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Influence of Contextual and Organisational Factors on Combining Informal and Formal Care for Older People. Slovenian Case

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Abstract

The need and availability of informal carers are the most important determinants of care arrangements for older people requiring care. In the present study, we focus on the role of predisposing, enabling factors as well as need in predicting the distribution of care arrangements of social home care users in Slovenia. We not only included individual factors but also community factors and, even more importantly, we addressed the organisational factors which have an effect on formal care usage. In a case study in Slovenia we showed that, apart from need for and availability of an informal care network, which were the strongest predictors of care arrangements (no care, informal care only, formal care only, mixed care) across the activities of daily living, organisational factors such as the temporal availability of social home care and the number of users were the second most important predictors of care arrangements of social home care users. The implications for the conceptual framework for studying care arrangements within national studies as well as in cross-national studies are discussed.

Keywords: care models, organisational and contextual determinants, Slovenia.

Influencia de Factores Contextuales y Organizativos sobre la Combinación del Cuidado Informal y Formal de Personas Mayores. El Caso Esloveno

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Resumen

La necesidad y disponibilidad de cuidadores informales son los determinantes más importantes de los servicios de cuidado para personas mayores que lo necesitan. En este estudio, nos centramos en el papel de los factores facilitadores y en la necesidad de predecir la distribución de los servicios de cuidado en Eslovenia. Consideramos factores tanto individuales como comunitarios y, en mayor medida, factores organizativos que influyen en el uso del cuidado formal. Mostramos que, aparte de la necesaria disponibilidad de una red de cuidado informal, factores como la disponibilidad temporal de servicios de cuidado en el hogar y el número de usuarios fueron los segundos predictores más importantes. Discutimos las implicaciones sobre el marco conceptual para el estudio de los servicios de cuidado a nivel nacional y transnacional.

Palabras clave: modelos de cuidado, determinantes organizativos y contextuales, Eslovenia.

Due to an ageing population and changing family structures, the question researchers and policymakers seek to answer is how to provide good quality care for the elderly. Despite a smaller number of children, ever more people living alone, an increasing number of reorganised families, and longer working periods, informal care given by the closest family members such as spouses and children still seems to be prevalent (Allen, Goldscheider & Cimbrone, 1999; Blomgren, Martikainen, Martelin & Koskinen, 2008; Stoller & Earl, 1983; Wenger, 1994). However, formal care is ever more important for ensuring the appropriate quality of care.

A significant amount of research since the 1970s has looked at the consequences of introducing formal care services on informal care in order to understand the use of care and determinants of care arrangements (informal only, formal only and mixed care). The relationship between formal and informal carers has been understood as compensatory, i.e. formal carers compensate only in the event of the full absence of informal carers, which are the preference (Cantor, 1979; 1989 – hierarchical compensatory model), or substitutive – with formal care replacing informal care when introduced (Greene, 1983 – the substitution model). The discussion on care arrangements has also moved to the question of the division the labour between formal and informal carers, where e.g. the task-specific model (Litwak, 1985; Messeri, Silverstein, & Litwak, 1993) proposes that after formal care is introduced the informal caregivers share their tasks with formal carers. On the other hand, the supplementary model suggests that formal care primarily functions as care additional to that provided by informal caregivers, especially when needs increase and the informal network becomes insufficient (Chappel & Blanford, 1991; Denton, 1997; Edelman & Huges, 1990; Stoller & Pugliesi, 1991). Many authors (e.g. Chappel & Blanford, 1991; Denton, 1997) have stressed the importance of context and need for specific care arrangements. Within the complementary model, the introduction of formal care is mainly seen as the result of the strong need of the older person and the absence of key elements of an informal care network. Formal care therefore enables those with limited access to an informal network (Pezzin, Kemper & Reschovsky, 1996), and those with high care needs which cannot be met by an informal network, to live independently. In her study, Denton (1997) indicated that for a minority

of respondents with higher level needs formal care can begin to supplement informal care.

