

Homecare for the Elderly: Family, Friends and the State

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Motivation

- The ageing of European populations: the share of people in Europe who are 65 or above is currently around 17% and this share is projected to rise to about 30% by 2050
- One consequence of an ageing population is the increase in the demand for homecare of the elderly
- Policy issue: the extent to which homecare can be provided by professional homecare services (usually State provided) and by family and friends (informal care) is crucial information for a policy maker when assessing how to deal with an increasing demand for homecare

Motivation, more concrete

Lakdawalle and Philipson (2002) discuss and provide macro evidence on how a reduction in disability/morbidity, and mortality of men in particular, increases the care supplied by the elderly.

This suggests an importance of informal care from people other than adult children. In particular, homecare provided by relatives (other than children), friends and neighbours.

This paper empirically examines this issues using household level data.

Research Questions

- What are the effects of elder's health status and family structure on the total homecare provided to the elderly people?

(a lot of literature on this, e.g. Pezzin and Steinberg-Shone, 1999, Hoerger et al., 1996, van Houtven and Norton, 2004)

- How is homecare for the elderly provided informally by children, relatives, friends and neighbours, and formally by the State?

(no previous literature on this except for care from adult children: e.g. Bonsang, 2008)

Data: SHARE

- Survey of Health, Ageing, and Retirement in Europe (SHARE)
 - 2004 wave
 - A multidisciplinary and cross national survey targeted on 50+ individuals in eleven European countries

- Sample selection
 - The age of elder respondent is 65 or above
 - Greece and Switzerland are removed (missing information on formal care)
 - Do not live with their children

- Final sample
 - Total number of observations is 6357 households
 - 3204 married or cohabiting couples, and 3153 single person households

Data: Key Variables

■ Informal care

- Personal care, dressing, bathing or showering, eating, using the toilet, etc
- Practical household help, with home repairs, gardening, shopping, etc.
- Helping with paperwork, e.g., filling out forms, settling financial matters, etc.

■ Formal care

- Professional or paid nursing or personal care
- Professional or paid home help
- Meals-on-wheels

■ Health status index

Physical health (ADL, IADL, GALI, Chronic diseases, mobility, etc.), mental health

■ Other variables

Age, education, marital status, income, sociability and children's characteristics

