

Variation in Long-Term Care Needs Assessors' Willingness to Support Clients' Requests for Admission to a Residential Home

A Vignette Study

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Objectives: The purpose of this study is to determine what client, needs assessor, and agency factors explain variation in decision making by long-term care needs assessors concerning clients requesting admission to a residential home. **Method:** Hypothetical case vignettes were sent to needs assessors allocating services for the elderly. Multilevel logistic regression analysis provided random and fixed effects. **Results:** The authors found random effects of the level of needs assessors are negligible, of the level of agencies small though statistically significant, clients receiving largest relative share of the variance. The amount of care already present appeared most important in the decision. Needs assessors were willing to support their clients' wishes only when they were clearly motivated. Policy implications considering the tension between clients' preferences and equity are discussed.

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Introduction

This article presents results of a study investigating the effects of client, needs assessor, and agency characteristics on the decision to grant the client's request for admission to a residential home. A factorial survey is used to collect data from a national sample of needs assessors who advise long-term care services allocation for the elderly. Recent research has shown that still a large part of variation in resource allocation decisions cannot be explained, and little is known about how needs assessor and agency-related factors contribute to variation in long-term care decision making (Degenholtz, Kane, Kane, & Finch, 1999; Dijkstra, Groothoff, & Post, 1999; Gianopoulos, Bolda, Baldwin, & Olsen, 2001; Hennessy, 1993). Moreover, needs assessors' willingness to support clients' requests is an area not well explored. Although experiments have shown that after an intervention needs assessors are more likely to discuss preferences with their clients, they may not always act on them (Degenholtz, Kane, & Kivnick, 1997; Kane, Degenholtz, & Kane, 1999). This study aims to contribute to gerontological knowledge by examining predictors of needs assessors' willingness to follow clients' wishes.

To construct a comprehensive system of long-term services and distribute limited resources equitably, the Dutch government established not-for-profit independent agencies whose core business it is to assess the long-term care needs of individual clients and determine the amount of care and kinds of services that are needed. All clients experiencing physical and/or psychosocial difficulties, irrespective of age, and requesting long-term care services have access to the needs assessment agencies. The needs assessment agency can be bypassed when clients apply for private services, but private long-stay facilities in the Netherlands are scarce and costly. The rules regarding this system of needs assessment and resource allocation are laid out and published in a white paper (Ministry of Health, 1997). Prior to the changes in the system, care providers decided on admissions to long-stay facilities and the eligibility for home care.

The influence that care providers had in selecting clients often led to “cream skimming,” namely, providers were tempted to select those patients who they expected to be the least costly (Feldstein, 1988; Meiland, Danse, Hoos, Wendte, & Gunning-Schepers, 1996). At the same time, client organizations lobbied for a one-entry system for long-term care services, resulting in a separation between needs assessment and care provision (Commissie moderniseren ouderenzorg, 1994). Independent needs assessors now assess the client’s needs, evaluate the eligibility of the client’s request, and formulate advice based on this information. The white paper stipulated that needs assessors should perform this task independently from health care insurers and care providers. Social health insurance offices that distribute the budget involved in the long-term care sector check whether the advice is congruent with their criteria and decide on the allocation (Ministry of Health, 1997). In this way, the needs assessors’ allocation advice is formulated irrespective of financial constraints as social health insurance offices decide on and pay for the care that is allocated. However, by formulating eligibility criteria, social health insurance offices limit needs assessors’ scope. This may lead to a conflict of interest as needs assessors have to deliberate between acting in the clients’ interest and following strict rules and criteria.

The white paper (Ministry of Health, 1997) furthermore requires that the needs assessment and allocation advice are performed objectively, meaning similar decisions for similar cases. To this end, national protocols have been developed and implemented to assist needs assessors in collecting information about the medical condition, the social-psychological condition, the number of activities of daily living (ADLs) and independent activities of daily living (IADLs) for which clients need assistance, and amount of informal and professional care already present (Breed Indicatie Overleg, 1997). Furthermore, assessors may collect medical information from physicians employed at the assessment agencies or the client’s general practitioner.