Given that formal and informal carers can share the care burden in several different ways, more detailed care arrangements have been analysed by various authors (Bass & Noelker, 1987; Chappel & Blanford, 1991; Denton, 1997; Jacobs, Broese van Groenou, de Boer & Deeg, 2014) who distinguish between the following care arrangements:

- 1) informal specialisation (formal and informal caregivers perform the same tasks; although the informal caregiver performs some extra tasks);
- 2) formal specialisation (formal and informal caregivers perform the same tasks; yet the formal caregiver performs some extra tasks);
- 3) dual specialisation or complementation (some care tasks are performed exclusively by the informal and some exclusively by the formal caregiver); and
- 4) supplementation (informal and formal caregivers do the same tasks).

We will base our modelling of care types on the distinction described above and will observe how care in Slovenia is divided between informal and formal caregivers along different care tasks.

The described studies confirm that the level of need has an effect on care arrangements as those with lower levels of need will more often have no help or informal help only (Chappel & Blanford, 1991; Bass & Noelker, 1987). In addition, the younger ranges of older people and those living alone are more likely to receive no care (Chappel & Blanford, 1991). Other care arrangements are mostly related to different levels of functional impairment and health problems and to various levels of availability of informal carers. The elderly receiving support from only the informal network are more likely younger (in better health) and male, have more children, and live with others. The elderly receiving assistance from both sources, some in overlapping and some in different areas, tend to be older (more disability – need) and to live alone. Those receiving assistance from both systems of care in all the same areas tend to have fewer children, fewer neighbours and no household members (Chappel & Blanford, 1991). Similarly, Jacobs et al. (2014) found that, in cases where caregivers who are children of the care receivers do not live in the houses of the care receivers, formal specialisation and the complementation model are more common. In contrast, when the caregiver is living with a spouse, informal specialisation or supplementation is more common.

In studies of care arrangements, the Andersen behavioural model of service use by Andersen & Newman (Andersen, 1995; Andersen & Newman, 2005) has frequently been used to conceptualise the context of care – it depends on the characteristics of individuals, families, communities and societies. The use of services is mediated by predisposing and enabling factors as well as need. Predisposing characteristics include demographic characteristics (age, gender, marital status, and past illnesses), social structure (education, race, occupation, family size, ethnicity, religion, and geographical mobility) and beliefs (attitudes and beliefs about health and illness, and about usage of the health system, and knowledge of illness). Social structure indicates the position of the individual in the community, and his/her capacity to activate the appropriate and available services. It may also indicate the quality of specific environments which may lead, for example, to regionally more frequent illnesses. Enabling resources refer to the family and community context. First, services must be available in the area where people live and work (community context) and, second, people must know how to use them. The enabling resources may hinder or encourage the use of services. Family resources are income, type of health insurance, regular source of care and its availability. Family income and type of health or long-term insurance can make a big impact on the number of care services used, especially those that require extra fees from the user such as social home care in Slovenia. The community context is indicated by the availability of health personnel and facilities, the financial and geographical accessibility of services, waiting times, and degree of urbanisation. Some services may be available only in urban areas. The contexts also encompass the characteristics of the healthcare or social care delivery system, policies, resources, organisation and financial arrangements that influence access to services. Moreover, these may even be provider characteristics such as the gender, race or ethnicity of professionals. Expanding the context to the national or cross-national level, enabling factors include the relative wealth of the population, and the prevailing norms in society. As the third and most important component, need refers to subjective evaluations (perceptions of health, reports of difficulties in managing everyday tasks) and diagnosis (adapted from Hlebec, 2014). Among the enabling factors for care arrangements or social home care usage shown in a number of studies are the availability of an informal carer (child or partner), the degree of urbanisation, income, and caregiver need (Bass & Noelker, 1987; Bookwala,

Zdaniuk, Burton, Lind, Jackson & Schulz, 2004; Geerlings, Pot, Twisk & Deeg, 2005; Geerts & Van der Boch, 2012; Suanet, Broese van Groenou & Van Tilburg, 2012). The enabling factors for the scope of social home care in assessing the community and society level include the price of the service, the temporal availability of formal services (Hlebec, 2012; Hlebec, 2014), geographical accessibility of formal services and the relative number of formal carers per users in the community (Hlebec, 2012).

