

## Structure and process quality as predictors of satisfaction with elderly care

Petri J. Kajonius PhD Candidate<sup>1,2</sup> and Ali Kazemi PhD<sup>2</sup>

<sup>1</sup>Department of Psychology, University of Gothenburg, Gothenburg, Sweden and <sup>2</sup>School of Health and Education, University of Skövde, Skövde, Sweden

Accepted for publication 21 February 2015

### Correspondence

Petri J. Kajonius  
Department of Psychology  
University of Gothenburg  
P.O. Box 500, SE 405 30 Göteborg,  
Sweden  
E-mail: petri.kajonius@psy.gu.se

### What is known about this topic

- Quality of care can be decomposed into three distinct but related components of structure, process and outcome.
- Quality of caring relationships predicts satisfaction with care.

### What this paper adds

- In a Swedish national survey, structural variables such as budget per elderly person and care personnel certification/training showed no relationships with the elderly person's evaluation of care in terms of satisfaction, while staffing and budget per capita were weakly associated with satisfaction in nursing homes.
- Process factors such as respect and access to information were strongly associated with satisfaction.
- The integrated model on quality of care presented by Donabedian is a useful framework for predicting client satisfaction in elderly care.

### Abstract

The structure versus process approach to quality of care presented by Donabedian is one of the most cited ever. However, there has been a paucity of research into the empirical validity of this framework, specifically concerning the relative effects of structure and process on satisfaction with elderly care as perceived by the older persons themselves. The current research presents findings from a national survey, including a wide range of quality indicators for elderly care services, conducted in 2012 at the request of the Swedish National Board of Health and Welfare in which responses from 95,000 elderly people living in 324 municipalities and districts were obtained. The results revealed that the only structural variable which significantly predicted quality of care was staffing, measured in terms of the number of caregivers per older resident. More interestingly, process variables (e.g. respect and access to information) explained 40% and 48% of the variance in satisfaction with care, over and above the structural variables, in home care and nursing homes respectively. The findings from this large nationwide sample examining Donabedian's model suggest that quality in elderly care is primarily determined by factors pertaining to process, that is, how caregivers behave towards the older persons. This encourages a continued quality improvement in elderly care with a particular focus on process variables.

**Keywords:** elderly care, process, quality of care, satisfaction, structure

### Introduction

To our knowledge, no empirical studies to date have investigated the relative importance of structural and process variables for quality of care from the perspective of the older person. The theoretical point of departure for the present study is Donabedian's (1988) model of quality of care in terms of structure, process and outcome. We empirically test the model by analysing data from a Swedish nationwide survey on elderly care including all municipalities in Sweden.

Sweden is particularly interesting to study as it excels in many respects when it comes to elderly care in Europe. For instance, Sweden spends most in European elderly care (2.5% of GNP) (European Commission 2006) and is recognised for its generous state-run welfare system aiming at nationwide equality (Theobald 2003, Olsen 2013). Sweden has a municipality-based and publicly financed elderly care service, serving more than 300,000 people over 65 years of age, residing in nursing homes and receiving home care. A comparison of home-care services among European countries reveals that Sweden and the other Nordic countries are considered to maintain high quality in elderly care (Genet *et al.* 2011).

However, economic estimates reveal that the old age dependency ratio (the number of working people divided by the number being supported by these) will increase by about 50% by 2050 (National Board of Health and Welfare 2012). A major restructuring of the Swedish welfare system has been taking place since 1992, and the primary responsibility for elderly care has been transferred to municipalities. The subsequent introduction of private-run care organisations has sparked a debate on what constitutes quality in elderly care and how it should be achieved (Bergman *et al.* 2012). Increasing privatisation has also led to an intensification of documentation requirements and recurring quality controls (Öhlén *et al.* 2013). Given these changes and the current status in the context of elderly care, deepening our knowledge about what really affects the perception of quality of care from the point of view of the elderly persons is crucial.