Finally, the needs assessment and allocation should be comprehensive, meaning services from more than one sector should be included where appropriate. This implies that agencies should have expert knowledge on assessment and allocation of all long-term care and social services. With this goal in mind, the agencies train

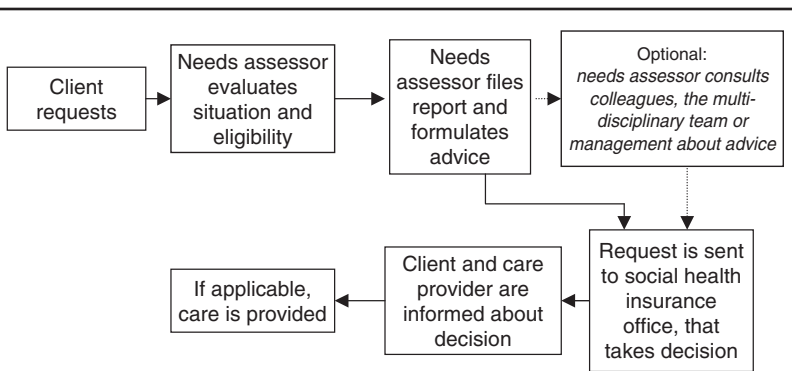


Figure 1. Independent needs assessment and resource allocation procedure.

needs assessors who have a background mostly in nursing, social work, or ergotherapy, in comprehensive assessment methods. In some agencies, needs assessor are trained to be “all-rounders,” namely, they have a general knowledge on all fields. Other agencies stipulate that expert knowledge is present at team level; for example, all team members have their own field of knowledge, but as a team they have expert knowledge on all services. Finally, in some agencies needs assessors have a general but not expert knowledge on all services, and thus are all-rounders, but they each have their own specialty of expert knowledge.

The needs assessment procedure is displayed in Figure 1. For a detailed description of the Dutch long-term care system, see Schrijvers (1997).

In the Netherlands, clients can be placed out of home into a nursing home or into a residential home. In this study, we are concerned with admissions to residential homes. Currently, 5.4% of people 65+ years of age live in residential homes, 2.5% of those aged 65+ live in nursing homes (SER, 1999). As opposed to nursing homes, which offer continuous and multidisciplinary (nursing, medical, paramedical, and psychological) treatment and monitoring to people who cannot take care of their ADLs, residential homes are intended for elderly people with some disabilities who are nevertheless still able to take care of their ADLs. However, the latter population may have a lack of social contacts and/or feelings of vulnerability in their own

home. They may run the risk of neglecting themselves (Schrijvers, 1997). Residential homes are financed by the Exceptional Medical Expenses Act, for which all Dutch citizens are insured. Residents of a residential home do not usually receive nursing care, although in recent years it has been shown that the population of residential homes experiences increasingly serious medical problems (SER, 1999). Apart from taking care of these medical problems, residents are assisted with their laundry, cooking, and cleaning. Furthermore, the home provides a social network.

In spite of protocols, needs assessors experience considerable discretion in their decision making (Lipsky, 1980). In light of the aforementioned innovation in the long-term care allocation system that stipulates an objective needs assessment practice (Ministry of Health, 1997), this article focuses on the variation in care allocation decisions. Variation in the realization of the advice can originate in client characteristics, such as age or gender; assessor characteristics, such as education or experience; or agency characteristics, for instance how often multidisciplinary case discussions are organized (Clark, Potter, & McKinlay, 1991; Dickinson, 1996; Eisenberg, 1979). In this study, the research question is: What client, needs assessor, and agency factors explain variation in needs assessors' willingness to support clients' requests for admission to a residential home?

Method

Vignettes or factorial surveys constitute a technique for introducing elements of experimental designs in population surveys. Vignettes are brief descriptions of situations in a constructed world in which important factors are manipulated following some experimental design. The vignette technique, developed by Rossi and Nock (1982), combines the advantages of a large-scale survey with the advantages of applying experimental design. Typically, a large sample of individuals is presented with the vignettes, with the sample drawn from a well-defined population using principles of sampling design (Kish, 1987). The vignettes are constructed to contain information that is considered important, and individuals are asked to evaluate the situation described and to generate a judgment on the depicted situation. The factors underlying the vignettes are systematically varied following an experimental

design, which makes it possible to analyze the effects of different types of information on the judgments given. Obviously, both the number of vignettes to which an individual respondent reacts and the number of factors varied in each vignette are limited. However, in general, vignette studies present each individual respondent with a different subset of all possible vignettes, which makes it possible to study a much larger number of factors and levels of factors than is presented to each individual respondent.