In the present study, we focus on the role of predisposing, enabling factors as well as need for care arrangements in predicting the distribution of the care arrangements of social home care users in Slovenia. We not only included individual factors but also community factors and, even more importantly, we addressed the organisational factors which have an effect on formal care usage (Hlebec, 2014) and expect these factors would also have an effect on the ways older people use informal and formal care in various combinations. Further, we will elaborate care arrangements to the full array of theoretically and empirically possible arrangements:¹ no care, a mix, informal only, informal specialisation, formal only, formal specialisation, dual specialisation and supplementation (see Table 1) and will address the determinants across different daily life activities (PADL, IADL, AADL). Knowing in what conditions specific care arrangements are more frequent should inform policymakers when designing and developing appropriate services in specific areas. In addition, assuming that organisational factors may influence care arrangements, this is important information for monitoring the organisational context of care more closely and encouraging organisations to more closely tailor the organisation of services to users' needs.

Our case study is carried out in Slovenia, a small Central Eastern European country with roughly 2 million inhabitants. The share of the population aged 65 and over was 16.8 per cent in 2012. The population in Slovenia is rapidly ageing, which poses an important challenge for the provision of eldercare and long-term care. Another challenge is the dispersed and mostly rural settlement; 25 per cent of the population lives in cities, while others live dispersed in smaller settlements (Hlebec & Šircelj, 2011). A high proportion of elders lives in multigenerational households (14%, see Hlebec & Filipovič Hrast, 2015). Family care for the elderly has traditionally been very important and remains so. It is supported by legislation (the legal obligation of the partner and children to financially provide for a dependent

partner or parent, possibilities of employed family members (carers) taking leave of absence or becoming family attendants, with the right to partial payment for lost income). Institutional care for elderly people is also traditionally well developed (mostly public institutions) and currently covers approximately 5 per cent of the population aged 65 and over (Hlebec & Mali, 2013). In the 1990s, however, numerous new services began to be developed. The introduction of social home care can be described as the most important change in the field of care for the elderly. The service is organised regionally, meaning the municipalities are responsible for organising home care services and are supposed to co-finance them (the minimum for financing home care costs is set at 50 per cent). Users have to pay a fee, depending on the amount of the municipality's co-financing. An individual is eligible for up to 4 hours of care per day or a maximum of 20 hours per week. The service comprises household help, personal care and maintaining social contacts. The service is carried out primarily by public centres for social work and public homes for the elderly, with rare private providers. Due to this regionalisation, significant differences emerge between regions in the availability and price of the service (Hlebec, 2010, 2012, 2014; Nagode & Lebar, 2013).

Based on the empirical studies given in the introduction, we outline several hypotheses. We assume that, with increasing need, formal care will become more important and that informal carers will share the overall care burden with formal carers. The type of sharing would probably depend on the task area and specific characteristics of the tasks. We assume that formal independence (the complete absence of informal care) is less likely to occur with increasing need. The second most important factor should be the availability of informal care, which should support the preference for informal care and reduce the probability of sharing the care, except for users with a strong need. We assume that if formal services are available only in the community for a limited time of the day, formal carers may share the care with informal carers differently than in communities where formal services are available throughout the day.

Methodology

The data for this study were drawn from the first Slovenian national survey of social home care users conducted in 2013 (also see Hlebec, Mali &

Filipovič Hrast, 2014; Hlebec, 2015 for a more detailed description of the study). We used stratified random sampling to obtain a representative sample of social home care users, municipalities and organisations that provide social home care. Altogether, we contacted 4,917 users from 154 municipalities. The response rate across social home care providers varied considerably, from 8 per cent to 92 per cent (average 37%). The realised sample size was 1,888 (a number of questionnaires were not completed fully).

Respondents were presented with a series of 22 questions concerning their ability to engage in various activities of daily living (an adaptation of Katz, Ford, Moskowitz, Jackson & Jaffe, 1963; Lawton & Brody, 1969). These activities fell into several categories: AADL (Advanced Activities of Daily Living) included visiting social activities, meetings and hobbies, visiting friends and family, accompanying users on errands (bank, library), organising travel (such as visiting a doctor), and using transportation in general, finding information about things, managing money (such as paying bills), offering financial aid, doing yard work or house repairs, taking medications and shopping for medications and medical aids, and maintaining orthopaedic aids; IADL (Instrumental Activities of Daily Living – household management tasks) included shopping for groceries and other shopping, preparing a hot meal (or meals on wheels), doing dishes and light housework (cleaning and managing garbage), making the bed and cleaning the bedroom, and doing laundry; PADL (Personal Activities of Daily Living – personal care activities or basic activities) included getting into and out of bed, dressing, bathing, using the toilet, and feeding oneself. For each task, respondents were also asked who, if anyone, was assisting them with the task. There were multiple possible answer categories: “does not need help”, “family member”, “neighbour”, “social home carer”, “community nurse” and “someone else”.