### The concept of quality

A screening of the literature reveals that quality is an elusive concept. Part of this elusiveness is due to the context-dependent and multidimensional nature of quality. Reeves and Bednar (1994) noted early on that 'no universal, parsimonious or all-encompassing definition or model of quality exists' (p. 436). Garvin (1988) discussed five approaches to or definitions of quality: (i) transcendent – a universal view of quality in terms of 'we know quality when we see quality' and become aware of its absence intuitively; (ii) product-based – differences in quality pertain to differences in the quantity of some feature when two equivalent objects are being compared; (iii) manufacturing-based – according to which quality is determined by the processes used in the production of some product or service, quality is 'conformance to specifications'; (iv) value-based – according to which quality is measured in terms of costs and prices, that is, whether a service is provided at an acceptable price/cost; and (v) user-based – quality is 'fitness for use'. According to this last view, which we adopt in the present study, quality is the capacity to satisfy the needs and wants of the users of a service or product. In support of this, Stewart (2001) argued that it always should be the older person who ultimately judges the quality of care. Moreover, quality has increasingly come to be associated with individualised care with an emphasis on the interactive process between the caregivers and the older person. This has, however, been shown to be much more difficult to implement than is commonly acknowledged (Fjær & Vabø 2013).

A study from Ireland on home caregivers reported quality to be the degree of reproducing home-like

environments for the elderly persons (Murphy 2007). The importance of creating a home-like environment for perception of quality in nursing homes seems to be a recurring theme. This is facilitated by nurses who like their job and are sincere and affectionate in their relationships with the older persons. That is, skilful care staff have the technical and psychosocial skills to satisfy the needs and wants of the older persons which is conducive in giving the older persons a sense of ease and home-like feeling (Edvardsson *et al.* 2005, van der Elst *et al.* 2012). Moreover, in England, compassionate, relationship-centred care has received widespread attention and practice (Dewar & Christley 2013), which bears close resemblance to the Swedish emphasis on respectful treatment (see also user-oriented care, National Board of Health and Welfare 2012). In summary, quality is evaluated in the eyes of the older person, and the quality of the relationships between the caregiver and the older person is an important determinant of quality of care.

### Structure and process according to Donabedian

The search for a theoretical frame to provide indicators of quality useful for national evaluations of elderly care services has been a focus for many researchers (e.g. Schneider & Lieberman 2001). One of the most well-known and well-cited conceptualisations in this regard was offered by Donabedian in 1988. According to Donabedian, quality of care is best described as a linear model consisting of structure, process and outcome. Donabedian's (1988) structure and process dimensions have been used in previous research (e.g. Fahlström & Kamwendo 2003, Hearld *et al.* 2008). However, there is a paucity of research specifically investigating the relative magnitude of associations between structure, process and perceived quality of care in terms of client satisfaction in elderly care services.

Structure implies all factors affecting the conditions of care-giving, such as budget resources, staff training, reward systems, payment methods, facilities and equipment. Donabedian (1988) defined structure as the attributes in and with which care occurs. Process factors, on the other hand, imply all the acts of care-giving, such as diagnosis, treatment and patient interaction. Moreover, process variables are considered much more difficult to measure than structural variables, which are usually more straightforward and have unequivocal meanings (Closs & Tierney 1993). Process quality has in previous research been operationalised in terms of interaction, communication and decision-making occurring between the caregivers and the older persons (Fleishman 1997, Forbes-Thompson

& Gessert 2005). Process variables, such as enabling active participation among the elderly people and the elderly persons' perception of having been respectfully treated, have been shown to affect compliance with taking medicine, diets and being physically active. Maintaining autonomy in the care relationship is another important process factor. Mead and Bower (2000) reported that a high level of quality of care requires that the caregivers and the residents are involved in an active partnership, in which they share information and mutually influence each other. Finally, outcome or results include all the effects of care, such as health, behaviour, knowledge and satisfaction. In our study, outcome is operationalised in terms of the elderly persons' satisfaction with care.

### Developing and measuring quality

Behn (2003) proposed that quality measurement is not an end in itself. Instead, national quality indicators should be considered part of an overall management strategy. Fung *et al.* (2008) argued that the use of rigorous evaluations of public reports is still lacking. With the trends of decentralisation in Europe, cultural individualism and increasing procurement of privately owned care organisations, a focus on individual experience and consumer satisfaction has gained status as a measurement of quality in elderly care. The way the elderly care is organised tends to be directed towards the aims of providing individually suited care in most measures of quality (Zinn *et al.* 1995).