This study uses data from a survey of needs assessment agency administrators and a survey of individual needs assessors. Both surveys were part of a larger study evaluating the functioning of needs assessment agencies (RIOs) in the Netherlands at the instigation of the Ministry of Health. The evaluation took place in the years 1999 to 2001. From the survey of RIO directors, RIO organization data were collected. The sample of needs assessors was drawn from the agencies that responded to the survey. The individual needs assessor survey consisted of a general questionnaire and care allocation questions about a set of hypothetical case vignettes that described clients requesting admission to a residential home. These data were combined and analyzed with a multilevel logistic regression using MLwiN software (Rasbash, Browne, Healy, Cameron, & Charlton, 2000).

SAMPLE

In the Netherlands in 1999, there were 85 RIOs that assessed needs and allocated long-term care services for individual clients. For the collection of RIO organization data, all RIOs were asked to participate. Administrators of 73 RIOs responded (86%). For the vignette study, a sample was drawn of those RIOs based on a number of selection criteria that would produce a population of representative RIOs. These criteria were as follows: Number of inhabitants in the RIO region is between 120,000 and 350,000, number of municipalities the RIO works for is between 3 and 1, and RIO had started functioning before 1999. In this way outliers, such as RIOs that were either very small or very large were avoided. This procedure resulted in a population of 32 RIOs. We realize that by reducing the total sample by more than 50% we obtained a rather homogeneous population. Of this population, we asked a random sample of 20 RIOs to participate in the vignette study. Due to undercapacity and backlog, 12 RIOs refused to

participate. Whenever an RIO refused, we randomly selected another RIO from the remaining pool of RIOs. Eventually, we approached all 32 RIOs to include 20 RIOs in our study, amounting to a response of 62.5%. During the period of data collection, two RIOs dropped out. It resulted in a final sample of 18 RIOs.

Of all RIOs, we collected the number of needs assessors that were employed by the agency and inquired for what kind of services they assessed needs and allocated care, whereby needs assessors remained anonymous. We sent the general questionnaire and the set of hypothetical vignettes to all needs assessors that deal with requests for admission to a residential home. The number of needs assessors in this way involved in the study was 314. The number of needs assessors that returned the questionnaire and filled out vignettes was 214, which is a response of 68.2%.

Needs assessors received a set of 15 hypothetical case vignettes. Depending on their specialization, they received vignettes about only one or more than one type of request. For this study, we are only concerned with vignettes regarding clients requesting admission to a residential home. The 214 needs assessors together returned 1,273 vignettes.

The vignettes were constructed by randomly combining paragraphs of text that described varying levels of characteristics of clients requesting admission to a residential home. The characteristics were chosen on the basis of a review of the literature and of previous studies wherein assessment and allocation practices were observed. Seven factors were distinguished as being important in the allocation process. These were age, sex, physical condition, psychosocial situation, housing conditions, amount of professional care and informal care that is present to assist clients with their ADLs and IADLs, and client's motivation. Marital status is constant for all clients: None of them live with a spouse. All clients were cognitively intact and had no serious psychiatric disease. Table 1 shows the client variables and their varying levels. Based on these variables, it was possible to make 6,720 vignette combinations.

Of this total, we first drew a sample of 20 combinations that were used to create vignettes for a pilot study. The vignettes were sent to 33 respondents of two different agencies. Each respondent received a random sample of 10 vignettes. The pilot results led to minor changes in the construction of the vignettes: In the descriptions, more attention

Table 1
Vignette Variables

<i>Variable</i>	<i>Level</i>
Sex	Female Male
Age	73 years old 85 years old
Physical condition	No medical problems Bad vision (not worsening) Slight mobility problems due to artrosis Unexplained irregular falling Serious mobility problems due to both artrosis and heart disease Glaucoma, soon leading to blindness Parkinson
Psychosocial situation	Client is cheerful, has wide social network Client has difficulty accepting assistance is needed Client has tendency to neglect oneself Client is lonely, has no social network Client shows a reduction of coping skills
Housing condition	Housing yields no problems House is small but adequate, however not well suited to extent possible home care House is inadequate, difficult but possible to adapt
Assistance needed and amount of care present	No assistance required, no professional/informal care present Assistance needed; taken care of by informal care Assistance needed; taken care of by professional care Assistance needed; informal and professional care mobilized
Motivation of client	Request for admission brought forward by client's adult children Client thought he/she is "ready" without motivation Client requests admission as precaution measure Client is clearly motivated

was paid to the prognosis of certain medical conditions, and the different levels of the psychosocial situation were defined better. Subsequently, of the total of 6,720 possible combinations, we drew a random sample of 150 combinations that we used to construct the vignettes for the main study. All vignettes were screened by hand to ascertain they did not contain illogical combinations. The sampling was constrained to 150 combinations for logistic reasons.

