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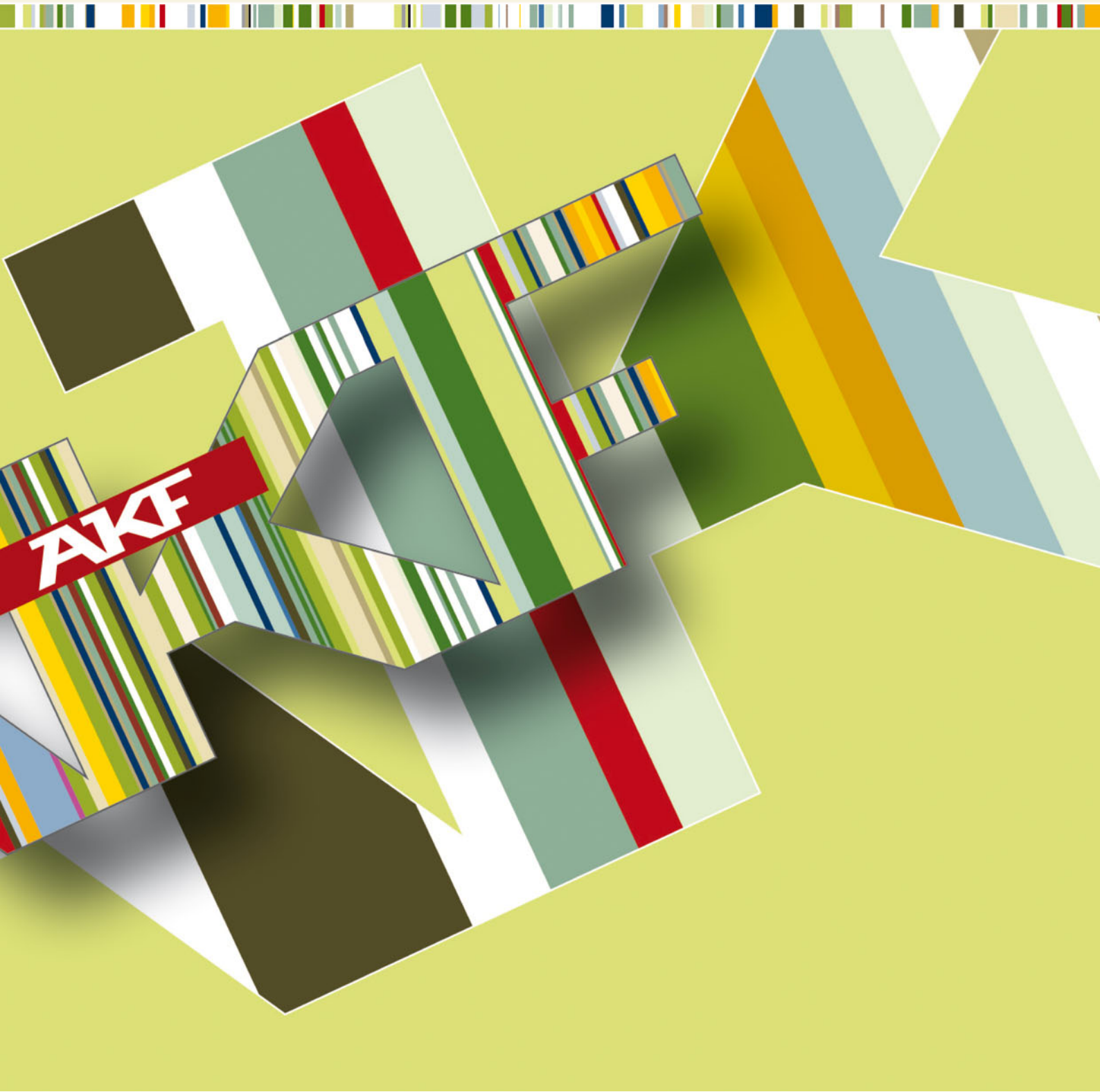
Home Help, Capacity in Activities of Daily Living and Well-being among Older People



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Contents

Abstract

We analyse the correlation between on the one hand home help and on the other hand subsequent capacity in daily living, well-being and loneliness. The analyses are conducted on a Danish data set of 1,317 people aged 67, 72 or 77 in 1997 and living in the community (i.e. outside institutions). Interviews took place in 1997 and again in 2002. In 1997 the interviews were on the frequency of home-help visits, and in 1997 and 2002 they were on the capacity in activities of daily living, well-being and loneliness. We conduct multivariate regression analyses on the relation between home help in 1997 and capacity in daily living, well-being and loneliness five years later.

We find no effect of home help on capacity of daily living five years later, but we find that women who expressed a need for (more) home help in 1997 have a higher capacity in activities of daily living in 2002 than women who did not. For men incapacitated above a certain degree we find that they have a higher level of well-being in 2002 the more home help they received in 1997. The correlation is reversed for women so that incapacitated women in 1997 have a lower well-being in 2002 the more home help they received in 1997. We find no correlation between the frequency of home help and the probability of being involuntary alone five years later.

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1 Introduction

The purpose of this paper is to analyse the correlation between public home help supplied to older people in Denmark and subsequent capacity in activities of daily living (ADL), well-being, and loneliness, and to discuss causal mechanisms behind these correlations.