To measure care arrangements, variables were constructed across each task of daily living, with four response categories similarly as in Jacobs et al. (2014). For informal care arrangement, a category was constructed for each task indicating that respondents received informal help only (family member and neighbour). For formal care arrangement, a category was constructed for each task indicating that respondents received formal help only (taking the answer categories “social home carer” and “community nurse” into account). For mixed care arrangement, a category was constructed for each task

indicating that respondents received both informal and formal help at the same time for the same task (taking account of all previously mentioned answer categories as well as the category “someone else”). To evaluate care arrangements such as informal (formal) specialisation, complementation or supplementation, empirical distributions of care arrangements across all 22 tasks were computed. We also evaluated care arrangements across separate task areas (AADL, IADL and PADL). Care arrangements were defined as follows (Table 1).

Table1
Theoretically and empirically defined types of care

1	No care	F=0	I=0	Mix=0
2	Mix	F=0	I=0	Mix>0
3	Informal care only	F=0	I>0	Mix=0
4	Informal specialisation	F=0	I>0	Mix>0
5	Formal care only	F>0	I=0	Mix=0
6	Formal specialisation	F>0	I=0	Mix>0
7	Dual specialisation	F>0	I>0	Mix=0
8	Supplementation	F>0	I>0	Mix>0

Like other studies, we constructed the independent variables in the model (Andersen, 1995; Andersen & Newman, 2005; Bass & Noelker, 1987; Bookwala et al. 2004; Geerlings et al., 2005; Geerts & Van der Boch, 2012; Suanet et al., 2012; Hlebec, 2012; Hlebec, 2014). We included the following predisposing factors: age, gender, and level of education. Marital status and family size were used in a proxy variable for the availability of informal care as an enabling factor. As enabling factors we also included: a subjective evaluation of the sufficiency of household income, community enabling factors, and organisational enabling factors.

Individual predisposing variables were assessed with three variables:

X1 – age

X2 – gender (0 – female, 1 – male)

Social predisposing variable:

X3 – education (0 – elementary school or less, 1 – high school or more)²

Enabling resources take three dimensions into account: family, community, and organisation of social home care.

Family context – family income and the availability of informal care:

X4 – evaluation of the family income (0 – we can manage with our family income, 1 – it is (very) difficult to manage with our family income)³

X5 – household composition (0 – lives alone, 1 – does not live alone)

X6 – has children (0 – does not have children, 1 – has children)

Community context:

X7 – price of service for users

X8 – total costs of the service

Organisational context:

X9 – the number of users

X10 – temporal availability of the service (0 – service is only available in the morning, 1 – service is also available at other times, on afternoons, weekends and holidays)

Care need was measured using three subjective evaluations: the functional impairment, the existence of a long-term physical or psychological impairment, illness or disability that limits the respondents in daily life activities, and problems with memory. Functional impairment was assessed on the basis of respondents' reports concerning the level of difficulty they experienced with various activities of daily living (ADLs) (need help, ranging from 0 to 22).

X11 – functional impairment

X12 – existence of a long-term physical or psychological impairment, illness or disability that limits the respondents in daily life activities (0 – none or one, 1 – more)

X13 – problems with memory (0 – none, some, 1 – considerable)

Multinomial regression analysis was used to assess the impact of the determinants on care arrangements. Informal care only was used as a reference category based on a comparison of the occurrence of specific care arrangements to allow a systematic comparison of regression models across activities of daily living.