We checked whether all levels were equally present, which appeared to be the case. To test whether there was a linear effect of

the explanatory variables on the dependent variable, we used an F test ($\alpha = .05$). Except for physical condition, we did not find linear relations. To account for this nonlinearity, we used dummies for all levels except physical condition. All needs assessors received a random selection of these vignettes. All vignettes were about equally often sent out. Because a random selection of vignettes was made for each needs assessor, no two sets were alike.

DATA COLLECTION

This study yields three levels of information: RIO organization data, individual needs assessor characteristics, and answers to the hypothetical case vignettes. The RIO directors were asked to provide data concerning their administration, how long the agency had been functioning since the white paper (Ministry of Health, 1997) was implemented, and how many different services the RIO allocates. Furthermore, data were collected on how many tasks in the assessment and allocation procedure the RIO performs, whether protocol use is obligatory, how often the multidisciplinary committee meets, in what way the RIO promotes comprehensive methods in assessment, and finally, the number of inhabitants in the RIO region. The data were collected using questionnaires.

Needs assessors filled in a general questionnaire asking their age, gender, educational background, years experience, and whether they had provided hands-on care prior to becoming a needs assessor. After reading the vignettes, needs assessors were asked whether they would grant this particular client's request to be admitted to a residential home.

DATA ANALYSIS

The data used in this study are hierarchically structured with three different levels. At the lowest level we have the vignettes that are nested within the needs assessors that completed the vignettes, which are nested within the RIOs. To analyze data with such a hierarchical structure, multilevel regression analysis is appropriate. Multilevel models have shown to give more accurate data when data are hierarchically structured (Rothman & Greenland, 1998). If data are aggregated to values for the higher level units, information is lost

and statistical analysis loses power. If data are disaggregated into values for the lowest level units, standard errors will be underestimated, which leads to significance tests that reject the null hypothesis more often than our alpha level suggests (Hox, 1995, 2002). For an introduction to multilevel modeling, see Bryk and Raudenbush (1992) and Hox (1995, 2002).

The dependent variable in this study is measured as whether or not the needs assessor would grant a certain request for admission to a residential home. This is a dichotomous variable: 0 = would not grant it, 1 = would grant it, which has a somewhat skewed distribution. Such data violate several assumptions of the normal regression method, and the appropriate analysis model is logistic regression. Consequently, the analysis used here is a multilevel logistic regression model. The multilevel logistic model was described in Goldstein (1995). The analyses were performed using MLwiN software (Rasbash et al., 2000).

The analysis strategy is divided into three steps. The first step was running a so-called null model (Hox, 1995). This model decomposes which part of the total variance in the dependent variable, the decision for admission to a residential home, can be assigned to the different levels. Second, we started with testing all explanatory variables univariately to check for significant contributions in explaining the variance in the decision for admission to a residential home.¹ Third, we included the explanatory variables that appeared to be significant ($\alpha = 0.05$) in one model and tested them multivariately. The categorical variables were included in the model as dummy variables. Their overall significance was tested performing the multivariate Wald test (Goldstein, 1995; Hox, 1995). The Wald test is used to test the null hypothesis that the different regression coefficients of the dummy variables that are part of one categorical variable equal zero. This test produces a chi-square and the degrees of freedom equal the number of dummy variables tested.

Results

A description of the RIO organization is given in Table 2. As prescribed in the white paper (Ministry of Health, 1997), all regional needs assessment agencies are official bodies that function and are

Table 2
Description of Agencies in the Study (N = 18)

Variable	Level	N	%
Administration	Independent foundation	10	55.6
	Municipal service (or other)	8	44.4
Number of activities ^a	Only basic (assessment and allocation advice)	3	16.7
	Basic plus one other activity	9	50
		4	22.2
	Basic plus two other activities	1	5.6
		1	5.6
	Basic plus three other activities		
Allocation of other services besides nursing and care ^b	Basic plus four other activities		
	Only nursing and care services	3	16.7
		5	27.8
	Besides nursing and care, one other service	8	44.4
	Besides nursing and care, two other services	2	11.1
Multidisciplinary case discussions	Besides nursing and care, three other services		
	Once every 2 or 3 weeks	4	22.2
	Once a week at fixed time	11	61.1
	More than once a week	1	5.6
Use of protocol	Permanently	2	11.1
	No	4	22.2
	Checklist	2	11.1
	Agency-specific set of forms	2	11.1
	Mix of different kinds of forms	4	22.2
	Nationally developed protocol	4	22.2
	Laptop	2	11.1
Way of improving comprehensive assessments methods being used ^c	Generalists without specific expertise	4	22.2
	All-round needs assessors with each their own speciality	14	77.8
Number of residents in service area	120.000 to 173.000	9	50
	173.000 to 239.000	4	22.2
	239.000 to 442.000	5	27.8
Months in existence ^d		<i>M</i>	<i>SD</i>
		35.3	4

a. Other activities can be checking legitimacy of request, coordination of waiting lists, allocation of temporary services, allocation of care.

