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Food Service and Nutritional Care in Swedish Elderly Care

*The Progress of National Actions and their Local
Interpretations*

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Abstract

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The main aim of this thesis is to study local level outcomes regarding food service and nutritional care in Swedish elderly care in relation to the progress of national actions. Study I compared results from a repeated national survey using a questionnaire investigating the general structure and organisation of food service in elderly care. Study II built on data merged from a questionnaire, open comparison survey data and records from the quality registry Senior Alert to investigate nutritional care practice, focusing on quality indicators related to food service. Study III was a web-based questionnaire that described perceived facilitators in the process of adopting a national regulation that aims to prevent and treat malnutrition. Study IV explored associations between the level of adoption of the regulation and registrations in Senior Alert using registry data and results from a questionnaire.

Differences were found primarily between rural and city municipality groups. The predominant food service organisation was public, but city municipalities reported a higher and increased use of private providers, chilled production and meal choices. The number of clinical/community dietitians had declined significantly between the surveys. Access to this profession was associated with being well-nourished. Food service dietitians and private providers were positively associated with meal satisfaction, while the food production system cook-chill was negatively associated. One year after the launch of the regulation, 50% of municipalities had adopted new routines. The odds for adoption were higher in municipalities where preventive work was already in progress, the regulation was considered helpful, and where facilitators had long experience of working in elderly care. The most important support factors for the adoption of new routines were cooperation between professions and well-defined goals. There was no significant difference in nutritional screening scores associated with adoption rate, but, in general, the number of individuals registered in Senior Alert increased after the entry into force of the regulation.

In conclusion, this thesis contributes increased knowledge about the different outcomes in local level practices in relation to central actions. The results indicate a strong local autonomy and the importance of local access to sufficient capacity and knowledge.

Keywords: food service, nutritional care, elderly care, national actions, municipality, questionnaire, registry data

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“It is not the mountain we conquer, but ourselves”.
Edmund Hillary

List of Papers

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

- I Skinnars Josefsson, M., Nydahl, M, Persson, I., Mattsson Sydner, Y. (2018). Reforming foodservice in elderly care: National actions and local outcomes. *Nutrition & Dietetics*, 75(1):79-86 DOI:10.1111/1747-0080.12388
- II Skinnars Josefsson, M., Nydahl, M. Persson, I., Mattsson Sydner, Y. (2017). Quality indicators of nutritional care practice in elderly care. *Journal of Nutrition, Health and Aging*, 21(9):1057–1064 DOI: 10.1007/s12603-017-0970-8
- III Skinnars Josefsson, M., Nydahl, M. Mattsson Sydner, Y. National survey in elderly care on the process of adopting a new regulation aiming to prevent and treat malnutrition in Sweden. Revised and resubmitted.
- IV Skinnars Josefsson, M., Nydahl, M. Persson, I., Mattsson Sydner, Y. Adherence to a regulation that aims to prevent and treat malnutrition - the case of Swedish elderly care. Manuscript.

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Contribution of authors

Paper I

Malin Skinnars Josefsson, Margareta Nydahl and Ylva Mattsson Sydner were actively involved in the design of the study. Ylva Mattsson Sydner developed and collected data for the original questionnaire. Malin Skinnars Josefsson constructed a revised version, and performed the data collection and the statistical analysis of the data. Inger Persson contributed to the statistical analysis. Malin Skinnars Josefsson was the main person responsible for writing and revising the manuscript. All authors contributed with continuous critical revision.

Paper II

Malin Skinnars Josefsson, Margareta Nydahl and Ylva Mattsson Sydner were actively involved in the design of the study. Malin Skinnars Josefsson performed the data collection and the statistical analysis of data. Inger Persson contributed to the statistical analysis. Malin Skinnars Josefsson was the main person responsible for writing and revising the manuscript. All authors contributed with continuous critical revision.

Paper III

Malin Skinnars Josefsson, Margareta Nydahl and Ylva Mattsson Sydner were actively involved in the design of the study. Malin Skinnars Josefsson developed a questionnaire in collaboration with the co-authors. Malin Skinnars Josefsson performed the data collection and the statistical analysis of data, and was the main person responsible for writing and revising the manuscript. All authors contributed with continuous critical revision.

Paper IV

All authors were actively involved in the design of the study. Malin Skinnars Josefsson collected and computed the data and performed most of the statistical analysis. Inger Persson performed parts of the statistical analysis. Malin Skinnars Josefsson was the main person responsible for writing and revising the manuscript. All authors contributed with continuous critical revision.

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Abbreviations

| | |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CMN | Chief Medical Nurse (medicinskt ansvarig sjuksköterska) |
| ESPEN | The European Society of Clinical Nutrition and Metabolism |
| i-PARIHS | Integrated Promoting Action on Research Implementation in Health Services |
| MAS | Medicinskt ansvarig sjuksköterska (Chief Medical Nurse) |
| MNA-SF | Mini Nutritional Assessment Short Form |
| NBHW | National Board of Health and Welfare (Socialstyrelsen) |
| NFA | National Food Agency (Livsmedelsverket) |
| NPM | New Public Management |
| PCA | Principal Component Analysis |
| SA | Senior Alert quality registry (kvalitetsregistret Senior alert) |
| SAGPA | Swedish Agency for Growth Analysis (Tillväxtanalys) |
| SALAR | Swedish Association of Local Authorities and Region (Sveriges Kommuner och Landsting) |
| SOSFS 2014:10 | Socialstyrelsens föreskrifter och allmänna råd om förebyggande av och behandling vid undernäring (NBHW's regulation and general advice on prevention and treatment of malnutrition) |

Preface

In more than twenty years working as a food service dietitian, mostly in elderly care, I have experienced an enormous variety of food service organisations and practices. I have also been constantly reminded that there is so much more to learn and do. Recalling visits to residential care homes, I think the most frequently asked questions among residents were ‘What’s for dinner?’ followed by ‘When’s dinner?’, being many times the residents’ first and last questions. This reinforces my conviction that food and meals are crucially important in the everyday lives of older adults, where this importance goes beyond the satisfaction of nutritional requirements.

Now, during my time as a doctoral student, I have reflected upon whether my preconception of the field has been a strength or a drawback in my research work. Of course, this can be viewed through different lenses. On the one hand, one’s perception, or ability to critically review an area, might be blunted with experience and time. On the other hand, experience and time might deepen the knowledge of the area so that it can be studied more comprehensively. Although far from sufficient, it is conceivable that a certain preconception is valuable and even preferable in order to be able to select relevant viewpoints in areas of importance for a study.

Keeping these thoughts in mind, my ambition has been to maintain an objective approach regarding my previous experience in order to conduct sound research. A Socratic approach entails accuracy and precision, an awareness of the quality of knowledge but also its limitations. It further entails awareness of fallibility, with the point of departure being that we can be wrong (1).

Introduction

Provision of food and meals is a fundamental part of elderly care and constitutes a multifaceted domain in which food service and nutritional care are vital functions. However, while it is a fundamental part, the provision of food and meals is at the same time marginalised by not being recognised as a primary function. In this thesis, by maintaining a local level perspective, focus is put on food service and nutritional care, steering, organisation and practices.

Food service is in itself a complex system described by various definitions, of which one basic overarching description is the provision of food and drink away from home (2). This description includes an enormous variety of meals so a further classification is its division into two large segments, the commercial (profit) and the public (cost, welfare) sectors (2). The public sector, generally referred to as institutional, can in turn be divided into different smaller segments such as healthcare, education and social services. Edwards and Hartwell describe institutional food service as where the meal is a supportive part of the service but not the sole purpose of the organisation (3). In this case, food service is a part of elderly care but commonly not regarded as a core activity. Nevertheless, food service entails a complex system from an organisational set up at one end, to customer evaluation of meals at the other (4). In this thesis, the focus is on parts of that system such as organisation (provider, competence), steering (regulations, guidelines, policies), and practice (food technology systems, meal choice), while other important parts such as economic, culinary and cultural aspects have not been considered to be within the scope of the thesis.

Nutritional care is an overarching term that entails a system for the provision of nutrition and how nutrition benefits the care recipient (5). In one of the papers that forms part of this thesis, nutritional care practice is referred to in a broad sense, focusing on quality indicators related to food service. In 2017 the European Society of Clinical Nutrition and Metabolism (ESPEN) presented a paper concerning an agreement of nutritional terminology that had been established and where the clinical nutrition care process was described (5). Screening using validated tools and methods is an important first step in nutritional care to help identify individuals at risk of malnutrition, and this should be followed by a comprehensive nutrition assessment for those identified as malnourished or at risk. This provides the basis for further actions in the nutrition care process (5). These first steps of nutritional care are studied

in two of the papers in this thesis. ESPEN suggests that the structure and organisation of nutritional care should be adapted to the needs of the care recipient (5). This is an important aspect that will be further considered in this thesis as it involves steering, competence and routines, among other aspects. The provision of meals, food service and nutritional care, which constitute pivotal parts of elderly care, interact yet are also distinct. They interact from the perspective of the individual i.e. the older adult, as part of care and daily life, and are distinct from an organisational perspective. One example of this is that they are governed by different laws. In Sweden, nutritional care is governed by the Health Care Act (Hälso- och sjukvårdslagen) (6), while food service is organised under the Social Services Act (Socialtjänstlagen) (7).

The variety of perspectives

Society can be approached from different perspectives, for example macro, meso and micro level perspectives (8, 9). From a sociological point of view, a macro perspective constitutes the highest aggregated level. In the case of this thesis, this is the national level, portraying a general perspective such as structure through, for example, laws, regulations and policies, or ideologies in terms of political intentions. The macro level, with the government as the most important entity, constitutes the foundation of steering and goal setting for elderly care, and food service and nutritional care are a part of that. At the other end, the micro level perspective constitutes the lowest level relating to social interactions between individuals, for example residents and staff in residential care homes, as well as individual attributes such as nutritional status and meal satisfaction. The approach in this thesis lies at the meso level, that is between the macro and micro levels. The meso level perspective consists of organisations that have formal structures as bounded entities. In this thesis, these are organisations at a local level (municipalities) where food service and nutritional care within elderly care are organised and operationalised. At the meso level, my focus lies on quality aspects, such as organisation of providers and food production systems, human assets, local steering documents and practices.

In the plethora of perspectives for studying food service and nutritional care, some examples of earlier theses portray this particular Swedish welfare service as being centred on the older adult, the care recipient. Mattsson Sydner studied the social organisation that surrounds the provision of elderly care meals, its norms and values (10), while Pajalic focused on the distribution of food and meals to older adults receiving home help care (11). Both identified limited possibilities for older adults to influence their own meals, as did Saletti in her studies on mealtime experiences (12). Further, taking a nutritional perspective, Saletti (12) and Törmä (13) explored the problems of malnutrition in elderly care organisations and their strategies for implementing nutritional

guidelines to improve the nutritional care. Moreover, in her studies of elderly care with a focus on welfare sector organisations, Moberg recognised an altered local organisation due to marketisation trends (14). With similar findings, Fredriksson studied the tension between national equity and local autonomy by focusing on ongoing trends within Swedish healthcare (15).

Whilst I am well aware that this represents just a fraction of all the research conducted within these fields, it does give a picture of the current situation. Resonating with many of the concerns found by these researchers, I am seeking to contribute an additional viewpoint by combining the two areas of elderly care food provision and organisation. By centring around the meso perspective that is connected to macro and micro level attributes, my intention is to gain greater knowledge as to how nationally diffused ambitions concerning elderly care food service and nutritional care are interpreted and organised into local practices. Further, I wanted to explore the way that they ultimately connect to micro level outcomes – the older adult. Swedish authorities have invested in various actions in order to, for example, increase the quality of elderly care meals and prevent malnutrition. With an increasing proportion of older adults in need of care, this is an ongoing concern which has an impact on the nutritional status of older adults, as well as organisational and societal costs (16). Municipalities operating at the meso level constitute gatekeepers in this sense, in their vital role as autonomous providers with the power to decide what to provide and how. For that reason, I take great interest in this area.

Swedish elderly care

In Sweden, elderly care is a public responsibility characterised by universalism meaning that a public system should provide equal care to all citizens in need of service and care ≥ 65 years of age (17). On a national level, elderly care is politically governed and regulated by framework laws and regulations controlled by the central government (18). At a local level, all municipalities have extensive autonomy in deciding how, through political governance, to meet the stated requirements (19) in their responsibility for the provision of elderly care, including food service. There are 290 municipalities in Sweden, with population levels between 2,453 and 949,164 inhabitants (median = 15,925 inhabitants), and a population density ranging from 0.2 to 5,496 inhabitants per square kilometre (20). The local autonomy and municipal differences have resulted in locally adapted care and services to older adults (21, 22), as well as trends in privatisation (23). One outcome of this is extended local government coordination and control (24) since, irrespective of public or private operation, each municipality is responsible for the quality of the service (23).

The privatisation of public services, such as elderly care, are strongly influenced by New Public Management (NPM) (25). This is a concept coined by Hood in describing a universal reform trend of administrative changes in steering and organisation of public sector organisations, starting in the 1980s (26). In the late 1980s, the reform was a welcomed reaction to the gigantic and bureaucratic public sector of the 1970s, which was in need of cost cutting and transformation (25, 27). Briefly described, important components of NPM entailed decentralisation, efficiency and quality requirements, de-regulation, privatisation and choice (28). Within elderly care, the reform trend has enabled an increase of private for-profit providers (29) and since the early 1990s, when the government opened up for private for-profit providers, the share has risen to about 18% (29). According to Szebehely and Trydegård, a strong trend towards marketisation of welfare services is particularly notable in elderly care (30). With privatisation, Blomqvist describes a tendency of heavier reliance on informal and commercial caregivers, since it has become more difficult for older adults to be eligible for publicly financed care services in their needs assessments (25). The exercise of authorisation is conducted at local level (31), but is based on the Social Services Act 2001:453 which states that a person has the right to receive social services or care if they are unable to provide for their personal needs or if help cannot be received in other ways (7).

In 2016, about 88,900 persons ≥ 65 years of age were living permanently in residential care homes and almost 228,500 persons were receiving home help care. In total, about 16% of all citizens over the age of 65 years received one of these two services, which are those most commonly offered within elderly care (32). Every year, between 20,000 and 25,000 Swedish older adults move to residential care homes of whom the vast majority have received home help care prior to moving (33). In 2016, the average age of a woman moving to a residential care home was 86 years and of a man 84 years (34). Hence, elderly care in general, and residential care homes in particular, target the frail and oldest adults with the greatest needs in the shifting trend from offering elderly care in residential care towards home care (35).

The provision of food and meals as part of elderly care

The provision of meals constitutes a service with a potential to uniquely combine social and nutritional ambitions for dependent older adults (36). The public sector serves three million meals every day and, of those, 360,000 meals are served within elderly care (37). Due to a demographic development towards an older population relying on help, the requirement for provision of food and meals in elderly care is growing (12, 38). However, despite its magnitude and importance, meal provision is not recognised as a primary function in elderly care, but instead regarded as an organisational support, preferably

managed outside of the organisation (3, 39). This is notable since food service and nutritional care heavily influence the food intake of dependent older adults (40, 41) and thus their nutritional status and well-being.

Nutritional and social perspectives on food and meal provision

Those who depend on elderly care have an increased need for help with daily chores, such as preparing meals and other services. Prior to becoming dependent, the care recipients have lived a life filled with different degrees of involvement in independent cooking and eating. All care recipients have their own personal history and perception of what a good meal is, the importance of food, and their individual likes and dislikes (42). The older adult, as a care recipient, may be nutritionally vulnerable (43, 44). Therefore, food and meal provision as a welfare service demands well-planned menus and meals that are energy and nutrient dense, tasty, varied, sustainable, financially reasonable, available in modified textures, adapted to allergies and, above all, tailored to personal preferences (45). However, a well-planned menu is not enough. The ability to plan and design menus also requires the involvement and feedback of the care recipients (46). In order to do this, adequate competence is required. Food service dietitians are qualified for this task (*ibid*) and are the profession most commonly in charge of elderly care food service organisations in Sweden.