Results

The collected sample had the following characteristics (Table 2). The majority of the users are female (68%), aged 78 on average. Almost two-thirds are older than 80 years. On average, the users have 1.7 children and 1.5 living siblings. The current marital status is primarily widowed at 53 per cent, married at 23 per cent, and single at 18 per cent. Among the users of social home care, more than half live alone – 56 per cent, followed by couples without children – 16 per cent, older people living in multigenerational households – 14 per cent, and couples living with children – 8 per cent. On average, the household size is 1.8. One-third of the respondents have a household monthly income below EUR 500 and one-third between EUR 500 and EUR 750. The majority has at least one chronic illness.

Table 2
Descriptive statistics

	N	Mean	St. Dev.	Min	Max
Age	1744	77.81	12.719	32	103
Gender	1783	0.32	0.467	0	1
Education	1696	0.49	0.500	0	1
Income	1624	0.33	0.469	0	1
Lives alone	1888	0.49	0.500	0	1
Has children	1731	0.79	0.409	0	1
Price of SHC for user per hour	1790	4.78	1.309	0	9.07
Total costs of SHC per hour	1790	17.82	1.973	13.35	24.04
Number of Users	1790	123.56	163.312	1	644
Temporal availability of SHC	1888	0.81	0.394	0	1
Functional impairment index	1679	13.27	5.691	0	22
Long-term disability	1671	0.59	0.491	0	1
Difficulties with memory	1690	0.27	0.442	0	1

Care arrangements show different distributions across task areas, indicating that the nature of the tasks, such as advanced, instrumental and personal activities, requires a different organisation of care and a different care provider (Table 3).

Table 3
Frequency distribution of care arrangements across ADL

	AADL		IADL		PADL	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
1 No care (F=0, I=0, Mix=0)	91	5.6	64	4.0	596	35.8
2 Mix (F=0, I=0, Mix>0)	7	0.4	25	1.5	122	7.3
3 Informal care only (F=0, I>0, Mix=0)	876	53.8	381	23.6	230	13.8
4 Informal specialization (F=0, I>0, Mix>0)	246	15.1	329	20.4	145	8.7
5 Formal care only (F>0, I=0, Mix=0)	108	6.6	281	17.4	312	18.8
6 Formal specialization (F>0, I=0, Mix>0)	18	1.1	65	4.0	89	5.4
7 Dual specialisation (F>0, I>0, Mix=0)	193	11.9	353	21.9	108	6.5
8 Supplementation (F>0, I>0, Mix>0)	89	5.5	116	7.2	61	3.7
Total	1628	100.0	1614	100.0	1663	100.0

Informal care only is the most frequent care arrangement for advanced activities of daily living (AADL); more than half the respondents rely only on informal care, followed by informal specialisation and dual

specialisation. Other care arrangements are minor in frequency and will be omitted from the regression analysis owing to the small number of cases with the exception of the formal only arrangement in order to compare the results across task areas. Advanced activities of daily living are obviously in the domain of informal carers. Instrumental activities of daily living show a more even distribution of care arrangements. Informal care only is still the most common arrangement, but is reported by only 23 per cent of respondents, followed closely by dual specialisation, informal specialisation, and formal care only. Actual sharing of the same tasks is quite rare within IADL. No care, a mix, formal specialisation, and supplementation are omitted from the regression analysis. As regards PADL, one-third of respondents can manage without care. Formal care only is the second most frequent option followed by informal care only, informal specialisation, and dual specialisation. As for IADL, actual sharing of the same tasks is rare. A mix, formal specialisation, and supplementation are omitted from the regression analysis.

If we consider the number of activities of daily living (Table 4) for which users of social home care receive care, we can see a considerable but systematic variation across task areas. The informal specialisation arrangement is accompanied by the largest number of care tasks, followed by informal only care and dual specialisation. When compared to informal care only, the dual specialisation arrangement is associated with a higher number of activities for personal activities of daily living. Formal care only is associated with the smallest number of care tasks. It is obvious that informal carers perform the most care and that formal care has a supplementary role associated with increasing need. Of course, the complementary role of formal care in the case of the absence of informal care is also obvious. Given that informal care is traditionally the preferred form of care and that services provided in recipients' homes are a relative novelty in Slovenia, the reference category for the multinomial regression analyses was informal care only (Nagode & Lebar, 2013). This category was frequent across all task areas.

