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Title: Targeting of home care: new patterns of distribution and inequalities in Danish home care for older people

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Introduction

Long-term care for older people is in the Nordic countries often said to constitute a perfect example of the public service model (Anttonen & Sipilä, 1996), as the main responsibility for the organization, provision and financing of care traditionally lays with the public. Another main characteristics of the model is universalism (Antonnen et al, 2012), as access to benefits is based on citizenship, not contributions nor merit, and in the case of long-term care services depending on need. Characteristics of the Nordic service model is also that long-term care services are generally available and used by all, with no stigma associated. Vabø and Szebehely (2012) further argue that the Nordic service universalism also includes that services are attractive, affordable and flexible in order to meet a diversity of needs and preferences.

As an example, home care in Denmark is free of charge and has for a long time been generously awarded, providing personal care and/or cleaning services for around one fifth of the population 65+. Denmark was one of the first countries redirecting long-term care away from institutional care towards providing extensive care in the home, thus emphasizing the need for de-institutionalisation and for providing care in accordance with ageing in place. However, more recently the coverage rate for home care has dropped considerably, to 11% of the 65+.

In this paper, we investigate what may be the cause of this drop in coverage rate, and especially whether it is due to healthy ageing and the introduction of reablement - or rather a development towards targeting and reduction in coverage of care. We also look into whether the drop is accompanied by a change in the help provided from other sources, such as spouse, children and other friends and family, as a way to compensate for the reduction in home care, but intrinsically also a symbol of Denmark departing from the public service model.

Findings suggest that the changes in the take-up of home care cannot be explained by healthy ageing but are instead a result of targeting towards the most frail and those with need for personal care. In the same period of time, help from others has not increased. As a consequence, a larger proportion of frail older people today report that they have no one to help them with daily activities. All in all, our results indicate a substantial change with implications for the core elements in the Nordic LTC model. The paper is organized

in the following way: first, we outline the methodological approach; then we describe the overall changes in the provision of home care in Denmark, before we turn to the analysis and the conclusion.

Method

We apply survey data from the national representative and longitudinal survey Ældredatabasen. This includes around 10.000 respondents from the age of 52+. Data has been collected every 5 years since 1997, mainly by telephone, and new respondents have continuously been recruited. In 1997, the oldest cohort was 77 years old. We use data from 2007 and 2017, in order to include the age group 67-87 years and analyse data in a cross-sectional perspective. Data from the Ældredatabasen is generally considered to be of high quality and with a high response rate (74.5% in 2007 and 67.3% in 2017), but as it the case for most surveys the most vulnerable in the population may be underrepresented. We also apply register covering income and educational level.

We include in the analysis respondents who live at home and who can be defined as being frail according to Shana's validated index of functional ability in daily activities (Shanas et al, 1968; Shanas, 1972). The index measures inability to independently conduct the following seven activities: cutting toenails, climbing stairs, walking outdoors, walking around indoor, washing/bathing, dressing/undressing, shopping/carrying groceries home. We only include those respondents who say they are unable to do one or more of these tasks without help. These are considered to have a need for help and assistance in daily activities. The activities are related to physical mobility and may therefore not capture social, cognitive or physiological incapacity, unless such conditions result in inability to carry out daily activities, e.g. dementia may limit the person in organizing shopping etc. We apply a summed index with values from 0-7, according to the number of limitations, and group respondents into two groups: one functional limitations and 2+ functional limitations. Empirically, the two groups are almost the same size.

In the study, we find that over time a larger proportion of older people have no functional limitations according to the index, from 80.15 % in 2007 to 85.26 % in 2017. We also see that a declining share have more than one functional limitation, from 9.08 % in 2007 to 4.56 % in 2017. The proportion with only one functional limitation remains stable, at 10.78 % in 2007 and 10.19 % in 2017. In the following, we concentrate only on those who have one or more functional limitations in the survey (n= 829 persons in 2007 and 713 persons in 2017).

In the analysis, we apply a number of variables to control for the development over the years in this sub-population, such as the aforementioned functional limitations, as well as gender, marital status, education, income and whether the person has children and lives alone or with others.