Denmark is one of a few countries in the world where it is possible to receive free public assistance when you only are in need of help with housekeeping, and compared to other western countries a bigger share of older people receives public granted home help (see e.g. Nielsen & Andersen 2006). This may reflect that the basic idea of Danish welfare policy is to strengthen the individual's integrity and independence by intervening before his or her resources are used up (Esping-Andersen 1990). Eligibility to home help is based on an assessment of the household's ability to take care of various types of housework and personal care. Public home help is based on the principle of universalism so that the individual's possibility of receiving help in case of dependency should not rely on economic ability or the capacity of the social network to provide help. However, there may be both positive and negative effects of granting public help to older people with reduced capacity in ADL.

In guidance from the Danish Ministry of Social Affairs it is stated that the help should support the recipient in retaining or regaining a certain level of physical and mental functioning (Ministry of Social Affairs 1998). This is a principle of help to self-help where help is provided in a rehabilitating way as to strengthen the recipient's ability in ADL. To the extent that this principle is implemented in practice public home help may prevent or postpone reductions in the capacity of ADL. Similarly, Verbrugge and Jette (1994) consider in their model of the disablement process external assistance as an intervention having preventive effects. However, if the help instead inactivates the recipients it may make people passive and have negative effects.

Furthermore, it is stated by the ministry that help should contribute to older people being able to function in the best possible way in their present dwelling, as the help should contribute to relieving consequences from reduced capacity in physical or mental functioning or from special social problems. In other words, public help appears as a safety net, which is stretched out in case a household is not able to take care of itself, and in this way the help contributes to maintain a certain standard of living and security in the household. From this perspective it can be argued

that public home help may have a positive effect on well-being (e.g. Mulatu and Schooler 2002) and that the contact itself with a home help may reduce the feeling of loneliness. Furthermore, the home help may take actions to prevent the development of loneliness. If dependent people, on the other hand, experience that they receive inadequate help it may lead to psychosocial distress which e.g. Mulatu and Schooler (2002) find is connected with a decrease in health status.

There are (to our knowledge) no studies on data from Denmark or other Scandinavian countries on the relation between home help and capacity in ADL, well-being and loneliness. In the rather limited empirical literature from other countries on the effect of home-care results are often inconclusive.

A review by Hedrick and Inui (1986) concludes that home-care services appear to have no impact on mortality, patient functioning or nursing-home placements. A later review by Hedrick, Koepsell and Inui (1989) concludes that there is a small, beneficial effect of home care on mortality, which, however, falls short of statistical significance; there is stronger evidence of a reduction in nursing-home placements. The question is, however, whether the effect on nursing-home placement in the reviewed studies is caused by an effect on people's functioning or by the fact that higher needs can be taken care of in people's own home when a home-care programme is introduced. Another review (Godfrey et al. 2000) concludes that there is evidence of reduced abilities concerning ADL, but a positive and significant impact on users' life satisfaction among individuals receiving home-care support. The review also finds that evidence on improvement in subjective physical and mental health is inconclusive, and that there is some evidence that Homemaker/Home-care programmes including long-term comprehensive services are associated with lower mortality. A study from 2004 (Barberger-Gateau et al. 2004) finds a 'protective' effect of home help against death from severe disability, but receiving home help was associated with a lower chance of recovery to full autonomy.

In a review study on efforts against loneliness based on three large-scale randomised controlled trials concerned with health assessment, information and service provision Cattan et al. (2005) do not find home visits to be effective in reducing social isolation and/or loneliness.

One Canadian study (Contandriopoulos, Tessier and Larouche 1986) finds that home aid services have no significant effect on the use of hospital services or other services. A later Canadian study (HSURC 2000) finds that people receiving preventive home care are more likely to lose their independence or to die than people not receiving this service. However, the study may have problems with the comparability between people receiving home care and those who do not. On the basis of a natural experiment taking place in British Columbia, Hollander and Tessaro (2001) studied the impact of home care on mortality and expenditure on services. In some Health Units low level home-care clients were cut from services while clients in other Health Units were not cut. The study finds a subsequent higher mortality and higher expenditure on health services in the group that had experienced cuts. The amount of expenditure is taken as a proxy for health condition. However, the question is whether the differences in mortality and costs are due to a lower level of help or a *reduction* in the level of help.

Thus, there are mixed results in the literature on the correlation between home help and capacity in activities of daily living, and evidence on the correlation with well-being is also inconclusive. There seems to be no evidence for a correlation between home help and loneliness, but only few studies investigate this outcome. None of the review studies include Danish or Scandinavian studies and no studies in a Scandinavian context are identified.

The contributions of the present paper to the exiting literature are the following. First, we investigate a concept of home care including *help with housekeeping*, typically cleaning, shopping and/or washing clothes, and *personal care*, typically help with clothing, bathing or toileting. In contrast, the concept of home care used in the aforementioned literature is typically broader including various types of care performed in the citizens' own home, e.g., medical care, home nurs-

ing, aids and appliances for handicapped persons in substitution for care in hospitals or other institutions. Second, we analyse the relation between home help and subsequent capacity in ADL, well-being and loneliness in a universalistic context where public home help is granted without any user payment. Third, we use a unique Danish data set based on a combination of interview data and administrative data enabling control for a very broad range of personal characteristics, including initial health conditions, income, education and social networks. Controlling for such variables is very important in order to be able to interpret an estimated correlation between home help and later health-related outcomes as causal. Fourth, we investigate whether the effect of home help depends on initial capacity in ADL by including an interaction term between frequency of home help and an index of incapacity.

