

Performance-based contracting in home-care work in The Netherlands: professionalism under pressure?

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What is known about this topic

- In western industrialised countries, there has been a tendency in recent decades to introduce performance-based contracting in home care.
- There is potential tension between performance-based contracting and professionalism.
- As a 'caring' profession, home care is potentially more vulnerable to the market and managerialist principles of performance-based contracting than other (high-skilled) professions.

What this paper adds

- Supportive managers use fewer cost-efficiency measures and follow strict time registration rules less often, which helps retain existing levels of home-care workers' autonomy.
- Performance-based contracting has no consequences for the level of fulfilment home-care workers find in their job.
- In home care, the implementation of performance-based contracting and its consequences for professionals' autonomy are dependent on the role of managers.

Introduction

For home-care workers in western industrialised countries, the last few decades have been turbulent due to the wide range of care governance reforms. As

Abstract

Our aim was to improve the understanding of the relationships between performance-based contracting, management supportiveness and professionalism in home care. Using path analysis, this article explores the relationships between home-care workers' perceptions of management support, implementation of performance-based contracting (i.e. use of strict time registration rules and cost-efficiency measures) and autonomy and intrinsic job satisfaction. We hypothesised that: use of strict time registration rules and cost-efficiency measures relates to lower levels of autonomy and intrinsic job satisfaction (H1); there is an indirect relationship between use of strict time registration rules and use of cost-efficiency measures and intrinsic job satisfaction via autonomy (H2); higher levels of management support relate to the use of looser time registration rules and less use of cost-efficiency measures (H3); and higher levels of management support relate to higher levels of autonomy and intrinsic job satisfaction (H4). We used data from a cross-sectional survey conducted in 2010 of a sample of Dutch home-care workers ($N = 156$, response rate = 34%). Overall, our study suggests that the consequences of performance-based contracting for professionalism are ambiguous. More specifically, using strict time registration rules is related to lower levels of autonomy, whereas using cost-efficiency measures does not seem to affect autonomy (H1). Performance-based contracting has no consequences for the level of fulfilment home-care workers find in their job, as neither of the two contracting dimensions measured was directly or indirectly related to intrinsic job satisfaction (H1, H2). The role of managers must be taken into account when studying performance-based contracting, because perceived higher management support is related to managers' less frequent use of both strict time registration rules and of cost-efficiency measures (H3). The insight we gained into the importance of supportive managers for both autonomy and job satisfaction (H4) can help home-care organisations improve the attractiveness of home-care work.

Keywords: autonomy, home care, job satisfaction, management, performance-based contracting, professionalism

in other European countries (Meagher & Szebehely 2010), government reforms in Dutch home-care policy can be characterised as an effort to create a 'quasi-market' (Le Grand & Bartlett 1993) by introducing principles of New Public Management (NPM)

(Hood 1991) into the sector. The basic hypothesis of NPM holds that market-oriented forms and private-sector styles of management in the public sector will lead to greater cost-efficiency, improved consumer choice and better-quality service provision (Hood 1991). By most definitions, contracting service-providing agencies based on provider performance is a key component of NPM (Dunleavy & Hood 1994). Performance-based contracting is 'a tool that links monetary or material rewards to measurable actions or achievements in relation to predetermined performance targets' (Eichler & Levine 2009, p. 6), for example, the target of realising more efficiency in service delivery (Waters *et al.* 2004). With performance-based contracting, purchasers' control on professional work is organised through monitoring, performance indicators, evaluation and benchmarking. This requires that activities and work outcomes be registered and reported by service-providing organisations (Van Thiel & Leeuw 2002), making professional work more accessible to external scrutiny and control (Levay & Waks 2009).

The potential tension between NPM's concern for cost-efficiency and its use of strict time registration rules as against the traditionally autonomous work condition of professionals (MacDonald 1995) has been a core theme in scholarly literature. Some authors point to a 'de-professionalisation' process that would be caused by NPM (Freidson 2001, McLaughlin *et al.* 2002); the market-based logic and business-like values embedded in NPM approaches alter professional work and eventually go at the expense of professional autonomy and job satisfaction.

Our overall aim was to improve our understanding of the relationships between performance-based contracting, management supportiveness and professionalism in home care. The specific objectives of the study are (i) to collect quantitative data on how performance-based contracting translates in Dutch home-care work and (ii) to explore the relationships between home-care workers' perceptions of management support, the implementation of performance-based contracting (i.e. use of strict time registration rules and use of cost-efficiency measures) and autonomy and intrinsic job satisfaction, testing all direct and indirect relationships simultaneously. The introduction of performance-based contracting in home care requires further investigation for a number of reasons. First, scholars in the field of NPM and professionalism traditionally focus on the expert professions, such as medical doctors, neglecting the 'caring professions' (MacDonald 1995). Home care has long been associated with femininity, familialism and common knowledge, acquired mainly on the basis of