Table 4
Average number of tasks across care arrangements

Task area	Informal care only (F=0, I>0, Mix=0)	Informal specialisation (F=0, I>0, Mix>0)	Formal care only (F>0, I=0, Mix=0)	Dual specialisation (F>0, I>0, Mix=0)
AADL	6.8	8.1	3.3	6.0
IADL	4.9	5.6	3.0	4.3
PADL	2.5	4.3	1.8	3.8

As suggested, with increasing need (the number of tasks with which respondents need assistance) formal care gains in importance, and informal carers tend to share the overall care burden with formal carers. The type of sharing which is more frequent than informal care only, when the need increases, is informal specialisation across all task areas. This means that while some tasks are performed by both informal and formal carers, informal carers will perform some extra tasks. Need has an effect on the preference for dual specialisation over informal care only for instrumental activities of daily living, indicating that, with greater need, dual specialisation is less likely than informal care only. At a lower level of need, instrumental tasks can be more easily divided between informal and formal carers as the performance of these tasks is quite flexible and does not require exact temporal execution or specialised knowledge.

The subjective evaluation of the existence of a long-term physical or psychological impairment, illness or disability that limits respondents in daily life activities would have a similar impact across all models, i.e. increasing the possibility of informal specialisation compared to an informal only care arrangement. One exception is formal care only where a higher number of long-term disabilities would increase the probability of this category over informal care only for advanced activities of daily living. It seems that with such a higher need the kin cannot sufficiently satisfy the needs and begin sharing the care burden of some tasks with formal

providers. Severe memory problems would decrease care arrangements where formal care would perform tasks independently (formal care only, complementation and supplementation) (Tables 5, 6, 7).

Table 5
Determinants of care arrangements for AADL

AADL	Inf. spec. (F=0, I>0, Mix>0)		Formal care only (F>0, I=0, Mix=0)		Dual specialisation (F>0, I>0, Mix=0)	
	Beta	Sig	Beta	Sig	Beta	Sig
Intercept	-1.774		3.885	*	2.623	*
Age	-0.019	**	-0.026	*	-0.024	**
Gender	-0.313		0.310		-0.147	
Education	-0.190		0.636	*	0.340	
Income	0.025		0.621	*	0.473	*
Does not live alone	-0.473	**	-1.514	***	-0.164	
Has children	-0.531	*	-1.355	***	-1.233	***
Price of SHC/user per hour	0.061		0.070		-0.120	
Total costs of SHC per hour	0.021		-0.072		-0.006	
Number of Users	0.000		-0.001		-0.001	
Temporal availability of SHC	-0.400	*	-0.619		-0.600	**
Functional impairment index	0.144	***	-0.178	***	-0.022	
Long-term disability	0.458	**	0.719	**	0.097	
Difficulties with memory	0.116		-0.688		-0.068	

* $p < 0.050$ ** $p < 0.010$ *** $p < 0.001$

Informal care only is used as a reference category.

Systematically and significantly, the availability of any kind of informal care decreases the use of a formal care only arrangement. This holds for all task areas. If we compare the two indicators, it seems that sharing the household with someone has a stronger and more systematic effect on care arrangement preference than does having children. However, except for personal activities of daily living, the signs of the effect of the two variables would be the same. When a respondent has informal care available within the household, this reduces the likelihood of any kind of sharing of tasks

with formal care. The only exception is the personal activities of daily living where respondents who have an informal care network available within the household are more likely to share tasks with formal carers. Both informal specialisation and dual specialisation are equally strongly more likely compared to informal care only. It seems that when the care need is so strong that it also incorporates the performance of the personal activities of daily living, this also calls for a sharing of the overall care burden. It may also indicate that, given the same need, respondents living alone would not be able to cope with formal care only and would have to move into residential care as opposed to those who have an informal carer within household.