The overall level of help in case of dependency is decided by the municipal council and help is assessed and granted by the local administration of home care. Therefore, equally dependent people may receive home help of a varying frequency because of their different place of residence, but not because of differences in social networks or economic capacity.

2 Data

The data set consists of interview data and administrative data which are merged using social security numbers. The interview data are from The Longitudinal Study of Elderly People and are based on personal interviews in 1997 with a representative sample of the cohorts born in 1920, 1925, 1930, 1935, 1940 and 1945.

The sample for the analyses in this paper includes people born in 1920, 1925 or 1930 (aged 67, 72 or 77 in 1997), who were retired from the labour market, and who lived outside institutions. This includes 1,867 persons (response rate = 69%), out of which 1,317 (70.5%) completed the follow-up interview in 2002 (including people in institutions). In 1997 a total of 284 of the sample received home help. This corresponds to 15% of the sample while 13.4% of the Danish population aged 67-79 received home help in 2006. Of the 284 recipients of home help in 1997 132 (46.5%) completed the follow-up interview in 2002. Attrition among those receiving home help in 1997 is thus relatively higher than among those not receiving home help and this is explained by higher mortality during the five-year period among those initially receiving home help. This is not surprising since persons receiving home help in 1997 are older and have more initial health problems. When interpreting the results one must keep in mind that the analyses apply for five years survivors only.

Administrative data have been merged to each person in the interview-based data set. The administrative data concern initial income and health status (the number of services from and contacts with general practitioners (GPs), and hospitalisation). Other variables related to initial health are taken from the interview data: Initial values of capacity in ADL, well-being and loneliness, whether the person received help from a nurse in 1997 and incidence of specific health problems prior to 1997.

Descriptive statistics of all variables in the analysis are shown in the appendix. In the rest of this section we describe in more detail the most important variables.

2.1 Outcome variables

The variables on capacity in ADL, well-being and loneliness are all *self assessed*.

Index of incapacity

In order to measure capacity in ADL of the sample population an index of incapacity (IOI) based on Shanas et al. (1968) was constructed. The index is based on six activities of daily life that an

older person has “to perform and the faculties he would have to employ to maintain life, assuming he received no assistance” (op.cit. p. 26). The activities include: 1) to cut ones own toenails, 2) to walk up and down the stairs, 3) to walk out of doors, 4) to get about the house, 5) to wash and bathe oneself, and 6) to dress oneself and to put on shoes. For each question respondents who answered ‘are able to without any restriction’ scored 0, respondents who answered ‘are able to, but only with difficulty’ scored 1, and respondents who answered ‘cannot without help’ scored 2. The index for incapacity ranges from 0 to 12, with the value of 0 representing full capacity and the value of 12 representing a high degree of incapacity.

Well-being

The respondents were asked five different questions about their psychological well-being. The answers ‘often’ or ‘occasionally’ to the questions: 1) “How often do you feel afraid of certain things?”, 2) “How often are you worried?”, 3) “How often are you depressed?” and 4) “How often do you feel lonely?” were given a value of 1, whereas the answers ‘rarely’ and ‘never’ to the question: 5) “How often do you feel in high spirits?” were given a value of 1. We then constructed an index ranging from 0 to 5, measuring the level of well-being in daily life, with the value of 0 representing a high level of well-being and the value of 5 representing a low level of well-being.

Loneliness

Loneliness is in these analyses based on the frequency of being involuntary alone. The respondents were posed the question: “Does it ever happen that you are alone even though you would really prefer to be with others?” We then generated an index ranging from 1-4 based on the answers ‘never’, ‘rarely’, ‘now and then’, and ‘often’ with the value of 4 representing the highest level of loneliness.

2.2 Variables on help

For the analyses a variable expressing the quantity of home help that a person receives was constructed. This is based on interview data as the information is not included in administrative data. Furthermore, a variable expressing help from relatives or others was constructed. Finally, a variable expresses whether a person assesses that he or she needs (more) home help.

Home help

Respondents were asked if they receive home help and if so which weekdays and how many times a day. We then aggregated the number of visits a day and days a month into a total. Respondents who do not receive home help were assigned a value of 0 while respondents who receive e.g. home help every fortnight were assigned a value of 2. The index ranges from 0 to 168 visits a month. We have no information on the duration of each visit or the type of home help. Therefore, our variable can only be taken as a proxy for the quantity of help.

Help from others

Respondents were asked if they within the latest month had received help with cleaning, maintaining their home, dealing with financial affairs, getting to treatment facilities, or getting outside of the home from children, family or friends (excluding people they live with). Respondents answering yes to minimum one of these questions were given a value of 1, while respondents answering no to all of the questions were given a value of 0.

Need of (more) home help

Respondents who did not receive home help were asked if they need home help, and respondents who did receive home help were asked if they need more home help. Respondents answering yes to one of these questions were said to be in need of (more) home help.

2.3 Other variables

To control for differences in dependency for help at base line between people receiving home help and people not receiving home help a large number of variables have been included in the analyses. They are listed in the appendix with descriptive statistics.