probationership. This notion of home care influenced the professional standing of a profession importantly, as it 'devaluates the knowledge aspect of the occupation' (Knijn & Verhagen 2007, p. 453). Although decisions of home-care workers come from specialised knowledge and experience, their expertise is less established and pronounced than that of other high-skilled occupations. As such, home care is generally considered to be a weak female occupation (Knijn & Verhagen 2007). Understanding how performance-based contracting is implemented in home care and comprehending its consequences for the sector is particularly relevant because its position as a 'caring' profession makes it potentially more vulnerable to NPM's market and managerialist ideas than other (high-skilled) professions (Oomkens *et al.* 2013). Second, in many European countries, home-care work is confronted with challenges to which policy makers need to respond (OECD 2011). An ageing population results in more frail elderly persons in need of care. In times of austerity, national governments tend to prioritise community-based home care over provision of residential care (Da Roit 2012), not aiming for increasing home-care budgets. The profession thus seems to be under pressure. While in the postwar period the home-care profession was respected and highly valued in many western countries (Knijn & Verhagen 2007), to date (long-term) care workers feel needed yet undervalued (OECD 2011). Additionally, the autonomy of home-care workers is considered to be relatively low and they have a restricted amount of time to care for their clients (Knijn & Verhagen 2007, Glendinning 2012). This image of home-care work encroaches on the attractiveness of the profession. The introduction of performance-based contracting and the increase in managerial control, by emphasising the importance of reducing the time per client and expanding registration tasks, may further enhance the work pressure of home-care professionals. The current study can provide more insight into the outcomes of performance-based contracting for professionalism.

Third, existing research on performance-based contracting lacks quantitative models that simultaneously assess relationships between organisational characteristics, performance-based contracting and work outcomes of home-care professionals. This is why a path model examining multiple relationships simultaneously deepens our comprehensive understanding of two facets of performance-based contracting in home-care work, namely the use of strict time registration rules and the use of cost-efficiency measures. We used structural equation modelling (SEM) to test this new integrated path model.

The central question of the current study is: How is performance-based contracting related to levels of perceived management support, autonomy and intrinsic job satisfaction of home-care workers? To answer this question, we have investigated home-care services of nursing and home help in the Netherlands. Home *nurses* deal with rehabilitative, supportive, promotive or preventive and technical nursing care. Home *helps* perform caring services, including personal care (bathing/dressing) and social activities. In the Netherlands, a 4-year training programme produces the qualifying credentials to hold the official title of *nurse*. Home *helps* lack this sheltered labour market position and have generally completed a 3-year vocational training programme. Inherent in the distinction between nurse and home help are thus the differences in the nature of the work, the knowledge base, and the duration and difficulty of the required training. We will henceforth use the term 'home-care worker' when referring to home-care work in general, including both nurses and home helps.

Until the late 1990s, home-care services in the Netherlands were provided by non-profit regional sickness funds, whose budgets were under strict public regulation. Professionals played a determining role in clients' needs assessment and in developing care plans. The professional's judgement was 'the basis of the procedures that allow[ed] individual access to collective resources' (Da Roit 2012, p. 229). In 1997, in response to expanding waiting lists and political calls for more client responsiveness, commercial home-care organisations were allowed onto the home-care 'market' (Helderman *et al.* 2005), while the non-profit associations gradually turned into large-scale, private for-profit organisations (Van der Boom 2008).

Since 2004, contracting home-care providers selectively based on their performance became an important means to realise mechanisms of regulated competition in Dutch home care. A selected number of home-care organisations is offered a contract that differs in terms of attractiveness. The contracting policies of regional purchasing agencies clearly spell out standards of good practices and involve tight procedures for monitoring and sanctioning home-care organisations. With the introduction of performance-based contracting, home-care organisations and their workers are more committed to be accountable for their performance and are monitored in more detail and more strictly than ever before.

We will start by discussing the theoretical background of the study and the methods, then present the results of our survey analyses. The final section contains the Discussion.

Theoretical background

The literature shows that a greater concern for efficiency in service provision is a salient feature of NPM-based policy reforms in care. The emphasis on cost-efficiency in service delivery is a central aspect of contracting policies of care-purchasing agencies (Figueras *et al.* 2005, Actiz 2009). This increases the significance of financial considerations in care provision (Enthoven 2004, Van Elteren *et al.* 2006, Plantinga *et al.* 2010). The potential consequences of the focus on cost-efficiency for professionals' discretionary power are particularly relevant as home care is a personal-services profession, dealing with frail elderly or disabled clients. The introduction of market logics may put pressure on home-care professionals, who have been used to initially assess clients' needs and interests on the basis of educational training, skills and experience instead of being driven by financial considerations (Knijn & Verhagen 2007, Glendinning 2012). The tension between the focus on efficiency and professional work has been described by Clarke & Newman (1997). It is argued, for example, that less care is provided than what would be considered necessary according to professional assessments. As such, professional decision-making may be affected (see also Stein 2002, Duncan & Reutter 2006) and may touch upon professionals' autonomy.

The NPM's concern for accountability and greater effectiveness of services (Hood 1991) implies measuring performances. Previous studies show that the development of a home-care market was characterised by the introduction of quality-related registration processes and inspecting services (Glendinning 2012, Vabø 2012). It appears that such an increase in administrative work and reduced time for client contact increases stress levels of community nurses, who see paperwork as a barrier to good practice (Parry-Jones *et al.* 1998).