We focus the analysis om home care assistance with practical tasks only, as we cannot compare the provision of personal care over time, due to a change in the way questions have been asked in the survey. Practical tasks generally covers daily tasks such as cleaning, laundry, shopping and cooking, which is part of the home care service in Denmark.

Reduction in home care

From being a widely used service, provision of home care in Denmark has over the last decade undergone considerable changes. Firstly, the proportion of older people 65+ with home care has dropped from 18% in 2008 to 11% in 2017. Among the 80+, the drop has been from 43 % to 31 % in the same period. Although there are today in sheer number more older people 65+, 25.000 persons to be exact, the number of recipients of home help has thus declined with 33.000 persons.

Secondly, we see a change in the content of the help provided: the number of 65+ in the population with practical care or a combination of practical care and personal care has declined with 34.000 since 2007, while the number of persons with personal care has remained stable. Taken together, this means that the overall proportion of people with home care has declined and the decline is especially within practical care.

Thirdly, the way home care is organized and provided has changed fundamentally since the introduction of reablement. From 2007 and onwards more and more municipalities have implemented reablement and since 2015 it has been part of the legislation, obliging all municipalities to consider whether the older person has so-called potential for reablement before giving traditional home care. Reablement implies a focused, short-term and multi-disciplinary intervention, often by a team of social care workers and occupational therapists, with the aim of increasing functional ability, and based on the older persons goals. In essence, it is a way of providing active care with the long-term aim of making the person less or entirely independent of care. As of 2017, 3.6% of the 65+ received a reablement intervention. There are no systematic documentation of the composition of the interventions, nor of the outcomes, but local studies indicate a high success rate. A study from Copenhagen municipality thus reported that 60% of recipients uphold a significant improvement in functional ability 12-18 months after the intervention (Københavns Kommune, 2012). If reablement is successful, we could expect the need for home care to be reduced, which would explain the drop in home care. Likewise, a general improvement in frailty as part of healthy ageing could also contribute to the changes in the use of home care.

Recalibration of Danish home care

Our analysis indicates that instead of the reductions being an outcome of less frailty or healthy ageing, the changes reflect a recalibration of the Danish home care system. The drop in home help is not an indication of a general improvement in health and functional ability but seems to be a clear pattern of a general reduction of home care, in addition to targeting the help towards the most frail.

In raw numbers the proportion of frail older people with home care in the survey has since 2007 been reduced from 43 % to 25%. However, from the analysis of the change in the background variables, we know that some changes have taken place since 2017. Most importantly, since 2017 fewer among the respondents have severe functional limitations (2+) and more live with others who may assist them. This may affect the number and we therefore conduct a regression analysis where we control for all changes in background variables.

This analysis shows that the odds ratio for receiving home care has been reduced by 0.49 (Table 1). Parallel to this, there has been no significant change in the odds ratio for receiving assistance with practical tasks from either spouse/partner, children/other family, friends/acquaintances and neither any change in the odds ratio for purchasing assistance from a private, for-profit company.

Table 1 Logistic regression estimating the difference in likelihood for receiving home care for practical assistance among frail older people (67-87 years) from a given source of help. Odds ratio. 2017 compared to 2007