b. Besides nursing and long-term care services, agencies can advise assistive technology devices, adaptation of houses to increase accessibility, meals on wheels, alarm systems.

c. RIOs are obliged to promote comprehensive assessment methods being used by needs assessors. How to promote a comprehensive needs assessment is left to individual agencies.

d. By law, agencies were expected to start functioning January 1, 1998. However, by that time, not all agencies were in order yet. Months measured are date of study (May 2001) minus date agency was in order.

Table 3
Description of Respondents in the Study (N = 214)

<i>Variable</i>	<i>Level</i>	N	%
Gender	Female	193	90.2
	Male	21	9.8
Education ^a	Ergotherapy	3	1.4
	Nursing	123	57.5
	Social Work	61	28.5
	Medical school	2	0.9
	Other	24	11.2
Provided hands-on care prior to becoming needs assessor	No	90	42.1
	Yes	124	57.9
	<i>Range</i>	M	SD
Age	23 to 61	44.9	8.1
Years experience	1 month to 33 years	6.3	6.2

a. Dummies were constructed for each level with nursing as reference category.

financed independently from social health insurance offices and care providers. The legal status of about half of the agencies (55.6%) is a foundation, and the other agencies are organized as separate administrative committees of one or several municipalities. Most needs assessment organizations (83.3%) performed more than the basic package of activities, namely, needs assessment and allocation advice. Most agencies also gave allocation advices about other services besides nursing and care services (83.3%). Almost 78% of agencies had multidisciplinary case discussions at least once a week. Most agencies (77.8%) used some kind of protocol during the needs assessment process, and of those 14 agencies, only 4 used the nationally developed protocol. Most needs assessment organizations (77.8%) attempt to stimulate comprehensive methods being used by having all-round needs assessors who each have their own specialty. Half of the agencies served 120,000 to 173,000 inhabitants; the other agencies serve more inhabitants. On average, the RIOs had been functioning for 35.3 months ($SD = 4$ months).

Characteristics of the needs assessors are presented in Table 3. The majority of respondents are women (90.2%) and most have an education in nursing or social work (57.5% and 28.5%, respectively). A little more than half (57.9%) of the respondents had provided hands-on care prior to becoming a needs assessor. Mean age of respondents was 44.9 years ($SD = 8.1$). They had on average 6.3 years ($SD = 6.2$) experience in assessing needs of individual clients, including the years worked before the new system was introduced.

Table 4 shows the effects of client, respondent, and agency variables on the decision to grant a request for admission to a residential home. Besides odds ratios (OR) including 95% confidence intervals, standard β s are provided, which show the relative importance of the fixed variables. In the bottom part, the random effects in an empty model are given. It appears that the random effect of Level 2, the needs assessors, is approximately 0.02, with an SE of 0.07, meaning there is a minimal, nonsignificant random effect of this level. The random effect of Level 3, the RIO level, has a coefficient of 0.25 with a SE of 0.11, meaning there are statistically significant random effects of RIOs on allocating admission to a residential home. The relative share of the variance that can be assigned to the level of needs assessors is 1%, and to the level of RIOs 7%. The level of clients receives the largest relative share of the variance: 92%.

Furthermore, all client variables had statistically significant regression coefficients, albeit not all variable levels yielded significant results. However, except for housing conditions, all variables were overall statistically significant (Table 5). The most important factor in predicting admission appeared to be the amount of assistance needed and amount of care present, with an odds ratio of 7.11 (95% confidence interval 4.37, 11.55) when both informal and professional care was fully called in. In relative terms, the psychosocial situation "tendency to neglect oneself" (standard $\beta = .43$, p value = .00) proved to be more important than the physical condition (standard $\beta = .39$, p value = .00). Men were more likely to be admitted to residential homes (OR = 2.50, 95% confidence interval 1.83, 3.41; Table 4). There was a statistically significant interaction between client's age and physical condition resulting in an increased chance of granting a request for admission for older clients with a worse physical condition (Figure 2).