To understand the consequences of performance-based contracting for care professionals, we need to consider professions' specific characteristics. According to Freidson (2001), professions can be defined as groups of institutions that allow members of an occupation to control their own work. Work autonomy can be considered to be a core characteristic of professionalism (MacDonald 1995). Professionals choose a job because of intrinsic characteristics, including autonomy and content (Tummers *et al.* 2002). According to Coburn (1999), individual professional autonomy exists in freedom from decision-making organisational constraints in the work context based on internalised professional norms and knowledge, while including interprofessional training and

supervision and skills development. Organisational research in the healthcare sector shows that autonomy is an important dimension of intrinsic job satisfaction (Smith 2001, Willem *et al.* 2007), indicating how people feel about tasks or work content. Implicitly, potential negative consequences of performance-based contracting for autonomy will also negatively affect intrinsic job satisfaction indirectly. For Dutch home-care workers, we hypothesise that the use of strict time registration rules and the use of cost-efficiency measures will relate directly to lower levels of autonomy and intrinsic job satisfaction (H1). Moreover, we expect an indirect relationship between the use of strict time registration rules and the use of cost-efficiency measures and intrinsic job satisfaction via autonomy (H2).

In the literature, a relationship between managers' role and the implementation of performance-based contracting policies is assumed. McDonald & Harrison (2004) suggest that managers are to a certain extent allowed to decide for themselves how and to what extent performance targets are internalised. Other studies also suggest that managers are likely to function as mediators between external purchasers of healthcare and the providing organisation's operating core (Wistow *et al.* 1994, Curtice & Fraser 2000). Noordegraaf *et al.* (2005) suggest that management style may affect how new policies are implemented in organisations. For instance, professionals seem to value supportive management styles in which managers consult professionals or their colleagues when designing implementation processes for new policies (Tummers 2012). However, there are also reasons to assume reverse causation, in that policies may also affect management style. For example, management style may change as NPM policies have set targets

for managers to achieve more efficient service delivery (Waters *et al.* 2004). We hypothesise that higher and middle management support is related to the way performance-based contracting is implemented in home-care organisations, in that higher levels of management support will be related to the use of looser time registration rules and less use of cost-efficiency measures (H3). This assumption is based on previous studies stating that home-care professionals prefer the absence of strict registration rules and do not value a focus on cost-efficiency.

In the organisational and human resources literature, relationships between management feedback and support, job satisfaction and intentions to leave are well established (Parry-Jones *et al.* 1998, Anseel & Lievens 2007, Coomber & Barriball 2007). Supportive managers appear to affect both professionals' autonomy (Delp *et al.* 2010) and job satisfaction positively (Wong & Cummings 2009). For Dutch home-care workers, we therefore hypothesise that higher and middle management support are related to autonomy and intrinsic job satisfaction, in that higher levels of management support will relate to higher levels of both autonomy and intrinsic job satisfaction (H4).

Because of the expected relationship between management support and autonomy and intrinsic job satisfaction, and between autonomy and intrinsic job satisfaction, we will test the relationships between the study variables simultaneously in our path analytic model (see Figure 1). By adding *occupation* as a background variable, we can explore whether experiences with performance-based contracting and levels of management support, autonomy and intrinsic job satisfaction are predicted by the occupational profile of the two types of home-care services (nurse versus home help).

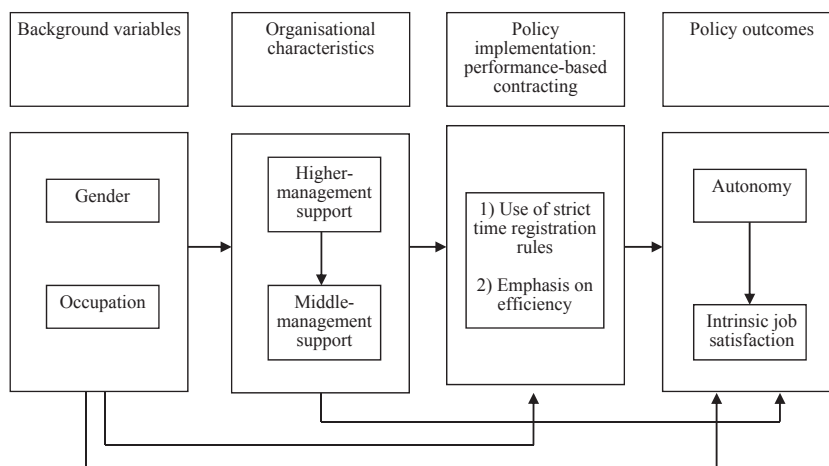


Figure 1 Theoretical conceptual model.

Methods

Sampling

For practical reasons, it was not possible to use a longitudinal research design to test our proposed model. For this reason, in 2010, cross-sectional surveys were conducted among 464 home-care workers. A convenience sampling strategy was used to approach managers of home-care organisations in the Dutch provinces of South Holland, North Holland and Utrecht. Managers of 26 home-care organisations were contacted by telephone. A total of seven home-care organisations in South Holland agreed to participate in the study. Reasons for non-participation included ongoing mergers, re-organisations and/or a lack of time. The person in charge of each participating home-care organisation assisted us to distribute the written or digital invitations including the questionnaire, as well as the reminder questionnaire, to the home-care professionals. Invitations were distributed among home nurses and home helps who provide personal care. Home helps who only undertake household tasks (such as ironing and cleaning) were excluded for pragmatic reasons, because since 2007, this type of care is characterised by a different financing structure.