Data: Statistics on Informal Homecare

| Age | Total hours of Home Care | | | Personal care, incidence | | | Household care incidence | | | Paper work incidence | | | Number of Households |
|---------------------|--------------------------|-----------|---------|--------------------------|-----------|---------|--------------------------|-----------|---------|----------------------|-----------|---------|----------------------|
| | children | relatives | friends | Children | relatives | friends | children | relatives | friends | children | Relatives | friends | |
| | hours | hours | hours | % | % | % | % | % | % | % | % | % | |
| Couples | | | | | | | | | | | | | |
| 65-69 | 3.97 | 6.94 | 1.33 | 0.25 | 0.08 | 0.42 | 5.33 | 2.62 | 4.74 | 1.86 | 0.76 | 1.27 | 1182 |
| 70-74 | 5.47 | 4.52 | 3.27 | 0.55 | 0.55 | 0.22 | 7.24 | 2.63 | 2.63 | 2.20 | 1.32 | 0.88 | 911 |
| 75-79 | 7.39 | 9.78 | 1.96 | 1.40 | 0.93 | 0.31 | 9.77 | 4.03 | 5.58 | 4.03 | 0.62 | 1.09 | 645 |
| 80-84 | 5.77 | 6.98 | 2.15 | 3.31 | 1.93 | 0.55 | 12.95 | 7.44 | 5.23 | 5.79 | 3.31 | 1.38 | 363 |
| 85+ | 11.30 | 6.36 | 5.76 | 2.91 | 1.94 | 0.97 | 15.53 | 11.65 | 10.68 | 12.62 | 7.77 | 0.00 | 103 |
| All | 6.07 | 6.95 | 2.20 | 1.00 | 0.66 | 0.37 | 7.96 | 3.75 | 4.56 | 3.18 | 1.40 | 1.09 | 3204 |
| Single men | | | | | | | | | | | | | |
| 65-69 | 4.05 | 8.56 | 3.25 | 0.00 | 0.48 | 0.48 | 4.35 | 9.18 | 6.28 | 2.90 | 2.90 | 0.48 | 207 |
| 70-74 | 6.47 | 3.49 | 2.70 | 0.55 | 0.55 | 0.00 | 9.34 | 8.79 | 8.24 | 5.49 | 2.20 | 1.65 | 182 |
| 75-79 | 5.21 | 2.99 | 5.42 | 2.25 | 1.12 | 0.56 | 6.18 | 10.67 | 14.61 | 3.93 | 3.37 | 1.69 | 178 |
| 80-84 | 11.13 | 7.84 | 1.91 | 7.76 | 1.72 | 0.86 | 19.83 | 10.34 | 12.07 | 12.93 | 5.17 | 2.59 | 116 |
| 85+ | 14.31 | 6.81 | 10.79 | 5.00 | 2.00 | 1.00 | 25.00 | 6.00 | 4.00 | 16.00 | 4.00 | 5.00 | 100 |
| All | 9.34 | 5.71 | 4.20 | 2.43 | 1.02 | 0.51 | 10.86 | 9.20 | 9.20 | 6.90 | 3.32 | 1.92 | 783 |
| Single women | | | | | | | | | | | | | |
| 65-69 | 7.17 | 2.81 | 2.09 | 0.95 | 1.14 | 0.38 | 13.12 | 8.94 | 13.12 | 5.32 | 2.09 | 0.76 | 526 |
| 70-74 | 8.02 | 4.99 | 3.73 | 2.55 | 0.73 | 0.73 | 16.79 | 8.76 | 10.22 | 8.21 | 2.74 | 1.82 | 548 |
| 75-79 | 6.18 | 2.87 | 2.18 | 3.43 | 1.81 | 1.08 | 21.48 | 13.18 | 12.09 | 13.90 | 3.61 | 1.81 | 554 |
| 80-84 | 10.28 | 4.15 | 4.51 | 4.04 | 2.24 | 1.79 | 27.13 | 12.11 | 14.57 | 20.18 | 4.71 | 2.47 | 446 |
| 85+ | 9.36 | 6.73 | 5.11 | 7.09 | 3.38 | 2.36 | 26.35 | 14.53 | 13.18 | 25.00 | 8.11 | 3.04 | 296 |
| All | 8.24 | 4.18 | 3.39 | 3.25 | 1.69 | 1.14 | 20.21 | 11.18 | 12.49 | 13.25 | 3.84 | 1.86 | 2370 |

Notes (i) Age is based on oldest person in the household. (ii) "Hours" are the average hours per week of informal care received by type of care provider. (iii) Percentages refer to the incidence of receiving a particular type of care by type of care provider. (iv) "Relatives" are all relatives different from children. "Friends" combines friends and neighbours as potential care providers.

Data: Formal Homecare

| Age | Personal care | | Household care | | Meals-on-wheels | | Number of households |
|---------------------|---------------|-------|----------------|-------|-----------------|-------|----------------------|
| | (%) | hours | (%) | hours | (%) | weeks | |
| Couples | | | | | | | |
| 65-69 | 4.15 | 0.53 | 1.52 | 0.79 | 0.08 | 0.02 | 1182 |
| 70-74 | 7.03 | 0.67 | 3.51 | 1.64 | 0.44 | 0.78 | 911 |
| 75-79 | 7.75 | 2.06 | 6.98 | 1.91 | 0.47 | 0.45 | 645 |
| 80-84 | 13.22 | 1.77 | 13.77 | 1.80 | 2.48 | 3.09 | 363 |
| 85+ | 16.50 | 0.65 | 33.98 | 4.90 | 8.74 | 9.37 | 103 |
| All | 7.12 | 1.24 | 5.62 | 1.96 | 0.81 | 2.11 | 3204 |
| Single men | | | | | | | |
| 65-69 | 1.45 | 0.08 | 4.83 | 4.59 | 1.45 | 12.00 | 207 |
| 70-74 | 2.75 | 0.06 | 8.79 | 2.16 | 7.69 | 19.10 | 182 |
| 75-79 | 6.74 | 0.41 | 14.04 | 3.82 | 4.49 | 8.09 | 178 |
| 80-84 | 8.62 | 1.10 | 22.41 | 2.86 | 7.76 | 12.18 | 116 |
| 85+ | 18.00 | 1.97 | 35.00 | 2.45 | 15.00 | 12.88 | 100 |
| All | 6.13 | 0.93 | 14.30 | 2.95 | 6.26 | 12.78 | 783 |
| Single women | | | | | | | |
| 65-69 | 3.80 | 1.88 | 5.70 | 3.26 | 0.57 | 1.21 | 526 |
| 70-74 | 7.85 | 3.59 | 8.58 | 4.81 | 1.28 | 1.91 | 548 |
| 75-79 | 8.12 | 0.69 | 17.33 | 2.54 | 4.15 | 5.47 | 554 |
| 80-84 | 14.13 | 0.78 | 26.46 | 3.27 | 8.30 | 9.18 | 446 |
| 85+ | 18.24 | 0.88 | 44.26 | 3.54 | 15.20 | 1.21 | 296 |
| All | 9.49 | 1.25 | 17.81 | 3.39 | 4.85 | 7.56 | 2370 |