Adequate knowledge is also required at the point of service. Staff serving or helping at meal times play a key role by being familiar with individual needs and preferences among the older adults through daily contact. In nutritional care, an important profession is that of community/clinical dietitians who support the older adults by giving tailored dietary advice and nutrition interventions, along with performing educational and strategic tasks, such as formulating nutritional guidelines (13, 47, 48). Human resources and access to adequate competence are presumed requirements for food security and good nutritional care practice on which older adults are dependent (48, 49). However, nutritional knowledge deficits among care staff have been identified. These have been found not only in Sweden but appear to be a general limitation (50-52), identified by Keller and colleagues as a prioritised area for further research (53). The nutritional knowledge and attitudes among care staff and professionals, and access to food service and clinical/community dietitians, represent examples of the multi-faceted assembly needed in the organisation of nutritional care practice in order to bridge the gap between knowledge and care practice (51, 52, 54, 55). In addition, the social significance of meals and respect for personal needs and wishes emphasised in the literature further recognise the meal's relevance to quality of care (56-59).

Meal provision in home care

The meal service provision in home care differs with local organisation set-ups and with the needs' assessment decision for each recipient. According to the Social services Act (7), the recipient should be able to influence the service offered, however this is found to be rarely practiced in reality where the older adults in need of help are found not to perceive any actual influence over the decisions made (60). Although alternative services are available (e.g. meals cooked in-house), a meal-box is the most common service (11). The meal-boxes can be hot, chilled or frozen, with different delivery frequencies. Since delivery or transportation is a costly part of this service, the chilled or frozen meal-boxes provide a cost efficient alternative as they allow for reduced delivery frequency (38). This can explain the increased use of chilled (but seldom frozen) meals.

In addition to providing energy and nutrients, the meals have a social significance. Timonen and O'Dwyer studied the social aspects of meals delivered to older adults in their homes in Ireland. They found that the recipients experienced limited social contact from the service and that the help was hard to accept as such. Further, the wish to remain independent was mirrored by a preference by some recipients for chilled or frozen meals, as these meals increased their freedom over the timing of eating and delivery (61). For others, however, a daily delivery could be a welcome social activity. Reaching similar conclusions about the wish to maintain independence, a Swedish study also recognised that major life events often constituted breaking points in the independence of elderly persons. The care recipients in that study further expressed their preference for customary habits (42), something that requires knowledge of each individual's preferences and needs.

Meal provision in residential care

The meals provided in residential care homes often constitute the main source of nutrition since the residents are partly or fully dependent on this provision (45). For some older adults, the structured meals served at fixed times and in fixed settings in the residential care homes contribute to food security (62). However, others might experience a perception of exclusion and that their sense of autonomy is put at risk due to the organised structure (46, 63, 64). In a described gap between the ideology of individual autonomy and how meals are provided in elderly care, Mattsson Sydner and Fjellström portray how contemporary dependent older adults continuously adapt new coping strategies in order to lessen the feeling of dependency (64). These care recipients are pictured as passive and submissive by the media, while it is predicted that the baby boomer generation, born in the 1940s, will be a new type of demanding, self-aware care recipient (65). This will most probably put further strain on organisational set-ups if they are to fulfil the official policy that residential

care homes are not institutions per se, but should be considered as the residents' home, hence putting light on individual needs and preferences (66). Bearing in mind the organisational pressures of today's elderly care (67), discussions are evolving about what is achievable in the balance between individual autonomy and welfare state responsibilities (64).

The production of and satisfaction with meals

Food service organisations in the public sector are challenged by extensive regulation and labour-intensive functions, along with cost constraints and quality expectations. Elderly care meals are provided several times a day, all year around. Different production systems are utilised in the provision of meals, such as conventional (cook-serve), cook-chill or hybrids thereof, depending on needs and conditions. A cook-chill system differs from a conventional cook-serve system in that the cooking is followed by rapid chilling, chilled storage and reheating immediately prior to serving (4). Advantages of the cook-chill production system over conventional cook-serve systems are highlighted primarily with regards to its 'decoupling' potential, seen as a favourable feature when striving for increased cost effectiveness. A cook-chill production system allows the food to be produced separate in both time and place from the recipients, and enables reduced labour costs and delivery frequency due to its longer shelf life (38, 68). However, although labour costs are reduced at time of production, increased labour might be needed elsewhere when reheating the meals prior to serving (69).

Overlooking the perspective of cost effectiveness, the literature comes to different conclusions about which food production system yields most satisfaction with meals among older adults (70-72). However, meal satisfaction is determined by multiple factors. As described by Wright and colleagues, it is part of a multi-factorial system in which resident characteristics, and structural and systems-related variables, exemplify other influences besides food quality (71).

Meals have the potential to provide some degree of autonomy in residents' daily lives in an otherwise controlled setting, exemplified in the literature by residents being invited to take part in meal councils, or have influence through meal satisfaction surveys, or by the provision of meal choices (46, 71). In the provision of meals, an increase in the number of meals where choices are offered, with well-planned menus and mealtime assistance further describes a potential relationship between meal satisfaction and nutritional status (71, 73, 74).

It is reported that choices at mealtimes are offered at a majority of Swedish residential care homes and in home care. However, it is unclear whether these choices are provided regardless of 'normal' or special diet, regular or modified textures, if the staff or the residents make the choices, or at what point in time

the choice is made. Abbey and colleagues suggest from their study that standards should be set concerning these matters in order to guarantee the same quality of service provision for all residents, regardless of diet (46). Whatever the reason for poor meal satisfaction, it is a significant moderator of food intake among older adults and, in turn, a risk factor for malnutrition.

Malnutrition

In the work to provide a consensus-based diagnostic criterion for malnutrition, ESPEN defined in 2015 the term malnutrition as incorporating starvation related malnutrition, cachexia/disease related malnutrition, sarcopenia and frailty (75). In this work, the expert group also aimed to reach a decision regarding which terminology to recommend, malnutrition or undernutrition. However, the group did not reach consensus as both terms were equally preferred (ibid). Being aware that the terminology covers all deviating nutritional states, malnutrition will be used in this thesis. In a Swedish regulation from 2015 that aims to prevent and treat malnutrition (SOSFS 2014:10), the term malnutrition is defined in the 3§ and reads ‘a condition where a deficiency of energy, protein and other nutrients causes measurable adverse effects on body composition, function or a person’s clinical outcome’ (76).

In older adults, the aetiology of malnutrition is multifactorial, among which dementia, depression, polypharmacy and dysphagia constitute some examples of the diversity (77). It is difficult to exactly comprehend the extent of malnutrition in Sweden as the prevalence can vary due to, for example, methods of measurement. In two comprehensive studies from 2015 using MNA-SF for screening, the reported prevalence of malnutrition among older adults in residential care homes was between 13% and 18%, and 40% were considered to be at risk of malnutrition (44, 78). These results indicate that over 50% of older adults in Swedish residential care homes are malnourished or at risk, a high distribution that is in line with other studies (79, 80). These figures are of concern since malnutrition is associated with longer hospital stays, increased morbidity (81), influence of medication (82), and a lower quality of life (83). It is also associated with declined cognition, function and increased mortality (79).

Preventing malnutrition

In preventive work, different screening tools are available that are designed to detect and predict whether malnutrition, or risk thereof, is present or likely to develop. ESPEN recommends three risk screening tools: Nutritional Risk Screening 2002 (NRS-2002), Malnutrition Universal Screening Tool (MUST) and the tool appropriate for use in elderly care and community settings, the Mini Nutritional Assessment-Short Form (MNA-SF) (5). Data from the quality registry Senior Alert that are included in this thesis are based on the MNA-SF tool. This screening tool includes six items, where each item yields scores

from zero to two or three: 1) decline in food intake during the last 3 months, 2) weight loss during the last 3 months, 3) mobility, 4) psychological stress or acute diseases in the last 3 months, 5) psychological problems (i.e. dementia and depression), and 6) Body Mass Index (kg/m²). The total score can range between 0 and 14 and, based on this, nutritional status is defined as malnourished (score of 0-8), risk for malnutrition (score of 8-11), or well-nourished (score of 12-14) (84).

As described, malnutrition is a serious and challenging problem in elderly care that is expected to grow with an increasingly aging population (85). It constitutes a recognised research area and calls for further studies (86, 87). In order to improve food and fluid intakes among residents in residential care homes, international experts and stakeholders suggest a prioritized research agenda (86). Some of the multimodal interventions suggested are mealtime ambience, attitudes, knowledge and skills of staff, sensory properties, nutrient density, assistance and enough time to eat, and choice of food.

Eating difficulties

Common features among residential care home residents who have been diagnosed with dementia are apathy and lack of interest, which can jeopardise an adequate food intake (88). Dementia is also associated with dysphagia, i.e. impaired swallowing function, which might cause increased reluctance to eat and eating difficulties for the older adult (89), along with anxiety among staff in their concern for the provision of adequate nutritional care (90). To deal with this problem, Parker and colleagues suggest, similar to malnutrition, systematic screenings and evaluation programs for dysphagia in order to prevent complications caused by obstruction (89). Moreover, prevention of complications requires a high level of competence and knowledge, both in the preparation of texture-modified food as well as at the point of service, where responsiveness to the older adult's eating is crucial.

Respecting the autonomy and will of older adults is an important and statutory aspect in elderly care. In this sense, there is a fine line between providing optimal nutritional care and the carrying out of forced feeding, reaching a point when the older adult does not want to eat or drink at all (91). Taking person-centered care to its limits, it can be regarded as a combination of a motivation to eat and a willingness to live (92).

Regulations, soft governance and actions

The quality of elderly care meals is regularly debated in the media, though rarely in a positive way. As the debates reach governmental levels, diverse actions striving for progress have been launched over the course of years, with varying results. However, unlike school meals and with the exception of food safety, elderly care meals are not explicitly legally regulated per se. Instead,

the quality assurance of food service in elderly care rests on a variety of nationally initiated actions of a soft governance nature and local steering. Soft governance is described by Mörth as a way of creating regulations through norms, myths and ideas, since they are not legally binding rules but instead constitute recommendations (93). However, since food service is a part of elderly care, applicable framework laws (6, 7) also encompass the provision of meals although this is not explicitly expressed in the text. Presented below is a selection of central actors and actions within a Swedish context directed towards food and meals, launched or performed within the range of years applicable to the studies in this thesis.

Central actors and actions

The National Food Agency (NFA) (Livsmedelsverket) is an influential actor in the development of new legislation, communication and recommendations for food service and nutritional care. The present nutritional recommendations (Nordiska näringsrekommendationer), which were developed in a Nordic collaboration, have been in use since 2012 (94). They describe the standards for the nutritional quality of public meals in general, but not for older adults specifically. The NFA has developed specific guidelines for this target group in order to guide professions at different levels involved in the provision of meals. The first guideline was launched in 2009, and a new version is currently under revision. The revised guideline builds on a scientific basis (59) and revolves around six broad themes presented in a meal model (95). The proposed version was widely debated when it was submitted for comment. The debate primarily circulated around its ambiguity, such that professionals questioned its usefulness as guidance in their daily work. A final version of the revised guideline is scheduled to be launched in the spring of 2018.

Since 2016, the NFA and the National Board of Health and Welfare (NBHW) (Socialstyrelsen) have collaborated on recommendations and accountabilities for food and nutritional issues within health and social care. In their allocation of responsibilities, the NFA is held accountable for general nutritional recommendations in health and social care, while the NBNW hold the responsibility for guidelines regarding individually provided nutritional care in the prevention and treatment of malnutrition, and diets for specific diseases or conditions.

On a government commission, another part of the NBHW annually performs regional and local comparisons (in this thesis denoted *open comparisons*) in collaboration with the Swedish Association of Local Authorities and Regions (SALAR), (Sveriges Kommuner och Landsting). These comparisons aim to create transparency and provide a basis for development at local level (96). Out of a considerable number (45 in 2016) of total items, one or two questions that concern food and meals have been asked every year since its

start in 2007. Over the years, the nature of the questions has changed. In 2007 and 2008, the questions concerned the possibility of choosing meals and if the duration of the overnight fast exceeded 11 hours. These two questions were addressed to both residential care homes and home care. Later, home care was omitted and the number of questions was reduced to one (except in the years 2013 and 2014). From 2010, the residents were asked about their satisfaction with meals. In 2013 and 2014, a second question focused on whether residents considered the meal to be a pleasant time of the day. In 2015, actions to prevent and treat malnutrition were also introduced as indicators that were measured in the comparison survey, however these were directed to the care givers (97).

Despite the elective nature of the comparison survey, almost all municipalities participate and their results are openly published in order to make comparisons (98). Hence, this instrument serves as a benchmarking tool among municipalities. However, even with an extensive range of questions, the NBHW point out the fallibility of relying on good or bad results in the comparison survey to evaluate the quality of local elderly care units. This is because the instrument does not cover all areas of organisation practices. This is especially evident for the area food and meals with only a modest representation in one or two questions, which could be argued to reflect the general recognition of food and meals in elderly care. This adds to the previously mentioned view of elderly care meals as an organisational support rather than an acknowledged core function (3, 39).

Between the years 2007 and 2012, an extensive government investment project aimed to improve elderly care (Stimulansbidrag för insatser inom vård och omsorg om de mest sjuka äldre). The NBHW was appointed to allocate grants for county councils and municipality projects, with food and nutrition being one of the prioritised areas. According to the NBHW's final report, clinical/community dietitians were employed as part of this investment, but only a few of these positions were made permanent. Other reported outcomes were increased awareness and knowledge among personnel, development of guidelines, decreased overnight fast and implementation of routines to identify and treat malnutrition. The concluding report included discussions regarding the duration of positive outcomes after the project was ended (99).

Between 2010 and 2013, the NBHW was responsible for the state supervision of elderly care. The supervision assignment covered different assessment areas, guided by a supervision policy, elderly care regulations and laws. Since 2014, this task has been given to the Government agency Health and Social Care Inspectorate (Inspektionen för Vård och Omsorg) (100). Hanberger et al (2017) have studied the influence of these inspections on the quality of elderly care. They conclude that national goals and regulations are reinforced due to supervision, but that it cannot be designated an effective tool for quality improvements since supervision does not ensure minimum quality levels (ibid).

On January 1, 2015, the NBHW brought into force a regulation aiming to prevent and treat malnutrition (SOSFS 2014:10). In summary, this binding regulation requires health and social care providers to implement preventive routines in accordance with the regulation (76). It builds on an earlier regulation about systematic quality assurance in health and social care (101).

A national web-based quality registry, Senior Alert (SA), was developed by Jönköping county council in 2008 (spread nationally in 2010) and targets care recipients ≥ 65 years of age. The registry aims to support a systematic preventive care process within the areas of malnutrition, falls, pressure ulcers, poor oral health, and incontinence. In SA, care recipients are evaluated using validated risk assessment instruments, followed by planned, executed and evaluated actions. Further, the quality registry is directed at all professionals and organisations in the field of health and social care (102). Registration in SA does not replace the statutory demand for keeping regular notes in patient records, hence the system creates additional workload, which is perceived as burdensome by the staff (103). After a couple of years of use, staff perceived deficiencies in adequate skills and supporting structures, which they regarded as prerequisites to be able to use the SA registry as intended (104). These discussions persist after almost ten years of use. Between 2010 and 2014, a pay-for-performance system was applied, meaning that municipalities and county councils were remunerated for using the registry. When remuneration ceased, there was concern that this would lead to a decline in participation (105). Looking at the statistics, there was a marginal decline of participation from 287 municipalities in 2014 (106) to 284 municipalities in 2016 (out of 290) (107).

Local steering and audits

Boosted by NPM and the extensive government investment described above, and influenced by the contracting out of meal provisions, local audits and food policies are common steering tools used in municipalities. Local food policies are politically anchored documents, in general formulated by a team of various professionals in order to capture the different aspects of meals. Local food policies and audits can also be used as a basis for procurements and quality assurance. Over the years, many national actions have been launched of either a regulatory or guidance nature, all with the aim of making progress in elderly care meal provision. This top-down approach relies on local organisations putting these actions into practice as intended in order for universalism to function. However, due to well-rooted and extensive local autonomy, national government exerts only indirect influence on local level organisations. At local level, there are often wide variations in the way national actions are interpreted and put into practice, since the contextual factors within each local organisa-

tional environment influence the implementation process. Therefore, the balance of two somewhat contradictory ideologies, universalism versus extensive local autonomy, makes local steering, organisation and practices of elderly care meals an important and interesting area to study. With 360,000 meals served every day of the year, this welfare service has a great impact on older dependent adults, an impact in which local providers play a vital role.