The present research did not require ethics approval. Although obtaining ethics approval is standard practice in most Anglo-American systems, this is not yet the case for most social science research in the Netherlands. In our study, no approval by an ethics review committee was obtained because the planned survey with adult professionals was neither physically nor emotionally burdensome nor was the respondent's privacy violated (CCMO 2001, 2005). The research was conducted in accordance with the guidelines for good scientific research of the Association of Universities in the Netherlands (VSNU 2012). In the invitation to the eligible respondents, they were informed about the purposes of the study and it was stated that all information obtained would be used for research purposes only. The home-care workers were also informed that participation was voluntary and that they were entitled to terminate the questionnaire at any time. Anonymised data were collected and data were securely stored and only the researchers had access.

As a rule of thumb, for SEM, the minimum sample size-to-parameter ratio should be at least 5:1 (Bentler & Chou 1987). In our study, with 20 free parameters to be estimated, the minimum sample size required would be $N = 100$.

Measures

Here we report the measurement of variables. All measures had adequate Cronbach's alphas (range 0.73–0.94). The unidimensional character of the scales was also demonstrated in the inter-item correlation matrices using SPSS.

We included *occupation* (0 = nurse, 1 = home help) as demographic background variable in the path analytic model. Gender was not included in our analyses because this variable appeared to be highly skewed with only six men participating in our study. For reasons of parsimony, we did not include other background variables.

Management support was measured with two 4-item scales measuring respondents' perception of the supportiveness of higher and middle managers (adapted version: Van der Wee 2000). Higher management includes members of the board of directors and/or of the central management team. Middle management includes managers or leaders of work units, departments or teams. Sample items include: 'The middle management of this organisation supports home-care workers sufficiently' and 'The higher management of this organisation takes clients' needs seriously'. A 5-point response scale ranging from 1 (completely disagree) to 5 (completely agree) was used. The Cronbach's alpha (α) of the scale for higher management was 0.89 and 0.94 for the middle management scale.

Two variables – *use of strict time registration rules* and *use of cost-efficiency measures* – were used to measure performance-based contracting. To measure 'use of strict time registration rules', we asked home-care workers if they had to register down to 5 minutes exactly how much time they spent at a client's home (at the time of measurement this '5 minute registration procedure' was discerned in purchasing agencies' contracting policies). To measure 'use of cost-efficiency measures', home-care workers were asked if their managers required them to follow a specific policy measure introduced in the Netherlands that sought to improve cost-efficiency of care provision in the home-care sector. This policy measure – the *bonus/malus system* – was applied by the Dutch Health Care Authority (NZa) between 2008 and 2010. Home-care organisations were rewarded (bonus) for efficient performance and penalised (malus) for inefficient performance (for details, see NZa 2008, 2009, 2010). For both items, a 5-point response scale ranging from 1 (completely disagree) to 5 (completely agree) was used.

Guided by the work of De Jonge (1995), we focused on several professional autonomy sub-dimensions including control over work scheduling, work location,

assessment of client needs, scope of practice and working method. With seven items, we measured *autonomy* – the extent to which home-care workers are autonomous over different aspects of their job. Respondents were asked to indicate to what extent the items were applicable to their work situation. Sample items include: ‘To what extent are you able to determine your own working pace?’ and ‘To what extent are you able, based on your own professional knowledge and experience, to decide how you carry out your work?’ A 5-point response scale ranging from 1 (to a very limited extent) to 5 (to a very large extent) was used. The Cronbach’s alpha of this scale was 0.73.

Intrinsic job satisfaction was measured using a single item. Respondents were asked about the level of fulfilment they find in their job. ‘Fulfilment’ covers the intrinsic dimension of job satisfaction we sought to measure and refers to the feeling of being satisfied in one’s job when using professional skills and qualities and one’s ability to help clients. A 5-point response scale ranging from 1 (very dissatisfied) to 5 (very satisfied) was used.

Data analysis

One of the appealing aspects of path models is their ability to assess multiple direct and indirect relationships simultaneously among observed variables (see Kline 2011). Using a cross-sectional design, we analysed our theoretical path model for the two performance-based contracting dimensions (i.e. use of strict time registration rules and use of cost-efficiency measures as mediating variable) separately (see Figure 1), using the full information maximum likelihood (FIML) method under Mplus v.7 software (Muthén & Muthén 2010). This method applies the expectation maximisation algorithm to missing data (Little & Rubin 1987). Under FIML, Mplus uses all available data to estimate the model using FIML, estimating each parameter directly (Muthén & Muthén 2010).

Goodness of fit between the model and observed data was tested using a number of goodness-of-fit indices, as suggested by Kline (2011). In this study, the chi-square statistic, the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardised root mean square residual (SRMR) are reported. Non-significant chi-square values signify model fit. However, caution must be used when interpreting chi-square because it is highly dependent on sample size. The CFI does not depend on sample size. A CFI value of at least 0.95 is required to judge a model fit as ‘good’ (Hox & Bechger 1998). RMSEA is scaled as a badness-of-fit index

and its values assess how well a given model approximates the true model where a value of zero indicates the best fit. RMSEA values <0.05 are generally thought to indicate a good fit between model and data (Byrne 2001). The SRMR is an absolute measure of fit and a value of zero signifies perfect fit. The SRMR can be defined as the standardised fit between the observed and the predicted correlation (Kline 2011). Generally, a value <0.06 is considered a good fit (Hu & Bentler 1999). Incremental fit of the revised model over the baseline model – a model where all of the regression paths are assumed to be zero (i.e. a null model) – was assessed with the χ^2/df fit value (Schermele-Engel & Moosbrugger 2003), in which values close to 2 or smaller indicate good model fit. The Akaike information criterion (AIC) statistic and the Bayesian information criterion (BIC) were also used to identify the best model. Smaller AIC and BIC values indicate better fit (Bowen & Guo 2012). To facilitate comparison of our tested models – baseline model, theoretical model and revised model – goodness-of-fit values, fit indices and their corresponding cut-off criteria are summarised in Table 2.