Table 4
Effects of Client, Needs Assessor, and Agency Variables on the Decision to Grant Requests for Admission to a Residential Home

<i>Fixed Part</i>	<i>Null Model</i>	<i>Odds Ratio (95% Confidence Interval)</i>	<i>Standard B</i>	<i>p Value</i>
Intercept	-0.42			
Vignette level				
Assistance needed and amount of care present		1.00		
No assistance needed, no care present				
Assistance needed, informal care fully called in, no professional care present		1.05 (0.65, 1.69)	0.01	.83
Assistance needed, professional care fully called in, no informal care present		5.83 (3.74, 9.08)	0.44	.00
Assistance needed, professional and informal care fully called in		7.11 (4.37, 11.55)	0.44	.00
Psychosocial situation				
Cheerful and extensive social network		1.00		
Cheerful but difficulty in accepting assistance is needed		2.38 (1.41, 4.02)	0.20	.00
Tendency to neglect oneself		7.54 (4.30, 13.23)	0.43	.00
Lonely, absence of social network		2.73 (1.61, 4.63)	0.23	.00
Exhausted, lacks energy to arrange household		5.84 (3.39, 10.43)	0.41	.00
Motivation				
It was the children's idea		1.00		
"I thought it was time"		0.99 (0.65, 1.52)	0.00	.98
Precaution measure		1.23 (0.83, 1.82)	0.05	.30
Is clearly motivated		3.00 (2.01, 4.48)	0.25	.00
Worse physical condition		1.40 (1.25, 1.57)	0.39	.00
Sex (male)		2.50 (1.83, 3.41)	0.25	.00

Table 5
Overall Significance of Categorical Variables

Variable	Chi-Square	df	p Value
Professional and informal care	135.92	3	.00
Psychosocial situation	70.46	4	.00
Motivation	31.48	3	.00
Housing conditions	5.57	2	.06
Education	18.51	1	.00

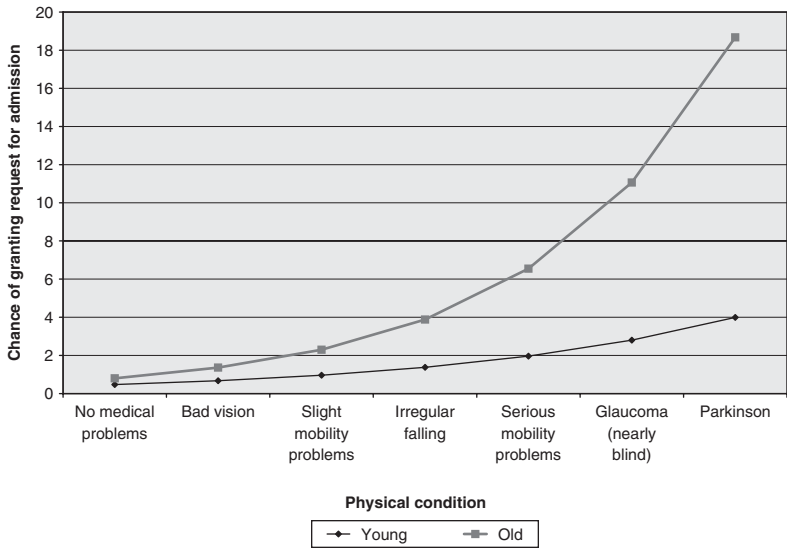


Figure 2. Interaction age and physical condition.

The fixed effects of the variables that were measured on the level of the needs assessors barely yielded statistically significant relations, with the exception of education. It appeared that needs assessors whose educational background was in social work allocated significantly fewer cases to a residential home (Table 4).

The fixed effects of two RIO variables were statistically significant in determining admission to a residential home (Table 4). The first is the number of activities a RIO performs. It shows a negative association with admission to a residential home: The more activities a RIO performs besides needs assessment and allocation advice, such as waiting list coordination or allocation of temporary care, the less often a needs assessor allocates admission into a residential home. The other variable is the promotion of comprehensive assessment methods. It appeared that when RIOs stimulated this by having all-round needs assessors who each have their own specialty, needs assessors allocated statistically significantly fewer cases to a residential home compared to RIOs that are staffed with generalists without specific expertise.