Theoretical frameworks

A theory can provide concepts, chains of reasoning, and models in order to understand or explain associations. A theory can also be used to frame a research question, guide the selection of data and its interpretation, and offer explanations. In this thesis, organisation theory has inspired the framing of the results of the papers and two theoretical models have served as guides in designing two of the studies. Organisation theory is an overarching label that accommodates various perspectives and traditions for which scientists such as Weber, Meyer and Powell, amongst others, have had great influence. In this thesis, the perspective that Christensen and colleagues presented in their book on organisation theory and the public sector serves as an inspiration (108). Their point of departure is that public organisations are more complex and have fundamental differences compared with private organisations. They claim that public organisations need to be understood using a democratic-political approach that focuses on values, interests, knowledge and power within the public sector, rather than solely on economy and efficiency. To do this, they evolve over three perspectives, one instrumental and two institutional.

Instrumental and institutional perspectives

In brief, the most fundamental differences between these two types of perspectives are their different views based on the logic of actions, goals and organisational changes. The *instrumental perspective* views public organisations as tools for reaching goals that are determined by authorities. From this perspective, the underlying logic of action is a means-end rationality, in which actions performed are expected to predict future effects. Goals are exogenously defined, and changes come into action through rational adjustments towards new goals or changing external demands. In this perspective, rationality is implicit and limits individual choices of action.

In the *institutional perspectives* (*cultural* and *myth*) on the other hand, organisations have their own culture, values and norms and engage in independent decision-making. From these perspectives, appropriateness underlies the logic of action, where individual actions rely on previous experiences or on what is perceived as reasonable or accepted in the working environment.

Further, in the institutional perspectives, goals and changes gradually develop within the organisation, since it does not easily adapt to changes. This is especially visible in the *cultural perspective* within the institutional view. In public organisations, individuals act according to what is regarded as appropriate and according to historical values and norms, with little influence from external norms.

Challenged by socially created norms, the *myth perspective* within the institutional view entails norms and recipes for how organisations should be designed and how they should function. Within this perspective, a formal adoption of a recipe occurs but does not ensure that it will be put to use.

The *myth perspective* described by Christensen and colleagues (108) derives from the 'New Institutionalism', a theory formed in the 1980s by Meyer, Rowan, DiMaggio, Powell and Scott (109-111) as a development of earlier institutional theories. In their work, the sociologists describe the socially constructed environment as a key element in which individuals act. These environments, which consider the whole organisational field (in this context, elderly care), are in turn guided by rules, regulations and norms that constrain and shape the actions of individuals. Emphasis is put on formal structures, persistence and stability, in order to protect legitimacy. According to DiMaggio and Powell, legitimacy and hence security are desirable within the organisational field, and fields need to be institutionally defined in order to exist (110). Once institutionally defined, they start to become more similar to one another. A concept that captures this transformation towards similarity is *isomorphism* (112). Deriving from different conditions, DiMaggio and Powell describe *coercive isomorphism* as resulting from formal and informal pressures in order to promote certain behaviours that conform to expectations. In the case of nutrition in elderly care, these are the regulations (e.g. SOSFS 2014:10) and the quality registry SA pay-for-performance system. Further, *mimetic isomorphism* follows from copying the action or activity of another organization, within or outside the field, to follow best practice. An example from this context could be the yearly-performed open comparisons survey, which has a benchmarking function. The third type of isomorphism, the *normative*, is associated with professionalisation. Formal education at universities produces a competence base from which new knowledge can be diffused among professional networks. An example in this context is access to clinical/community or food service dietitians at local level.

The Donabedian model of care

In Paper II, the modified version of the Donabedian model of care served as the framework for investigating quality indicators of the nutritional care process pertaining to food service. The model's general nature makes it applicable to a broad context, including the context of food service in elderly care (113).

In the 1960s, Donabedian first described the three elements of what was to become a widespread and acknowledged framework denoted ‘The Donabedian Model of care’ (114). This framework conceptualises quality as a three-dimensional construct consisting of *structure*, *process* and *outcome*. The model seeks to embrace a holistic view, however the elements are not to be regarded as attributes of quality as such, but instead classifications of the types of information that can be obtained in order to understand quality (115). *Structure*, the first element, denotes the environment of the care organisation, including material and human resources along with organisational structures. The second element, *process*, denotes the activities in care and the third element, *outcome*, represents the effects of and satisfaction with care. According to Donabedian, the three elements form a causal chain and there is a presupposed relationship between structure and process, and process and outcome. In this chain, good structure enhances the probability of good process and good process increases the possibility of good outcome (116).

For outcomes to be used as quality of care measures, they must reflect or be responsive to variations in the care being assessed. For example, it is known that monitoring the weight of older adults is a necessary part of measuring nutritional status and that adequate nutritional status reduces the probability of malnutrition. Alternatively, providing individualised meals in a homelike environment increases meal ambiance and improves the chances of meal satisfaction.

However, the linear progression in the Donabedian model has been questioned as being somewhat limited, making it difficult to identify influences and interactions among the different elements. In 1999, Coyle and Battles suggested a modification of the model (117) where important precursors in the assessment of quality of care also needed to include personal characteristics and environmental factors outside the care environment. Consequently, it was suggested that *antecedent* attributes also be considered in the model.

Integrated Promoting Action on Research Implementation in Health Services (i-PARIHS)

This framework was foremost developed and is used as a practical tool in implementation processes. However, in Paper III, in which the implementation process of a regulation was studied, the framework served as a lens in order to comprehend the implementation process studied through a survey.

The elderly care sector is under constant development, building on evidence-based knowledge. A theoretical framework can facilitate systematic adoption of new knowledge. One example of such is the Promoting Action on Research Implementation in Health Services (PARIHS). This framework, initially introduced by Kitson and colleagues in 1998 (118), connects new

knowledge with existing experiences. Since then, the framework has undergone continuous refinements and testing, resulting in further developed versions (119, 120).

In the revised version presented by Harvey and Kitson in 2016, the authors sought to provide a more coherent and comprehensive version of the framework, the i-PARIHS. The additional *i* stands for *innovation* and denotes the first construct in the framework. *Innovation* stands for the focus or content of the implementation process. Another construct is *recipients*, which refers to those who will be directly involved in the implementation process and their motivation, values, beliefs and collaborations. The remaining two constructs, *context* and *facilitation*, derive from the original framework, where *context* includes, for example, priorities, organisational culture and regulatory framework at local and external levels. Finally, *facilitation* denotes the active element that integrates the other three constructs and promotes successful implementation (120). The briefly described constructs overarch different characteristics (not elaborated here), which makes the framework a comprehensive tool.

Aims

The overall aim of this thesis is to study local level outcomes regarding food service and nutritional care in Swedish elderly care, related to the progress of national actions.

The specific aims for papers I-IV are as follows:

Paper I: To explore the outcome, on a local level, of steering, organization and practices of elderly care food service by Swedish municipalities, and changes relative to national actions.

Paper II: To explore the effect of antecedent, structural and process quality indicators of nutritional care practice in relation to the outcomes meal satisfaction and screened nutritional status among older adults in residential care homes.

Paper III: To describe perceived facilitators in the process of adopting a new regulation that aims to prevent and treat malnutrition.

Paper IV: To explore associations between level of adoption of the regulation and registrations in the quality registry Senior Alert.

An overview of the four papers is provided in Table 1.

Material and methods

Overview

Table 1. An overview of the four papers included in the thesis

| Paper | I | II | III | IV |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Study design and approach | Descriptive cross-sectional study | Cross-sectional study The Donabedian model of care | Cross-sectional study The i-PARIHS framework | Registry data study |
| Data collection | A repeated national questionnaire addressed to managers and food service dietitians in elderly care, conducted in 2006 and 2013/14 | Aggregated data from the national questionnaire from 2013/14. Registry data from Senior Alert extracted January to March 2014. Statistics from the Open comparison survey in elderly care 2014 | A national questionnaire addressed to chief medical nurses in elderly care, conducted in 2016 | Registry data from Senior Alert extracted January to March in 2014, 2016 and 2017 and the national questionnaire from 2016 |
| Material | 2006= 231 municipalities 2013/14= 162 municipalities Both= 131 municipalities | 1154 residents in residential care homes representing 117 municipalities | 225 chief medical nurses, representing 217 municipalities | 2014= 18967 residents, in 209 municipalities 2016= 20318 residents, in 197 municipalities 2017= 25669 residents, in 199 municipalities |
| Statistical analyses | Descriptive statistics, Pearson's chi-squared test, Fisher's test, McNemar paired samples test, Binominal test | Descriptive statistics, Pearson's chi-square test, ANOVA, Pearson's correlation analysis, Hierarchical regression analysis, Binominal logistic regression analysis | Descriptive statistics, Ordinal logistic regression PCA, Cronbach's alpha, Mann-Whitney U-tests, Kruskal-Wallis test | Descriptive statistics, Pearson's chi-square test, ANOVA, Repeated measures ANOVA |

Population and demographics

For all papers, data from Statistics Sweden (20) and the Swedish Agency for Growth Policy Analysis (SAGPA) (121) have supported the structure of the data. A classification originating from the Organisation for Economic Cooperation and Development, and for Swedish conditions structured by SAGPA, was used to group the municipalities (Figure 1). The classification is based on population density, size and proximity to population agglomerations.

In this thesis, three groups are denoted: *rural* ($\geq 50\%$ of the population live in rural areas), *urban* ($< 50\%$ of the population live in rural areas) and *city* ($\leq 20\%$ of the population live in rural areas and, with neighbouring municipalities, a combined population of at least 500,000 inhabitants). The Swedish municipalities were distributed as follows: *rural* 45% of all municipalities ($n=131$) 1,673,785 inhabitants, *urban* 45% of the municipalities ($n=130$) 5,087,343 inhabitants and *city* representing 10% of all municipalities ($n=29$) 3,359,114 inhabitants.

Local variability in elderly care has received research consideration over a number of years (21, 23, 122). Consistent with the Swedish government's reforming intent to open up the welfare service sector to privatisation, previous studies have, for example, shown that privately provided elderly care is mainly established in city areas (123). Based on the assumption that a similar trend would also be found when considering provision of food and meals, a division into groups has been applied in all four papers.



Figure 1. Municipality groups
rural= light grey, *urban*= dark grey and *city* =black
Source: Report 2014:04 www.tillvaxtanalys.se

A repeated national questionnaire on food service (Paper I)

Paper I is a cross-sectional study based on two surveys conducted seven years apart. In the spring of 2006, a questionnaire was developed at Umeå University in cooperation with the NBHW and SALAR. The purpose of this extensive questionnaire (comprising 78 items) was to investigate the general structure and organisation of food service in elderly care along with detailed questions on practical issues.

A follow-up questionnaire, a shortened version (comprising 61 items), was conducted from November 2013 to January 2014, using Questback (questback.com) for administration. All questions were close-ended, each with an attached field for comments. Municipalities that participated in both questionnaires (2006 and 2013/14) were included in the comparison of results between the two. From both questionnaires, twelve items covering the areas steering and follow-up, organisation and practice of food service were selected for Paper I. These items are presented in Table 2.

Table 2. Questions from Surveys 2006 and 2013/14 identified as key characteristics

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Steering and follow-up routines |
| Do the foodservice providers comply with the Swedish National Food Agency's recommendations on meals for older adults? ^b |
| Do you have policies, guidelines or other equivalent documents for the elderly care foodservice provider? ^a |
| Is adherence to the policy or equivalent document followed up? ^a |
| Organisation of foodservice and access to competences |
| Are elderly care meals supplied by the municipality? (public food service provider) ^b |
| Are elderly care food and meals supplied by a private foodservice provider? ^b |
| Do you have access to a clinical/community dietitian/s? ^b |
| Do you have access to a foodservice dietitian/s? ^b |
| Practice of providing foodservice in residential care and home-help service |
| What food technology system is used for meals in residential care homes? Several answers can be given ^d |
| Is there an option of menu choices in the residential care homes? ^e |
| Is there an option of menu choices in the home-help service? ^e |
| Which services are offered to older adults living at home in need of help with cooking? Several answers can be given. |
| If ready-to-eat meals are provided, what is the delivery form and frequency? Conventional, daily delivery; chilled, daily delivery; chilled, delivered ≤ 3 times per week; modified atmosphere, delivered ≤ once a week; frozen, delivered ≤ once a week? ^e |

Answer alternatives:

^a Yes/No

Yes = [Yes, in all/Yes, in most operations], No = [Yes, in some/Yes, in very few/No, not in any operation]

^d Hot; Cold; Cold (Cook-Chill); Frozen; Other

Yes = [Yes, for everybody/Yes, for most], No = [Yes, for some/Yes, for a few/No, not

^e for anyone/Other]

Both questionnaires addressed elderly care managers in all (n=290) Swedish municipalities. For larger municipalities, divided into districts, several responses were potentially possible. In such a scenario, results from different districts would be merged into one, to represent the major characteristics of the municipality. Due to the broad spectra of items, various professionals were encouraged to respond jointly, e.g. elderly care managers, food service managers and clinical/community dietitians.

Quality indicators of nutritional care practice (Paper II)

Paper II is a cross-sectional study that investigated nutritional care practice with a focus on quality indicators related to food service, framed by an elaborated version of the Donabedian model of care (116, 117), described earlier. Paper II builds on data merged from the 2013/14 survey (from Paper I), data from the Open comparison survey of elderly care in 2014 (124), and records from the quality registry SA (102) for which the inclusion criteria were individuals registered with adequate data in SA in the time period from January to March 2014. The individuals included should also be resident in the participating municipalities.

In Paper II, two different outcome variables were chosen. The first, satisfaction with meals, was measured on a municipal level. The second, screened adequate nutritional status, was measured on an individual level using MNA-SF (score 12-14). Figure 2 presents all quality indicators.

| Antecedents of nutritional care practice | | |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------|
| Municipality groups (m,Q) | | |
| Age (i, SA) | | |
| Structure | Process | Outcome |
| Senior Alert coverage (m,SA) | Chilled food production system (m,Q) | Meal satisfaction, (m,OC) |
| National recommendations (m,Q) | Energy and nutrient calculated meals (m,Q) | Nutritional status screened by MNA-SF (i,SA) |
| Local food policy (m,Q) | Meal choice (m,Q) | |
| Private provider (m,Q) | Satisfaction questionnaires (m,Q) | |
| On-site cooking (m,Q) | 'Meal councils' (m,Q) | |
| CC dietitian (m,Q) | | |
| FS dietitian (m,Q) | | |
| Data level: individual (i), municipal (m) | | |
| Data source: Questionnaire (Q), Senior Alert quality registry (SA) ¹ , Open Comparisons (OC) ² | | |

Figure 2. Source and data level of antecedents, structure, process and outcome quality indicators of nutritional care practice.

A national questionnaire on the adoption of a new regulation (Paper III)

For this cross-sectional study, the first author created a web-based questionnaire inspired by the core constructs in i-PARIHS (120, 125). This framework (described earlier) may be used to illuminate how knowledge translation is implemented in practice.

The first author conducted five cognitive interviews with chief medical nurses (CMN) as a first step in the creation of the questionnaire. For this, a verbal probing technique was exercised to ensure face validity (126). The final version of the questionnaire comprised twelve subjects (of which four had several items). All items had close-ended responses, with the additional possibility to add a comment or to respond with ‘don’t know’.

In May 2016, a cover letter and the questionnaire were e-mailed to the official address of each Swedish municipality (n=290), requesting that these be further distributed by their registrars to CMNs working in elderly care.

The different parts of the i-PARIHS framework (*innovation, recipients, context and facilitation*) were incorporated into the different subjects of the questionnaire. The parts, described by Harvey and Kitson (120), could be interpreted in various ways and resulted in some overlap between subjects. This was, however, not considered to be a problem when constructing the questionnaire or in the analysis of the results.

Table 3. *The subject of support in the adoption of new routines in accordance with the new regulation SOSFS 2014:10*

Support might be needed in order to adopt new routines in accordance with SOSFS 2014:10. What importance do you consider the following statements to have in your municipality?

- a) Prioritised by politicians
 - b) Prioritised by the administrative management
 - c) Prioitised by my immediate work group
 - d) Acceptance among care recipients
 - e) Acceptance among peers of care recipients
 - f) Sufficient competence among politicians
 - g) Sufficient competence in the administrative management
 - h) Sufficient competence in my immediate work group
 - i) Enough human resources
 - j) Areas of responsibilities among relevant professions are clearly defined
 - k) Established cooperation between relevant professions
 - l) Clearly defined goals for the provision of food and meals in elderly care
-

Response alternatives:

totally decisive, very important, somewhat important, not important, or don’t know

The questionnaire comprised subjects such as background information, perceptions of prevalence of malnutrition and preventive work (*context and recipients*), degree of adoption of new routines (*innovation*), obstacles or sup-

port in the process (*recipients* and *context*) and which professions were perceived to have a driving role in the process of adopting new routines (*recipients* and *facilitators*). The CMNs in elderly care (in Swedish MASar) were regarded as the main *facilitators* and the new national regulation aiming to prevent and treat malnutrition (SOSFS 2014:10) (76) was interpreted as the main *innovation*. Table 3 presents the items concerning support, which constitutes a key subject in this study. Another key subject is the professions perceived to have driving roles in the adoption process. These are presented in Table 4.