Maintaining and developing quality within elderly care is a crucial challenge for the future. There are a growing number of empirical studies on quality and research reports attesting to the importance of continuous collection of performance indicators in order to improve the quality of care (Fung *et al.* 2008). Most modern nations are currently improving and developing instruments for measuring quality of health and elderly care, and Sweden is no exception.

The National Board of Health and Welfare collects data on objective indicators of performance (e.g. access to nurses, doctors and response times) as well as older residents' subjective perceptions and experiences of elderly care. Investigation of elderly persons' satisfaction has been growing in importance, and the Swedish national survey of 2012 collected questionnaire data from over 95,000 older persons. The survey included 35 indicators in which elderly care units in all Swedish municipalities participated.

In the present research, we employ data from the 2012 survey to investigate the relative importance of structural and process-related factors in accounting

for the perceived quality of care among Swedish older persons using home-based and nursing home-care services. Drawing on Donabedian's conceptualisation of quality of care (1988), the present study operationalised structural variables as money spent per older person and per inhabitant in municipalities, staff training and staffing. Process, on the other hand, was operationalised as the extent to which the older person felt respectfully treated (i.e. listened to) by their caregivers; the extent to which they perceived that they were provided with information pertaining to changes in their care (e.g. change of staff or planned activities); and the degree to which the older person felt that they could influence their care. The data are found in the so-called *Open Comparisons* report (National Board of Health and Welfare 2012).

## Method

### Sample and procedure

Data were retrieved from the most recent Swedish annual national elderly survey (National Board of Health and Welfare 2012). Statistics Sweden (SCB) administered the survey on behalf of the National Board of Health and Welfare (in collaboration with the Swedish Association of Local Authorities and Regions), and sent it out by mail to a sample of persons aged 65 years and older using elderly care services in 324 Swedish municipalities and districts.

The survey included 35 indicators covering a wide range of quality issues pertaining to elderly care services. Statistics Sweden added the structural data (e.g. budget per capita, budget per elderly person) to the questionnaire data and compiled both in data files which are publically available at a municipality level.

A letter accompanying the survey explained to the respondents that partaking in the study was voluntary. This letter explained furthermore that if the older person was not able to fill in the questionnaire herself/himself, s(he) could ask for assistance from a trustee or an acquaintance. The letter stressed that assistance in filling in the questionnaire should not under any circumstances be provided by someone belonging to the care staff. The older persons/respondents were also informed that they could mail the filled-in questionnaire by using the prepaid envelope sent to them.

The response rate from the elderly people in home care was 70% (61,600), and the response rate from the elderly people in nursing homes was 54% (33,400). Furthermore, in home care, 24% reported they had received assistance in filling in the questionnaire,

predominantly close relatives. In nursing homes, the corresponding number was 61%.

In home care, 57,687 older persons had reported sex and age. Female (39,699) and male (17,988) elderly people were divided into the following age categories: 65–74 (7160), 75–79 (7217) and 80– (43,310). Among these, 51,550 were natives and 5946 were foreign born. In nursing homes, 31,073 older persons had reported sex and age. Female (21,893) and male (9180) elderly people were divided into the following age categories: 65–74 (2144), 75–79 (2697) and 80– (26,232). Among these, 28,392 were natives and 2546 were foreign born.

The survey was approved by the National Committee for Ethics. All responses were read by a machine, and participants were guaranteed confidentiality and anonymity by the National Board of Health and Welfare as the data were only made available at the municipality level.

### Measuring quality of care

As mentioned previously, Open Comparisons reports on 35 different quality indicators of care. One important indicator is the elderly person's overall or *global satisfaction* with their care, 'Overall, how satisfied are you with your nursing home/home care?' This served as the dependent variable in the present study. Global satisfaction has been demonstrated to be a reliable measure and is increasingly encouraged to be included in quality measurements of elderly care (e.g. Williams *et al.* 2014).

Furthermore, drawing on previous research, *respect* (Otani *et al.* 2012), *information* (cf. caring conversations, Dewar & Nolan 2013) and *influence* (Edebalk *et al.* 1995, Mead & Bower 2000) were used as independent variables to represent the concept of process

in Donabedian's model of quality of care (1988). The following items tapped these aspects in the national survey: 'Do the staff respect your wishes and opinions about the care you receive?' (Respect), 'Can you usually influence the time for receiving care?' (Influence), 'Do the staff usually inform you beforehand about changes?' (Information). All questions were answered on 5-point rating scales, ranging from 'to a very small extent' (1) to 'to a very large extent' (5).