3 Methods

Estimations were done separately for men and women using a linear regression model. The explanatory variable of primary interest in the model is the number of home help visits a month in 1997. In addition, the model includes as controls all variables for 1997 in the data set which might have an effect on the dependent variables of incapacity of ADL, well-being and loneliness in 2002. Also, we include an interaction term between the index of incapacity in 1997 and the number of home help visits allowing the effect of home help to depend on initial capacity in ADL.

To be able to interpret the estimated coefficient of home help in 1997 as a causal effect, we must assume that need for help is controlled for by the additional explanatory variables in the model. The analyses are based on the assumption that the decided level and practice concerning assessment and granting vary between and within municipalities so that people at the same level of capacity may receive home help at a different frequency. If it was the case that between-municipality variation in help (given controls) reflected different assessment practices whereas within-municipality variation reflected unobserved differences in need of help, the between-municipality estimator would be preferable to OLS. Results using the between-municipality estimator are, however, very similar to OLS results, and therefore we only show OLS results.

Since the effect of home help on subsequent outcomes may depend on initial capacity in ADL, we include in the analyses an interaction term between frequency of home help and an index of incapacity (see below). Since effects of home help (and covariates) may depend on gender, we estimate separate models for males and females.

Some older people will, as an alternative or supplement to public help, receive help from e.g. family, while a few pay for receiving help from a private firm (e.g. Hansen et al. 2002; Larsson et al. 2006). In the analyses we therefore control for help supplied by relatives and friends.

4 Results

In the following we present the results. Table 1 shows results of our estimations on incapacity in ADL. The frequency of home help visits is not significantly correlated with the level of incapacity in ADL five years later neither for men nor women. In order to substantiate this result we have carried out several estimations accounting for different possible problems concerning the data and our estimation model. First, as people with no incapacity problems in 1997 cannot improve their capacity this might influence our estimation results. Second, for people with severe incapacity problems home help may have a different form and other effects than for people with only modest problems. Third, the effect of the variable *home help* might not be truly linear as an increase in visit-frequency from 138 times a month to 140 times a month might not equal an increase from 2 times a month to 4 times a month. Fourth, there is a high correlation between home help and the

included interaction effect between home help and IOI in 1997. Fifth, since home help is granted on the basis of the total needs of the household some people might receive home help mainly on the basis of their spouse's needs. We have therefore carried out different estimations taking these possible data issues into account. We have done this by 1) omitting people without incapacity problems in 1997, 2) only estimating the effect for people with modest incapacity problems in 1997, 3) using a categorised variable for home help, 4) excluding the interaction term between home help and IOI, and 5) only estimating the effect for people living alone. None of these additional estimations alter the main result from Table 1 of insignificance of home help.

A surprising correlation is that women who in 1997 themselves thought that they were in need of (more) home help have a higher capacity in daily living in 2002 than women who in 1997 thought they received sufficient help.

Table 2 shows estimation results concerning well-being in 2002. Note that the variable for well-being has low values when well-being is high, see above. We see quite different results for men and women concerning the correlation between home help in 1997 and well-being in 2002. For men without or just with few incapacity problems in 1997 increasing home help seems to have a negative effect on well-being in 2002. However, this effect is reversed for men scoring 3 or more on the incapacity index due to the positive contribution from the interaction variable of home help visits and IOI in 1997.

For women the correlation is the opposite since the coefficient of home help in 1997 is negative (although) insignificant, whereas the interaction term with IOI in 1997 is positive. Thus, for women with IOI less than or equal to 3 in 1997 the marginal effect of an increase of home help on well-being in 2002 is positive (but insignificant); for women with IOI larger than 3 the effect is negative.

We have estimated a logistic regression model for the probability of being involuntarily alone (loneliness) in 2002 using the same set of explanatory variables as in Tables 1 and 2. We find no significant correlation between the frequency of home-help visits in 1997 and the frequency of being involuntarily alone in 2002. The results are not shown.