Table 4. Professions perceived by the respondents to have a driving role in the process of adopting new routines in accordance with the new regulation

To what degree do you perceive that the following professions have, or will have, a driving role in the adoption process of new routines in accordance with the SOSFS 2014:10?

- a) Assistant nurse
 - b) Chief medical nurse
 - c) Clinical/community dietitian
 - d) Food and meal representative
 - e) Food service dietitian, consultant
 - f) Food service dietitian, manager
 - g) Kitchen manager
 - h) Nurses' aid
 - i) Registered nurse
 - j) Speech therapist
 - k) Operations manager
 - l) Physician
-

Response alternatives:

to a very high degree, to a high degree, to a small degree, to a very small degree, or don't know

Comparison of quality registry data (Paper IV)

This study is a continuation of study III, with results from the participating municipalities being further investigated. Registry data pertaining to the participating municipalities were extracted from SA during three periods: January to March in 2014, 2016 and 2017. These points in time were chosen in order to study activities in SA before and after the entry into force of the regulation SOSFS 2014:10 on January 1, 2015. The extracted data covered screened nutritional status by MNA-SF and subsequent actions following the screening for older adults (≥ 65 years old) residing in residential care homes. Data on these residents were gathered from the 217 municipalities that participated in study III. The objective for including these residents and municipalities was to evaluate a potential impact of self-reported level of adoption of new routines ('no', 'started' or 'yes') according to the regulation.

Statistical analysis

In Paper I, for comparison of data between the surveys 2006 and 2013/14, the non-parametric McNemar's paired-sample test (binomial for small samples) was applied. Ordinal data were dichotomised in order to keep the sample size large enough for comparison between groups and between surveys. For this, descriptive statistics, Pearson's χ^2 -test (Fisher's test for small samples) were used.

Paper II used descriptive statistics for nutritional status. For comparison of individual indicators on nutritional status, Pearson's χ^2 -test was performed for categorical variables and one-way ANOVA for continuous variables. A hierarchical regression analysis created models introducing explanatory variables stepwise for meal satisfaction at a municipal level. A binomial logistic regression was performed to ascertain effects of structure and process quality indicators on the likelihood of adequate nutritional status among older adults (12-14 points, screened by MNA-SF).

In Paper III, descriptive analysis illustrated the characteristics of the recipient's construct. Ordinal logistic regression was used to find determinants associated with adopting routines according to the new national regulation. In order to explore key support and actors, a Principal Component Analysis (PCA) was conducted. Cronbach's alpha was computed to assess internal consistency reliability and to identify items that should be eliminated in order to increase the alpha. For differences between single items in the construct recipients, and single items and factors of key actors and support, Mann-Whitney U tests and Kruskal-Wallis tests were used.

In Paper IV, descriptive statistics illustrated the distribution from screening results and planned preventive interventions. A regression analysis was performed to investigate the association with the extent of registered actions and a regression analysis with repeated measures was used to compare data between the years 2014, 2016 and 2017.

The level of significance was set at 5% (significant result if $p < 0.05$) for Papers I-III and 0.1% (significant result if $p \leq 0.001$) for Paper IV due to the large sample size. The analyses were conducted in SPSS version 20.0 (Paper I) and version 22.0 (Papers II-IV). For Paper IV, SAS was also used to perform regression analysis with repeated measures.

Ethical considerations

For Papers I-III, cover letters were sent to participants, attached to the surveys, to inform them that municipalities would not be identifiable in the results, despite their non-confidential responses whereby the name of the municipality was known, although not the name of the individual respondent. Most importantly, the letters also explained that participation was voluntary and it can

therefore be argued that the participants gave their informed consent by responding. Nevertheless, for initial non-responders, two to three reminders were sent and, in one study, a telephone call replaced a written reminder to further encourage responses. A request for participation in this way might be perceived as being forced. In this balance of aggregated social and individual benefits versus a perceived ethical problem for the respondents (127), the former was assumed based on the questions being of a relatively insensitive nature.

One of the purposes of the quality registry SA is to support research. However, in using the material it is important to keep in mind that even if the older adults agreed in this case to be part of the records, they had not been informed of their potential participation in specific future research projects. One way of dealing with this was that personal identification numbers were to be removed prior to the researchers receiving the registry data, as was the case in Paper IV. This does not inform the participants or ask them for permission, but it does form one step towards protecting their identity.

For all Papers ethical approval was received by an advisory statement from the Regional Ethical Review Board of Medical Sciences in Uppsala (ref. no 1062013/386/1) and ethical rules from the Swedish Research Council were followed throughout the project (128).

Results

The representation of municipality groups varied to some extent in the different papers, but overall the proportions mirrored the distribution in the country, see Table 5.

Table 5. The distribution of municipality groups in Sweden in total and in Papers I-IV.

| | Year of data collection | Total (N) | Rural (%) | Urban (%) | City (%) |
|-----------|--------------------------------|------------------|------------------|------------------|-----------------|
| Sweden | total | 290 | 45 | 45 | 10 |
| Paper I | 2006 | 231 | 44 | 46 | 10 |
| | 2013/14 | 162 | 39 | 51 | 10 |
| | both | 131 | 40 | 51 | 9 |
| Paper II | 2013/14 | 117 | 38 | 53 | 9 |
| Paper III | 2016 | 217 | 45 | 42 | 13 |
| Paper IV | 2014 | 208 | 46 | 43 | 11 |
| | 2016 | 199 | 45 | 43 | 13 |
| | 2017 | 199 | 44 | 44 | 12 |

Paper I

In this study, the two questionnaires performed in 2006 and in 2013/14 achieved response rates of 80% and 56% respectively, meaning that 231 and 162 of the 290 municipalities submitted responses. The number of municipalities that responded to both questionnaires was 131 (45%).

Steering and organisation

Local food policies are an example of a steering device that increased between the surveys in 2006 and 2013/14, ($p=0.03$) from 70% to 82%, whereas the food policy follow-up declined from 88% to 75% ($p=0.002$). The guidelines introduced by the NFA in 2011 were used by 80% of municipalities in their work with provision of food and meals in elderly care.

In both surveys, the predominant food service organisation was public, being used by almost 90% of the municipalities. Analysing the data in groups, a chi-square test showed significant differences for 2013/14 between rural (98%), urban (89%) and city (53%) groups ($p<0.001$). The overall correspond-

ing figures for private providers were 4% and 6% respectively. City municipalities reported a higher and increased use of private food service organisations (from 17% to 33%), whereas rural (from 1% to 0%) and urban municipalities (from 4% to 5%) reported a low and stable rate of use. The municipality group differences for private providers were analysed using Fisher's exact tests and the results were significant for both surveys (2006, $p=0.01$ and 2013/14, $p<0.001$).

Access to dietitians

The access to food service dietitians increased from 62% in 2006 to 68% in 2013/14, while access to clinical/community dietitians declined from 38% to 20% ($p<0.01$). In 2013/14, food service dietitians held managerial positions more commonly in rural (84%) and urban (78%) municipalities than in city (27%) municipalities, where a consultant role was more common ($p<0.001$).

Food technology systems

In both surveys, a conventional (cook-serve) food technology system was most common, but the extent varied significantly between the municipality groups in 2006 ($p=0.01$) and 2013/14 ($p=0.04$). In the 2013/14 survey, Fisher's exact test showed a significant difference ($p=0.02$) in the use of a chilled food technology system (short shelf life) between rural (14%) and city (44%) municipalities. The practice of offering meal choices increased between the surveys in both residential care homes and in home-help services ($p<0.001$). Although starting from different levels, the provision of meal choices was two or three times more common in city compared to rural municipalities for both residential care homes ($p=0.002$) and home-help services ($p<0.001$) in both surveys.

Meals in home help services

In home help services, the overall most frequent service was ready-to-eat meals produced by a public food service organisation (i.e. the municipality). When analysed by groups, this service was most frequently reported by rural municipalities and least frequently reported by city municipalities in both 2006 ($p=0.01$) and 2013/14 ($p=0.02$). However, ready-to-eat meals produced by a public food service organisation decreased overall from 71% to 57% ($p=0.002$). Rural municipalities were the most frequent users of conventional ready-to-eat meals delivered daily in both 2006 ($p=0.004$) and 2013/14 ($p=0.01$). In addition, the use of these types of meals declined significantly overall between the surveys ($p=0.001$). The decline in conventional ready-to-eat meals with daily delivery was replaced by increased chilled ready-to-eat meals delivered three times a week ($p=0.002$).

Paper II

In this study, the merged sample included 1154 individuals representing 117 municipalities.

Screened as well-nourished

For the quality indicators access to a clinical/community dietitian ($p=0.008$) and chilled food production systems ($p=0.026$) as well as the municipality groups ($p=0.028$) the distribution differed significantly between the groups well-nourished and at risk/malnourished.

A binominal logistic regression showed that access to a clinical/community dietitian (structure indicator) was positively associated, with being screened well-nourished (12-14 points in MNA-SF), odds ratio 1.76. Further, two process indicators, offering energy and nutrient calculated meals more than doubled the odds of being well-nourished, odds ratio 2.11, while the use of a chilled food production system was negatively associated with being well-nourished, odds ratio 0.45. The full model containing 14 indicators was statistically significant ($\chi^2(15) = 38.441$, $p = 0.001$) and explained approximately 7% (Nagelkerke R^2) of the variance in being screened by MNA-SF as well-nourished.

Meal satisfaction

The results of the hierarchical regression analysis for meal satisfaction showed that the two antecedents of care together explained 3.1% of the total variance of satisfaction with meals for the study sample in model one, in which older adults in rural and urban municipalities were significantly more likely to be satisfied with meals. In model two, six structure quality indicators explained an additional 11.4% of the variance. Older adults in municipalities were more likely to be satisfied with meals where private providers supplied the meals, if meals were cooked on site and if a food service dietitian was available. In contrast, access to a clinical/community dietitian was negatively associated with meal satisfaction. In the third and final step, five process quality indicators produced a model that explained another 3.7% of the variance of meal satisfaction. Older adults were significantly less likely to be satisfied with meals in municipalities using a chilled food production system offering energy and nutrient calculated meals and meal choices. The total variance explained by the full model was 18.2% ($F(14, 1000) = 31.085$, $p < 0.0001$).

Paper III

In this study, the questionnaire resulted in 225 responses, with five municipalities giving more than one response, representing 217 out of 290 municipalities and yielding a response rate of 75%. Fifty percent of the municipalities had adopted routines according to the new regulation, 42% had started and 8% had not started.

Characteristics of respondents

Nearly half of the respondents perceived that the new regulation had strengthened work with malnutrition problems in elderly care, while a third identified malnutrition to be a problem in elderly care. A great majority (83%) of the responding CMNs had longer than five years experience of working in elderly care, mostly as registered nurses, while about two thirds of them had five years or less experience in their current position as CMN.

Adoption of new routines

In the associations to having adopted routines according to the new regulation, the ordered logistic regression showed that the odds of being in a higher category of the dependent variable ('no', 'started' or 'yes') was around three times higher when preventive work had been performed in the municipality prior to the new regulation, odds ratio 3.07 (95% C.I. 1.13 to 8.31), when the new regulation was considered to have strengthened local work with malnutrition problems, odds ratio 2.82 (95% C.I. 1.57 to 5.08), and when CMNs had more than five years experience of working in elderly care, odds ratio 2.61 (95% C.I. 1.06 to 6.40).

Key actors and support items

In the process for the adoption of the new regulation, single key actors such as registered nurses and CMNs were perceived to have or to be assigned the main driving role. The PCA analysis of twelve items that represented different key actors, resulted in four factors with eigenvalues greater than one. The factors were labelled 'First line team' (explained 32.2% of the variance) 'Expert team' (14.4%) 'Management team' (11.5%) and 'Surrounding resources' (9.1%). In total, the four factors explained 67.1% of the variance.

The two most important support items when adopting new routines were reported to be *cooperation between professions* and *well-defined goals*. The PCA results for the twelve support items produced three factors with an eigenvalue greater than one. These factors were labelled 'Agile teamwork', which explained 40% of the variance, 'Management and leadership' (for which all items loaded negatively), 12.8% and 'Acceptance', 12%, which together explained 64.9% of the variance.

Important associations

Mann-Whitney U-tests showed that ‘Expert teams’ ($p=0.033$), physicians ($p=0.034$), and *cooperation between occupations* ($p=0.005$) were more important to those CMNs with less than 5 years in their current position. Further, clinical/community dietitians ($p=0.019$), CMNs ($p=0.046$), and having adequate human resources ($p=0.028$) were more important for those who considered the new regulation to have strengthened the work to a large or very large extent.

Kruskal-Wallis tests showed that ‘Expert teams’ ($p=0.005$), with professions such as clinical/community dietitians ($p=0.002$), physicians ($p=0.015$) and speech therapists ($p=0.012$) were more important to city than rural or urban municipalities. For rural municipalities, however, food service dietitian managers ($p=0.022$) and support items such as *prioritised by work group* ($p=0.009$) and *competence in work group* ($p=0.025$) were valued higher.

Paper IV

The data presented here are listed in chronological order for the years 2014, 2016 and 2017. This registry study based on data from Senior Alert included screening data on 18,967, 20,318 and 25,669 individuals. It also included data on registered actions for 11,500, 11,284 and 16,377 individuals resulting in 62,122, 67,714 and 88,453 registered actions for those individuals. In 2014, 209 municipalities were represented. The corresponding figures for 2016 and 2017 were 197 and 199 municipalities. In SA, the number of registrations with complete data increased over the years 2014, 2016 and 2017 for municipalities included in the study.

MNA-SF scores

The mean MNA-SF score was quite stable, varying between 10.3 and 10.4 points. The share of residents screened as being well-nourished fluctuated from 38.6% in 2014 to 40.6% in 2016 and back to 39.5% in 2017. There was no significant difference ($p=0.038$) in MNA-SF scores associated with rate of adoption of the regulation for any of the years.

Extent of actions in SA

The mean number of actions per individual ranged from 5.4 to 5.7 actions per individual. A regression analysis to predict number of actions registered in SA showed that the best predictor for the extent of actions was the screening result of MNA-SF. The screening indicated that the number of actions increased by 0.6 for each unit’s decrease in MNA-SF score. In addition, if municipalities reported having adopted routines in accordance with the regulation, this was

shown to significantly predict an increased number of actions as was city municipality groups in comparison to rural.

Most common actions

Five of the twenty-eight suggested actions in SA were most common. Offering snacks, decrease night-time fasting period, review of prescribed medicines, weight measurement every third month, and encouragement and support at meal times, represented more than half of all registered actions for each year. None of these differed significantly in use in relation to the municipalities' level of adoption of the regulation.

The overall distribution of type of actions depending on MNA-SF scores were generally the same for 2014, 2016 and 2017. Further, the distribution of actions was, in general, less with increasing MNA-SF scores with the exception of three major actions, decrease night-time fasting period, weight measurement every third month and, foremost, review of prescribed medicines. They all constituted a higher proportion within the highest MNA-SF score group (12-14).

Discussion

The overall aim of this thesis was to study local level interpretations regarding food service and nutritional care in Swedish elderly care in relation to the progress of national actions. Starting with Paper I, the two questionnaires (2006 and 2013/14) offered an overview of the general situation of food service organisations. By comparing the situation seven years apart, an indication of the progression over time could be seen. These results also served as a platform for the subsequent studies (Papers II-IV).

Regulations, soft governance and benchmarking devices used as incentives for national actions appeared to be substantial drivers of local level steering, organisation and practices. However, these are conditioned by contextual differences in which the different perspectives interact in a complex mix of planned strategies, cultural traditions and environmental pressures. As discussed below, differences and trends in isomorphism among the participating municipalities revealed a struggle to balance local autonomy and universalism.

Indicative overview of food service organisations, steering and practice

In Paper I, in general large differences were noted between rural and city municipalities, while urban municipalities were positioned in-between. The trend of contracting out meal provision in city municipalities seems to be well in line with the Swedish government's intent to open up the welfare service sector, and elderly care in particular, to privatisation (24). However, in contrast with city municipalities, urban and in particular rural municipalities, do not seem to follow this trend where a more traditional public organisation was instead apparent. The reasons for this discrepancy might be explained by contextual differences; previous studies have found that private providers are more attracted to densely populated areas (123). It may be that densely populated areas are presumed to be more profitable due to the shorter distances between care recipients.