Discussion and Conclusion

Admission to a residential home is primarily influenced by client variables. The amount of professional and informal care that is present is the most important factor. Furthermore, the needs assessors' educational background seems to play a minor role. On the level of the agencies, there are a number of organizational instruments and policies that show a relation with the decision to admit cases to a residential home. These are the amount of activities a RIO performs and the way in which RIOs stimulate comprehensive assessment methods being used.

The nested structure and multilevel analysis of this study offered the opportunity to examine the random effects of the client, needs assessors, and agency level on the allocation decision separately. The vignette study has enabled us to study variation in needs assessors and agencies while keeping the client a constant factor. As we were interested in the influence of needs assessors and RIOs on the decision to support their client's request, we used a three-level model. The results show that the differences between needs assessors minimally affect assessors' final decisions, but RIOs account for a substantial part of the total variance. Thus, objectivity in the needs assessment practice is not so much affected by differences between needs assessors, but rather by differences between RIOs.

The sample selection method that was used to avoid outliers may be a limitation of this study. By defining inclusion criteria, we did not randomly select agencies from the total number of existing RIOs, but rather from a pool of RIOs that fulfilled the criteria. This led to the group of agencies included in this study resembling each other, which decreases the chance of finding statistically significant effects. Nonetheless, although the sampling strategy limited the variance, it did not make it disappear, making the RIOs a valuable level in the analysis. Moreover, the impact of the level of RIOs may be small, the variance that was found can be applied to all needs assessors and clients belonging to that RIO, which may be a numerous amount. Regarding the response rate of RIOs, we found nonresponding RIOs did not deviate from the original sample in terms of region or size. However, not responding because of backlog may imply bad management compared to responding RIOs that had their organizations in order. Inclusion of those RIOs in the study might have increased the random variation on the agency level. However, a number of RIOs delayed returning the vignettes because they too experienced some backlog. Nevertheless, they did respond, suggesting RIOs with backlog are also included in the study.

Approximately 68% of needs assessors responded, which may seem low in international comparison but may be considered to be rather high taking into account the usually low response rates of 40% to 60% in the Netherlands (De Heer, 1999; De Leeuw & De Heer, 2002). We were unable to show statistically significant effects of needs assessors due to the skewed distribution of some variables of the group. For example, we found men granted requests less often than women did, but because the group of men in our sample was too small, this was not a statistically significant difference. As for education, only the groups of assessors with a nursing or social work background were large enough to provide reliable estimates. The group of needs assessors appears to be quite homogenous in the variables that were measured, which may not be completely representative for the population in the Netherlands. Although these figures are not centrally registered, an earlier study showed that most needs assessment organizations employ one or two medical advisors (Schrijvers & Ravelli, 2000), whereas there are only two physicians included in our study. This may be explained, however, by the fact that they are generally

not considered to be needs assessors, but rather to give medical advice to needs assessors concerning their clients.

There is a fair amount of articles questioning the reliability and validity of a vignette study. Morrell and Roland (1990) found no statistically significant relations between responses to simulated case histories and actual referral behavior of general practitioners. One could argue vignettes evoke "politically correct" answers and may not reflect reality. However, this would only affect the marginal distribution of answers: Needs assessors would grant more or less requests. The importance they attach to client characteristics would remain the same. Indeed, measuring the quality of care in a clinical setting using vignettes produced scores closest to the golden standard: standardized patients, as performed by trained actors (Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000). It may be argued that even the golden standard may not truly reflect reality. However, observing needs assessors' work with real clients may be hampered by the fact that clients differ too much to compare the needs assessors' decisions. This is overcome by using standardized clients, which is already the standard in evaluating competence of physicians and has become part of the United States certification examinations (Luck & Peabody, 2002). Most studies have found that vignettes may prove a valid and reliable method in measuring health care outcomes (Braspenning & Sergeant, 1994; Fihn, 2000; Goldman, Rachuba, & Van Tosh, 1995; Ludwick & Zeller, 2001; Olesen, 1996; Sandvik, 1995).

Although there is minimal variation on the level of needs assessors, the random effects of agencies are considerably large. In policy terms, these results offer an interesting discussion. When it is not the needs assessors' age, gender, years of experience, experience with hands-on care (this study), case load, educational level, or ethics training (Degenholtz et al., 1999), it may indeed be organizational structures or procedures that explain part of the variation in decision making. In the Netherlands, until recently, the needs assessment organizations were autonomous and could define their own structures and procedures. Uniformizing these procedures and offering blueprints for organizational structures, as is suggested in recent policy papers (Tweede kamer, 2001), may reduce part of the differences in the allocation decisions. However, despite more uniformity in organizational structures, cultural variation may not cease to exist,

which may continue to cause different decisions being made by needs assessors from different regions or even between needs assessors. Perfect standardization of decisions may only be reached when computers are able to make these decisions. However, computers cannot take into account the uniqueness of each client and may not be able to allocate customized care.