Table 1 Estimation results on incapacity in ADL for men and women

Dependent variable: Index of incapacity 2002	Men			Women		
	Estimate		Std. error	Estimate		Std. error
Home help visits 1997	0.010		0.019	0.011		0.013
Home help visits 1997*IOI 1997	0.007		0.006	-0.002		0.002
Need of home help 1997	-0.079		0.313	-0.689	***	0.258
Help from others 1997	0.581	***	0.210	-0.208		0.183
Nurse 1997	0.647	**	0.280	0.255		0.240
Well-being 1997	0.077		0.093	0.041		0.075
IOI 1997	0.588	***	0.075	0.673	***	0.058
Self assessed health good 1997	Reference			Reference		
Self assessed health medium 1997	0.615	***	0.195	0.698	***	0.202
Self assessed health poor 1997	0.501		0.363	0.284		0.362
Services from GPs 1997	0.003		0.012	-0.009		0.012
Contacts with GPs and specialists 1997	0.002		0.012	0.000		0.012
Health insurance services 1997	-0.002		0.013	0.014		0.013
Hospitalisation 1997	0.174		0.169	0.291		0.262
Days of hospitalisation 1997	-0.063	**	0.029	-0.010		0.028
Services from GPs 1992-1997	-0.001		0.003	0.004		0.003
Contacts with GPs and specialists 1992-1997	0.000		0.003	-0.002		0.003
Health insurance services 1992-1997	0.004		0.004	0.002		0.004
Hospitalisation 1992-1997	0.086		0.055	-0.039		0.094
Days of hospitalisation 1992-1997	0.008		0.008	0.018	*	0.010
Raised blood pressure	-0.708	**	0.347	-0.012		0.367
Diabetes	-1.114		1.247	-0.367		0.704
Asthma	0.259		0.281	1.065	***	0.286
Osteoarthritis	-0.025		0.214	-0.345		0.201
Myalgia	-0.725	**	0.301	-0.262		0.232
Depression	-0.696		0.733	-0.506		0.350
Back diseases	0.055		0.251	0.247		0.227
Osteoporosis	3.047		1.976	0.418		0.334
Age 67	Reference			Reference		
Age 72	0.137		0.167	0.217		0.179
Age 77	0.366	*	0.194	0.533	***	0.200
Basic general education	Reference			Reference		
Upper secondary level	3.179	**	1.300	-0.114		0.968
Vocational	0.059		0.179	0.016		0.186
Short-cycle higher education	0.143		0.440	-0.284		0.529
Medium-cycle higher education	0.014		0.343	0.049		0.316
Long-cycle higher education	0.000		0.354	-0.562		0.791
Blue-collar worker	Reference			Reference		
White-collar worker	-0.387	*	0.222	-0.200		1.132
Self-employed doctor, lawyer etc.	-0.160		0.277	-0.586	***	0.191
Self-employed agriculture, fishing etc.	-0.396	**	0.202	-0.231		0.206
Income 1997	0.000		0.000	0.000		0.000
Living alone	0.330		0.208	0.296		0.180
Social network strong	Reference			Reference		
Social network medium	0.106		0.232	-0.373		0.275
Social network weak	0.476	***	0.160	0.011		0.165
Involuntarily alone 1997	-0.252		0.262	0.162		0.217
Intercept	0.029		0.293	0.203		0.266
N	606			661		
R^2	0.411			0.494		
F value, Prob.>F	9.37, <.0001			14.35, <.0001		

Significance level notation: * at 10 per cent, ** at 5 per cent, *** at 1 per cent.

Table 2 Estimation results on (inverse) well-being for men and women

Dependent variable: Well-being in 2002 (the index of well being has high values when well being is low)	Men			Women		
	Estimate		Std. error	Estimate		Std. error
Home help visits 1997	0.023	**	0.010	-0.006		0.008
Home help visits 1997*IOI 1997	-0.008	**	0.003	0.002	**	0.001
Need of home help 1997	0.089		0.168	0.003		0.149
Help from others 1997	0.064		0.112	-0.133		0.106
Nurse 1997	0.119		0.149	0.148		0.144
Well-being 1997	0.360	***	0.050	0.301	***	0.044
IOI 1997	-0.015		0.040	-0.030		0.034
Self assessed health good 1997	Reference			Reference		
Self assessed health medium 1997	0.341	***	0.105	0.366	***	0.117
Self assessed health poor 1997	0.218		0.193	0.020		0.212
Services from GPs 1997	-0.011	*	0.006	0.014	**	0.007
Contacts with GPs and specialists 1997	0.013		0.007	-0.009		0.007
Health insurance services 1997	-0.008		0.007	0.006		0.008
Hospitalisation 1997	0.065		0.090	-0.093		0.155
Days of hospitalisation 1997	-0.007		0.015	0.002		0.016
Services from GPs 1992-1997	0.001		0.002	-0.002		0.002
Contacts with GPs and specialists 1992-1997	-0.002		0.002	0.002		0.002
Health insurance services 1992-1997	0.000		0.002	0.001		0.002
Hospitalisation 1992-1997	0.026		0.029	0.058		0.054
Days of hospitalisation 1992-1997	0.001		0.004	-0.011	*	0.006
Raised blood pressure	0.112		0.184	-0.029		0.214
Diabetes	-0.458		0.662	-0.169		0.406
Asthma	-0.127		0.152	0.334	**	0.164
Osteoarthritis	-0.228		0.114	-0.010		0.117
Myalgia	-0.071		0.162	0.215		0.134
Depression	0.705	*	0.389	0.295		0.204
Back diseases	0.094		0.134	-0.003		0.131
Osteoporosis	-0.452		1.049	0.217		0.193
Age 67	Reference			Reference		
Age 72	0.017		0.089	0.094		0.104
Age 77	-0.012		0.103	0.064		0.116
Basic general education	Reference			Reference		
Upper secondary level	-0.383		0.690	-0.140		0.556
Vocational	0.168	*	0.096	0.102		0.108
Short-cycle higher education	0.322		0.234	-0.248		0.304
Medium-cycle higher education	0.451	**	0.182	0.044		0.182
Long-cycle higher education	0.370	**	0.188	0.112		0.454
Blue-collar worker	Reference			Reference		
White-collar worker	-0.132		0.119	0.305		0.650
Self-employed doctor, lawyer etc.	-0.137		0.149	-0.209	*	0.111
Self-employed agriculture, fishing etc.	-0.140		0.108	-0.139		0.119
Income 1997	0.000	*	0.000	0.000		0.000
Living alone	0.153		0.111	-0.011		0.104
Social network strong	Reference			Reference		
Social network medium	0.038		0.123	0.099		0.160
Social network weak	0.202	**	0.085	0.044		0.095
Involuntarily alone 1997	-0.089		0.140	0.430	***	0.126
Intercept	0.324	**	0.156	0.327	**	0.153
N	599			649		
R^2	0.252			0.306		
F value, Prob.>F	4.46, <.0001			6.36, <.0001		

Significance level notation: * at 10 per cent, ** at 5 per cent, *** at 1 per cent.