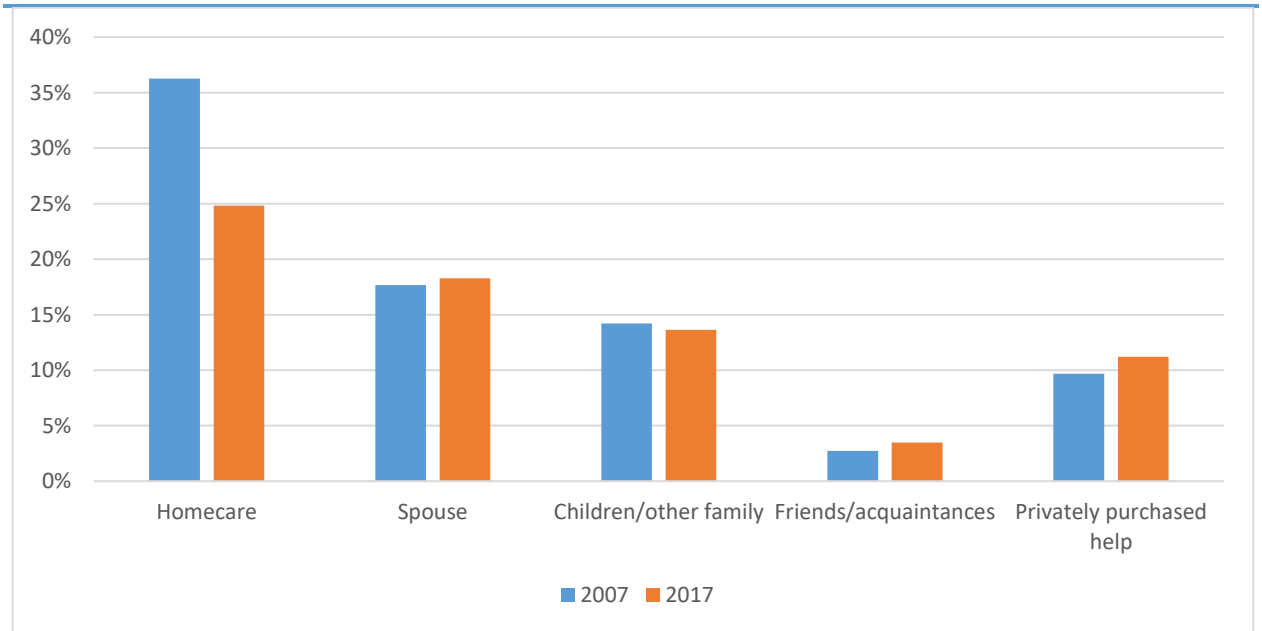
	Home care	Spouse/partner	Children/other family	Friends/enner/aquuaintences	Privately purchased assistance
Development 2017-2017	0,49***	1,12	0,95	1,30	1,18

Note: Logistic regression for frail older people with at leas tone functional limitation. n=1.530. Controlled for changes in age, gender, education, income, children, living alone. Not controlled for spouse/partner as there is complete correlation with living alone. Odds ratios 2017 and 2019 and t-test. * < 0,05, ** <0,01, *** <0,001.

Source: Ældredatabasen 2007 and 2017.

If instead shown in percentages, this is the equivalent to a likelihood of 36% in 2017 for a frail older person to receive home care with practical tasks, and 25% in 2017, i.e. a reduction of 11 percentage points, and controlling for all changes in the background variables (Figure 1). Figure 1 also shows the likelihood in percentage for receiving practical assistance from other sources of help. Only the change over time in home care is significant.

Figure 1. Likelihood for receiving practical assistance for frail older people (67-87 years) from various sources, 2017 and 2017. Controlled for background characteristics



Note: Numbers are based on the logistic regressions. Percentages are calculated on the basis of marginal predictions which express the average likelihood for receiving assistance, controlled for changes in background characteristics.

Source: Ældredatabasen 2007 and 2017.

Targeting towards the most vulnerable

There are patterns in the change that suggest targeting at the most vulnerable, those with 2+ functional limitations. In separate analysis, we find that this group has over time higher likelihood for receiving home care for practical tasks, but even among this group we see a reduced likelihood to receive home help. 51% among these received home care in 2097 compared to 43% in 2017. In comparison, among those with 1 functional limitations, 31% received home care in 2007 and 16% in 2017.

