Determinants of Informal Care: on the Different Dynamics of Informal Care given inside and outside the Household.

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Abstract:

Increased numbers of dependent oldest old urge policy makers and academics to "forecast" the future volume of informal care given in the household, the family network and the community. Knowledge of the determinants is necessary to develop sound estimations.

To test hypotheses on the determinants of involvement in informal care, we organised a representative survey of 25-64 years old. Another dataset is representative of informal carers (25-79 years old) of highly care dependent persons and allows studying the determinants of the intensity of care. This paper considers whether socio-demographic determinants of informal care operate differently in a co-resident and an extra-resident context. The hypothesis is that if a member of the household is in need of care, there is not much room for choice: one will provide as much care as needed. On the other hand, if a person not living in the household needs care, there may be legitimate excuses not to provide (intensive) care (being full-time employed, being in a lower health, having children or other care dependent persons in the household). Also, gender and educational level are expected tot have an impact on the supply of extra-resident care. Our analyses show that (1) neither the take up of co-resident nor extra-resident care can be adequately explained by socio-demographic characteristics (although results confirm the idea of there being more legitimate excuses for not providing extra-resident care) (2) the intensity of care can better be grasped. As opposed to the hypothesis, socio-demographic factors also make a difference for the intensity of co-residential care.

Introduction and literature review

The supply of care by the informal network is a matter of concern for both scientists and policy makers. Despite contemporary high levels of informal care all over Europe, questions arise about the future of informal care. Will people the following next 10-20 years be as willing to get involved in care for family members, neighbours and friends? Are there limitations to this involvement e.g. will informal care tasks be less diverse and will informal care be more restricted in time? On the one hand, the concern is raised by the changing age structure of European populations: increasing numbers of the oldest old imply growing care needs. These care needs cannot be afforded by the state alone: budget constraints are posing limits on the expansion of public services (European foundation for the improvement of living and working conditions, 2004). On the other hand, it is feared that social changes like the growing labour force participation of women, changes in the family (less co-residence of elderly and their adult children, rising divorce rates, a more individualistic family culture,…) and the higher educational level of the population might have a negative impact on the supply of informal care (Jenkins et al., 2003; NATSEM, 2004, Pickard et al., 2000, ……).

Especially from the point of view of policy makers it is important to know to what degree families and neighbourhoods are self-sufficient, given the care needs of one of their members. In order to plan care services, politicians need to have a reliable idea on the proportion and the type of need that is covered by the informal network. All over Europe and abroad, research projects have been set up to measure the involvement of spouses, family members, friends

and neighbours in care for the elderly, disabled and other persons in need of care, and to enhance knowledge of the factors that lead to more or less involvement in care and of factors that enhance, or on the contrary jeopardise, informal care when the caretaker becomes more dependent (Börsch-Supan et al., 2005; Jenkins et al., 2003; Kröger, 2003; Lowenstein & Ogg, 2003; Mestheneos & Triantafillou, 2005, …….).

A first step to 'forecast' the future volume of informal care is to gain knowledge of the actual determinants of involvement in informal care. Several studies have shown that the risk of providing informal care is not equally high for different groups in the society. Gender, age, employment status, educational level, income, household composition, health status, marital status and ethnicity of the potential care provider are mentioned to be related to the risk to be involved in informal care (Agree et al., 2003; Arber & Ginn, 1995; Jenkins et al., 2003; Sarkisian & Gerstel, 2004; Timmermans & Woittiez, 2005; ……).

In the discourse on the determinants and on the future of informal care, differentiation between types of informal care is often lacking. However, we argue that the determinants of informal care and the challenges posed on it may differ according to whether the care is given to a household member or a person living in another household.

Both empirical and theoretical arguments support the notion of a different nature of co-resident and extra-resident informal care. Several studies report (Arber & Ginn, 1995; Campbell & Martin-Matthews, 2000) that care given to a household member is more intensive than care given to a person living in another household. Multivariate analyses by Heylen & Mortelmans (2006) reveal that the location of care-giving is a much more relevant factor in explaining the intensity of care than personal characteristics of the caregiver.

Campbell & Martin-Matthews (2000) use Finch & Mason's concept of 'legitimate excuses' (1993) to explain why co-residence is linked to a greater care involvement of men looking after an elderly parent. According to these authors, men who co-reside are without the legitimate excuse of distance to justify a lack of involvement. Besides, other legitimate reasons that might typically justify men's lack of involvement in non-traditional care-giving may carry less weight when measured against the situation that co-residing creates.
Arber & Ginn (1995) argue that care-giving to a household member is more obligatory than care for someone in another household. Therefore, the potential care-giver's employment status is unlikely to influence whether he/she takes on the caring role and the nature of care that is provided. When a person living in another household is in need of care, there is more likely to be an element of choice. In this situation, employment might have more influence on the likelihood to provide care: full-time work decreases or removes care-giving obligations outside the household.

We think the concepts of 'obligation vs. choice' and 'legitimate excuses' provide a useful framework for the study of the determinants of informal care given inside and outside the household. Finch & Mason (1993) suggest that there is a variety of grounds on which someone can establish that he/she is unable to provide help for a sick or elderly relative: employment, other family commitments, competence (lack of expertise or experience, physical capacity, good health, natural 'aptitude'), geographical distance and lack of financial resources.