The responses to these three items were converted into percentages (ranging from 0 to 100%) of older persons in each municipality by Statistics Sweden (SCB). Specifically, and relevant to the purpose of our analyses, responses within the categories of the second highest (i.e. 4 on the rating scale, i.e. it is *most often* the case) and the highest scores (i.e. 5 on the rating scale, i.e. it is *always* the case) were combined to obtain a measure of high score for older persons on the process variable items (i.e. respect, information and influence). For instance, a municipality could have 82 on respect, meaning that 82% of the older persons in that municipality had scored the highest (i.e. the staff *always* listens to what I have to say and respect that) or the second highest (i.e. the staff *most often* listens to what I have to say and respect that), representing a combination of the scores of 5 and 4 on the rating scale. The overall satisfaction item was handled in the same way; that is, responses to the categories of very satisfied (5 on the rating scale) and quite satisfied (4 on the rating scale) were combined (for descriptive statistics, see Table 1).

Financial resources in terms of budget per elderly person (Swedish Krona, SEK), per capita (at the municipality level), staffing and number of trained staff were publically available by the National Board of Health and Welfare and were in our study employed to represent the structural aspects in Donabedian's model

**Table 1** Descriptive statistics for study variables

Home care	Mean	SD	Max	Min	Nursing home	Mean	SD	Max	Min
<b>Structure</b>									
Budget/capita	15.9	4.3	29.0	6.5	Budget/capita	31.7	7.5	69.8	15.3
Budget/elderly	143.4	43.9	315.8	49.2	Budget/elderly	565.8	82.7	880.5	355.7
Training	N/A	N/A	N/A	N/A	Training	85.3	9.1	100.0	45.0
Staffing	N/A	N/A	N/A	N/A	Staffing	0.30	0.05	0.44	0.18
<b>Process</b>									
Respect	86.6	4.4	96.0	69.0	Respect	79.6	6.8	94.0	62.0
Information	69.5	8.5	93.0	46.0	Information	47.4	9.2	77.0	19.0
Influence	58.1	8.8	81.0	29.0	Influence	56.2	9.8	86.0	28.0
Overall satisfaction	89.4	5.2	100.0	70.0	Overall satisfaction	80.7	7.2	100.0	53.0

*N* = 324 municipalities and districts. Budget in 1000s of Swedish Krona (SEK) per year. 1 Euro = approximately 9.5 SEK.

Training = Percentage certified care staff. Staffing = Number of staff/older person.

N/A, data not available.

(1988). Data on staffing were only available for nursing homes and were measured in terms of a ratio of the number of staff to the number of older persons in the municipality. For the present study, the number of trained staff was based on the percentage of the care staff formally trained to work with older people.

### Statistical methods

IBM SPSS Statistics was used for conducting the statistical analyses. Descriptive statistics (means and standard deviations), *t*-test, Cohen's *d* (standardised mean differences/effect size measure) and Pearson's correlation analyses are reported. Moreover, two-step hierarchical regression analyses were performed to study the relative strength of structure and process in predicting older persons' satisfaction with care in home care and nursing home settings.

### Results

Descriptive statistics (i.e. mean percentage of high scorers, standard deviations, minimum and maximum values) for the variables in the present study are presented in Table 1. Comparisons between older persons in home care and nursing home revealed some noteworthy differences. A higher proportion of older persons using home care gave high ratings of respect (mean = 86.6, SD = 4.4) than did those living in nursing homes [mean = 79.6, SD = 6.8,  $t(646) = 15.3$ ,  $P < 0.001$ ,  $d = 1.20$ ]. Also, a higher proportion of older persons using home care gave high ratings of information sharing (mean = 69.5, SD = 8.5) than did those living in nursing homes [mean = 47.4, SD = 9.2,  $t(646) = 30.0$ ,  $P < 0.001$ ,  $d = 2.36$ ]. Finally, a higher proportion of older persons living at home gave high ratings of influence (mean = 58.1, SD = 8.8) than did those residing in nursing homes [mean = 56.2, SD = 9.8,  $t(646) = 2.60$ ,  $P = 0.009$ ,  $d = 0.20$ ].