Despite their limitations, local food policy documents and high adherence to national guidelines, as reported in Paper I, might serve both providers and controllers in their role to ensure the fulfilment of standards in order to achieve

good quality meals (129, 130). The reason for an emphasised control is explained by the municipal responsibility for the quality and food safety of the provided meals, regardless of provider organisation. Stolt and others have emphasised the importance of governance and control devices due to NPM and contracting out (23, 24, 131). In fact, Paper I indicated a prevalent and increasing use of these steering documents, especially in city municipalities where contracting out was most reported.

Further, in a report from 2014, the NFA proposed a statutory clarification regarding the responsibility for food and meals in elderly care (132). The report expressed expectations that a clarifying regulation would reduce the number of interpretations of general framework laws and lead to a positive progression in the area. It seems as if a need for decisive tools to guide local level food service providers is growing as contracting out increases.

One reason for introducing a cook-chill system is cost reduction, since this technology permits longer shelf-life of the food produced and the use of equipment and labour thereby becomes more efficient (70). Its introduction could be regarded as an effect of NPM. Cook-chill is further described as suiting large-scale food production and productions separated from the recipients (133). However, the costly investments involved in changing production systems might explain the overall prevailing predominance of a conventional (cook-serve) system found in Paper I. The reluctant use of cook-chill production systems especially pronounced in rural municipalities as opposed to the city group which reported the reverse pattern, further emphasises the contextual differences between these municipality groups.

In Paper II, chilled production systems were negatively associated with both meal satisfaction and being well-nourished and hence appear advantageous only from an organisational perspective. For the care recipient, the limited flexibility due to reduced transportation frequency or a perceived impaired sensory quality due to the food being chilled and reheated are possible reasons for the negative association (134).

In home care, the most common single service was a daily delivered hot meal box although this is decreasing. Cooking from scratch, which was previously regarded as a principal component of home care (135), was found in Paper I to be the meal service least likely to be offered. Since older adults can be considered as being vulnerable consumers, the handling of food requires adequate food safety knowledge (136). Temperature control is one principal characteristic of food safety and another is time limit constraints (137, 138). In light of these conditions, the predominance of the daily delivery of cook-serve meals in rural municipalities (Paper I) was unexpected, with the presumed longer distribution distances making it difficult to meet food safety requirements. Viewed from a cultural perspective, the rural municipality group appeared to be dominated by a traditional system resistant to changes caused by outer forces. However, this must be further studied in order to explore

whether this traditional stability is preferred or forced upon them due to contextual limitations.

The option of meal choices was one of the first benchmarking indicators in the open comparison survey starting in 2007. This led to a significantly increased practice both in residential care homes and in home care, especially evident in city municipalities. The indicator has been replaced by another, but seems to be a well-sanctioned practice that is to be continued unsurveyed. According to earlier studies, the option of meal choices might help older adults maintain personal control, improve consumption and experience increased satisfaction (46, 71). However, previous studies also show that the time between meal choice and consumption needs to be short otherwise the positive effect is instead replaced by reduced consumption (71). In elderly care, choice directly followed by consumption is unfortunately not a common practice, especially evident in home care where the time-lapse can amount to weeks.

Meal choice as an isomorphic effect

Paper II contributes insight into the association of quality indicators of nutritional care practice and their link to meal satisfaction and screened nutritional status. Led by the Donabedian model of care, the quality indicators chosen for this study focused on aspects of food service with the outcome variables meal satisfaction and being well-nourished (screened by MNA-SF).

For meal satisfaction, there were, in general, positive associations between structure indicators, e.g. private provider and access to food service dietitians, and negative associations with process indicators, e.g. meal choice and energy and nutrient calculated meals. The negative association with meal choice (process indicator) found in this study contradicts results from other studies (71, 73), and will therefore serve as an example for the discussion regarding different understandings of the results in Paper II.

The average age when moving to a residential care home is 86 years for women and 84 years for men (34). Thus, the residents are old but age itself is not the reason for them moving. Most are also frail and multimorbid. In light of this, the residents might not wish or be able to participate in making choices, but instead trust that they will be provided with their preferred meals.

Through another lens connected to the myth perspective, the results reveal a system malfunction. In this perspective it can be assumed that the meal choice is withheld from the residents, e.g. the staff make the choice, or that there is not enough of both alternatives to actually provide the chosen meal (139) and instead the meal choice becomes just a symbolic service. As previously described, meal choice was one of the first indicators in the benchmarking comparison survey. As described by coercive and mimetic isomorphism, its vast proliferation, especially in city municipalities, can be assumed to have developed from surrounding pressures used to increase status, legitimacy or to follow best practice.

In the 2013/14 survey, respondents from rural municipalities wrote in free text that instead of offering choices, effort was instead put into offering a meal that was appreciated by many older adults. Results from Paper II showed that residents in urban and rural municipalities were more satisfied with meals. In addition, as seen in the results in Paper I, city municipalities provided meal choices and largely used chilled production systems, which in Paper II was shown to be negative for meal satisfaction. The question arises therefore as to whether the provision of customised meals might be more preferable than the possibility of choosing from meal choices that may not be customised.

Access to food service dietitians and clinical/community dietitians

Access to food service dietitians showed the strongest positive association with meal satisfaction in Paper II, while the results pointed to a negative association between clinical/community dietitians and meal satisfaction. Since it is difficult to find a plausible explanation for the latter result in the literature, it can be speculated that it is connected to the special diets that are prescribed, since these are not chosen by the older adults themselves and therefore may affect the results negatively. On the other hand, a strong positive association with being well-nourished was seen for clinical/community dietitians and meals where the energy and nutrition contents were calculated.

In line with other studies, these results indicate a need for both these dietetic professional profiles in order to provide high quality service from different perspectives (140). This is something that might be challenging since the results of Paper I showed that in 2013/14 only about two thirds of the municipalities reported having access to a food service dietitian and 20% to a clinical/community dietitian, which was a significant decline from 2006. About 14% of the participating municipalities reported having access to both professions in 2013/14. Due to the need for both clinical/community dietitians and food service dietitians in setting policies and putting them into practice, as well as for taking on controller functions, the poor coverage found in Paper I raises concerns. From this viewpoint, it could be reasoned that normative isomorphism constitutes an essential part of universalism in elderly care. For an organisation, the potential for action, i.e. the ability to carry out tasks and not just plan them, is dependent on what it has the capacity to do (108). As shown in this thesis, the numbers of personnel and their competence are fundamental to achieving this.

Further, continued contracting out or privatisation of the provision of meals implies changed ways of working, including for professions such as clinical/community dietitians and food service dietitians. Due to this progression, their traditional roles might need to expand to also include or be exchanged

for controller functions in order to ensure adequate quality of food service and nutritional care.

The adoption of a new regulation from a local perspective

Paper III provides insights into the local challenges of adopting new routines due to regulatory incentives and provides examples of a well-established local autonomy. This study was performed one year after a regulation entered into force that aims to prevent and treat malnutrition in health and social care (SOSFS 2014:10).

From an instrumental perspective, new routines according to the regulation would, by a means-end rationality, be adopted by all municipalities. However, of the responding municipalities (every municipality must appoint at least one CMN), 50% reported having new routines in place according to the regulation, although about 80% reported having performed preventive work prior to its launch. Seen from a myth or cultural perspective, actions that gradually develop based on previous experience and what is perceived legitimate and reasonable in the working environment seem to be a better fit. Paper III showed that the factors most decisive for adopting new routines according to the regulation were prior preventive work, a perception of the regulation as positive and CMNs' long experience in elderly care. This example of local autonomy or decentralised power is well-established and further elaborated by other authors (141), in short denoting the challenges in local adoption of centralised steering.

Within the i-PARIHS framework, facilitation is described as the active element that integrates the other constructs and promotes successful implementation (125). Hence, in this study, CMNs were regarded as facilitators with their overall responsibility for safe and appropriate care, and for ensuring that regulations are followed. The results also showed that CMNs regarded themselves and the team members in the immediate vicinity of the older adult as facilitators. Of additional importance for all respondents in Paper III was an organisational structure with well-defined roles and responsibilities. Politicians do not possess knowledge in all areas, instead they need to rely on the professionals within elderly care. Because of this, the official goals reflect the professionals' values and knowledge, which can be understood from both cultural and instrumental perspectives (108). From a cultural perspective, the professionals carry normative and institutionalised values yet have the knowledge to carry out actions by means-end rationality, e.g. evidenced-based knowledge. In Paper III, the CMNs appeared to have confidence in their 'close-working teams' and seemed to be independent of external professions such as politicians, who were considered of low priority and not reported as facilitating the process. This preferred decentralised power appeared to be especially important for CMNs in rural municipalities.

Further, in Paper III, food service dietitians were shown to be more important to experienced CMNs in rural municipalities, while clinical/community dietitians were shown to be more important to CMNs in city municipalities, who considered malnutrition to be a large problem and that the regulation had strengthened their work.

In line with other studies, e.g. Ross and colleagues (142), malnutrition as a concern requiring organisational change was considered to be of minor significance. Less than 40% considered malnutrition to be a large or very large problem in Paper III. Ross and colleagues identified knowledge, interdisciplinary communication, adequate resources, and responsibility as crucial factors for the improvement of nutritional care (142). As described above, these aspects were also identified in Paper III as being important in the adoption of new routines. In the cognitive interviews that preceded the questionnaire (Paper III) and in the free text responses (not previously shown) some CMNs described malnutrition as sometimes being an unavoidable condition in the later part of older adults lives (Paper III). By respecting an older adult's autonomy when they decline help, they expressed, in line with other studies, that there is a fine line between carrying out forced feeding and providing good nutritional care (91, 92).

Mission completed?

Paper IV contributes insights into registrations in SA in relation to the level of adoption of SOSFS 2014:10. No definite conclusions could be drawn in the attempt to measure adherence to the regulation by studying registrations in the quality registry. A higher level of adoption of the regulation showed some association with increased extent of actions per individual, but low MNA-SF scores from screening were shown to be most decisive. However, contemplating the intention of the regulation, i.e. to prevent and treat malnutrition, screened nutritional status did not improve with a higher level of adoption of the regulation and it affected the type of actions taken after screening to only a small extent. According to Christensen et al (108), an intention such as this can be purposefully broad or vague in order to reflect the complexity in public organisations. It may constitute goals or visions that are unreachable, but provides instead a broad legitimacy for both external and internal actors.

However, in general, the actual number of individuals registered in SA increased after the regulation entry. Although constituting an increased burden for the health and social care professionals, this is a positive progress for the residents whose nutritional status risked being overestimated without screening (84). As described earlier, screening is an important first step in nutritional care and the subsequent actions are a way to prevent a decline in nutritional status (44, 143). To do this requires a validated and robust tool that is convenient for use in different health and social care professions, e.g. MNA-SF (84). In Paper IV, the proportion of residents screened as being malnourished or at

risk of malnutrition was over 50%. This figure is congruent with other Swedish studies in comparable contexts that also used MNA-SF as the assessment tool (44, 78).

The registry provides 28 predetermined actions in connection with malnutrition problems. In Paper IV, a small number of these actions accounted for more than half of all those taken, regardless of level of adoption or screened nutritional status, both before and after the launch. Support and encouragement at meal times, weight measurement every third month, provision of snacks, decrease night time fasting period, and review of prescribed medicines constituted the most prevalent actions, each representing about ten percent. Judging by their nature, it seems that they (with the exception of the last action), can be practiced by ward staff without a higher education, and therefore not necessarily by a registered nurse, community/clinical dietitian or speech therapist. It also seems that the practice of these actions does not require an inter-professional collaboration, but can be performed by a single staff member on the ward. Conversely, other predetermined actions, such as the provision of enriched or texture-modified meals, require a certain level of knowledge and also collaboration with other healthcare professionals, e.g. speech therapist or food service dietitian. A reason for this well-established pattern of five primary actions could be that they constitute optimised nutritional care, representing a multimodal intervention for a multi-factorial problem such as malnutrition (86, 144-146). Another reason could be that these actions, and not others, are achievable despite lack of resources or knowledge. Insufficient nutritional knowledge among health and social care professionals is recognised as a weakness that needs to be strengthened (147, 148).

Taking into consideration the modest effects registered in SA after the regulation was entered into force, it appears as if this national action is not fully implemented in practice. Implementation is a long and time-consuming process and there are multiple reasons for it not having been fully achieved. However, from another perspective, local level organisations might consider that the mission has been completed through the formulated routines that describe preventive work in theory (100). Seen from a myth perspective, the formulated routines uphold legitimacy without having to change the organisations way of working (110) and, from a cultural perspective, indicate a lack of priority within the internal organisation.

Methodological discussion

In social sciences, it is difficult to conduct cause and effect studies. Due to complex organisations within, for example, the elderly care sector, outcomes from specific measures are most likely nested and hence confounded by other procedures and hard to isolate. It would seem as if broad approaches are preferable and outcomes should be thought of in terms of association rather than

effect. Benefitting from different theoretical models, a broad approach has been an ambition when planning the four studies in this thesis.

With an objective to cover as many municipalities as possible, data collection methods such as questionnaires and registry data records constitute the basis of this thesis. The great advantage of questionnaires is that they have the ability to efficiently reach a vast number of responders at a reasonably low cost (149). Responses can also be given at times suitable for the respondent (within a limited timeframe) and the items can be pre-viewed, allowing for some consideration before responding.

The drawback of questionnaires and registry data is that they rely on self-reported data, which can lead to misleading results and hence a risk of diminished validity and reliability (150). Since neither questions nor responses can be verified by this indirect transfer of knowledge, questions may be asked as to whether the 'right' things were measured and if the responses were 'correct'. The target groups of the questionnaires included in this thesis were foremost food service dietitians, elderly care managers and CMNs. They are all examples of professions burdened with continuous audits and surveys, suggesting a risk for survey fatigue (151). This could jeopardise the response rate or their attitude towards surveys leading to careless responses (152). To reduce this risk, one of the questionnaires (2013/14) was postponed for six months since it was known that the target group had recently participated in several extensive surveys. Lengthy surveys can also be considered a risk for careless responses as they require a more sustained effort from the respondents (153). There is a balance in not asking too many questions whilst at the same time asking enough to cover the research aim.

High response rates are described as desirable because of precision and power, assuming that high response rates are more likely to represent the studied population (154). However, in a meta-analysis of methodological studies of nonresponse rates, Groves and Peytcheva found that this is not necessarily predictive, since surveys with low response rates may also accurately represent the population (155). In addition, as survey fatigue increases, thresholds representing high response rates may be less realistic. The response rates for the three questionnaires included in this thesis reached 80%, 56% and 75% respectively. Although the response rate of 56% might be questioned, these levels can be considered acceptable and a sign of interest among the professions involved in the progress of food service and nutritional care in elderly care. Further, considering the representative distribution of different municipality groups in all Papers (presented in Table 5), they indicate an adequate representation.

In the work to complete this thesis, there have been some methodological obstacles, one of which is exemplified in Paper III. For this study, the questionnaire was designed to analyse the results by regression analyses. However, responses for the outcome variable concerning whether municipalities had adopted routines in line with the new regulation in residential care homes were

skewed, in the sense that the distribution between responses ‘no’, ‘started’ and ‘yes’ did not allow this kind of analysis. Instead, the ‘no’ responses were omitted and PCAs were performed. This was deemed a reasonable option fitting well with the theoretical framework (previously described) utilised in Paper III. PCA reduces a larger set of variables into a smaller set of 'principal components' that account for most of the variance in the original variables. This was useful since we wanted to find *facilitating* patterns in the implementation process.

The screening tool MNA-SF should also be reflected upon since results obtained from its use are used in two of the papers. The tool is judged to be robust and was designed and validated for use with frail older adults (84). However, it is used by a variety of health and social care professionals as part of the registration in SA, and there is always a risk of differences in interpretation of the screening and the possibility of varying individual interpretations concerning further actions in SA. These risks need to be taken into consideration when analysing the results.

Further, it is well known that meal satisfaction (used as an outcome variable in Paper II) influences dietary intake and overall satisfaction (71, 156, 157), but is difficult to measure. This is especially apparent among older adults who might have difficulty expressing themselves due to suffering from dementia or other cognitive impairments (158) or who are hesitant to complain due to their position of dependence (159). Nevertheless, according to Donabedian, satisfaction is denoted as a core value in care (116). In agreement with his values, an additional aspect is also careful handling of the results in order for the respondents to perceive participating in surveys worthwhile.