We argue that because of the obligatory character of co-residential care, these excuses will not (easily) get accepted if the person in need of care is a member of the household. As a result,

involvement in co-resident care-giving and the intensity of care will not depend on the socio-demographic characteristics of the potential care provider. On the other hand, if the person in need of care lives somewhere else, being employed full-time, having other family commitments and being in a less good health can result in a lower care involvement.

Gender and educational level are not 'legitimate excuses' in se. However, Finch & Mason (1993) illustrate that men are more likely to claim not being able to care and also to get these excuses accepted. Especially when it comes to having the skills to provide personal care a gender dimension is involved (Finch & Mason, 1993).

The relationship between educational level and providing informal care is not clear. Some studies report that higher educated people are more likely to provide care (Agree et al., 2003; (Künemund, 2001; Timmermans & Woittiez, 2005). Others find that informal carers have a lower educational level than the general population (Lesemann et al., 1993,..). Several European studies report that higher educated persons generally live further away from their parents (Mulder & Kalmijn, 2004). This implies that higher educated persons have more access to the excuse of distance not to get involved in care. Research on norms and values further suggests that a higher education is linked to a more 'modern', less 'familistic' value orientation. Daatland & Herlofson (2003) report that persons with a low education are more supportive to filial obligation norms than the higher educated. Based on this evidence, we expect a higher educational level to be related to less involvement in (intensive) extra-resident informal care.

In this paper we test the following hypotheses:

Hypothesis 1: Involvement in extra-resident care and the intensity of extra-resident care is related to and can be explained by gender, employment status, health, educational level and household characteristics of the care provider.

More precisely we hypothesise:

- H1a: Women are more involved in (intensive) extra-resident care than men
- H1b: Persons working fulltime are less involved in extra-resident (intensive) care
- H1c: Persons with a poor subjective health are less involved in extra-resident (intensive) care
- H1d: Persons living with children or other care-dependent persons are less involved in extra-resident (intensive) care
- H1e: Persons with a lower educational level are more involved in (intensive) extra-resident care-giving.

Hypothesis 2: Neither involvement in co-resident care nor the intensity of co-resident care is related to and can be explained by socio-demographic characteristics of the caregiver.

Method

Sample characteristics

To test the hypotheses on the socio-demographic determinants of informal care we use data from two mail-surveys, conducted in Flanders, Belgium, in 2003.

The survey "*Care in Flanders"* is a representative survey of 25-64 years old. Next to questions on actual care giving, it contains questions about the willingness to provide care, on care receiving and on policy initiatives to promote informal care. Because it is based on a population sample, the survey is fit to test hypotheses on the determinants of involvement in informal care (Jacobs et al., 2005).

To test the hypotheses on the intensity of co-resident and extra-resident care we make use of data from the survey "*Informal care in Flanders*". "Informal care in Flanders" is a representative survey of registered informal carers (25-79 years old). These persons have been registered as carers for very dependent persons that receive a subsidy from the Flemish Care Insurance scheme. This survey contains more information on the experience of care-giving (motivations, burden of care….) but the bulk of questions are identically to "Care in Flanders". Since all respondents of this survey are providing informal care, this dataset can not be used to test hypotheses on the risk of involvement in care.

The net-response rate of both surveys was reasonably high: 71% for "Care in Flanders" and 68% for "Informal care in Flanders". Non-response for the first survey was slightly higher for men, younger persons, not married persons and persons living alone. In the survey "Informal care in Flanders" the non-response was higher for men, women in the oldest age category (75-79) and men between 35 and 49 years old. Non-response by marital status and household composition in this survey is not known because we have no information on these characteristics in the total sample of informal carers.

Table 1 gives an overview of the socio-demographic characteristics of the respondents in both surveys.

Table 1: Socio-demographic characteristics of the respondents of "Care in Flanders" and "Informal care in Flanders" (%)

	Care in Flanders (25-64)	Informal care in Flanders (25-79)
Gender		
- men	47	35
- women	53	65
Age		
- 25-34	22	5
- 35-44	30	14
- 45-54	27	27
- 55-64	20	28
- 65-79	-	26
Educational level		
- Primary education	16	32
- Lower secondary	20	25
- Higher secondary	32	25
- Higher education	32	17
Employment status		
- No paid work	22	33
- Retired	9	35
- Employed part-time	16	13
- Employed full-time	52	20
Marital status		
- Married	71	77
- Unmarried	17	11
- Divorced / widowed	12	12
Subjective health		
- (very) poor	3	4
- reasonable	13	32
- good	50	49
- very good	34	15
Household composition		
- living alone	9	9
- with children, no partner	6	4
- with partner, no children	27	36
- with partner and children	49	36
- other	8	16
N=	2826	2636

Source: *Care in Flanders, Informal care in Flanders*, CBGS, 2003

Table 1 shows that the informal carers differ in many respects from the respondents of the population survey. The registered informal carers are more female, older, lower educated and more often have no paid work or are retired. The proportion working full-time is much lower (20% against 52%). Also, the registered informal carers are more often married and living with a partner without children. Registered carers consider their health to a lesser extent 'very good' and more often 'reasonable'. These differences are not just the result of the higher age limit in the survey of registered carers. Even if we set the upper age limit at 64, these differences prevail to a large extent.

In the analyses for this paper, some respondents were excluded. Persons with missing data on care-giving or on the location of care (inside or outside the household) are excluded of all analyses. In the analyses on the intensity of care, persons that provide care both inside and outside the household are as well omitted. Only by doing this, we can be sure that the relationship of the determinants with the intensity of co-resident care is not distorted by extra-resident care and vice versa. For obvious reasons, persons living alone are left out the analyses on the determinants of co-resident care.