Notes (i) Age is based on oldest person in the household. (ii) "Hours" are the average hours per week of formal care received by type of care. (iii) The percentages refer to the incidence of receiving a particular type of care.

Empirical Results I

| Dependent variable: total homecare | Parameter | |
|------------------------------------|---------------|--------------|
| Explanatory variables | estimate | t-value |
| Marital status (1=married) | -30.05 | -9.48 |
| Female | 1.62 | 3.66 |
| Log-Income | 1.02 | 2.78 |
| Number of grandchildren | 0.16 | 1.50 |
| Sociability (number of activities) | 0.23 | 0.86 |
| Men: age | 0.24 | 7.22 |
| Men: years of education | 0.08 | 0.97 |
| Men: adl | 3.36 | 4.59 |
| Men: gali | 1.85 | 2.45 |
| Men: iadl | 7.72 | 6.93 |
| Men: severe condition | -0.49 | -0.45 |
| Men: mobility | 2.31 | 3.62 |
| Men: mental health | 2.31 | 1.96 |
| Men: numeracy | 1.73 | 1.18 |
| Men: reading | 1.86 | 1.68 |

| | | |
|------------------------------------|--------------|--------------|
| Women: age | 0.20 | 7.14 |
| Women: years of education | 0.06 | 0.48 |
| Women: adl | 6.31 | 3.88 |
| Women: gali | 3.90 | 3.84 |
| Women: iadl | 6.18 | 6.42 |
| Women: severe condition | 1.27 | 2.56 |
| Women: mobility | 2.97 | 5.36 |
| Women: mental health | 1.66 | 1.97 |
| Women: numeracy | 0.69 | 1.70 |
| Women: reading | 2.36 | 1.48 |
| Number of Sons | 0.76 | 1.06 |
| Distance sons (average) | -1.25 | -1.07 |
| Education sons (average) | -0.27 | -2.67 |
| Marital status sons (average) | 0.38 | 0.73 |
| Age sons (average) | 0.09 | 1.73 |
| Number of Daughters | 0.41 | 0.42 |
| Distance daughters (average) | -0.20 | -0.30 |
| Education daughters (average) | -0.22 | -0.93 |
| Marital status daughters (average) | -0.63 | -0.87 |
| Age daughters (average) | 0.13 | 2.07 |
| Pseudo R-squared | 0.06 | |
| Number of households | 6357 | |

Note: Parameter estimates significant at a 5% level are in bold. The model includes country specific dummy variables.