Future perspectives

The broad approach chosen for this thesis provided a comprehensive picture of food service and nutritional care in elderly care, and the thesis has shed light on a significant area. In future studies, new approaches could provide deeper knowledge that might be gained from qualitative methods. It would, for example, be interesting to study the way in which the regulation (SOSFS 2014:10) is regarded in everyday work or on what grounds certain preventive actions are chosen over others in the work to prevent and treat malnutrition.

In addition, it would be interesting to further explore quality indicators in order to gain a deeper understanding of important associations and predictors of nutritional care practice and the outcome of interventions. These matters could be studied, for example, through focus groups or interviews and would add to the knowledge about how national steering tools and actions intervene in daily practice.

Finally, but importantly, an area that has been scarcely studied is the provision of food and meals in home care and the preceding needs assessment.

This domain involves multiple professions whose knowledge, actions and inter-collaboration together contribute to the nutritional status and satisfaction of the older adult. This is another area that needs further exploration.

Conclusions

From this thesis, it can be concluded that:

- There were differences between municipality groups regarding organisation, steering and practices of food service and nutritional care, with city and rural municipalities representing the greatest contrasts. The local conditions in city municipalities seemed to enable an adaptive response to national actions to a higher extent than for rural municipalities.
- A comprehensive use of local food policies indicated their increased function as a steering tool, but also indicated a need for steering tools in the work of quality assurance and audits.
- With malnutrition being an issue of great concern, the reduced and low access to clinical/community dietitians is worrying since this profession emerged as being of importance for the nutritional status of older adults. The number of food service dietitians was stable but coverage was lacking in some municipalities. The roles of these professions seem to be undergoing a change towards having an increased controller function due to increased privatisation.
- From an instrumental perspective, national actions appeared weak. However, seen from an institutional perspective central steering seemed gradually to affect local level practices over time, although from varying points of departure.
- Municipalities seemed to execute national actions to an extent that legitimises their organisations, with a preserved organisational set-up to suit local conditions and needs. This reflects strong local autonomy and the importance of local access to sufficient capacity and knowledge.

Svensk sammanfattning

Bakgrund

Mat och måltider utgör en väsentlig del av äldreomsorgen där det serveras uppemot 360 000 måltider dagligen (37). Måltider inom äldreomsorgen fyller samtidigt flera funktioner där exempelvis den sociala aspekten är lika betydelsefull som den näringsmässiga. Men trots måltidens mångdimensionella funktioner betraktas den inte som en kärnverksamhet utan marginaliseras ofta till ett stöd i äldreomsorgsverksamheten (3, 39).

Antalet äldre ökar kontinuerligt i Sverige (12). Samtidigt minskar antalet platser på äldreboenden och som ett alternativ erbjuds äldre i första hand hemtjänst (35). Generellt har de som uppfyller kraven för hjälp, i synnerhet de som erbjuds plats på äldreboenden, omfattande vård- och omsorgsbehov, och här utgör undernäring ett centralt problem.

Svensk välfärd har under flera decennier genomgått stora förändringar och sedan 1980-talet, när New Public Management etablerades som styrfilosofi inom den offentliga sektorn, är äldreomsorgen en av de verksamheter som i hög grad blivit föremål för privatiseringar, krav på effektivitet och uppföljning (160). Mat och måltider som en del av denna välfärdstjänst har också påverkats av dessa marknadslänkande influenser, framför allt genom att hela eller delar av måltidsverksamheter lagts ut på privata aktörer, genom effektiva produktionssystem har blivit vanligare och individuellt anpassade måltider kommit att erbjudas i allt högre grad.

Matens kvalitet inom äldreomsorgen är ett ständigt omdebatterat ämne samtidigt som undernäringens problematiken fått allt större uppmärksamhet. Detta har resulterat i en rad nationella initiativ till förbättringar. Bland dem kan Livsmedelsverkets råd om bra mat till äldre nämnas (95). Socialstyrelsen genomför vidare årliga undersökningar bland utförare och äldreomsorgsgästare, genom öppna jämförelseundersökningar där mat och måltidsfrågor utgör en liten del (96). Myndigheten införde vidare år 2015 en föreskrift (SOSFS 2014:10) som syftar till att förebygga och behandla undernäring inom vård och omsorg (76).

Trots en universalistisk grundsyn i svensk välfärd leder det lokala självstyret hos landets 290 kommuner till en brokig mångfald av tolkningar och utföranden. I denna avhandling har verksamheten runt välfärdstjänsten mat och måltider på kommunal mellannivå (mesonivå) studerats, det vill säga det gränssnitt i den offentliga organisationen där beslut och riktlinjer förbereds,

verkställs och följs upp. På denna mellannivå fastställs ramarna för en fortsatt operativ verksamhet i kommunerna. Mot bakgrund av detta är det viktigt att utveckla ny kunskap kring denna hittills otillräckligt beforskade del av den kommunala måltidsverksamhetens styrning, organisation, och struktur.

Syfte

Det övergripande syftet med denna avhandling är att studera lokal måltidsverksamhet i relation till de nationella initiativ till förbättringar som genomförts.

Delsyfte I: att studera kommuners måltidsverksamhet avseende styrning, organisation och tillämpningar på lokal nivå, samt eventuella förändringar som en följd av nationella initiativ till förbättringar.

Delsyfte II: att studera effekten av bakgrunds-, struktur-, och processkvalitetsvariabler avseende nutritionsomhändertagande i relation till måltidstillfredsställelse och nutritionsstatus, bland äldre på särskilda boenden.

Delsyfte III: att beskriva faktorer som upplevs underlätta implementeringen av en ny föreskrift vilken syftar till att förebygga och behandla undernäring.

Delsyfte IV: att studera sambandet mellan införandegrad av nya rutiner enligt föreskriften och registreringar i kvalitetsregistret Senior alert.

Metod

Delarbete ett baseras på resultaten från en omfattande nationell enkätundersökning om kommuners måltidsverksamhet som genomfördes vid två tillfällen; våren 2006 och vid årsskiftet 2013-14. Enkäten riktades till äldreomsorgschefer och kostchefer inom äldreomsorg. I jämförelsen av resultat mellan 2006 och 2013/14 inkluderades de kommuner som deltagit i bägge undersökningarna.

För delarbete två användes delar av resultatet från enkätundersökningen som genomfördes 2013/14, registerdata från kvalitetsregistret Senior alert (SA) och data från Socialstyrelsens öppna jämförelser år 2014. Materialet analyserades med utgångspunkt från Donabedians modell för kvalitetsmätningar i vården, i vilken struktur, process och resultat utgör stommen (114-116). Struktur innefattar kvalitetsindikatorer som hör till organisation och tillgängliga resurser, processdimensionen syftar till de rutiner som finns, det vill säga vad som görs, och resultatdimensionen slutligen är utfallet av de tidigare. Modellen förutsätter att de ingående kvalitetsindikatorerna har ett samband som påverkar varandra. Exempelvis antas tillgång till dietist (struktur), påverka

energi- och näringsanpassade måltider (process) vilket leder till förbättrad nutritionsstatus (resultat). I delstudie två lades även bakgrundsfaktorer som inte hör till äldreomsorgen till, exempelvis individens kommundillhörighet.

Det tredje delarbetet bygger på resultat från en nationell enkätundersökning riktad till alla medicinskt ansvariga sjuksköterskor inom äldreården. Denna enkät utarbetades med utgångspunkt från en teoretisk modell: Integrated Promoting Action on Research Implementation in Health Services (i-PARIHS), framtagna som stöd i implementeringsprocesser (118-120). Denna modell fokuserar på vad som ska implementeras, samt på den organisation, de individer och den kontext som omger och påverkar implementeringen.

Det fjärde delarbetet utgörs av registerdata från kvalitetsregistret SA (102), från vilket registreringar om MNA-SF och förebyggande åtgärder begärdes för perioden januari till och med mars för åren 2014, 2016 och 2017. Dessa årtal valdes för att möjliggöra jämförelser mellan registreringarna ett år före införandet av föreskriften SOSFS 2014:10 (som trädde i kraft 1 januari 2015), och ett respektive två år efter dess införande.

Resultat

I delarbete ett var förändringarna mellan åren små totalt sett, men uppdelat på kommungrupperna stad, tätort och landsbygd framkom tydliga skillnader. De i särklass vanligaste utförarna av måltidsservice var offentliga utförare, det vill säga kommunerna. Dock visade kommungruppen stad stora ökningarna av privata utförare till skillnad från övriga kommungrupper, där de utgjorde en liten andel i bägge undersökningarna. Kommungruppen stad utmärkte sig även i fråga om kylmatsystem och utbudet av valmöjligheter som var större i denna grupp. Kommuner med anställda kostvetare/kostekonomier var relativt stabilt i antal mellan åren, medan kommuners tillgång till dietister uppvisade en signifikant minskning. Kostvetare i chefspositioner återfanns i betydligt större utsträckning i gruppen landsbygds- och tätortskommuner. Vad gäller service av måltider till hemmaboende äldre med hemtjänst, var daglig leverans av matlåda den vanligaste formen generellt och i synnerhet i kommungruppen landsbygd. Denna andel minskade dock mellan enkätundersökningarna och ersattes till stor del av kyllda matlådor levererade tre gånger i veckan.

I delarbete två erhöles resultat för kvalitetsindikatorerna nutritionsstatus (mätt genom MNA-SF), och nöjaktighet med maten (andelen nöjda eller mycket nöjda), bland äldre på särskilda boenden. Strukturindikatorn tillgång till dietist visade att sannolikheten ökade för god nutritionsstatus (MNA-SF 12-14 poäng). Även processindikatorn, energi- och näringsriktiga menyer fördubblade sannolikheten för god nutritionsstatus. En annan processindikator, kylmatsystem, visade på minskad sannolikhet för god nutritionsstatus. Vad gäller den andra resultatindikatorn framkom att äldre som bor i kommungrupperna

landsbygd och tätort var mer nöjda med maten än de som bor i kommungruppen stad. De boende var mer nöjda med maten när den producerats av privata utförare, när den var lagad på plats och om en kostvetare fanns anställd i kommunen, medan tillgång till dietist var negativt associerat till nöjaktighet. Vidare visade analysen att äldre på särskilda boenden var mindre nöjda med maten när kylsystem tillämpades, när menyerna för målgruppen äldre var energi- och näringsriktiga och när valmöjlighet erbjöds.

Enkätstudien i det tredje delarbetet redovisar hur medicinskt ansvariga sjuksköterskor (MASar) uppfattat implementeringen av Socialstyrelsens föreskrift om förebyggande av och behandling vid undernäring (SOSFS 2014:10). Hälften av de deltagande kommunerna svarade att de infört rutiner i enlighet med föreskriften, 42 % uppgav att de påbörjat arbetet och 8 % svarade att de inte börjat ta fram nya rutiner. Nästan hälften av respondenterna ansåg att den nya föreskriften hade stärkt kommunens arbete avseende undernäringssituationen, och en tredjedel ansåg att undernäring utgjorde ett betydande problem bland äldre med särskilt boende. Sannolikheten att kommuner svarade att de infört nya rutiner i enlighet med den nya föreskriften var högre för de kommuner som arbetat preventivt redan innan föreskriften trätt i kraft, för de som ansåg att föreskriften stärkt kommunens arbete med undernäringssituationen, och där MASar hade mer än fem års arbetslivserfarenhet inom äldreomsorg. I implementeringsarbetet rapporterades sjuksköterskor och MASar utgöra nyckelaktörer med självpåtagna eller tilldelade drivande roller och ”äldrenera” arbetslag utgjorde kärnan i implementeringsarbetet. De två viktigaste stödfunktionerna vid implementering av nya rutiner rapporterades vara ett etablerat samarbete mellan yrkesgrupper samt tydligt formulerade mål för mat och måltider inom äldreomsorgen. Expertgrupper med yrkesgrupper som dietist, läkare och logoped ansågs viktigare i kommungruppen stad än i övriga kommungrupper, medan kostchefer och stödfunktioner som prioritering och kompetens i den egna arbetsgruppen värderades högre i kommungruppen landsbygd.

Delarbete fyra, som bygger på registerdata från SA, visar hur antalet kompletta registreringar i SA mellan åren 2014 och 2017 ökade. Det genomsnittliga screenade MNA-SF-värdet var stabilt (cirka 10 på den 14-gradiga skalan) över de tre åren. En analys med syfte att uppskatta antalet förebyggande åtgärder, visade att screeningresultat från MNA-SF hade störst positivt samband. Även kommuner som hade färdiga rutiner enligt föreskriften, samt kommungruppen stad, visade ett visst positivt samband med antalet åtgärder. Dock visade analysen att kommuner med färdiga rutiner enligt föreskriften inte kunde associeras med ett ökat MNA-SF värde, det vill säga god nutritionsstatus. Fem av de 28 föreslagna åtgärderna i registret var i särklass vanligast förekommande. Mellanmål, minskad nattfasta, läkemedelsgenomgång, vägning var tredje månad samt stöd och uppmuntran vid måltider, stod för mer

än hälften av alla registrerade åtgärder under samtliga år. Olika införandegrader av rutiner enligt föreskriften (inte börjat, börjat, klar) hade ingen effekt på vilken typ av åtgärd som registrerats. Screeningresultatet påverkade inte heller vilken typ av åtgärd som registrerats för något av åren 2014, 2016 eller 2017.

Denna avhandling bygger till största delen på resultat från enkätundersökningar och registerdata. En stor fördel med enkätundersökningar är att de är kostnads- och tidseffektiva (149). En nackdel är att resultaten bygger på självrapporterade uppgifter för vilka riktigheten inte kan kontrolleras (150).

Slutsats och reflektion

Avhandlingens resultat visar tydligt den drivkraft som finns inom kommunerna, men här framträder även kommunernas vitt skilda förutsättningar för att kunna tillämpa nationella initiativ och marknadsliknande influenser. Kommungruppen stad var mer förändringsbenägen än tätort och framförallt landsbygdsgruppen. Svårigheten att attrahera privata utförare i glesbygdsområden tydliggör skillnaden i förutsättningar mellan kommungrupperna. En trend mot effektivisering och individanpassning inom måltidsverksamheter framträder dock i den ökade användningen av kylmatssystem och valmöjlighet vid måltider, där det sistnämnda förefaller ha påverkats av Socialstyrelsens öppna jämförelser.

Paradoxalt nog visar resultaten från delstudie två att just kylmatssystem och valmöjlighet skapade en minskad grad av nöjaktighet bland äldre på särskilda boenden. Generellt visade den studien att processindikatorer till skillnad från strukturindikatorer inte korrelerade positivt med utfallet. Resultatet kan tolkas på olika sätt. Ett är att boende sätter stor tillit till den lokala måltidsorganisationen i att den tillgodoser bästa möjliga omsorg, och att ett aktivt deltagande, exempelvis att få välja måltid, uppfattas som överflödigt eller icke önskvärt. En annan tolkning är att detta indikerar ett dysfunktionellt system där valmöjligheten i praktiken undanhålls och således bara finns på papperet.

I den tredje delstudien framträder kommunernas vilja och tilltro till självbestämmande tydligt genom det faktum att den tvingande föreskriften SOSFS 2014:10 inte implementerats i samtliga kommuner ett år efter att den trätt i kraft. Det föreföll även som att de ”äldrenera” yrkesgruppernas inställning och arbetssätt hade en överordnad betydelse jämfört med perifera politikerns och tjänstemäns inflytande på prioriteringar i arbetet. Behov av yrkeskunnande och interprofessionella samarbeten och identifierades vidare.

I den fjärde delstudien iaktogs få uppenbara effekter av föreskriftens (SOSFS 2014:10) ikraftträdande utöver att antalet registreringar ökat generellt. Ett ökat antal registreringar är i sig positivt då screening för undernäring är ett viktigt första steg i nutritionsomhändertagandet (44). Fem av 28 förebyggande åtgärder stod för mer än hälften av alla insatser. Detta oavsett grad av implementering av föreskrift eller screenad nutritionstatus. Åtgärderna var

till naturen sådana att de kunde utföras utan krav på specialkompetens som exempelvis dietist eller logoped. Detta kan tolkas som att dessa fem åtgärder anses vara de som fungerar bäst i arbetet mot undernäring, alternativt utgör de åtgärder som är rutinmässigt inarbetade och möjliga att genomföra i den stressade arbetsmiljö som vård- och omsorgsarbetet utgör. De blygsamma effekterna av föreskriften SOSFS 2014:10, kan avslutningsvis förstås mot bakgrund av att dess praktiska implementering ännu inte införts fullt ut, och här kan brist på tid, kunskap eller prioritering vara några möjliga förklaringar. Införandet kan möjligen ses som en acceptans av institutionaliserande styrning för att uppnå lagstadgade krav, med risk att själva målet förbises. Om så är fallet, kan det vara så att implementeringen anses vara uppfylld i och med att rutinen är skriven.