Measures

- Involvement in informal care

In both surveys information was gathered on the performance of 19 care-tasks during the past year. Care tasks take place in the field of socio-emotional work (companioning to the doctor, listening to problems,…), housekeeping (cleaning, doing the laundry, helping with paperwork…) or personal care (helping with eating, giving medicines, …). Care recipients can be household members, family, or friends/neighbours/ other acquaintances, and must be in need of help and support for at least one month because of illness, disability or another reason. Childcare or care given to adolescents or adults in good health thus is not included. Our definition neither includes the voluntary work in the context of an organisation for volunteers.

Involvement in care is measured by performance of at least one care task in the past year. One dummy variable is constructed for involvement in co-resident care and one for involvement in extra-resident care. People who provide at least one care task for a member of the household are coded 1 on 'involvement in co-resident care', persons who did provide no care task at all are coded 0. The same holds for the involvement in 'extra-resident care'.

- Intensity of care

To measure the intensity of care, we developed a typology of carers. This typology was empirically constructed by means of a cluster analysis (Heylen & Mortelmans, 2006). In this cluster analysis information from both surveys was included on the total number of care tasks performed, the number of tasks performed in the area of socio-emotional care, house keeping and personal care and the frequency of performing each task. The cluster analysis resulted at first in 9 types of informal carers. Each type differed significantly from the others by total amount, type and frequency of the care tasks. For reasons of usability these 9 types were regrouped, resulting in 3 types of informal carers: the all-round informal carers, the task-specific informal carers and the occasional informal carers.

All-round informal carers are the most intensive carers. They perform a large amount of different care –tasks (on average about 16). They also provide care on the most frequent basis. The range of tasks performed by the *task-specific* carers is less wide. Personal care tasks are usually not provided by this type of carer. The focus lies on socio-emotional help and help with housekeeping. The *occasional* informal carers provide a limited amount of care: on average this carer provides 4 care tasks. Care is provided least frequently.

- Socio-demographic characteristics

Socio-demographic characteristics included in the analyses are gender, educational level employment status, household composition. Persons with "other household compositions" are mostly living with parents or other family members. They may also live with a partner or children. Also included in the analyses are subjective health ("What is your general state of health?", very (poor), reasonable, good, very good and the presence of a household member in need of care ("Are there people in your household, not including yourself, who are in need of care because of illness, disability or old age". Control variables are age (4 categories in the population survey, 5 categories in the survey of registered carers) and marital status

Both questionnaires contain thus standard questions on the social position of the respondent. Contextual (housing conditions, relation to person in need …) and attitudinal (motivation for caring, assessment of care load …) variables are not included.

Results

To test the hypotheses on care involvement and the intensity of care, we first give an overview of the descriptive bivariate analyses. In a next step, the impact of the socio-demographic characteristics is tested in multivariate models. In both parts, we start with results on involvement in care (based on the population survey) before turning to the results of the intensity of care (based on the survey of registered informal carers).

Descriptive statistics

a. Involvement in extra-resident and co-resident care

Table 2 gives an overview of the proportions involved in co-resident and extra-resident care in both surveys.

Table 2: Proportions providing co-resident and extra-resident informal care, by survey (%)

	"Care in Flanders" (25-64)	"Informal care in Flanders" (25-79)
Only co-resident care	9	45
Only extra-resident care	44	50
Co-resident + extra-resident care	10	5
Not involved in care	37	-
N=	2559	2408

Source: *"Care in Flanders", "Informal care in Flanders*", CBGS, 2003

In the general population (aged 25- 64), care is more frequently provided to a person living in another household than to a household member. This result is in line with Alber & Köhler (2004) who report higher proportions providing extra-resident care than co-resident care in most European countries. However, among the registered informal carers (aged 25- 79), care is almost as often given to household members as to persons living elsewhere.

The different proportions of co-resident and extra-resident care in both surveys are partially the result of the divergent age limits: older persons (who are more represented among the registered carers) are less involved in care for persons living in another household. But, even with the same upper age limit, co-resident care is more frequently provided by the registered carers than by the 'general population'. Most probably this is due to the specific situation of the registered informal carers. To be eligible for a subsidy by the Flemish care-insurance, the applicant (= the person in need of care) must have a highly reduced capacity for self-care. The applicant can mention up to 3 informal carers that (together) give help during at least 3 days a week. The selection of intensive care situations and the fact that the household members, if there are, are most likely the first to be registered, results in a higher proportion of co-resident care.

First we examine the involvement in informal care using data of the survey *"Care in Flanders"*. Table 3 displays the proportions of subgroups in the population (aged 25- 64) involved in extra-resident and in co-resident care.

With respect to *extra-resident care*, the bivariate results are for the greater part in line with our hypotheses. Women provide more care for persons not living with them than men. Persons who are employed full-time are less involved in extra-resident care. Respondents living together with a person in need of care are less likely to provide care for someone living in another household. The relationship between educational level and involvement in extra-resident care does not turn out as expected: a lower educational level is related to less (instead of more) involvement in care for persons not living in the household. Age, marital status, household composition, and subjective health are not significantly related to extra-resident care involvement, but in line with our hypothesis, there is a tendency for persons with a (very) poor health to provide less care outside the household.