Empirical Results II

| Dependent variable | Share of informal care, children (%) | | Share of informal care, relatives (%) | | Share of informal care, friends (%) | | Share of formal care by the State (%) | |
|--|--------------------------------------|--------------|---------------------------------------|--------------|-------------------------------------|--------------|---------------------------------------|--------------|
| Explanatory variables | Parameter estimate | t-value | Parameter estimate | t-value | Parameter estimate | t-value | Parameter estimate | t-value |
| log-income | -2.31 | -1.99 | 0.81 | 0.71 | 0.51 | 0.64 | 1.00 | 0.90 |
| Sociability | -0.63 | -0.72 | 0.38 | 0.53 | 3.06 | 2.97 | -2.80 | -2.33 |
| Married | 10.19 | 0.97 | -4.98 | -1.29 | 13.45 | 1.60 | -18.66 | -1.38 |
| Female | 5.43 | 1.83 | 3.04 | 1.45 | -1.39 | -0.57 | -7.07 | -2.16 |
| Men education | 0.06 | 0.16 | 0.12 | 0.48 | 0.14 | 0.65 | -0.31 | -1.03 |
| Women education | -0.93 | -3.61 | -0.24 | -0.91 | 0.61 | 6.10 | 0.57 | 2.20 |
| Men age | -0.21 | -1.61 | 0.02 | 0.37 | -0.26 | -2.37 | 0.44 | 2.83 |
| Women age | -0.08 | -0.56 | 0.01 | 0.17 | -0.30 | -3.05 | 0.37 | 2.35 |
| Number of grandchildren | -0.02 | -0.10 | 0.49 | 2.65 | -0.46 | -1.61 | 0.00 | 0.00 |
| Number of sons | 9.82 | 4.72 | -0.96 | -0.77 | -4.94 | -3.91 | -3.92 | -1.48 |
| Number of Daughters | 10.90 | 4.33 | -1.33 | -0.83 | -8.38 | -3.44 | -1.19 | -0.71 |
| Age sons (average) | 0.41 | 3.41 | -0.11 | -2.27 | -0.22 | -3.23 | -0.08 | -0.74 |
| Age daughters (average) | 0.66 | 7.04 | -0.12 | -2.01 | -0.25 | -3.45 | -0.29 | -3.04 |
| Distance sons (average) | -7.01 | -2.30 | -0.78 | -0.77 | 4.96 | 2.48 | 2.83 | 0.78 |
| Distance daughters (average) | -12.41 | -4.07 | 1.41 | 0.84 | 8.70 | 3.59 | 2.30 | 0.93 |
| Leisure sons (average) | 1.78 | 1.20 | -1.84 | -1.00 | 1.12 | 0.69 | -1.06 | -0.53 |
| Leisure daughters (average) | 1.19 | 0.39 | -2.01 | -4.15 | 1.10 | 0.61 | -0.27 | -0.13 |
| Hours of total homecare | -0.18 | -0.92 | -0.24 | -2.06 | -0.16 | -1.65 | 0.58 | 2.29 |
| Exogeneity test, leisure sons (p-value) ^{a)} | 0.30 | | 0.05 | | 0.42 | | 0.79 | |
| Exogeneity test, leisure daughters (p-value) ^{a)} | 0.34 | | 0.12 | | 0.81 | | 0.46 | |
| Exogeneity test, total homecare (p-value) ^{a)} | 0.06 | | 0.02 | | 0.50 | | 0.01 | |
| Conditional moment test (p-value) ^{b)} | 0.06 | | 0.11 | | 0.37 | | 0.02 | |
| R-squared | 0.20 | | 0.05 | | 0.10 | | 0.16 | |
| Number of households | 2231 | | 2231 | | 2231 | | 2231 | |

Note: Parameter estimates significant at a 5% level are in bold. The model includes country specific dummy variables.

a) The null-hypothesis is exogeneity of the explanatory variable.

Summary of results

In line with previous findings

- Health limitations and age are important determinants of total homecare
- If children have more leisure time, or live nearer to their parent, they provide more informal homecare to the elderly

Main new empirical findings

- Relatives and friends are identified as important homecare providers: they provide as much homecare as (adult) children.
- A reduction in homecare provision by children increases the homecare provision by friends and to a much lesser extent increases State provided homecare.
- When elderly become older the homecare provided by friends is reduced and State provided homecare is increased.
- When the demand of the total homecare increases, for instance due to a worsening health condition, the formal care increases relatively more compared to the informal care from children, relatives and friends.

Conclusions

- The new empirical findings strongly support the claim by Lakdawalla and Philipson (2002) that elderly friends and neighbours are important potential care providers.
- Neglecting the role of friends and neighbours would lead to an underestimation of the role of informal care and would bias the results concerning the interaction between informal and State provide homecare. This may lead to misguided policy recommendations
- The empirical evidence in this paper suggests that the compression of morbidity over the last decades, i.e. the fact that people live longer in better health and are for longer time potential informal care providers, may alleviate the increased homecare costs for the State.