Ett gemensamt mönster i samtliga delstudier var att kompetens i nutrition spelar en stor roll för måltidsverksamhetens arbete och utveckling och inte minst för den äldre. Den minskade tillgången till dietister inom äldreomsorg är i det sammanhanget ett problem. Det föreföll också som att kommunerna anpassade sina åtaganden, utfärdade av staten, på en nivå som legitimerade deras verksamhet inom de lokala förutsättningarnas gränser. Med andra ord att intentionen tolkades på olika sätt och att graden av implementering var avhängigt lokala förutsättningarna och ambitioner.

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References

1. Persson J, Sahlin N-E. Vetenskapsteori för sanningsökare. Stockholm: Fri tanke; 2013.
2. Edwards JSA, Overstreet K. What is food service? *J Foodservice*. 2009;20:1-3.
3. Edwards JSA, Hartwell HJ. Institutional meals. In: Meiselman HL, editor. *Meals in Science and Practice: Interdisciplinary Research and Business Applications*. Oxford: Elsevier Ltd.; 2009. p. 102-27.
4. Gregoire MB. *Foodservice organizations: a managerial and systems approach*. Boston: Pearson; 2016.
5. Cederholm T, Barazzoni R, Austin P, Ballmer P, Biolo G, Bischoff SC, et al. ESPEN guidelines on definitions and terminology of clinical nutrition. *Clin Nutr*. 2017;36(1):49-64.
6. The Health Care Act (Hälso- och sjukvårdslag SFS 2017:30). Stockholm: Socialdepartementet (In Swedish)
7. The Social Services Act (Socialtjänstlag SFS 2001:453). Stockholm: Socialdepartementet (In Swedish)
8. Wang Y, Polillo S. Power in Organizational Society: Macro, Meso and Micro. In: Abrutyn S, editor. *Handbook of Contemporary Sociological Theory*. Cham: Springer International Publishing; 2016. p. 43-61.
9. Whitbred R, Fonti F, Steglich C, Contractor N. From microactions to macrostructure and back: A structural approach to the evolution of organizational networks. *Hum Commun Res*. 2011;37(3):404-33.
10. Mattsson Sydner Y. Den maktlösa måltiden: om mat inom äldreomsorgen [dissertation on the Internet]. Uppsala: Uppsala universitet; 2002. [cited 2018 Jan 22]. Available from: <http://www.diva-portal.org/smash/get/diva2:161869>

11. Pajalic Z. Matdistribution till hemmaboende äldre personer ur flera perspektiv [dissertation on the Internet]. Örebro: Örebro universitet; 2013. [cited 2018 Jan 22]. Available from: <http://oru.diva-portal.org/smash/record.jsf?pid=diva2%3A610453&dswid=-8817>
12. Saletti A. Nutritional status and mealtime experiences in elderly care recipients [dissertation on the Internet]. Stockholm: Karolinska Institutet; 2007. [cited 2018 Jan 22]. Available from: <https://openarchive.ki.se/xmlui/handle/10616/39819>
13. Törmä J. Implementation strategies for nutritional guidelines in nursing homes: Effects on care staff and residents [dissertation on the Internet]. Uppsala: Uppsala universitet; 2017. [cited 2018 Jan 22]. Available from: <http://uu.diva-portal.org/smash/record.jsf?pid=diva2%3A1062729&dswid=125>
14. Moberg L. Marketization in Swedish eldercare: Implications for users, professionals, and the state [dissertation on the Internet]. Uppsala: Uppsala universitet; 2017. [cited 2018 Jan 22]. Available from: <http://uu.diva-portal.org/smash/record.jsf?pid=diva2%3A1087105&dswid=3306>
15. Fredriksson M. Between equity and local autonomy: A governance dilemma in Swedish healthcare [dissertation on the Internet]. Uppsala: Uppsala universitet; 2012. [cited 2018 Jan 22]. Available from: <http://uu.diva-portal.org/smash/record.jsf?pid=diva2%3A461056&dswid=-3393>
16. Freijer K. Nutrition economics - an introduction [internet]. ISPOR connection 20:4; 2014 [cited 2018 Feb 12]. Available from: <http://www.fightmalnutrition.eu/wp-content/uploads/2017/08/Introduction-to-nutrition-economics.pdf>
17. Sipilä J. Social care services: the key to the Scandinavian welfare model. Aldershot: Avebury; 1997.
18. Trydegård G-B, Thorslund M. One Uniform Welfare State or a Multitude of Welfare Municipalities? The Evolution of Local Variation in Swedish Elder Care. Soc Policy Admin. 2010;44(4):495-511.
19. Rauch D. Central versus local service regulation: Accounting for diverging old-age care developments in Sweden and Denmark, 1980-2000. Soc Policy Admin. 2008;42(3):267-87.

20. Statistics Sweden (Statistiska centralbyrån). Befolkningsstatistik [cited 2018 Jan 23]. Available from: <http://www.scb.se/hitta-statistik/>. (In Swedish)
21. Trydegård G-B, Thorslund M. Inequality in the welfare state? Local variation in care of the elderly – the case of Sweden. *Int J Soc Welfare*. 2001;10(3):174-84.
22. Davey A, Johansson L, Malmberg B, Sundström G. Unequal but equitable: an analysis of variations in old-age care in Sweden. *Eur J Ageing*. 2006;3(1):34-40.
23. Stolt R, Blomqvist P, Winblad U. Privatization of social services: Quality differences in Swedish elderly care. *Soc Sci Med*. 2011;72(4):560-7.
24. Erlandsson S, Storm P, Stranz A, Szebehely M, Trydegård GB. Marketising trends in Swedish eldercare: competition, choice and calls for stricter regulation. In: Meagher G, Szebehely M, editors. *Marketisation in Nordic eldercare: a research report on legislation, oversight, extent and consequences*. Stockholm: Stockholm University; 2013. p. 23-83.
25. Blomqvist P. The Choice Revolution: Privatization of Swedish Welfare Services in the 1990s. *Soc Policy Admin*. 2004;38(2):139-55.
26. Hood C. A public management for all seasons? *Public Admin*. 1991;69(1):3-19.
27. Pollitt C, Bouckaert G. *Public management reform: a comparative analysis: new public management, governance, and the neo-Weberian state*. Oxford: Oxford University Press; 2011.
28. Christensen T, Lægreid P. *The Ashgate research companion to new public management*. Farnham: Ashgate; 2011.
29. Szebehely M, Meagher G. Four Nordic countries - Four responses to the international trend of marketisation. In: *Marketisation in Nordic eldercare*, editors Szebehely M, Meagher G. Stockholm: Stockholm University; 2013. p. 241.
30. Szebehely M, Trydegård G-B. Home care for older people in Sweden: a universal model in transition. *Health Soc Care Community*. 2012;20(3):300-9.

31. Blomberg S. The specialisation of needs-assessment in Swedish municipal care for older people: the diffusion of a new organisational model. *Eur J Soc Work*. 2008;11(4):415-29.
32. National Board of Health and Welfare (Socialstyrelsen). Statistics on elderly and people with impairments - management form 2016. [cited 2018 Jan 23] Available from: <https://www.socialstyrelsen.se/publikationer2017/2017-2-18>
33. National Board of Health and Welfare (Socialstyrelsen). Vård och omsorg om äldre -Lägesrapport 2016. Report No: 978-91-7555-369-6. Falun; 2016. (In Swedish).
34. National Board of Health and Welfare (Socialstyrelsen). Statistik om särskilt boende. 2016. Art.nr: 2016-12-5. (In swedish).
35. Rostgaard T, Szebehely M. Changing policies, changing patterns of care: Danish and Swedish home care at the crossroads. *Eur J Ageing*. 2012;9(2):101-9.
36. Meiselman HL. Dimensions of the meal. *J Foodservice*. 2008;19(1):13-21.
37. National Food Agency (Livsmedelsverket). Fakta om offentliga måltider. [cited 2018 March 5] Available from: www.livsmedelsverket.se (In Swedish)
38. Farahani P, Grunow M, Akkerman R. Design and operations planning of municipal foodservice systems. *Int J Prod Econ*. 2013;144(1):383-96.
39. Fjellström C, Mattsson Sydner Y, Sidenvall B, Raats M M, Lumbers M. Organization, responsibility and practice of food provision in the home-help service - an exploratory study among professionals. *Br Food J*. 2015;117(7):1921-32.
40. Mattsson Sydner Y, Fjellström C. Food provision and the meal situation in elderly care – outcomes in different social contexts. *J Hum Nutr Diet*. 2005;18(1):45-52.
41. Keller HH. Reliance on others for food-related activities of daily living. *J Nutr Elderly*. 2005;25(1):43-59.
42. Edfors E, Westergren A. Home-Living Elderly People's Views on Food and Meals. *J Aging Res*. 2012;2012:761291.

43. Naseer M, Fagerström C. Prevalence and association of undernutrition with quality of life among Swedish people aged 60 years and above: Results of the SNAC-B study. *J Nutr Health Aging*. 2015;19(10):970-9.
44. Borgström Bolmsjö B, Jakobsson U, Mölsted S, Östgren CJ, Midlöv P. The nutritional situation in Swedish nursing homes - A longitudinal study. *Arch Gerontol Geriatr*. 2015;60(1):128-33.
45. The European Federation of the Associations of Dietitians (EFAD). Position Paper on the Role of the Food Service Dietitian. Granada: 2016. Available from: http://www.efad.org/media/1413/efad-statement-paper-on-the-role-of-the-food-service-dietitian_final-1.pdf
46. Abbey KL, Wright ORL, Capra S. Menu planning in residential aged care - The level of choice and quality of planning of meals available to residents. *Nutrients*. 2015;7(9):7580-92.
47. The European Federation of the Associations of Dietitians (EFAD). Dietitians in Europe Definition, Profession and Education. 2016. Available from: <http://www.efad.org/reportsandpapers/5276/5/0/80>
48. Suominen MH, Kivisto SM, Pitkala KH. The effects of nutrition education on professionals' practice and on the nutrition of aged residents in dementia wards. *Eur J Clin Nutr*. 2007;61(10):1226-32.
49. Gaskill D, Isenring EA, Black LJ, Hassall S, Bauer JD. Maintaining nutrition in aged care residents with a train-the-trainer intervention and nutrition coordinator. *J Nutr Health Aging*. 2009;13(10):913-7.
50. Mowe M, Bosaeus I, Rasmussen HH, Kondrup J, Unosson M, Rothenberg E, et al. Insufficient nutritional knowledge among health care workers? *Clin Nutr*. 2008;27(2):196-202.
51. Bauer S, Halfens RJG, Lohrmann C. Knowledge and attitudes of nursing staff towards malnutrition care in nursing homes: A multicentre cross-sectional study. *J Nutr Health Aging*. 2015;19(7):734-40.
52. Beattie E, O'Reilly M, Strange E, Franklin S, Isenring E. How much do residential aged care staff members know about the nutritional needs of residents? *Int J Older People Nurs*. 2014;9(1):54-64.
53. Keller H, Beck AM, Namasivayam A. Improving Food and Fluid Intake for Older Adults Living in Long-Term Care: A Research Agenda. *J Am Med Dir Assoc*. 2015;16(2):93-100.

54. Buccheri C, Mammina C, Giammanco S, Giammanco M, Guardia ML, Casuccio A. Knowledge, attitudes and self-reported practices of food service staff in nursing homes and long-term care facilities. *Food Control*. 2010;21(10):1367-73.
55. Thoresen L, Rothenberg E, Beck AM, Irtun Ø, Bosaeus I, Berit A, et al. Doctors and nurses on wards with greater access to clinical dietitians have better focus on clinical nutrition. *J Hum Nutr Diet*. 2008;21(3):239-47.
56. Evans BC, Crogan NL, Shultz JA. The meaning of mealtimes: connection to the social world of the nursing home. *J Gerontol Nurs*. 2005;31(2):11-7.
57. Nijs K, de Graaf C, van Staveren WA, de Groot LCPGM. Malnutrition and Mealtime Ambiance in Nursing Homes. *J Am Med Dir Assoc*. 2009;10(4):226-9.
58. Sidenvall B, Nydahl M, Fjellstrom C. The meal as a gift - The meaning of cooking among retired women. *J Appl Gerontol*. 2000;19(4):405-23.
59. National Food Agency (Livsmedelsverket). Mat och måltider i äldreomsorgen – vetenskapliga underlag om måltidsmiljö och verksamhetsstruktur, fysiologiska och sensoriska aspekter av åldrandet samt särskilda näringsbehov hos sköra äldre. Contract No: 37-2017. Livsmedelsverket; 2017. (In Swedish).
60. Janlöv AC, Hallberg IR, Petersson K. Older persons' experience of being assessed for and receiving public home help: Do they have any influence over it? *Health Soc Care Community*. 2006;14(1):26-36.
61. Timonen V, O'Dwyer C. 'It is nice to see someone coming in': Exploring the social objectives of meals-on-wheels. *Can J Aging*. 2010;29(3):399-410.
62. Food and Agriculture Organization of the United Nations. Food Security. June 2006. Available at: <http://www.fao.org/forestry/13128-0e6f36f27e0091055bec28ebe830f46b3.pdf>
63. Harnett T, Jonson H. Shaping nursing home mealtimes. *Ageing Soc*. 2017;37(4):823-44.
64. Fjellström C, Mattsson Sydner Y. Dependence and Individualism : The Influence of Modern Ideologies on Older People's Food Security. In: Phellas C, editor. *Aging in European Societies. International Perspectives on Aging 6*: Springer US; 2013. p. 47-60.

65. Jönson H, Jönsson A. Baby boomers as future care users - An analysis of expectations in print media. *J Aging Stud.* 2015;34:82-91.
66. National Board of Health and Welfare (Socialstyrelsen). Bostad i särskilt boende är den enskildes hem. 2011. Contract No.: 978-91-86585-82-2. Available at: <http://www.socialstyrelsen.se/publikationer2011/2011-1-12>; 2011. (In Swedish)
67. Trydegård G-B. Care work in changing welfare states: Nordic care workers' experiences. *Eur J Ageing.* 2012;9(2):119-29.
68. Tikkanen I, Silvan A. Developing the service process of municipal home care catering. *Nutr Food Sci.* 2012;42(5):315-23.
69. Assaf A, Matawie KM, Blackman D. Operational performance of health care foodservice systems. *Int J Contemp Hosp M.* 2008;20(2):215-27.
70. Burns J, Gregory S. Changing foodservice systems: A balancing act between patient satisfaction and cost. *J Foodservice Bus Res.* 2008;10(4):63-78.
71. Wright ORL, Connelly LB, Capra S, Hendrikz J. Determinants of foodservice satisfaction for patients in geriatrics/rehabilitation and residents in residential aged care. *Health Expect.* 2013;16(3):251-65.
72. Burger C, Kiesswetter E, Gietl A, Pfannes U, Arens-Azevedo U, Sieber CC, et al. Size matters! Differences in nutritional care between small, medium and large nursing homes in Germany. *J Nutr Health Aging.* 2017;21(4):464-72.
73. Crogan NL, Dupler AE, Short R, Heaton G. Food choice: Can improve nursing home resident meal service satisfaction and nutritional status. *J Gerontol Nurs.* 2013;39(5):38-45.
74. Carrier N, West GE, Ouellet D. Cognitively impaired residents' risk of malnutrition is influenced by foodservice factors in long-term care. *J Nutr Elderly.* 2007;25(3-4):73-87.
75. Cederholm T, Bosaeus I, Barazzoni R, Bauer J, Van Gossum A, Klek S, et al. Diagnostic criteria for malnutrition - An ESPEN Consensus Statement. *Clin Nutr.* 2015;34(3):335-40.
76. Socialstyrelsens föreskrifter och allmänna råd om förebyggande av och behandling vid undernäring (SOSFS 2014:10). Falun: Edita Bobergs

77. Marshall S. Why is the skeleton still in the hospital closet? A look at the complex aetiology of protein-energy malnutrition and its implications for the nutrition care team. *J Nutr Health Aging*. 2017;1-4.
78. Burman M, Säätelä S, Carlsson M, Olofsson B, Gustafson Y, Hörnsten C. Body mass index, mini nutritional assessment, and their association with five-year mortality in very old people. *J Nutr Health Aging*. 2015;19(4):461-7.
79. Törmä J, Winblad U, Cederholm T, Saletti A. Does undernutrition still prevail among nursing home residents? *Clin Nutr*. 2013;32(4):562-8.
80. Saarela RKT, Muurinen S, Suominen MH, Savikko NN, Soini H, Pitkälä KH. Changes in malnutrition and quality of nutritional care among aged residents in all nursing homes and assisted living facilities in Helsinki 2003–2011. *Arch Gerontol Geriat*. 2017;72:169-73.
81. Amaral TF, Matos LC, Teixeira MA, Tavares MM, Álvares L, Antunes A. Undernutrition and associated factors among hospitalized patients. *Clin Nutr*. 2010;29(5):580-5.
82. Ortolani E, Landi F, Martone A, Onder G, Bernabei R. Nutritional status and drug therapy in older adults. *Gerontol Geriat Res*. 2013;2(2):1-4.
83. Rasheed S, Woods RT. Malnutrition and quality of life in older people: A systematic review and meta-analysis. *Ageing Res Rev*. 2013;12(2):561-6.
84. Skates JJ, Anthony PS. Identifying Geriatric Malnutrition in Nursing Practice: The Mini Nutritional Assessment (MNA®)—An Evidence-Based Screening Tool. *J Gerontol Nurs*. 2012;38(3):18-27.
85. Kaiser MJ, Bauer JM, Rämsch C, Uter W, Guigoz Y, Cederholm T, et al. Frequency of malnutrition in older adults: a multinational perspective using the mini nutritional assessment. *J Am Geriat Soc*. 2010;58(9):1734-8.
86. Keller H, Beck AM, Namasivayam A. Improving food and fluid intake for older adults living in long-term care: A research agenda. *J Am Med Dir Assoc*. 2015;16(2):93-100.
87. Bell CL, Lee ASW, Tamura BK. Malnutrition in the nursing home. *Curr Opin Clin Nutr*. 2015;18(1):17-23.