Correlational analyses with structure and process variables revealed different patterns in home care and nursing home care respectively. In general, structural aspects of care showed zero to weak correlations with overall satisfaction with care (see Table 2). There was a small statistically significant positive relationship between budget per capita and overall satisfaction with care in nursing homes. In contrast, moderate to strong associations between process variables (i.e. respect, information and influence) and overall satisfaction with care were found (see Table 2).

Subsequent to the correlation analyses, a two-step hierarchical regression analysis analysed the satisfaction of older residents in nursing homes as a function

**Table 2** Correlations between structure, process and overall satisfaction in home care and nursing home

Home care	Satisfaction with care	Nursing home	Satisfaction with care
<b>Structure</b>			
Budget/capita	0.11	Budget/capita	0.14*
Budget/elderly	0.01	Budget/elderly	0.02
Training	N/A	Training	0.00
Staffing	N/A	Staffing	0.09
<b>Process</b>			
Respect	0.58***	Respect	0.61***
Information	0.49***	Information	0.60***
Influence	0.31***	Influence	0.61***

*N* = 324 municipalities and districts.

N/A, data not available.

\* $P < 0.05$ , \*\*\* $P < 0.001$  (two-tailed).

of structure and process. The structural variables (i.e. budget per capita, budget per elderly, staffing and training) were entered as predictors in the first step of the analysis, and process-related factors (i.e. respect, information and influence) in the second step. No multi-collinearity was found, with a *VIF*-range of 1.0–1.1 for the variables in the first step, and a *VIF*-range of 1.0–2.0 for the variables in the second step. The regression model for the first step was significant,  $F(4, 227) = 3.73$ ,  $P = 0.006$ , adjusted  $R^2 = 0.06$ . The results showed that among the structural variables, the only significant predictor of overall satisfaction with care was staffing ( $\beta = 0.24$ ,  $P < 0.001$ ). The regression for the second step was also significant,  $F(7, 227) = 36.69$ ,  $P < 0.001$ , adjusted  $R^2 = 0.54$ . All process variables (i.e. respect, information and influence) accounted for a significant amount of variance in overall satisfaction with care over and above variance accounted for by the structural variables. Interestingly, the significant association between staffing and satisfaction disappeared in the second step. In summary, process-related factors predicted overall satisfaction with care more strongly than the structural variables. All analyses were conducted at the municipality level. The results are depicted in Table 3.

In the second analysis, overall satisfaction of older persons using home care was analysed. The structural variables (i.e. budget per capita in municipality and budget per elderly) were entered as the predictors in the first step, and process factors in the second step. No multi-collinearity was found, with a *VIF* of 1.6 in the first step and a *VIF*-range of 1.4–1.9 for the variables in the second step. The results revealed no statistically significant associations between structural variables and overall satisfaction with care. The regression model for the first step was not significant,

**Table 3** Summary of hierarchical regression analysis for structural and process factors predicting overall satisfaction with care in nursing home

	R <sup>2</sup> <sub>change</sub>	Step 1			Step 2		
		B	95% CI	β	B	95% CI	β
Step 1 (structure)	0.06**						
Budget/capita		<0.01		-0.02	<0.01		0.00
Budget/older		<0.01		-0.09	<0.01		-0.03
Staffing		44.4***	[20.29, 68.51]	0.24***	15.0	[-2.72, 32.72]	0.08
Training		0.03	[-0.07, 0.13]	0.04	-0.02	[-0.10, 0.06]	-0.03
Step 2 (process)	0.54***						
Respect					0.31***	[0.18, 0.43]	0.29***
Information					0.21***	[0.12, 0.30]	0.27***
Influence					0.21***	[0.11, 0.31]	0.28***

N = 324 municipalities and districts.

\*\*P < 0.01, \*\*\*P < 0.001 (two-tailed).

**Table 4** Summary of hierarchical regression analysis for structural and process factors predicting overall satisfaction with care in home care

	R <sup>2</sup> <sub>change</sub>	Step 1		Step 2		
		B	β	B	95% CI	β
Step 1 (structure)	0.02					
Budget/capita		<0.01	0.16	<0.01		0.16
Budget/older		<0.01	-0.08	<0.01		-0.04
Step 2 (process)	0.42***					
Respect				0.44***	[0.32, 0.56]	0.45***
Information				0.17***	[0.11, 0.23]	0.34***
Influence				0.05	[-0.00, 0.11]	0.11

N = 324 municipalities and districts.