5 Discussion

To summarise, we find no significant relation between home help and subsequent capacity in ADL or loneliness. We find a positive correlation between home help and well-being five years later, but only for men with reduced capacity in ADL (to be specific, only for men with IOI above 3).

The finding that home help and the frequency of home help have no significant overall effect on older people's subsequent capacity in ADL may be explained by counteracting causal mechanisms: a positive preventive effect and a negative effect if home help makes older people more passive (see the discussion in section 1). The fact that a possible positive preventive effect does not dominate the correlation is in line with the results of several other studies (e.g. Hedrick and Inui 1986; HSURC 2000; Godfrey et al. 2000). As a matter of fact, just a single study (Hollander and Tessaro 2001) suggests that the level of home help may have a preventive effect on incapacity in ADL. Depending on the degree to which a principle of help to self-help is adopted in the provision, home help might lead to increased as well as decreased capacity in ADL. A former study of Danish home help states that a principle of 'help to self-help' has not been put into practice (Swane 2003).

Selection effects might be another reason why we do not find a significant effect on capacity in ADL. Thus, as the severity of health problems is correlated with the frequency of home help, our estimates may be biased if we do not control adequately for initial health. This is a problem common to most studies in this field. Even though we have better data and include much more controls for initial health than most other studies, we cannot completely rule out health selection effects.

Those receiving home help may in another respect be a selected group. It has been documented that a desire to remain independent and self-reliant is widespread among older people (e.g. Lum et al. 2005; Hansen et al. 2002). However, the desire to remain independent may be less strong among those receiving (a small amount of) home help than among those not receiving help. Recipients of home help may be more inclined to leave daily chores with others and thereby be in risk of reducing their capacity in ADL with a higher speed because of inactivity.

Thus, selection effects might counteract a possible preventive effect of home help in our estimations. It is, however, worth noting that our results likewise do not support the assumption that home help might have a negative effect on the recipient's capacity in ADL through making them passive.

Furthermore, it is important to notice that the pathological processes leading to increased disability are only to a limited extent affected by home help. Thus, the progression of a number of diseases is independent of the amount of home help and the way it is supplied, e.g. dementia, heart diseases, arthritis and reduced sight.

A final reservation concerns 'measurement errors' which might bias our estimates of home-help effects towards zero. The home-help variable does not precisely express the quantity of home help that a person receives. The variable expresses the *number of visits within a month*, but not the (average) length of visits. Furthermore, we compare people with a varying frequency of home-help visits *at a given time*, and this frequency may have changed during the five year follow-up period. However, compared to other studies in this literature, we do not think that measurement errors in our data are very important.

A surprising and interesting result is that there seems to be a positive effect on subsequent capacity in ADL when women assess that they need (more) home help. What might be the interpretation of this? Other things being equal, the propensity to receive home help is lower for women than for men (e.g. Hansen et al. 2002; Larsson et al. 2006) and women must therefore generally show greater reductions in the capacity of daily living to apply for or to receive home help. Therefore, women who express that they need (more) home help may – compared to men –

have some difficulties in doing the daily chores themselves. However, one could imagine that despite of that they will try to take care of the chores to satisfy their own standards of a proper home. In this respect, too, they may differ from older men. These efforts possible at the edge of their capacity may help them to maintain their capacity; an effect comparable to the effect of a strategy of helping people to help themselves.

We find it an interesting result that home help seems to have a different effect on well-being for men and women. Men with reduced capacity in ADL benefit from receiving home help, whereas women do not. A positive effect of home care on mental health is reported by Lum et al. (2005), but they report no gender differences. A positive effect on user's life satisfaction is reported by Godfrey et al. (2000), but the studies reviewed in their article have not consistently considered the effect on well-being, and gender differences are not touched upon. In both Lum et al. (2005) and the studies reviewed in Godfrey et al. (2000) the outcome variables resembling well-being are reported at the time of receiving home help. In order to make the interpretation of causality more clear, in our study the outcome is well-being in a five-year-perspective given well-being, health conditions, etc., at base line.

The different effect for men and women may be explained by the fact that different factors influence men and women not feeling well. Men may worry about getting appropriate care in case of illness and incapacity and the more help they get the more unlikely it is that they will develop greater anxiety and depression. Visits from home helps may instead keep up their spirits. Women may have the same worries and may benefit from receiving home help for daily chores and personal care, but at the same time they may have stronger feelings than men for independence and self-sufficiency in daily chores. Therefore, they may have greater worries about loosing their independence in a number of daily chores (referring to women being less inclined to receive home help (Hansen et al. 2002; Larsson et al. 2006), but more often express a need for more home help (Hansen et al. 2002) and they may not benefit as much from receiving visits from home helps. In other words, home-help support may not remove women's worries from illness and reduced capacity.

Our analyses give no support to the assumption that home help has a preventive influence on the likelihood of feeling involuntarily alone in the long run. This is in accordance with former research although most studies have been on a slightly different concept, namely a concept of feeling lonely. In a review study Cattan et al. (2005) report that a number of studies have failed to demonstrate that home visits or provision of services are effective against loneliness. Effective measures in this respect include group-oriented efforts where group members can give mutual support and develop friendly relations.