88. Spaccavento S, Del Prete M, Craca A, Fiore P. Influence of nutritional status on cognitive, functional and neuropsychiatric deficits in Alzheimer's disease. *Arch Gerontol Geriat.* 2009;48(3):356-60.
89. Park Y-H, Han H-R, Oh B-M, Lee J, Park J-a, Yu SJ, et al. Prevalence and associated factors of dysphagia in nursing home residents. *Geriatr Nurs.* 2013;34(3):212-7.
90. Austbø Holteng LB, Frøiland CT, Corbett A, Testad I. Care staff perspective on use of texture modified food in care home residents with dysphagia and dementia. *Ann Palliat Med.* 2017;6(4):310-8.
91. Meier CA, Ong TD. To Feed or Not to Feed? A Case Report and Ethical Analysis of Withholding Food and Drink in a Patient With Advanced Dementia. *J Pain and Symptom Manag.* 2015;50(6):887-90.
92. Wallin V. Mat och måltider vid livets slut : patienter och närståendes erfarenheter av ätsvårigheter [dissertation on the Internet]. Stockholm: Karolinska Institutet; 2015. [cited 2018 Feb 1]. Available from: <https://openarchive.ki.se/xmlui/handle/10616/44484>
93. Mörth U. Soft law in governance and regulation: an interdisciplinary analysis. Cheltenham, UK; E. Elgar Pub; 2004.
94. Nordic Councils of Ministers. Nordic Nutrition Recommendations 2012 : Integrating nutrition and physical activity. 5th ed. Report No.: Nord 2014:002; 2008.
95. National Food Agency (Livsmedelsverket). Måltidsmodellen. [cited 2018 Jan 25] Available from: <https://www.livsmedelsverket.se/matvanor-halsa--miljo/maltider-i-var-d-skola-och-omsorg/maltidsmodellen>. (In Swedish)
96. National Board of Health and Welfare (Socialstyrelsen). Öppna jämförelser.[cited 2018 Jan 22] Available from: <https://www.socialstyrelsen.se/oppnajokforelser>. (In Swedish)
97. National Board of Health and Welfare (Socialstyrelsen). Öppna jämförelser 2015. Vård och omsorg om äldre: jämförelser mellan kommuner och län. Stockholm: Socialstyrelsen; 2016. (In Swedish).
98. National Board of Health and Welfare (Socialstyrelsen). Öppna jämförelser 2016. Vård och omsorg om äldre : jämförelser mellan kommuner och län. Stockholm: Socialstyrelsen; 2017. (In Swedish).

99. National Board of Health and Welfare (Socialstyrelsen). Stimulansbidrag till insatser för vård och omsorg om äldre - slutredovisning perioden 2007-2012 Stockholm: Socialstyrelsen; 2013. (In Swedish).
100. Hanberger A, Nygren L, Andersson K. Can State Supervision Improve Eldercare? An Analysis of the Soundness of the Swedish Supervision Model. *Br J Soc Work*. 2017;48(2):371-89.
101. Socialstyrelsens föreskrifter och allmänna råd om ledningssystem för systematiskt kvalitetsarbete (SOSFS 2011:9). Västerås: Edita Västra Aros
102. Edvinsson J, Rahm M, Trinks A, Höglund PJ. Senior alert: A quality registry to support a standardized, structured, and systematic preventive care process for older adults. *Qual Manag Health Care*. 2015;24(2):96-101.
103. Lannering C, Ernsth-Bravell M, Johansson L. Prevention of falls, malnutrition and pressure ulcers among older persons: nursing staff's experiences of a structured preventive care process. *Health Soc Care Commun*. 2017;25(3):1011-20.
104. Rosengren K, Höglund PJ, Hedberg B. Quality registry, a tool for patient advantages – from a preventive caring perspective. *J Nurs Manag*. 2012;20(2):196-205.
105. Mattson I, Boström J. Sammanhållen vård och omsorg om de mest sjuka äldre : utvärdering av överenskommelsen mellan regeringen och SKL : slutrapport. Stockholm: Statskontoret; 2015. Delrapport 5; Dnr 2010/66-5.
106. Trinks A, Henriks G. Årsrapport 2014 Senior alert. Region Plus Region Jönköpings län.
107. Trinks A, Henriks G. Årsrapport 2016 Senior alert. Region Plus Region Jönköpings län.
108. Christensen T, Laegreid P, Roness PG, Rovik KA. Organization theory and the public sector Instrument, Culture and Myth. Oxon: Routledge; 2007-12.
109. Meyer JW, Rowan B. Institutionalized Organizations: Formal Structure as Myth and Ceremony. *Am J Soc*. 1977;83(2):340-63.

110. DiMaggio PJ, Powell WW. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *Am Soc Rev.* 1983;48(6):147-60.
111. Scott WR. The Adolescence of Institutional Theory. *Admin Sci Quarterly.* 1987;32(4):493-511.
112. Powell WW, DiMaggio PJ. The new institutionalism in organizational analysis. Chicago: University of Chicago Press; 1991.
113. van Damme N, Buijck B, van Hecke A, Verhaeghe S, Goossens E, Beeckman D. Development of a quality of meals and meal service set of indicators for residential facilities for elderly. *J Nutr Health Aging.* 2015;20(5):471-7.
114. Donabedian A. Evaluating the quality of medical care. *Milbank Fund Q.* 1966;44(3):Suppl:166-206.
115. Donabedian A, Bashshur R. An introduction to quality assurance in health care. Oxford;New York: Oxford University Press; 2003.
116. Donabedian A. The quality of care: How can it be assessed? *JAMA.* 1988;260(12):1743-8.
117. Coyle YM, Battles JB. Using antecedents of medical care to develop valid quality of care measures. *Int J Qual Health Care.* 1999;11(1):5-12.
118. Kitson A, Harvey G, McCormack B. Enabling the implementation of evidence based practice: a conceptual framework. *Qual Health Care.* 1998;7(3):149-58.
119. Kitson A, Rycroft-Malone J, Harvey G, McCormack B, Seers K, Titchen A. Evaluating the successful implementation of evidence into practice using the PARIHS framework: theoretical and practical challenges. *Implement Sci.* 2008;3(1):1.
120. Harvey G, Kitson A. PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice. *Implement Sci.* 2016;11(1):33.
121. The Swedish Agency for Growth Policy Analysis (Myndigheten för tillväxtpolitiska utvärderingar och analyser). Bättre statistik för bättre regional- och landsbygdspolitik. Rapport 2014:04. Östersund, Tillväxtanalys; 2014. (In Swedish).

122. Winblad U, Blomqvist P, Karlsson A. Do public nursing home care providers deliver higher quality than private providers? : Evidence from Sweden. *Health Serv Res.* 2017;17(1):487.
123. Stolt R, Winblad U. Mechanisms behind privatization: A case study of private growth in Swedish elderly care. *Soc Sci Med.* 2009;68(5):903-11.
124. National Board of Health and Welfare (Socialstyrelsen). Öppna jämförelser 2014. Vård och omsorg om äldre : jämförelser mellan kommuner och län. Stockholm: Socialstyrelsen 2015. (In Swedish)
125. Kitson AL, Harvey G. Methods to Succeed in Effective Knowledge Translation in Clinical Practice. *J Nurs Scholarship.* 2016;48(3):294-302.
126. Willis GB. Cognitive interviewing : a tool for improving questionnaire design. Thousand Oaks, CA: Sage Publications; 2005.
127. Hermerén G. Kunskapens pris : forskningsetiska problem och principer i humaniora och samhällsvetenskap. Stockholm : Humanistisk-samhällsvetenskapliga forskningsrådet; 1996.
128. The Swedish Research Council (Vetenskapsrådet). Forskningsetiska principer inom humanistisk-samhällsvetenskaplig forskning. 2002. [cited 2014 March 23]. Available from: www.vr.se. (In Swedish).
129. Arvanitakis M, Coppens P, Doughan L, Van Gossom A. Nutrition in care homes and home care: Recommendations - a summary based on the report approved by the Council of Europe. *Clin Nutr.* 2009;28(5):492-6.
130. Trübswasser U, Branca F. Nutrition policy is taking shape in Europe. *Publ Health Nutr.* 2009;12(03):295-306.
131. Høy Engelund E, Lassen A, Egberg Mikkelsen B. The modernization of hospital food service - findings from a longitudinal study of technology trends in Danish hospitals. *Nutr Food Sci.* 2007;37(2):90-9.
132. Lilja K, Stevén I, Sundberg E, Nordström U. Bättre måltider i äldreomsorgen- vad har gjorts och vad behöver göras. Uppsala. Livsmedelsverket; 2014. Rapport 27-2014.

133. McClelland A. Trend to better nutrition on Australian hospital menus 1986-2001 and the impact of cook-chill food service systems. *J Hum Nutr Diet*. 2003;16(4):245-56.
134. Mavrommatis Y, Moynihan PJ, Gosney MA, Methven L. Hospital catering systems and their impact on the sensorial profile of foods provided to older patients in the UK. *Appetite*. 2011;57(1):14-20.
135. Watkinson-Powell A, Barnes S, Lovatt M, Wasielewska A, Drummond B. Food provision for older people receiving home care from the perspectives of home-care workers. *Health Soc Care Commun*. 2014;22(5):553-60.
136. Gettings MA. Food safety and older people. *Food for the Ageing Population: A volume in Woodhead Publishing Series in Food Science, Technology and Nutrition*: Elsevier Ltd; 2008. p. 501-24.
137. Akkerman R, Farahani P, Grunow M. Quality, safety and sustainability in food distribution: A review of quantitative operations management approaches and challenges. *OR Spectr*. 2010;32(4):863-904.
138. Puckett RP. *Foodservice Manual for Health Care Institutions*. 4th ed. Somerset, NJ, USA: John Wiley & Sons; 2012.
139. Kenkmann A, Hooper L. The restaurant within the home: Experiences of a restaurant-style dining provision in residential homes for older people. *Qual Ageing Older Adults*. 2012;13(2):98-110.
140. Walton K, Williams P, Tapsell L. Improving food services for elderly, long-stay patients in Australian hospitals: Adding food fortification, assistance with packaging and feeding assistance. *Nutr Diet*. 2012;69(2):137-44.
141. Fredriksson M, Winblad U. Consequences of a decentralized healthcare governance model: Measuring regional authority support for patient choice in Sweden. *Soc Sci Med* 2008;67(2):271-9.
142. Ross LJ, Mudge AM, Young AM, Banks M. Everyone's problem but nobody's job: Staff perceptions and explanations for poor nutritional intake in older medical patients. *Nutr Diet*. 2011;68(1):41-6.
143. Bauer S, Halfens RJG, Lohrmann C. Changes in nutritional status in nursing home residents and associated factors in nutritional status decline: a secondary data analysis. *J Adv Nurs*. 2017;73(10):2420-9.

144. Tamura BK, Bell CL, Masaki KH, Amella EJ. Factors Associated With Weight Loss, Low BMI, and Malnutrition Among Nursing Home Patients: A Systematic Review of the Literature. *J Am Med Dir Assoc.* 2013;14(9):649-55.
145. van der Pols-Vijlbrief R, Wijnhoven HAH, Schaap LA, Terwee CB, Visser M. Determinants of protein-energy malnutrition in community-dwelling older adults: A systematic review of observational studies. *Ageing Res Rev.* 2014;18:112-31.
146. Vucea V, Keller HH, Ducak K. Interventions for Improving Mealtime Experiences in Long-Term Care. *J Nutr Gerontol Geriat.* 2014;33(4):249-324.
147. Lea EJ, Goldberg LR, Price AD, Tierney LT, McInerney F. Staff awareness of food and fluid care needs for older people with dementia in residential care: A qualitative study. *J Clin Nurs.* 2017;26(23-24):5169-78.
148. Edwards D, Carrier J, Hopkinson J. Assistance at mealtimes in hospital settings and rehabilitation units for patients (>65 years) from the perspective of patients, families and healthcare professionals: A mixed methods systematic review. *Int J Nurs Stud.* 2017;69:100-18.
149. Bryman A, Nilsson B. *Samhällsvetenskapliga metoder.* Malmö: Liber; 2011.
150. Johnson TP, Wislar JS. Response rates and nonresponse errors in surveys. *J Am Med Assoc.* 2012;307(17):1805-6.
151. Meterko M, Restuccia JD, Stolzmann K, Mohr D, Brennan C, Glasgow J, et al. Response Rates, Nonresponse Bias, and Data Quality: Results from a National Survey of Senior Healthcare Leaders. *Public Opin Quart.* 2015;79(1):130-44.
152. Rogelberg SG, Fisher GG, Maynard DC, Hakel MD, Horvath M. Attitudes Toward Surveys: Development of a Measure and Its Relationship to Respondent Behavior. *Organ Res Methods.* 2001;4(1):3-25.
153. Meade AW, Craig SB. Identifying careless responses in survey data. *Psychol Methods.* 2012;17(3):437-55.
154. Biemer PP, Lyberg LE. *Introduction to survey quality.* Hoboken, NJ: John Wiley & Sons, Inc.; 2003.

155. Groves RM, Peytcheva E. The impact of nonresponse rates on nonresponse bias: A meta-analysis. *Public Opin Quart.* 2008;72(2):167-89.
156. Barnes S, Wasielewska A, Raiswell C, Drummond B. Exploring the mealtime experience in residential care settings for older people: an observational study. *Health Soc Care Commun.* 2013;21(4):442-50.
157. Pizzola L, Martos Z, Pfisterer K, de Groot L, Keller H. Construct Validation and Test–Retest Reliability of a Mealtime Satisfaction Questionnaire for Retirement Home Residents. *J Nutr Gerontol Geriat.* 2013;32(4):343-59.
158. Simmons SF, Cleeton P, Porchak T. Resident complaints about the nursing home food service: Relationship to cognitive status. *J Gerontol - Series B Psychol Sci Social Sci.* 2009;64(3):324-7.
159. Crogan NL, Short R, Dupler AE, Heaton G. The Influence of Cognitive Status on Elder Food Choice and Meal Service Satisfaction. *Am J Alzheimers Dis.* 2015;30(7):679-85.
160. Blomqvist P, Rothstein B. *Välfärdsstatens nya ansikte: demokrati och marknadsreformer inom den offentliga sektorn.* Stockholm: Agora; 2008.

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