\*\*\*P < 0.001 (two-tailed).

$F(2, 277) = 2.32$ ,  $P = 0.101$ , adjusted  $R^2 = 0.02$ , while the regression in the second step with the process variables added to the model was significant,  $F(5, 277) = 38.27$ ,  $P < 0.001$ , adjusted  $R^2 = 0.42$ . Respect and information, but not influence, accounted for a significant amount of variance in overall satisfaction with care. A tenable explanation for the non-significant association between influence and satisfaction is that most people experience a relatively high degree of autonomy and influence when living and receiving care in one's own home. Thus, influence may not be a focal factor when evaluating one's satisfaction in home-based care. Another interesting observation was that there were larger differences in beta weights for the process variables in the home-care data than in the nursing home data. In summary, the findings revealed somewhat different patterns in the context of nursing home and home-based care. However, process variables were stronger predictors of overall satisfaction with care than structural variables in both

nursing home and home-based care. Again, all analyses were conducted at the municipality level. Table 4 depicts the results.

## Discussion

The present study set out to investigate the relative importance of structural and process factors for older persons' perception of quality measured in terms of a global sense of satisfaction with their elderly care. The data, analysed at the municipality level, showed that process-related factors were more strongly associated with older persons' satisfaction in both home and nursing home care than structural factors.

Hearld *et al.* (2008) noted in their literature review that previous research has predominantly focused on structural aspects of quality of care. The results from our study provide support for the contention that satisfaction with care to a large extent is accounted for by process or the interpersonal aspects of care

(operationalised in terms of respect, information and influence). Structural variables such as budget per elderly person and care staff certification/formal training showed no relationships with satisfaction. Staffing (i.e. the number of caregivers per older person) and budget per capita were significantly but weakly associated with residents' satisfaction in nursing homes. These findings do not necessarily imply that structural aspects of elderly care are without merit, that elderly care budgets should be cut down nor that it does not matter whether the care personnel are adequately trained or not. Structural variables provide the very basis for process variables to operate. For instance, with limited care personnel resources, providing respectful treatment and information sharing are adversely affected (Closs & Tierney 1993).

Most likely, there is a threshold to the level of economic resources below which older persons' experience of quality of care is affected and this is not experienced by Swedish older persons. Therefore, our findings in this regard may be an example of restriction of range; that is, if the municipalities in Sweden were not under governmental supervision and if tax rates and spending had been significantly different, the analyses could have revealed correlations between the structural conditions of elderly care and satisfaction with care. The national survey indicates that the conditions for quality of care in terms of structural aspects are well met and that we can move on with what seems to further improve older persons' perception of care, that is, the process aspects.

The challenge of continuing improvement of elderly care while the population of older persons is increasing demands political decisiveness and evidence-based scientific efforts. Hanssen and Helgesen (2011) reported an increase in relationship-training for nurses and care workers. Their findings showed that informational exchanges in care organisations are growing. This involved communication between all levels of personnel as well as among the older persons, and our study confirmed the importance of information for the outcome of satisfaction with care. Towards the end of life people seem to interact less frequently (Carstensen 1991, Bravell *et al.* 2010), which makes the quality of social relationships even more important. The current study also confirmed the importance of influence, especially in the context of nursing home care which has become a widely used formula for enhancing quality of life (Cahill 1998, Welford *et al.* 2010). Our analyses of the Swedish elderly survey data have shown that relationship-based factors in terms of showing respect, sharing information and allowing for autonomy (influence) are what older persons consider to be focal in

evaluating user quality in terms of satisfaction with care.

In evaluating the relative effects of structure and process on various outcomes in elderly care, one should consider how structure and process variables have been operationalised, and what outcome variables have been examined. One limitation of the present study lies in the usage of single items for process and outcome quality indicators in Open Comparisons. However, using single items has proved to be successful and is increasingly employed in psychological research to tap a wide variety of psychological dispositions (e.g. Gosling *et al.* 2003, Yarkoni 2010). Valid measurements help the care organisations in their quality improvement efforts and assist older people and their relatives in making more informed elderly care services choices. The need for continued improvement of the quality measures used to poll older persons' subjective experience of elderly care is therefore acknowledged.