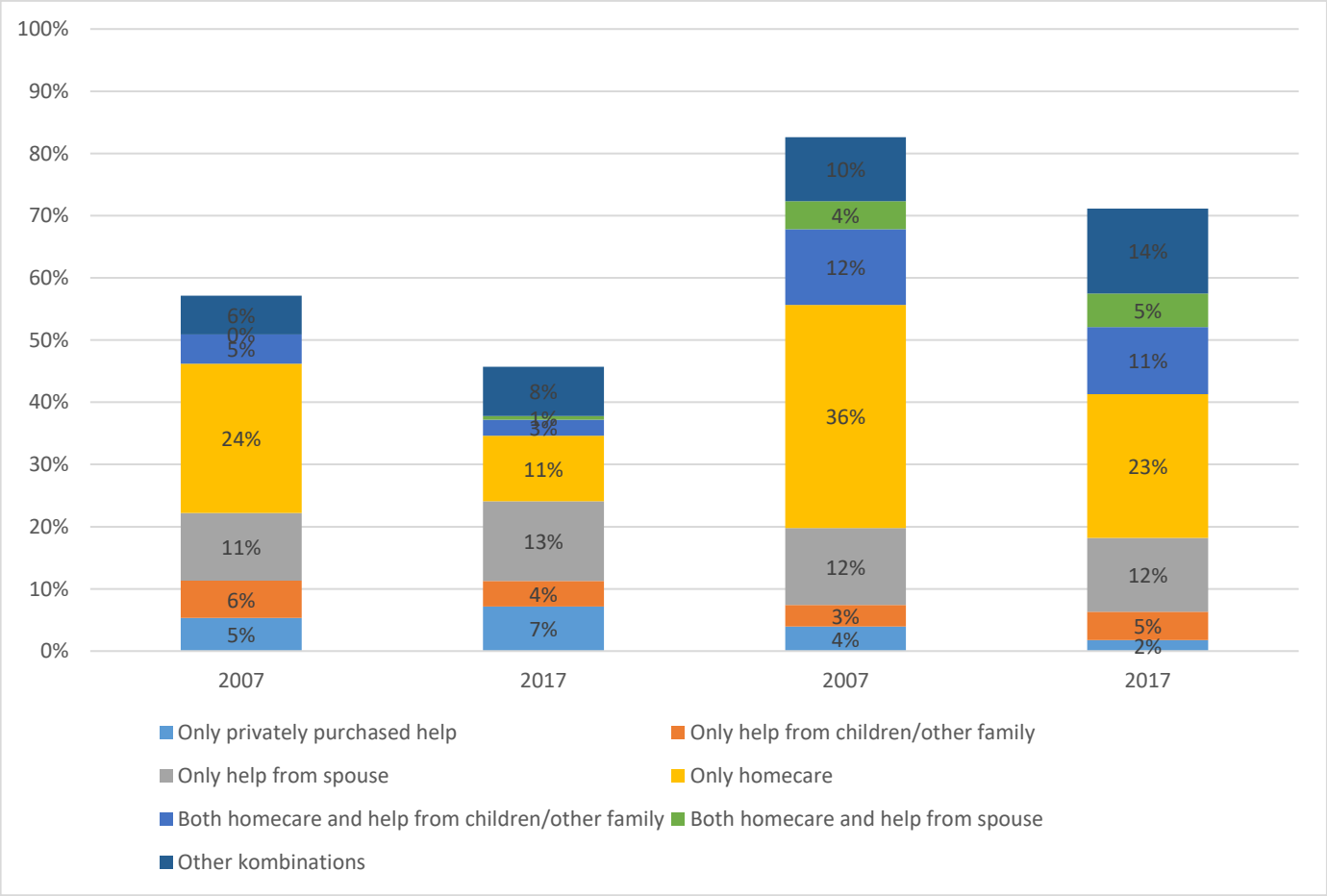
We also find that there is an increased likelihood for those in the lowest income bracket have an increased tendency to receive assistance from spouse/partner[1], regardless that it is more common in the other income brackets to have a spouse/partner. For those in the higher income brackets, the strategy to compensate for the fall in public home care seems instead to be to rely on purchasing private, for-profit home care. Among those in the third income quartile, the proportion that purchases private, for-profit care thus increases from 5% in 2007 to 10% in 2017. In the fourth quartile, there is a steady one-fifth (20-21%) that purchase such assistance.

[1] Further analysis show that this development is not explained by a change in having a spouse/partner or not.