Table 3: Proportions involved in co-resident and extra-resident informal care, according to socio-demographic characteristics (population aged 25-64) (%)

	% involved in extra-resident care	% involved in co-resident care	% involved in co-resident care among persons living with someone in need of care
Gender	***	***	N.S.
- men	49	23	73
- women	58	16	71
Age	N.S.	N.S.	N.S.
- 25-34	52	22	72
- 35-44	54	17	64
- 45-54	56	19	76
- 55-64	54	20	76
Educational level	*	***	N.S.
- Primary education	47	26	66
- Lower secondary	53	18	68
- Higher secondary	56	22	79
- Higher education	55	15	77
Employment status	*	N.S	*

- No paid work	58	21	62
- Retired	54	23	83
- Employed part-time	57	17	92
- Employed full-time	51	19	72
Marital status	N.S.	***	N.S.
- Married	55	18	70
- Unmarried	55	30	78
- Divorced / widowed	49	17	82
Subjective health	N.S.	***	N.S.
- (very) poor	42	29	54
- reasonable	56	25	63
- good	54	21	81
- very good	53	15	68
Household composition	N.S.	***	N.S.
- living alone	52	-	-
- with children, no partner	58	10	(very small number)
- with partner, no children	55	18	80
- with partner and children	54	17	75
- other	53	41	69
Household member in need of care	**	***	
No	55	15	
Yes	44	72	
N=	2559	2314	173

Source: *"Care in Flanders",* CBGS, 2003
Chi²-test, *= p< 0,05, **= p < 0,01, **= p< 0,001

With regard to involvement in *co-resident* care giving, some interesting results are found. While we expected no gender difference here, men seem to be more involved in care for household members than women. Also, lower educated persons (especially those who only finished primary education) are to a higher extent providing care to household members than persons with a higher educational level. Unmarried persons (not living alone) are more likely to provide co-resident care than married /divorced/ widowed persons. Also, it seems that the better the subjective health, the lower the risk of being involved in co-resident care. The risk of being a co-resident carer varies strongly by household composition: respondents who live together with persons other than a partner and/or children are more likely to provide co-resident care.

Obviously, a necessary condition for being a co-resident carer is the presence of a dependent person in the household. Indeed, 72% of the persons sharing the household with a person in need of care, but also 15% of the persons NOT living with a dependent person at the time of the interview did provide co-resident care during the past year. This last figure stems from using different time frames in the measurement of care giving (at least one task in the last year) and of the presence of a person in need of care (at the time of the interview).

The different proportions providing care according to socio-demographic characteristics might be resulting from a higher/lower probability to share the household with a person in

need of care. Indeed, it seems that lower educated persons, retired persons and persons without paid work, unmarried persons, persons reporting a lower subjective health and persons with 'other' household compositions have a higher risk of living together with a person in need of care (figures not shown).

The third column of table 3 gives the proportions involved in co-resident care among those living together with a person in need of care. In this group only employment status is significantly related to the involvement in co-resident care. Persons that are employed part-time are more involved in care-giving, the same holds for retired persons. However, in line with our hypothesis, the general trend is that socio-demographic characteristics are not related to the involvement in co-resident care if one is confronted with a person in need of care.

b. Intensity of care

Not only we intend to gain insight in the determinants of involvement in informal care, we also want to examine the relevance of socio-demographic characteristics for the intensity of care. Therefore we turn to the survey of registered informal carers (25-79 years).

Table 4 gives an overview of the types of carers involved in extra-resident and co-resident care. It is clear that the type of care given to household members is much more intensive than extra-resident care. While the majority of co-resident carers are all-round informal carers, most persons providing help outside the household are task-specific carers. These types of carers especially differ from each other with regard to the performance of personal care tasks: all-round carers provide these more often (supra).

Table 4: Typology of informal carers by location of care (registered informal carers, aged 25-79) (%)

	Extra-resident carers	Co-resident carers
All-round informal carer	29	77
Task-specific informal carer	54	17
Occasional informal carer	17	6
N=	1102	889

Source*: "Informal Care in Flanders",* CBGS, 2003

As expected, the intensity of *extra-resident care* varies according to socio-demographic characteristics (table 5). Extra-resident care provided by women is more intensive than care provided by men. Women are especially more likely to provide all-round care, while men are more often task-specific caregivers. The proportions providing occasional help are about the same for men and women. Also in line with the hypothesis is the result that persons who are full-time employed, provide more task-specific care and less all-round care than persons with less work responsibilities (although retired persons provide the least intensive care). The intensity of care is only significantly related to household composition at a 0,07 level, but there is a trend for persons living alone and persons in 'other' household compositions to be more involved in intensive all-round care. With regard to educational level the results show that the lowest educated are least likely to provide more intensive types of care (all-round / task-specific) and give more occasional help.

Table 5 also shows a significant correlation between age and the intensity of care: respondents in the oldest age category are more likely than younger persons to care occasionally and are

least likely to be an all-round carer. The youngest age category (25- 34) is more likely to provide all-round care. Subjective health and marital status are not significantly related to the type of care provided to a person living in another household.