6 Conclusion

In Denmark, home help with daily chores or personal care is granted free of charge in case of incapacity in ADL. However, we find no correlation neither for men nor women between the frequency of home help and subsequent development of capacity in ADL.

Therefore, our analyses give no support to an assumption that home help has a preventive effect on incapacity in ADL. Actually, the frequency of home help seems to have neither an activating effect nor an effect of making the recipients passive. This may indicate that home help in Denmark is typically provided just to compensate for the daily chores which an older person is not able to carry out him- or herself.

Our results do not imply that the public sector could, without consequences, abolish or cut down help with e.g. daily chores. First, even if we use high-quality longitudinal survey and administrative data, we cannot completely rule out selection and measurement error problems. Second,

even if these problems are not important, the effect of home help may be positive for some people and negative for others. Third, in many cases older dependent people will not be able to find an alternative source of help and in our findings home help has a positive effect on the well-being of men with reduced capacity in ADL. We do not find the same effect for women, but in case of a reduction in home help to present recipients there may be a negative effect on women's well-being as well. We find no significant effect of home help on the risk of being involuntarily alone, neither for men nor women.

Our results suggest that help should not be granted on the basis of older people's wishes for help, but on the basis of an assessment of older people's actual ability to perform daily chores and on a principle that older people should do as much as they can themselves. Still having to take care of daily chores nearby or at the edge of one's physical capacity may contribute to retaining the capacity and have a preventive effect in the long run. But of course this is a tight-rope walking and not a recommendation of cut backs. Too little help may have a negative effect on the well-being of dependent people and cut backs for individuals may have negative health effects.

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Appendix

Descriptive statistics

		Mean	Std. dev	Min	Max
Home help visits 1997	Number of visits a month	1.10	8.49	0	168
Home help visits 1997*IOI 1997	Visits a month*level of incapacity	3.10	52.45	0	1680
Need of home help 1997	=1 needs more home help	0.09	0.29	0	1
Help from others 1997	=1 receives home help from others	0.21	0.41	0	1
Nurse 1997	=1 receives help from a nurse	0.06	0.35	0	3
Well-being 1997	level of well-being	0.80	1.09	0	5
Well-being 2002	level of well-being	0.82	1.15	0	5
IOI 1997	level of incapacity	0.74	1.61	0	12
IOI 2002	level of incapacity	1.30	2.44	0	12
Self assessed health good 1997	=1 good subj. health	0.66	0.47	0	1
Self assessed health medium 1997	=1 medium subj. health	0.26	0.44	0	1
Self assessed health poor 1997	=1 poor subj. health	0.08	0.27	0	1
Services from GPs 1997	Number of services	12.61	19.47	0	240
Contacts with GPs and specialists 1997	Number of contacts	13.76	18.34	0	186
Health insurance services 1997	Number of services	23.65	28.56	0	241
Hospitalisation 1997	Number of hospital admissions	0.20	0.68	0	11
Days of hospitalisation 1997	Total days of hospitalisation	1.22	5.00	0	55
Services from GPs 1992-1997	Number of services	64.28	99.52	0	2680
Contacts with GPs and specialists 1992-1997	Number of contacts	67.87	67.84	0	767
Health insurance ben. 1992-1997	Number of services	118.04	125.14	0	2688
Hospitalisation 1992-1997	Hospital contacts 1992-1997	1.18	2.11	0	35
Days of hospitalisation 1992-1997	Days of hospitalisation 1992-1997	7.73	17.90	0	189
Raised blood pressure	=1 raised blood pressure	0.05	0.21	0	1
Diabetes	=1 diabetes	0.01	0.10	0	1
Asthma	=1 asthma	0.08	0.28	0	1
Osteoarthritis	=1 osteoarthritis	0.24	0.43	0	1
Myalgia	=1 myalgia	0.12	0.32	0	1
Osteoporosis	=1 osteoporosis	0.03	0.18	0	1
Back diseases	=1 back diseases	0.17	0.37	0	1
Depression	=1 depression	0.04	0.19	0	1
Gender	=1 male	0.48	0.50	0	1
Age 67	=1 67 years	0.39	0.49	0	1
Age 72	=1 72 years	0.35	0.48	0	1
Age 77	=1 77 years	0.26	0.44	0	1
Basic general education	=1 basic general education	0.42	0.49	0	1
Upper secondary level	=1 upper secondary level	0.00	0.07	0	1
Vocational	=1 vocational	0.42	0.49	0	1
Short-cycle higher education	=1 short-cycle higher education	0.03	0.16	0	1
Medium-cycle higher education	=1 medium-cycle higher education	0.08	0.27	0	1
Long-cycle higher education	=1 long-cycle higher education	0.04	0.19	0	1
Blue-collar worker	=1 blue-collar job	0.29	0.45	0	1
White-collar worker	=1 white-collar job	0.40	0.49	0	1
Self-employed doctor, lawyer etc.	=1 self-employed doctor etc.	0.18	0.38	0	1
Self-employed agriculture etc.	=1 self-employed agric. etc.	0.08	0.27	0	1
Income 1997	Level of income (DKK)	144826.08	75419.98	-112767	1126512
Living alone	=1 living alone	0.35	0.48	0	1
Social network strong	=1 social network strong	0.56	0.50	0	1
Social network medium	=1 social network medium	0.34	0.47	0	1
Social network weak	=1 social network weak	0.10	0.31	0	1
Involuntarily alone 2002	=1 often or now and then	0.15	0.36	0	1
Involuntarily alone 1997	level of frequency	3.44	0,90	1	4

