needs. The findings reflect that the dietitians’ professional and person-centred skills are vital to actively involve patients in the intervention and give more power to patients. Elucidating patients’ goals is crucial to balancing the dietitians’ clinically oriented goals with patients’ goals. To bridge the gap and promote person-centredness, education in SDM and person-centred goal-setting strategies and tools to support dietitians in involving patients in goal-setting are necessary.
Svensk sammanfattning

I den här avhandlingen har processen för utvärdering av nutritionsbehandling av patienter med risk för undernäring undersöks ur ett personcentrerat perspektiv. Studierna belyser vikten av att utveckla denna process och därmed främja personcentrerad nutritionsbehandling och förbättra kvaliteten på nutritionsvården.

Bakgrund

En av sjukvårdens största utmaningar är sjukdomsrelaterad undernäring. En stor andel av såväl patienter intagna på sjukhus som öppenvårdspatienter riskerar undernäring. Nutritionsvården spelar en betydelsefull roll för att förebygga och behandla undernäring. För att säkerställa att nutritionsvården är effektiv och hållbar är det särskilt viktigt att inkludera patienter i processen för utvärdering av nutritionsbehandlingen. Att inkludera patienter i målsättningen är nödvändigt för att säkerställa att patientens mål och önskemål beaktas, vilket i sin tur kan bidra till att förbättra patientens mottaglighet för kostråden och implementeringen av dem. Detta ligger i linje med personcentrerad vård som innebär att patienterna involveras i beslutsfattandet om deras vård och behandling.

Det har påvisats att ett strukturerat arbetssätt med regelbunden utvärdering av behandlingsresultat leder till ökad kvalitet och patientsäkerhet inom hälso- och sjukvården. För dietister har ett strukturerat ramverk för nutritionsbehandlingsprocessen (NCP) utvecklats och implementerats, bland annat för att främja utvärdering av nutritionsbehandling. Att mäta och utvärdera utfallsmått är viktigt för att säkerställa evidensbaserad och patientsäker vård. Detta är särskilt betydelsefullt för patienter med risk för undernäring, eftersom dessa patienter ofta har behov av långsiktig vård och stöd för att återhämta sig och förbättra sin hälsa. I dagsläget saknas lämpliga mått och verktyg för att utvärdera nutritionsbehandlingen för patienter med risk för undernäring, särskilt i fråga om patientcentrerade och patientrapporterade utfallsmått. Enligt EFAD (European Federation of the Associations of Dietitians) behövs fler verktyg samt strategier för att
förbättra processen för utvärdering av nutritionsbehandling och främja en effektiv och säker nutritionsvård.

Syfte
Det övergripande syftet med detta vetenskapliga arbete är att, ur ett personcentrerat perspektiv, undersöka processen för utvärdering av nutritionsbehandling av patienter med risk för undernäring. En specificering av syftet för delarbetena I-IV följer här:

I. Att undersöka dietisternas rapporterade dokumentation av mål och utfallsmått i patientjournalen

II. Att få ökad förståelse för dietisternas reflektioner kring processen för utvärdering av nutritionsbehandling av patienter med risk för undernäring

III. Att utforska målsättningsprocessen vid nutritionsbehandling av patienter med risk för undernäring ur ett dietistperspektiv

IV. Att beskriva erfarenheter, perspektiv och behov hos patienter med risk för undernäring, vid nutritionsbehandling med särskilt fokus på mål

Metod

I delarbete II och III genomfördes fokusgruppintervjuer med svenska dietister från sjukhus och primärvård. Dietisternas reflektioner kring processen för utvärdering av nutritionsbehandling (delstudie II) och målsättningsprocessen (delstudie III) i nutritionsbehandling av patienter med risk för undernäring undersöks.
I delarbete IV genomfördes en intervjustudie med patienter med risk för undernäring. Patienternas perspektiv och behov gällande mål i nutritionsbehandlingen undersöktes. Samtliga intervjuer (delstudie II-IV) analyserades med hjälp av reflexiv tematisk analys.

Resultat
I den första delstudien analyserades svar från 347 skandinaviska dietister. Av deltagarna rapporterade 57% att de regelbundet dokumenterar utfallsmått. Dessutom visar studien ett starkt samband mellan rapporterad implementering av terminologin för nutritionsuppföljning och utvärdering och regelbunden dokumentation av utfallsmått och mål.

I de andra och tredje delstudierna deltog 29 dietister i sex fokusgrupper. Totalt arbetade elva deltagare med öppenvårdspatienter, tre deltagare med slutenvårdspatienter, medan resterande femton arbetade med båda kategorierna. Brist på rutin och struktur i utvärderingsprocessen (delstudie II) samt brist på delat beslutsfattande (SDM) i målsättningen (delstudie III) beskrevs.

I den andra delstudien beskrev deltagarna de kvalitativa subjektiva utfallsmått som har att göra med patienters subjektiva upplevelse (t.ex. välmående och livskvalitet) som implicita i nutritionsbehandlingen. Kvantitativa objektiva utfallsmått (t.ex. vikt) utvärderades och dokumenterades i större utsträckning enligt deltagarna. De beskrev hur de strävade efter att dokumentera rigorösa kvantitativa utfallsmått i patientjournalen.

I den tredje delstudien beskrev dietisterna hur de undersöker patienternas berättelser, förmågor och resurser innan målen sätts. Utmaningar med att sätta genomförbara mål tillsammans med patienterna lyftes fram. En diskrepans mellan de kliniskt inriktade målen och patienternas personliga mål diskuterades. Dietisterna underströk behovet av att involvera patienter i målsättningsprocessen för att lyckas med nutritionsbehandlingen.

I den fjärde delstudien deltog femton personer med risk för undernäring. Fem män och tio kvinnor deltog, i åldrar mellan 23 och 81 år, varav sju från primärvården och åtta från sjukhus. Resultatet avspeglar att målsättningen representerar dietistens strukturerade sätt att arbeta, medan patientens livsvärld är komplex och ostrukturerad. Patienterna hade inga uttalade mål men beskrev en strävan att må bättre. De beskrev
nuutritionshandlingar som värdefull för att hantera deras nutritionsrelaterade symptom. En del deltagare var skeptiska till att implementera kostråden för viktuppgång eftersom de inte ville gå upp i vikt.

Diskussion och slutsats


Sammanfattningsvis visar denna avhandling att verktyg och strategier behövs för att förbättra processen för utvärdering av nutritionsbehandling av patienter med risk för undernäring. Personcentrerad praktik har visat sig vara avgörande för att förbättra den processen. Detta kan göras genom att utforska vad som är betydelsefullt för patienten, deras perspektiv, mål och prioriteringar, skapa partnerskap genom att involvera patienter i målsättningen, och dokumentera och utvärdera både subjektiva kvalitativa och objektiva kvantitativa utfallsmått i patientjournalen. Standardisering kan vara ett sätt att stödja dokumentationen av mål och utfallsmått och därmed förbättra och strukturera utvärderingsprocessen inom nutritionsvården.
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A doctoral dissertation from the Faculty of Social Sciences, Uppsala University, is usually a summary of a number of papers. A few copies of the complete dissertation are kept at major Swedish research libraries, while the summary alone is distributed internationally through the series Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Social Sciences. (Prior to January, 2005, the series was published under the title “Comprehensive Summaries of Uppsala Dissertations from the Faculty of Social Sciences”.)