Table 5: Typology of informal carers providing extra-resident care according to socio – demographic characteristics (registered informal carers, 25- 79) (in %)

	All-round carer	Task-specific carer	Occasional carer	N=
Gender***				
- men	18	63	19	329
- women	34	49	17	773
Age***				
- 25-34	42	43	15	81
- 35-44	30	59	11	191
- 45-54	29	53	18	377
- 55-64	29	54	17	321
- 65-79	20	51	30	132
Educational level***				
- Primary education	26	47	28	249
- Lower secondary	30	54	16	268
- Higher secondary	32	54	14	316
- Higher education (University or not)	28	60	12	241
Employment status**				
- No paid work	35	46	19	354
- Retired	21	57	22	248
- Employed part-time	32	55	14	205
- Employed full-time	27	59	14	283
Marital status N.S.				
- Married	28	54	18	886
- Unmarried	38	48	14	71
- Divorced / widowed	30	55	15	143
Subjective health N.S.				
- (very) bad	35	40	25	20
- reasonable	34	53	13	260
- good	29	53	18	595
- very good	25	57	18	218
Household composition N.S.				
- living alone	38	46	17	114
- with children, no partner	24	61	15	46
- with partner, no children	29	50	21	424
- with partner and children	29	58	14	469
- other	36	52	12	25

Source: *"Informal Care in Flanders",* CBGS, 2003
Chi²-test, *= p< 0,05, **= p < 0,01, **= p< 0,001

Considering *co-resident care*, the type of care provided also differs according to socio-demographic characteristics. Women tend to provide more all-round care while men are more likely to be a task-specific carer. With respect to subjective health, both persons assessing their health as (very) poor and very good are less likely to be all-round carers and more likely to be task-specific carers. Unmarried persons provide less all-round care and are more likely

to provide occasional care than the married and divorced/widowed. Persons without paid work (but who are not retired) are the most intensive caregivers. Persons with full-time work provide about the same type of help as persons in part-time employment or the retired. With respect to age, the oldest group (aged 65-79) is more likely to provide occasional care. Household composition and educational level are not significantly related to the type of care provided to a household member.

Table 6: Typology of informal carers providing co-resident care according to socio – demographic characteristics (registered informal carers) (in %)

	All-round carer	Task-specific carer	Occasional carer	N=
Gender**				
- men	72	21	8	377
- women	81	14	5	512
Age*				
- 25-34	77	19	3	31
- 35-44	71	25	4	112
- 45-54	78	17	6	181
- 55-64	83	13	4	220
- 65-79	74	16	10	345
Educational level N.S.				
- Primary education	79	14	7	353
- Lower secondary	75	19	6	218
- Higher secondary	77	16	7	183
- Higher education (University or not)	76	22	3	111
Employment status**				
- No paid work	82	14	4	299
- Retired	75	15	9	378
- Employed part-time	72	25	3	64
- Employed full-time	75	22	3	130
Marital status **				
- Married	79	16	5	702
- Unmarried	64	23	13	120
- Divorced / widowed	85	8	8	66
Subjective health **				
- (very) poor	67	25	8	60
- reasonable	81	14	5	338
- good	79	15	7	397
- very good	63	30	8	88
Household composition N.S.				
- with children, no partner	79	10	10	29
- with partner, no children	79	15	6	324
- with partner and children	76	21	4	273
- other	76	16	9	263

Source: *"Informal Care in Flanders",* CBGS, 2003
Chi²-test, *= p< 0,05, **= p < 0,01, **= p< 0,001

Results of multivariate analyses

a. Involvement in extra-resident and in co-resident care

To test the impact of the socio-demographic determinants on care-involvement controlled for the other variables, we use the logistic regression technique. Results for involvement in extra-resident care are presented in table 7.

Table 7: Logistic regression of socio-demographic determinants of involvement in extra-resident care (odds ratio's)

	Exp (B)
Gender	
- women	1,297**
- men (ref.)	-
Age	
- 25-34	0,993
- 35-44	1,097
- 45-54	1,129
- 55-64 (ref.)	-
Educational level	
- Primary education	0,610***
- Lower secondary	0,863
- Higher secondary	1,002
- Higher education (University or not) (ref.)	-
Employment status	
- No paid work	1,399*
- Retired	0,610
- Employed part-time	1,147
- Employed full-time (ref.)	-
Marital status	
- Unmarried	0,750
- Divorced / widowed	0,975
- Married (ref.)	-
Subjective health	
- (very) poor	0,608
- reasonable	1,124
- good	1,054
- very good (ref.)	-
Household composition	
- alone	1,138
- with children, no partner	1,178
- with partner, no children	1,162
- other	1,473*
- with partner and children (ref.)	-
Household member in need of care	
Yes	0,626**
No (ref.)	-
Source: *"Care in Flanders"*, CBGS, 2003	N=2471 $R^2 = 0,03$ $p<0,001$

Most trends derived from the descriptive analyses remain after controlling for the other variables: women are more involved in extra-resident care than men; the lowest educated group provides less extra-resident care than the highly educated respondents. Persons without paid work are more involved than the full-time employed. People who live together with a person in need of care have lower odds of being involved in extra-resident care. After controlling for the other variables, persons living with other persons than a partner/children also provide more care for a person outside the household than persons living with a partner and children. Age is no longer significant.

However, the explanatory value of the model is very low. Only 3% of the total variance in extra-resident care-involvement is explained by the socio-demographic characteristics of the potential care provider. Despite the fact that these characteristics are linked to care-involvement, they are not very useful to predict whether someone is an extra-resident caregiver or not.