Sammenfatning

Hjemmehjælp, udførelse af daglige aktiviteter og velbefindende blandt ældre

I dette working paper undersøges det, hvilken rolle hjemmehjælp spiller for ældre borgeres velbefindende og ensomhed samt funktionsniveau, dvs. evne til at udføre daglige aktiviteter. Undersøgelsen omfatter hjemmeboende borgere på 67-77 år og baserer sig på interview med borgerne foretaget i 1997 og igen i 2002. I 1997 blev de bl.a. spurgt om, hvor hyppigt de modtog hjemmehjælpsbesøg, og i både 1997 og 2002 blev de interviewet om udførelsen af daglige aktiviteter, om deres velbefindende og ensomhed.

Analyserne viser, at hyppigheden af hjemmehjælpen ikke har nogen betydning for, hvor godt borgerne er i stand til at udføre daglige aktiviteter fem år senere. Men blandt de kvinder, som i 1997 mente, at de havde brug for (mere) hjemmehjælp, viser det sig, at de fem år senere havde et højere funktionsniveau i daglige aktiviteter, end dem, der ikke syntes, at de havde behov for (mere) hjemmehjælp. Mænd, der havde et relativt lavt funktionsniveau i 1997, havde et højere velfindende i 2002, jo oftere de modtog hjemmehjælp i 1997. Kvinder, der havde et lavt funktionsniveau i daglige aktiviteter i 1997, havde – modsat mændene – et lavere velfindende i 2002, jo oftere de modtog hjemmehjælp i 1997. Undersøgelsen viser desuden, at hyppigheden af hjemmehjælp i 1997 ingen indflydelse havde på, hvor ensomme borgerne var i 2002.

Der er altså intet, der tyder på, at hjemmehjælp gennem hjælp til selvhjælp gavner ældres evne til at udføre daglige aktiviteter. Det ser snarere ud til, at hjemmehjælp hverken har en aktiverende eller passiviserende effekt. Det tyder på, at den hjemmehjælp, der ydes i Danmark, lige netop kompenserer for de daglige aktiviteter, som ældre ikke selv kan klare.

Resultaterne kan ikke fortolkes sådan, at hjemmehjælp til fx daglige aktiviteter kan reduceres uden konsekvenser. For det første kan vi ikke helt udelukke unøjagtigheder i resultaterne som følge af selektions- og måleproblemer til trods for, at vi har brugt data af høj kvalitet. For det andet kan effekten af hjemmehjælp være positiv for nogen og negativ for andre. For det tredje vil ældre, som ikke kan undvære hjælp i mange tilfælde ikke være i stand til at finde anden hjælp end hjemmehjælp. Desuden viser analyserne, at hyppigheden af hjemmehjælp har en betydning for velbefindendet blandt ældre mænd med nedsat funktionsniveau. Vi finder ikke den samme sammenhæng for ældre kvinder. Men får kvinder reduceret omfanget af hjemmehjælp, kan der ligeledes være en negativ effekt på kvinders velbefindende.

Resultaterne peger i retning af, at hjemmehjælp ikke bør bevilges på grundlag af ældres egne ønsker til hjælpens omfang, men på grundlag af en vurdering af deres faktiske evne til at udføre daglige aktiviteter og ud fra et princip om, at ældre bør udføre så meget, som de kan selv. Det, at man må udføre en række daglige aktiviteter, selv om nogle måske kun kan udføres med besvær, kan muligvis bidrage til at opretholde funktionsniveauet, og kan således have en forebyggende effekt på længere sigt. Der er imidlertid tale om en vanskelig balancegang, idet for lidt hjælp kan have en negativ effekt på borgernes velbefindende, ligesom nedskæringer i hjemmehjælp hos den enkelte kan have en negativ effekt på helbredet.

Projektet er gennemført med økonomisk støtte fra Aase og Einar Danielsens Fond og EGV.

We analyse the correlation between on the one hand home help and on the other hand subsequent capacity in daily living, well-being and loneliness. The analyses are conducted on a Danish data set of 1,317 people aged 67, 72 or 77 in 1997 and living in the community (i.e. outside institutions). Interviews took place in 1997 and again in 2002. In 1997 the interviews were on the frequency of home-help visits, and in 1997 and 2002 they were on the capacity in activities of daily living, well-being and loneliness. We conduct multivariate regression analyses on the relation between home help in 1997 and capacity in daily living, well-being and loneliness five years later.

We find no effect of home help on capacity of daily living five years later, but we find that women who expressed a need for (more) home help in 1997 have a higher capacity in activities of daily living in 2002 than women who did not. For men incapacitated above a certain degree we find that they have a higher level of well-being in 2002 the more home help they received in 1997. The correlation is reversed for women so that incapacitated women in 1997 have a lower well-being in 2002 the more home help they received in 1997. We find no correlation between the frequency of home help and the probability of being involuntary alone five years later.

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