Results

Response rate

Based on an estimated total number of people approached (464), the response rate was determined at 34%, with 156 home-care workers submitting responses. Nine respondents completed only the first part of the survey; their responses were discarded, providing a final sample of $N = 147$ home-care workers. Our sample consisted of 43 nurses and 104 home helps. Of our sample, 95.9% was female, compared to 94.8% in the population (Geradts 2010). As the characteristics of the sample’s professionals are largely in line with those of professionals in the home-care sector, we do not find indications of a bias in response.

Descriptive results

We will briefly report on several descriptive statistics (see Table 1). Overall, Dutch home-care workers experienced support from both higher and middle managers. Strict time registration rules were generally followed in home-care organisations. The relatively high standard deviation, however, seems to indicate variation across organisations. Most managers did not seem to emphasise cost-efficiency in care provision. The extent to which home-care workers indicated to have work autonomy was limited, yet they stated being intrinsically satisfied with their job.

Table 1 Means, standard deviations and correlations among the study variables

Variable	Mean	SD	1	2	3	4	5	6	7
1. Occupation (0 = home nurse, 1 = home help)	0.71	0.46	1.00	-0.10	-0.03	-0.10	-0.02	-0.25**	0.11
2. Higher management support	3.47	0.71		1.00	0.52**	-0.21*	-0.23**	0.18*	0.22*
3. Middle management support	3.97	0.65			1.00	-0.11	-0.18*	0.06	0.38**
4. Use of strict time registration rules	3.64	1.27				1.00	0.09	-0.17	-0.07
5. Use of cost-efficiency measures	2.37	0.96					1.00	0.02	-0.04
6. Autonomy	2.52	0.69						1.00	0.02
7. Intrinsic job satisfaction	4.22	0.78							1.00

* $P < 0.05$; ** $P < 0.01$ = significant P values.

As Table 1 illustrates, not all bivariate correlations were consistent with our theoretical model (Figure 1). Home nurses scored higher on autonomy than home helps ($r = -0.25$, $P = 0.003$). A strong positive correlation was found between higher and middle management support ($r = 0.52$, $P = 0.000$). Higher management support correlated negatively with the use of strict time registration rules ($r = -0.21$, $P = 0.014$). Both higher and middle management support correlated negatively with the use of cost-efficiency measures ($r = -0.23$, $P = 0.006$; $r = -0.18$, $P = 0.039$).

Model estimation

The path diagrams and the goodness-of-fit indices for the final models are presented in Figure 2 (use of strict time registration rules) and Figure 3 (emphasis on cost-efficiency). The path coefficients in the theoretical model were reviewed to see whether any paths could be removed or added to improve model fit.

Use of strict time registration rules

For this model, several paths appeared to be non-significant in the theoretical model (i.e. the theoretical model), namely those from higher management support to autonomy ($P = 0.148$) and intrinsic job satisfaction ($P = 0.572$) and those from middle management support to use of strict time registration rules ($P = 0.969$) and autonomy ($P = 0.818$). The path from use of strict time registration rules to intrinsic job satisfaction was non-significant ($P = 0.928$), as was that from autonomy to intrinsic job satisfaction ($P = 0.810$). After removing these specific paths, estimation of the revised model improved over the theoretical model and fit the data adequately. Results of the goodness-of-fit tests for each of these models are presented in Table 2. The CFI, RMSEA and SRMR values of the theoretical model are not informative, because it has zero degrees of freedom. Therefore, the CFI is displayed as 1.00 and the RMSEA and SRMR

are displayed as zero, although it does not imply perfect fit (Kline 2011). The chi-square in the revised model was non-significant, $\chi^2 = 6.85$, $df = 8$, $P = 0.553$ (>0.05 acceptable), indicating no significant difference between the observed and the model-implied covariance matrices. The χ^2/df fit value of the revised model was 0.86, indicating good model fit. The values of the fit indices were CFI = 1.00, RMSEA = 0.000 and SRMR = 0.042. If $\chi^2 < df$, the RMSEA is set to zero (Kline 2011) and the CFI is set to 1.0, it does not mean that the model has perfect fit (Kline 2011, Van der Schoot *et al.* 2012). Yet, the SRMR value indicates good model fit. A comparison of the AIC and BIC values for the theoretical model (1315.17 and 1380.96 respectively) and the revised model (1309.02 and 1303.58) shows that the revised model, with lower AIC and BIC values, fits better. Overall, based on the goodness-of-fit indices, it was decided to accept the revised model as the final model (Table 2).