Concerning involvement in *co-resident* care, two models were tested: the first contains only 'strictly personal' characteristics; a second model also includes characteristics of the household (household composition and presence of a person in need of care). The results of these analyses are presented in table 8. The proportion of variance explained in the first model is also very low (6%). Trends from the descriptive analyses remain: men, lower educated persons, the unmarried and persons in a poorer health are more involved in co-resident care-giving. By adding the household characteristics the explained variance rises to 21%. Not surprisingly, persons living together with a person in need of care have highly increased odds to provide co-resident care. However, the explanatory value of the model is not that high, so it seems the involvement in care depends to a large extent on other factors that are not included in the model.

Table 8: Logistic regression of socio-demographic determinants of involvement in co-resident care (odds ratio's)

	Model 1 Exp (B)	Model 2 Exp (B)
Gender		
- women	0,602***	0,633**
- men (ref.)	-	-
Age		
- 25-34	1,536	1,571
- 35-44	1,267	1,237
- 45-54	1,268	1,136
- 55-64 (ref.)	-	-
Educational level		
- Primary education	2,015***	1,725**
- Lower secondary	1,290	1,149
- Higher secondary	1,562**	1,568**
- Higher education (ref.)	-	-
Employment status		
- No paid work	1,236	1,010
- Retired	1,576	1,435
- Employed part-time	1,253	1,150
- Employed full-time (ref.)	-	-
Marital status		
- Unmarried	2,024***	1,535*
- Divorced / widowed	0,936	1,254
- Married (ref.)	-	-
Subjective health		
- (very) poor	2,094*	1,754
- reasonable	1,878**	1,662*
- good	1,545**	1,555*
- very good (ref.)	-	-
Household composition		
- with children, no partner		0,492*
- with partner, no children		0,976
- other		1,299
- with partner and children (ref.)		-
Household member in need of care		
Yes		13,686***
No (ref.)		-
Source: "*Care in Flanders",* CBGS, 2003	N=2248 $R^2 = 0,06$ $p<0,001$	N=2248 $R^2 = 0,21$ $p<0,001$

In table 4 it was shown that among people with a household member in need of care, socio-demographic characteristics were not related to the involvement in co-resident care. A logistic regression analysis (not shown) confirms that these characteristics can not predict the involvement in co-resident care, if a person in need is present. It is only among respondents not living with someone in need of care that men, lower educated persons and the unmarried provide more co-resident care.

b. Intensity of care

Since the typology of informal carers consists of 3 categories (the all-round carers, task-specific carers and the occasional carers) we use multinomial logistic regression to test the impact of the characteristics controlled for the other variables in the model.

The explanatory value of the model for the intensity of *extra-resident care* is higher than the model for care involvement: 10% of the variance is explained by the socio-demographic characteristics of the care-provider (Table 10). Women in comparison with men have higher odds of being an all-round carer than an occasional carer or a task-specific carer. Lower educated respondents have in comparison with persons with a higher education, lower odds of being an all-round or task-specificcarer than an occasional carer. Persons who consider their health as 'reasonable' are in comparison with person who feel '(very) good' more involved in all-round care-giving and in task-specific care compared to occasional care. Age and employment status are not significant predictors of the type of care provided to a person not living in the household controlled for the impact of the other variables.

While the bivariate relationship between household composition and type of care was not significant at a 0,05 level, the multivariate analysis shows that persons living alone or living with a partner but no children, in comparison with persons sharing the household with a partner and children, have significantly higher odds of being an all-round carer than a task-specific carer.

Table 10: Multinomial logistic regression of socio-demographic determinants of the intensity of extra-resident care (odds ratio's)

	All-round carer vs. task-specific carer (ref.)	All-round carer vs. occasional carer (ref.)	Task-specific carer vs. occasional carer (ref.)
Gender			
- women	2,203***	1,916*	0,870
- men (ref.)	-	-	-
Age			
- 25-34	2,298	2,950	1,284
- 35-44	1,414	2,697	1,907
- 45-54	1,190	1,626	1,366
- 55-64	1,183	1,953	1,650
- 65-79 (ref.)	-	-	
Educational level			
- <=Primary education	0,992	0,353**	0,356***
- Lower secondary	0,994	0,654	0,658
- Higher secondary	1,162	0,795	0,684
- Higher education (ref.)		-	-
Employment status			
- No paid work	1,245	0,953	0,765
- Retired	0,690	0,610	0,884
- Employed part-time	0,883	0,877	0,993
- Employed full-time (ref.)	-	-	-
Marital status			
- Unmarried	0,752	0,761	1,013
- Divorced / widowed	0,780	1,428	1,829

- Married (ref.)	-	-	-
Subjective health			
- (very) poor	1,748	1,276	0,730
- reasonable	1,359	2,542**	1,870*
- good	1,189	1,409	1,184
- very good (ref.)	-	-	-
Household composition			
- living alone	2,576*	1,587	0,616
- with children, no partner	0,905	0,640	0,707
- with partner, no children	1,473*	1,062	0,721
- other	1,488	1,856	1,247
- with partner and children (ref.)	-	-	-
N = 1038 Nagelkerke R^2 = 0,10 p< 0,001			

Source: "*Informal Care in Flanders",* CBGS, 2003
*= p< 0,05 ;**= p < 0 01; **= p< 0,001

The model explaining the intensity of co-*resident care* has about the same exploratory value as the model for extra-resident care (table 11). Women are more likely than men to be an all-round carer than a task-specific carer. Persons in the oldest age category are more providing occasional care than all-round care and more task-specific care compared to younger persons. Unmarried persons provide less intensive types of care than the married. Persons who consider their health as less good ('reasonable' or 'good') are more providing intensive all-round care-giving than persons in a 'very good health'. Neither educational level nor employment status or household composition is relevant in explaining the intensity of care.