Combinations of sources of assistance

We are also interested in how frail older people combine assistance from various sources and this is illustrated in Figure 2. We are looking separately at those who have only one functional limitation and those who have 2 or more. All possible combinations of sources of assistance are included but we have named only those combinations that appear most frequently in the dataset. Across both years and level of functional limitation, the most likely and sole source of assistance is thus the home help, but the drop in the proportion of frail older people receiving practical assistance from the home help is apparent. Otherwise, a relatively large proportion of frail older people report to receive assistance from the spouse/partner only. In contrast to the change in home care, there are no apparent (nor significant) changes in the proportions of frail older people who receive care from spouse/partner or (combinations of) other sources.

Figure 2. Share of frail older people (67-87 years) receiving specific combinations of assistance with practical tasks. According to level of functional limitation and with indication of those who receive no assistance. 2007 and 2017.



Note: n=1.530
Kilde: Ældredatabasen.

Increase in proportion of frail older people without assistance

What is apparent, however, is the increase in the proportion of frail older people who have no one to assist them, indicated with curly brackets (and in the columns being lower over time). For frail older people with 1 functional limitation, there is an increase from 43% in 2007 to 54% in 2017. For those who are most frail, the group with two or more functional limitation, the proportion with no assistance increases from 17% in 2017 to 29% in 2017.

The change may again be explained by a development in background characteristics so in Table 3 we show the change in odds ratios for not receiving assistance with practical tasks, controlling for such a development. As indicated, the risk of not receiving assistance is 1.72 times larger in 2017 than in 2017. Recalculated to percentages, this is the equivalent of 35% in 2017 and 47% in 2017. The likelihood for frail older people for not receiving assistance with practical tasks has thus risen 12 percentage points.

Table Fejl! Ingen tekst med den anførte typografi i dokumentet. Logistic regression estimating the difference over time among frail older people (67-87 years) for not receiving assistance from one single or combinations of sources of help. Odds ratio. 2017 compared to 2007.

	No assistance
Development 2017 to 2017	1,72***

Note: Logistic regression for frail older people with 1 or more functional limitations. N=1.530. Controlled for all background variables. Comparison of odds ratios, on the basis of a t-test * < 0,05, ** <0,01, *** <0,001.

Source: Ældredatabasen 2007 and 2017.

Further analysis suggests that the change in likelihood of not receiving assistance has occurred across the whole subpopulation of frail older people, and thus regardless differences in age, income etc. However, some subgroups are particular at risk. The likelihood for being without assistance thus increases for men over time, from 30% in 2017 to 53% in 2017. Also frail older people with long educational background experience an increase, from 25% to 46%.

Crowding out

What the figures also reveals is that there seems to be a crowding out effect, in that it is either the home carer or a spouse/partner who provide the assistance, and not a combination of the two. In other words, they seem to substitute each other. This is a relatively new tendency in the Nordic welfare literature, which has otherwise emphasized how the relatively generous public provision of care enables informal carers to continue providing care (crowding-in), by a clear division of work, where the public home care system provides the more intensive care side-by-side with the informal carer. This is in comparison to other welfare models where informal carer stand alone with the bulk of care and therefore may feel overwhelmed (crowding-out) (see e.g. Brandt et al, 2009; Verbakel et al, 2017). Our figures suggest instead that spouses/partners are only involved when the home carer is not and visa-versa. This tendency is evident in 2007 as well as 2017 and seem to suggest a robust finding.

Conclusion

Our analysis shows that the older population over time overall become less frail and maintain their independence in carrying out daily activities. However, for those who are frail and thus unable without assistance to carry out one or more daily activities, representing 15% of the population 65+ in 2017, there is a clear and significant change in the ways that they receive assistance with daily activities. Controlling for changes in background characteristics, we find a considerable reduction in the likelihood of receiving home care for practical tasks in Denmark and tendencies towards targeting towards the most frail. The tendency

towards fewer older people over time receiving home care can therefore not be explained soley by healthy ageing or the success of reablement. Instead our analysis suggest a recalibration of home care targeting the the most frail.

This seems to have consequences in that we also find an increase in the proportion of frail older persons who, regardless of their needs for assistance in daily activities, have no one who help them. This development affects in particular the men, who are more often without home care as well as support from others, indicating a new vulnerable group. And overall, those with economic means seems to compensate for the development by purchasing care on the private market. All in all, our results indicate a substantial change with implications for the core elements in the Nordic countries.

Literature:

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