In the revised and final model (Figure 2), the path values indicate that middle management support was significantly and positively related to higher management support ($\beta = 0.52$, $P < 0.001$). Those workers who indicate experiencing higher management support are also likely to feel support from middle managers. Higher management support is related to the use of strict time registration rules ($\beta = -0.21$, $P = 0.009$), in the sense that those who experience higher management support less often report that strict registration rules are used. Autonomy levels were related to home-care workers' occupation ($\beta = -0.27$, $P < 0.001$); nurses reported higher levels of autonomy than home helps. Use of the strict registration rules was negatively related to home-care workers' levels of autonomy ($\beta = -0.20$, $P = 0.014$), meaning that home-care workers who report more use of strict time registration rules report lower levels of autonomy. Middle management support was positively related to intrinsic job satisfaction ($\beta = 0.39$, $P < 0.001$).

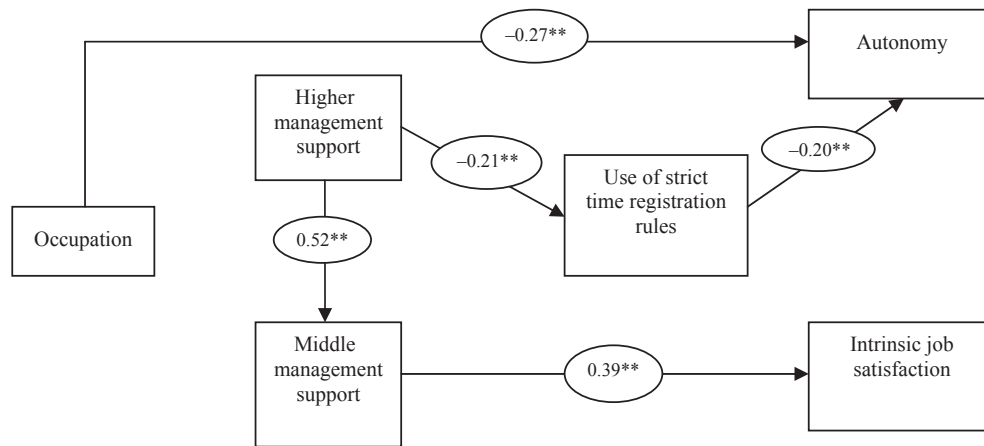


Figure 2 Path Model 1 – use of strict time registration rules. *Note:* CFI, comparative fit index; RMSEA, root mean square error approximation; SRMR, standardised root mean square residual. The final mediation model with standardised coefficients (β) is shown in the figure ($\chi^2 = 6.85$, $df = 8$, $P = 0.553$, CFI = 1.00, RMSEA = 0.000, SRMR = 0.042). * $P < 0.05$; ** $P < 0.01$.

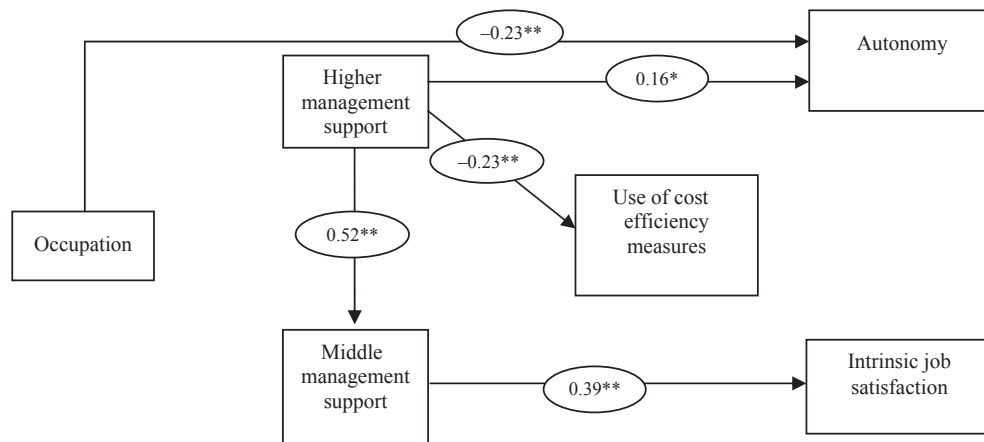


Figure 3 Path Model 2 – use of cost-efficiency measures. *Note:* CFI, comparative fit index; RMSEA, root mean square error approximation; SRMR, standardised root mean square residual. The final mediation model with standardised coefficients (β) is shown in the figure ($\chi^2 = 3.38$, $df = 6$, $P = 0.758$, CFI = 1.00, RMSEA = 0.000, SRMR = 0.029). * $P < 0.05$; ** $P < 0.01$.

In the analysis of the indirect relationships, we assessed the 95% confidence intervals (CI) of these effects (Krantz 1999). The indirect relationship between higher management support and job satisfaction via middle management support was significant ($\beta = 0.22$, 95% CI [0.11, 0.33], $P < 0.001$). This implies that higher levels of middle management support induced by higher levels of higher management support are related to higher levels of intrinsic job satisfaction. The indirect relationship between higher management and autonomy via use of strict time registration rules appeared non-significant ($\beta = 0.04$, 95% CI [-0.01, 0.09], $P = 0.082$).