Table 11: Multinomial logistic regression of socio-demographic determinants of the intensity of co-resident care (odds ratio's)

	All-round carer vs. task-specific carer (ref.)	All-round carer vs. occasional carer (ref.)	Task-specific carer vs. occasional carer (ref.)
Gender			
- women	1,623*	1,309	0,807
- men (ref.)	-	-	-
Age			
- 25-34	2,005	5,134	2,561
- 35-44	1,041	11,902*	11,428*
- 45-54	1,269	2,197	1,731
- 55-64	1,293	3,010*	2,328
- 65-79 (ref.)	-	-	-
Educational level			
- <=Primary education	1,113	0,492	0,442
- Lower secondary	0,859	0,488	0,568
- Higher secondary	1,046	0,395	0,378
- Higher education (ref.)	-	-	-
Employment status			
- No paid work	1,096	0,767	0,700
- Retired	1,088	0,506	0,465
- Employed part-time	0,575	0,787	1,370
- Employed full-time (ref.)	-	-	-
Marital status			
- Unmarried	0,453*	0,220**	0,485

- Divorced / widowed	1,923	0,785	0,408
- Married (ref.)	-	-	-
Subjective health			
- (very) poor	0,873	0,945	1,082
- reasonable	2,020*	2,140	1,060
- good	1,958*	1,325	0,676
- very good (ref.)	-	-	-
Household composition			
- with children, no partner	1,144	0,484	0,423
- with partner, no children	1,474	1,082	0,734
- other	1,750	0,684	0,391
- with partner and children (ref.)	-	-	-
N = 843			
Nagelkerke $R^2 = 0,12$ $p< 0,001$			

Source: "*Informal Care in Flanders*",CBGS, 2003,
*= p< 0,05; **= p < 0,01; **= p< 0,001

Discussion

With regard to *extra-resident* care, results were for the greater part in line with the hypothesis that care- involvement and the intensity of care are related to socio-demographic characteristics of the care-provider. One of the most consistent findings concerns the relationship between gender and extra-resident care. Women are more likely than men to be involved in extra-resident care and they provide more intensive all-round care. This confirms the idea of men having less difficulty in the process of getting excuses accepted as legitimate, especially when it comes to having the skills to provide personal care (Finch & Mason, 1993). Another solid finding concerns the relationship between family commitments in the own household and the supply of extra-resident care. Persons living together with someone in need of care are less likely to provide extra-resident care. Also, persons without children in the household are more involved in intensive types of care. This suggests the principle of 'putting one's own family first' is appropriate to prioritise claims (Finch & Mason, 1993).
With regard to employment status, it was found that persons working full-time are less involved in extra-resident care than persons without paid work and that they provide somewhat less all-round care and more task-specific care (although the effect on intensity of care was no longer significant in the multivariate analysis).
Subjective health was not significantly related to involvement in extra- resident care but results pointed in the direction of less involvement among persons in a (very) poor health. Among the registered informal carers, persons who consider their health as 'reasonable' are giving more intensive care then those in a 'very good' health. Most probably, the intensity of care is the cause rather than the consequence of their lower health. Research on the burden of care revealed that care-giving can have negative consequences for the mental and physical health, especially among the most intensive carers (….).

The effect of educational level on the take up and intensity of extra-resident care did not turn out as expected. The lowest educated group was least likely to provide care and did provide less instead of more intensive care. In order to obtain more insight in the relationship between informal care and educational level, Heylen & Mortelmans (2006) analyzed the willingness to provide care and motivations for caring on the basis of (hypothetical) questions in the survey

"Care in Flanders". They conclude that higher educated persons in Flanders are to a higher extent motivated by a sense of duty to provide care for family members and are more willing to provide extra-resident care. The idea of a less 'familistic' value orientation among the higher educated thus is not confirmed. Another reason to expect a lower care involvement among the higher educated was that they generally live further away from their family. If this is also the case in Flanders, the excuse of distance seems not to be commonly used by this group.

What then did the results learn about the socio-demographic determinants of *co-resident care*? Some subgroups reported more involvement in co-resident care during the past year: men, lower educated persons, unmarried persons, persons in a lower health, persons living with others than a partner or child and (not surprisingly) persons living together with someone in need of care at the time of the interview. Since the incidence of living together with a person in need of care differed between groups, we checked whether these differences in involvement also existed among the group living with a care dependent person at the time of the interview. This was not the case (except for employment status). Apparently, it was only if no household member was in need of care at the time of the interview that men, lower educated persons and the unmarried reported more involvement during the past year. It is most likely that lower educated persons and unmarried persons did provide more co-resident care because they had a higher risk of being confronted with a household member in need of care during the past year (as it was at the time of the interview). However, since we have no information on the care needs of the household members in the past year, it is not possible to verify. The higher level of care involvement of men most probably must be explained by an over-reporting of care-tasks by men (De Koker, 2006). In general, results on the involvement in co-resident care confirm the idea of absence of legitimate excuses to withdraw from care responsibilities if a household member is in need of care.