Regarding the client factors, a remarkable point is the fact that men are more likely to be admitted to a residential home compared to women. This is consistent with other findings (Dijkstra, Groothoff, & Post, 1999) and is standing out because apparently, all other things being equal, men are still considered to be more dependent and in need of long-stay care than women. Furthermore, it is noted that the client's psychosocial situation is more important than physical condition. In this study, the factor psychosocial situation contains social support, self-care ability, and coping skills, whereby self-care ability and coping skills were rated more important than social support. The importance attached to the client's psychosocial situation is consistent with current criteria for admission, wherein it is stated that "decrease of mental resilience" is most important. Indeed, social support and self-care ability play an important role in the ability to remain independent in the community, whereas physical difficulties can be dealt with by home care and assistive devices. When the clients lose their coping skills and have difficulties managing, home care may not suffice and admission to a residential home becomes an option. However well this fits with criteria, it is very important to be able to measure this state quite precisely. Nationally developed and validated protocols that are currently being used contain items about physical condition, self-care, and social network (Breed Indicatie Overleg, 1997), but there is no such area inquiring about the client's "mental resilience." The fact that this status is not a detailed item in protocols, but a very important factor in the needs assessors' decision, makes it all the more remarkable needs assessors do not vary in their decision making. In spite of the fact that *resilience* is a vague and inaccurately measured criterion, apparently, needs assessors are aware of its meaning and make similar decisions for similar clients. However, to reach more uniformity between RIOs, protocols should include items about the client's resilience.

Although most results in this study are comparable to Degenholtz et al. (1999), contrary to the present study, they found large random differences between case managers. This may be explained by the

difference in provider-client relationship both in the American and Dutch systems. Case managers in Degenholtz et al.'s study follow the clients from entry in the home care program until admission into a home and therefore have a long-term relationship with the client, whereas Dutch needs assessors see their clients only once. Having a long-term and thus more personal relationship with a client may cause variation in the decision making.

Moreover, in comparing both U.S. and Dutch systems, the presence or absence of a long-term relationship implies a difference with major implications. Degenholtz et al. (1999) found that due to heavy workload, liability, and clinical supervision, case managers were inclined to recommend out-of-home placement for complex cases requiring intensive case management. Therefore, they had to sometimes override clients' preferences, which otherwise were a strong predictor of case managers' decisions. In the Netherlands, these considerations do not play a role because needs assessors intentionally do not have a long-term relationship with their clients, and complex cases do not necessarily take up more of needs assessors' time. A disadvantage, however, of the Dutch system is the fact that needs assessors ought to gain information about the client's needs, eligibility, and preferences in 45 minutes. A paradox emerges: By having a long-term relationship with their clients, U.S. case managers are more aware of their clients' preferences, but exactly because of this relationship, they may act against their clients' wishes. In the Netherlands, where the complexity of clients has no influence on the needs assessors' workload and the client's wish can be central to the needs assessors' decision making, needs assessors are often unaware of their clients' wishes because they lack a long-term relationship. Indeed, this study shows that only when clients are clearly motivated, needs assessors are willing to grant their request. Considering the relatively low importance needs assessors in this study attach to the client's motivation, it is recommended that needs assessors be more attentive to their clients' preferences. However, awarding more time for needs assessors with their clients implies more awareness of clients' preferences but also a reduction of objectivity. So far, neither U.S. nor Dutch needs assessment and allocation systems have solved the tension between customized care allocation versus equity. This tension is inherently connected to a system that aims at achieving both of these goals and may be difficult to solve.

Concluding, this study shows decisions regarding admission to a residential home are barely influenced by differences between need assessors, but needs assessment organizations play a role. Client factors explain most of the variation in granting the requests, which is a favorable outcome in a system that stimulates demand-driven long-term care. However, needs assessors' willingness to support their client's wish is still less influenced by the client's motivation than by the other client variables, and needs assessors should be encouraged to be more attentive to their clients' preferences.

NOTE

1. We performed the Wald test (t test): $T(\beta_1) = \beta_1 / S.E(\beta_1)$ to test significance of parameters ($\alpha = 0.05$).

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