Use of cost-efficiency measures

For this model, several paths appeared to be non-significant in the theoretical model (i.e. the theoretical

model), namely those from higher management support to intrinsic job satisfaction ($P = 0.503$). The paths from middle management support to use of cost-efficiency measures ($P = 0.388$) and autonomy ($P = 0.854$) were also non-significant. The paths from use of cost-efficiency measures to autonomy ($P = 0.512$) and intrinsic job satisfaction ($P = 0.615$) were non-significant, as was that from autonomy to intrinsic job satisfaction ($P = 0.817$). After removing these specific paths, estimation of the revised model improved over the theoretical model and fit the data adequately. Results of the goodness-of-fit tests for the baseline model, the theoretical model and the revised model are presented in Table 2. The chi-square in the revised model was non-significant, $\chi^2 = 3.39$, $df = 6$, $P = 0.759$. Also, the χ^2/df fit value of 0.56 for the revised model indicates good model fit. As in the model for ‘use of strict regis-

Table 2 Goodness-of-fit test results for each model

	χ^2 (df)	χ^2/df	CFI	RMSEA	SRMR	AIC	BIC
Model – registration							
Baseline model	94.40 (14)	6.74	–	–	–	–	–
Theoretical model	0.00 (0)	0	1.00	0.00	0.00	1315.17	1380.96
Revised model	6.85 (8)	0.86	1.00	0.00	0.04	1309.02	1303.58
Model – efficiency							
Baseline model	91.33 (14)	6.52	–	–	–	–	–
Theoretical model	0.00 (0)	0	1.00	0.00	0.00	1243.30	1309.09
Revised model	3.39 (6)	0.56	1.00	0.00	0.03	1234.69	1231.91
Fit criteria							
Good fit	>0.05	≤ 2.00	>0.95	<0.05	<0.08	Smaller values indicate the better model	

χ^2 , chi-square value; df, degrees of freedom; χ^2/df , chi-square by degrees of freedom ratio; CFI, comparative fit index; RMSEA, root mean square error approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayesian information criterion.

tration rules', $\chi^2 < df$, so the values of the fit indices for the 'use of cost-efficiency measures' were CFI = 1.00 and RMSEA = 0.000. The SRMR value of 0.029 signifies good model fit. A comparison of the AIC and BIC values for the theoretical model (1243.30 and 1309.09 respectively) and the revised model (1234.69 and 1231.91) shows the revised model, with lower AIC and BIC values, fits better. To conclude, the revised model was accepted as the final model.

In the revised and final model (Figure 3), the path values indicate that middle management support was significantly and positively related to higher management support ($\beta = 0.52$, $P < 0.001$). Higher management was also positively related to levels of autonomy ($\beta = 0.16$, $P = 0.043$). In addition, there was a significant negative relationship between perceived levels of higher management support and use of cost-efficiency measures ($\beta = -0.23$, $P = 0.004$). Autonomy levels were also predicted by home-care workers' occupation ($\beta = -0.23$, $P = 0.003$). Middle management support was a positive predictor of intrinsic job satisfaction ($\beta = 0.39$, $P < 0.001$). As in the 'use of strict time registration rules' model, there was a significant indirect relationship between higher management support and job satisfaction via middle management support and it was significant ($\beta = 0.21$, 95% CI [0.11, 0.33], $P < 0.001$).

Discussion

This article's central research question was: How is performance-based contracting related to levels of perceived management support, autonomy and intrinsic job satisfaction of home-care workers? By integrating these concepts into a single model, we have been able to show how characteristics of the organisational setting, policy implementation and pol-

icy consequences are interrelated. We will now answer the central research question, discuss the study results, place our findings within the academic debate, consider its practical implications and reflect on the study's limitations.

We tested two separate models to study performance-based contracting in home care, one including the use of strict time registration rules and one including the use of cost-efficiency measures. In line with the overall aim of this study, by examining the use of strict time registration rules and cost-efficiency measures empirically, we have been able to improve our understanding of the relationships between performance-based contracting, management supportiveness and professionalism in home care. Overall, our study suggests that performance-based contracting is a heterogeneous concept, in that the consequences for professionalism are ambiguous. Specifically, we conclude that using strict time registration rules is related to lower levels of autonomy, while using cost-efficiency measures does not seem to affect autonomy. The present study further found that performance-based contracting has no consequences for the level of fulfilment home-care workers find in their job, as neither of the two contracting dimensions measured was related to intrinsic job satisfaction. Additionally, the role of managers must be taken into account when studying performance-based contracting, because perceived higher management support appears to relate to the way performance-based contracting is implemented in home-care organisations.

We will now discuss the study's specific results in detail. In line with our hypothesis (H1), the current study suggests that performance-based contracting impacts professional home-care work (cf. Rostgaard 2012). Regardless of the occupational profile (nurse/

home help), use of strict time registration rules relates to lower levels of autonomy. This seems to suggest that professional autonomy in home-care work *is* vulnerable to attempts of professional/non-professional purchasing agencies to make home-care work transparent and measurable. An alternative interpretation is that those home-care workers with higher levels of autonomy report using strict time registration rules less often than their counterparts with lower levels of autonomy. This would suggest that nurses experience performance-based contracting policies differently than home helps, because of differences in levels of autonomy. Future comparative and longitudinal studies should investigate such a model as well as explore if home-care work – as a caring profession – is actually *more* vulnerable to negative effects of performance-based contracting policies than highly professionalised groups with higher levels of autonomy to begin with, such as doctors (see Oomkens *et al.* 2013). Remarkably, in contrast to our hypothesis (H1), no relationship was found between using strict registration procedures and intrinsic job satisfaction. Neither nurses' nor home helps' level of intrinsic job satisfaction depends on the use of strict time registration rules. The absence of links between managers' use of cost-efficiency measures and autonomy and intrinsic job satisfaction (H1, H2) suggests that there is no tension between professionals' obligation to prioritise clients' needs and efficiency when providing services, as some authors claim (e.g. Clarke & Newman 1997). Perhaps this tension applies to a greater degree to professional tasks that require highly specialised knowledge and skills, like medical work. Such professions traditionally have a work context in which decision-making is strongly based on internalised professional norms and knowledge instead of financial considerations, hence NPM or insurer interventions can be potential sources of tension. Future research should further investigate this.