However, with regard to the intensity of care it was found, in line with the results on extra-resident care, that women were more likely to be all-round carers, while men gave more task-specific care. This suggests that even if the person in need of care lives in the same household, it is more acceptable for men not to provide *personal* care. In addition results showed that both persons in a (very) poor and a very good health are providing less all-round care than those who assess their health as reasonable or good. Most probably two different processes are at stake: at the one hand care-giving can lead to a lower health; on the other hand, persons being in a (very) poor health may not able to provide very intensive care. This suggests a poor health can be a legitimate excuse not to provide intensive co-resident care.
From the results it appeared that unmarried persons are providing less intensive care than the married. It is possible that this is due to the fact that married persons are more providing care to a spouse. However, further analyses (not shown) reveal that after including the social relationship the effect of marital status does not disappear[1]. Unmarried persons mostly provide care to a parent, but compared to married 'parent care-givers' they live

[1] Since we don't have information on the social relationship between care provider and the care recipient in the survey "Care in Flanders", we did not include this variable in the analyses for this paper to prevent problems of interpretation and enhance comparability of the results for care- involvement and intensity of care.

proportionally more together with both parents. In this situation, it is likely that the other parent provides the bulk of care and is the primary care-giver.
In the descriptive results, there was a tendency for retired persons to provide more occasional care and for person without paid work to provide more all-round care. After controlling for the impact of the other variables, employment status was no longer significant. Further analyses (not shown) reveal that only the retired persons differ significantly from the other groups regarding the intensity of care. Their greater involvement in occasional care is most likely the result of an underreporting of care tasks by the oldest group (Heylen & Mortelmans, 2006). As expected, household composition and educational level weren't significant predictors of the intensity of co-resident care.

To make reliable predictions on the future supply of informal care, it is necessary to gain knowledge of the crucial determinants of providing (intensive) care *and* information on the future development of these determinants.
Socio-demographic characteristics like gender, age, employment status, educational level, etc… only accounted for a very limited proportion in the total variance of involvement in informal care (3-6%). The low explanatory value of these factors whose future development is more or less known, makes it difficult to forecast future developments in the numbers of informal carers. This result confirms evidence from research in the Netherlands (de Boer et al, 1994). Nevertheless socio-demographic factors remain significantly linked to extra resident care. Therefore it seems reasonable to treat both types of care separately.
As concerns co-resident care, the numbers of informal carers will depend in the first place on the evolution in the presence of a person in need of care in the household. In other words, the trends in co-residence are indeed crucial (Glaser et al, 2003). Future trends in the volume of extra-residential care however are more difficult to predict. Gerontological and sociological hypotheses concerning the negative impact of modernisation on the availability for and the willingness to be involved in informal care are not convincingly confirmed. Most probably, being confronted with a need for care will also be one of the most important determinants of extra-resident care. However, since we didn't ask whether the respondent has been confronted with a person in need, not living in the household, during the last 12 months, we can not verify this. Therefore it is not appropriate to rule out the possibility that some groups are giving more extra-resident care *because* they are more confronted with a person in need of care in their network. Finally, we didn't ask information on the geographical distance between the households of the caregiver and caretaker. It is possible that 'extra-residential care' is not homogeneous; this as well may explain a low level of explained variance.

In the survey of registered informal carers we tested the explanatory value of socio-demographic characteristics for the intensity of extra-resident and co-resident care. The proportion of the total variance explained by these factors was higher (10-12%), but at the same time suggests a relatively weak impact of 'positional characteristics'. Analyses by Vanbrabant (2006) en De Koker (2006) reveal that the kind of relationship with the care recipient (partner, child, parent, other family, friend/ neighbour) and motivations for caring contribute to a better understanding of the type of care provided. Care provided to persons that are not the spouse, a parent or a child, is less intensive. Enabling the care-recipient to stay longer at home and a trusting relationship are motivations to provide more intensive care.

Conclusion

This paper examined whether the impact of socio-demographic characteristics of the (potential) informal carer on the involvement in care and on the intensity of care differs according to whether the person in need of care is a member of the household or is living elsewhere. The hypothesis was that if a member of the household is in need of care, there is not much room for choice whether or not to engage in (intensive) care. On the other hand, if the care dependent person lives elsewhere, there are a number of legitimate excuses not to provide care or less intensive care like being full-time employed, having a poor health and other family commitments (towards children, care dependent persons the own household) (Finch & Mason, 1993). Also, it was hypothesised that men and higher educated persons would be less involved in extra-resident care and would provide less intensive care to persons not living in the household.

To test hypotheses on the involvement in informal care, we used data from the population survey 'Care in Flanders' (persons aged 25-65 years). Intensity of care was studied in a sample of registered carers (aged 25-79) of highly care dependent persons. Three types of carers were identified: the all-round (most intensive) carers, the task-specific carers and the occasional (least intensive) carers.

Results on involvement in and intensity of extra-resident care mainly confirmed the hypotheses. Men, respondents engaged in full-time employment and person with family commitments in the own household, did provide less extra -resident care. The impact of education did not turn out as expected: persons with the lowest educational level did provide less (intensive) extra-resident care. Concerning involvement in co-resident care, results indicated an absence of legitimate excuses to withdraw from care. However, intensity of care was linked to gender, marital status and health

Multivariate models showed that socio-demographic characteristics are of limited value in explaining involvement in informal care and the intensity of care. Predictions on future supply of informal care will hence be difficult. Nevertheless the analyses support the thesis that the trends in co-residence are crucial. Extra-resident care giving is slightly more influenced by social factors; socio-demographic (positional) determinants however have less explanatory power in comparison with contextual and cultural variables.

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