### Concluding remarks

A great advantage of the present study was analysing data from a large nationwide sample, as most previous studies have employed relatively small samples. Moreover, to our knowledge, the present study is the first one to empirically test Donabedian's model (1988) and systematically examine the associations between structure, process and satisfaction with care in the contexts of home-based and nursing home elderly care. An unequivocal support for the importance of process variables with an emphasis on respect and information sharing for having satisfied older persons was obtained. However, the older person's influence did not explain satisfaction in home care, as influence is more or less taken for granted when the care services are provided in the older person's own home. Moreover, process variables were generally more impactful in the context of nursing home care. Explaining the somewhat different patterns in these two institutional contexts requires further analyses and should await future research.

The basic tenet of the dominant ideology of care in Scandinavia in general and Sweden in particular is that knowing the client and meeting their needs with respect is the key to quality. This is often called a person-centred care approach (Edvardsson & Innes 2010). Despite the possible shortcomings of asking older persons about their satisfaction, we suggest that the older person should be the main judge of quality and that the demonstrated impacts of values such as respect, influence and information sharing are keys for providing not only satisfaction but also

well-functioning care in a more general sense. An important implication of the current results is that every time a quality issue/problem arises, the solution is not always necessarily to inject additional financial resources into the system but consider how existing resources are being used at the operative level, e.g. the interaction between caregivers and older persons. Considering and acknowledging *how* care is performed and not *what* resources are provided should prove to be fruitful and of inspiration to future training programmes and developmental efforts as enhancing the *how* aspects of quality is conducive to achieving positive outcomes in the context of elderly care.

### Funding

This research was financially supported by grant 2012–1200 to Ali Kazemi from the Swedish Research Council for Health, Working Life and Welfare (FORTE, previously FAS).