In contrast to previous research (Smith 2001, Willem *et al.* 2007), and contrary to our second hypothesis (H2), our study shows that in both models, autonomy was unrelated to intrinsic job satisfaction. As such, autonomy does not mediate the relationship between performance-based contracting and intrinsic job satisfaction. Unexpectedly, the level of *fulfilment* home-care workers find in their job, which we measured with intrinsic job satisfaction, is not derived from the level of job autonomy. It could be that occupation functions as a moderator in this relationship, in that more autonomy does lead to higher levels of intrinsic job satisfaction among nurses, but not among home helps. Future large-*N* studies should explore this potentially moderating role of occupation.

Interestingly, our path model also demonstrates that managers can steer the implementation of performance-based contracting. Hypothesis 3 (H3) is partly confirmed, as we found that home-care workers who indicate experiencing more support from higher management report managers' use of strict registration rules and cost-efficiency measures less often. This suggests that the *higher* management of home-care organisations, including members of the board of directors or of the central management team, have the ability to influence how requirements included in purchasing agencies' contracting policy are implemented in home-care organisations (cf. Noordegraaf *et al.* 2005). Remarkably, there appears to be no uniformity in the way performance-based contracting is implemented across home-care organisations. With respect to the use of strict rules and the emphasis efficiency, managerial leeway is only found on a high hierarchical level. Caution is advised when interpreting this relationship though. Several studies indicate that management styles function as an antecedent of the way new policies are implemented (McDonald & Harrison 2004, Noordegraaf *et al.* 2005, Tummers 2012). Nonetheless, more research is required to withstand models of researchers who suggest that performance-based contracting shapes management practices and subsequently managerial styles and/or their levels of supportiveness (Waters *et al.* 2004, Vabø 2012).

As we hypothesised (H4), in both models, experiencing middle management support leads to more intrinsically satisfied workers (Wong & Cummings 2009); our study supports the idea that middle management support functions as an antecedent of intrinsic job satisfaction. For home-care workers, their relationship with managers of work units, departments or teams is more important for their level of intrinsic job satisfaction than their relationship with the organisation's higher management. The current study also found a strong positive relationship between home-care workers' perceptions of higher management support and perceptions of middle management support. There seems to be synchrony between the extent of supportiveness from different levels of management. Indirectly, because of its positive relationship with middle management support, higher management support is also related to higher levels of intrinsic job satisfaction. The direct relationship between higher management support and autonomy was not consistent in the two models (H4); only in the model that includes the use of cost-efficiency measures is higher management support related to higher scores on autonomy. This is partly in line with previous research showing that supportiveness of

managers affects professionals' autonomy (Delp *et al.* 2010). This insight into the importance of supportive managers for autonomy and job satisfaction can help home-care organisations improve the attractiveness of home-care work.

The results of this study, and the implications outlined, should be interpreted in the light of the study's limited context and sample. First, as we used a cross-sectional design and all data were gathered at one single point in time, it was not possible to infer cogent causal relationships; we could not rule out reverse causation either. Although the causal assumptions we brought to our theoretical model (Figure 1) are defensible and consistent with the current state of research, they should be treated with caution as the direction of the relationship is sometimes ambiguous. Our study outcomes do not *prove* the validity of causal assumptions, but do lend credibility to some of the assumptions while also revealing flaws in specification to other causal assumptions (Bollen & Pearl 2013). To address the limitations of this cross-sectional study, future research directions, including a longitudinal design, should further investigate if it is management behaviour influencing the implementation of performance-based contracting or if performance-based contracting alters the supportiveness of managers towards their personnel. Future research should further investigate the relationship between performance-based contracting and autonomy as well. Does performance-based contracting reduce levels of autonomy (Clarke & Newman 1997, Rostgaard 2012)? Or do professionals' existing levels of autonomy shape the way performance-based contracting policies are implemented and experienced (Oomkens *et al.* 2013)? Caution should be also exercised in generalising the study outcomes to other care/healthcare sectors because our approach has contextualised performance-based contracting to the Dutch home-care setting. Although strict registration procedures and a focus on efficiency-based service provision are generally found to be elements of NPM, and of performance-based contracting more specifically, we attuned measurement of these elements to the context of Dutch home care. Moreover, given the hierarchic data structure – home-care workers working in home-care teams belonging to specific home-care organisations – it may seem necessary to factor in the influence of the home-care organisation and the team when conducting analyses at an employee level. By using multilevel analysis in subsequent studies (Snijders & Bosker 1999), we can improve our understanding of the role of distinct organisational characteristics when investigating the antecedents and consequences of performance-based contracting.

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