### References

- Behn R.D. (2003) Why measure performance? Different purposes require different measures. *Public Administration Review* **63** (5), 586–606.
- Bergman M.A., Lundberg S. & Spagnolo G. (2012) *Public Procurement and Non-contractible Quality: Evidence from Elderly Care*. Department of Economics, Umeå University, Umeå.
- Bravell M.E., Malmberg B. & Berg S. (2010) End-of-life care in the oldest old. *Palliative and Supportive Care* **8** (3), 335–344.
- Cahill J. (1998) Patient participation – a review of the literature. *Journal of Clinical Nursing* **7** (2), 119–128.
- Carstensen L.L. (1991) Selectivity theory: social activity in life-span context. In: K.W. Schaie (Ed.) *Annual Review of Gerontology and Geriatrics*, Vol. 11, pp. 195–217. Springer, New York.
- Closs S.J. & Tierney A.J. (1993) The complexities of using a structure, process and outcome framework: the case of an evaluation of discharge planning for elderly patients. *Journal of Advanced Nursing* **18** (8), 1279–1287.
- Dewar B. & Christley Y. (2013) A critical analysis of compassion in practice. *Nursing Standard* **28** (10), 46–50.
- Dewar B. & Nolan M. (2013) Caring about caring: developing a model to implement compassionate relationship centred care in an older people care setting. *International Journal of Nursing Studies* **50** (9), 1247–1258.
- Donabedian A. (1988) The quality of care: how can it be assessed. *Journal of the American Medical Association* **260** (12), 1743–1748.
- Edebalk P.G., Samuelsson G. & Ingvad B. (1995) How elderly people rank-order the quality characteristics of home services. *Ageing and Society* **15** (1), 83–102.
- Edvardsson D. & Innes A. (2010) Measuring person-centred care: a critical comparative review of published tools. *The Gerontologist* **50** (6), 834–846.
- Edvardsson D., Sandman P.O. & Rasmussen B.H. (2005) Sensing an atmosphere of ease: a tentative theory of supportive care settings. *Scandinavian Journal of Caring Sciences* **19** (4), 344–353.
- van der Elst E., de Casterlé B.D. & Gastmans C. (2012) Elderly patients' and residents' perceptions of 'the good nurse': a literature review. *Journal of Medical Ethics* **38** (2), 93–97.
- European Commission (2006) Directorate-General for Economic, & Economic Policy Committee of the European Communities. *The Impact of Ageing on Public Expenditure: Projections for the EU-25 Member States on Pensions, Healthcare, Long-Term Care, Education and Unemployment Transfers (2004-50)*. Office for Official Publications of the European Communities, Brussels, Belgium.
- Fahlström G. & Kamwendo K. (2003) Increased physiotherapy in sheltered housing in Sweden: a study of structure and process in elderly care. *Health & Social Care in the Community* **11** (6), 470–476.
- Fjær E.G. & Vabø M. (2013) Shaping social situations: a hidden aspect of care work in nursing homes. *Journal of Aging Studies* **27** (4), 419–427.
- Fleishman R. (1997) Non-medical predictors of quality of care of hypertension in elderly patients. *International Journal of Health Care Quality Assurance* **10** (3), 107–116.
- Forbes-Thompson S. & Gessert C.E. (2005) End of life in nursing homes: connections between structure, process, and outcomes. *Journal of Palliative Medicine* **8** (3), 545–555.
- Fung C.H., Lim Y.-W., Mattke S., Damberg C. & Shekelle P.G. (2008) Systematic review: the evidence that publishing patient care performance data improves quality of care. *Annals of Internal Medicine* **148** (2), 111–123.
- Garvin D.A. (1988) *Managing Quality: The Strategic and Competitive Edge*. Simon and Schuster, New York.
- Genet N., Boerma W.G.W., Kringos D.S. et al. (2011) Home care in Europe: A systematic literature review. *BMC Health Services Research* **11** (1), 207.
- Gosling S.D., Rentfrow P.J. & Swann W.B. Jr (2003) A very brief measure of the Big-Five personality domains. *Journal of Research in Personality* **37** (6), 504–528.
- Hanssen G.S. & Helgesen M.K. (2011) Multi-level governance in Norway: universalism in elderly and mental health care services. *International Journal of Sociology and Social Policy* **31** (3/4), 160–172.
- Hearld L.R., Alexander J.A., Fraser I. & Jiang H.J. (2008) Review: how do hospital organizational structure and processes affect quality of care? A critical review of research methods. *Medical Care Research and Review* **65** (3), 259–299.
- Mead N. & Bower P. (2000) Patient-centredness: a conceptual framework and review of the empirical literature. *Social Science & Medicine* **51** (7), 1087–1110.
- Murphy K. (2007) A qualitative study explaining nurses' perceptions of quality care for older people in long-term care settings in Ireland. *Journal of Clinical Nursing* **16** (3), 477–485.
- National Board of Health and Welfare (2012) *Vård och omsorg om äldre 2012*. Socialstyrelsen, Stockholm.
- Öhlén A., Forsberg C. & Broberger E. (2013) Documentation of nursing care in advanced home care. *Home Health Care Management & Practice* **25** (4), 169–175.
- Olsen G.M. (2013) What's 'left' in the 'garden of Sweden'? *International Journal of Health Services* **43** (1), 7–30.
- Otani K., Waterman B. & Claiborne Dunagan W. (2012) Patient satisfaction: how patient health conditions influ-

- ence their satisfaction. *Journal of Healthcare Management* **57** (4), 276.
- Reeves C.A. & Bednar D.A. (1994) Defining quality: alternatives and implications. *Academy of Management Review* **19** (3), 419–445.
- Schneider E. & Lieberman T. (2001) Publicly disclosed information about the quality of health care: response of the US public. *Quality in Health Care* **10** (2), 96–103.
- Stewart M. (2001) Towards a global definition of patient centred care: the patient should be the judge of patient centred care. *British Medical Journal* **322** (7284), 444–445.
- Theobald H. (2003) Care for the elderly: welfare system, professionalisation and the question of inequality. *International Journal of Sociology and Social Policy* **23** (4/5), 159–185.
- Welford C., Murphy K., Wallace M. & Casey D. (2010) A concept analysis of autonomy for older people in residential care. *Journal of Clinical Nursing* **19** (9–10), 1226–1235.
- Williams A., Straker J.K. & Applebaum R. (2014) The nursing home five star rating: how does it compare to resident and family views of care? *The Gerontologist* **50** (4), 426–442.
- Yarkoni T. (2010) The abbreviation of personality, or how to measure 200 personality scales with 200 items. *Journal of Research in Personality* **44** (2), 180–198.
- Zinn J.S., Brannon D. & Mor V. (1995) Organizing for nursing home quality. *Quality Management in Health Care* **3** (4), 37–46.