Table 6
Determinants of care arrangements for IADL

IADL	Inf. spec. (F=0, I>0, Mix>0)		Formal care only (F>0, I=0, Mix=0)		Dual specialisation (F>0, I>0, Mix=0)	
	Beta	Sig	Beta	Sig	Beta	Sig
Intercept	-2.678	*	7.842	***	2.238	
Age	0.007		-0.014		0.001	
Gender	-0.182		0.070		-0.012	
Education	-0.150		0.551	*	0.154	
Income	-0.044		0.649	**	0.397	*
Does not live alone	-0.928	***	-1.903	***	-1.119	***
Has children	-.176		-1.617	***	-0.400	
Price of SHC/user per hour	0.039		-0.110		-0.025	
Total costs of SHC per hour	0.018		-0.074		0.027	
Number of Users	-0.001	*	-0.001		0.000	
Temporal availability of SHC	0.073		-0.335		-0.282	
Functional impairment index	0.145	***	-0.285	***	-0.108	***
Long-term disability	0.275		0.420		-0.028	
Difficulties with memory	-0.259		-0.427		-0.445	*

* p<0.050 ** p<0.010 *** p<0.001

Informal care only is used as a reference category.

Table 7
Determinants of care arrangements for PADL

PADL	No care (F=0, I=0, Mix=0)		Inf. spec. (F=0, I>0, Mix>0)		Formal care only (F>0, I=0, Mix=0)		Dual specialisation (F>0, I>0, Mix=0)	
	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig
Intercept	10.087	***	-2.829		7.240	***	-2.259	
Age	-0.032	**	-0.012		-0.018		0.012	
Gender	0.601	*	0.237		-0.031		0.463	
Education	0.477	*	-0.167		0.324		-0.149	
Income	0.411		0.003		0.082		0.137	
Does not live alone	-1.031	***	1.204	***	-0.581	**	1.339	***
Has children	-0.718	*	-0.090		-1.355	***	-0.650	
Price of SHC for user per hour	-0.086		0.108		-0.032		0.174	
Total costs of SHC per hour	0.019		-0.118		-0.067		-0.100	
Number of Users	-0.001		0.001		0.002	*	0.003	***
Temporal availability of SHC	-0.303		-0.241		-0.394		-0.063	
Functional impairment index	-0.408	***	0.228	***	-0.178	***	0.028	
Long-term disability	-0.623	**	0.273		-0.133		0.368	
Difficulties with memory	-0.789	**	0.217		-0.467	*	-0.089	

* p<0.050 ** p<0.010 *** p<0.001

Informal care only is used as a reference category.

The availability of children has a stronger impact on the performance of advanced activities of daily living, perhaps indicating that the performance of these tasks may lie in the domain of children rather than that of a partner. The availability of children strongly decreases the probability of sharing tasks with formal carers (or of formal only care) over informal care only for advanced activities of daily living. As regards the instrumental activities of daily living, children's availability does not seem important except that they reduce the probability of formal care only over informal care only. Concerning the personal activities of daily living, the children's role is again

less statistically relevant, perhaps suggesting that ‘in-home’ care is more strongly related to the availability of an informal carer within the household than with the availability of children. This poses a question about whether children notice the need for these two types of activity. This especially holds for personal activities of daily living where the fact of not living alone significantly increases the likelihood of the involvement of formal care, whereas the fact of having children decreases the likelihood of the involvement of formal care over informal care only.

The predisposing variables such as age and education have some effect on sharing the advanced and instrumental activities of daily living. With increasing age, the probability of no care is reduced when observing PADL. On the other hand, with decreasing age, it is more likely that the task burdens will be shared between informal and formal carers (or be performed only by formal carers) for advanced ADL, potentially indicating that the younger elderly are also more likely to search for help outside their kin/informal network. Respondents with a higher education are more likely to have formal care only, for advanced and instrumental activities, compared to informal care only. Respondents who report formal care only or dual specialisation report more frequently are also those who report difficulties with managing household income. It may happen that the costs of the service add to the difficulties of managing household income.

The community context, expressed as the price of social home care per hour or as the overall price of the service per hour, has no effect on care arrangements. The organisational context, on the other hand, has an effect on care arrangements for specific task areas. As regards advanced activities of daily living, the better temporal availability of social home care has a negative effect on the combining of informal care with formal care over informal care only. This fact is difficult to explain, but social home care is only available in the mornings, mostly in municipalities with a small number of users (Hlebec et al., 2014). This is also the case in small, rural areas⁴ where there is poor organisation of other services such as the presence of medical doctors or the existence of public transportation at all hours. In these municipalities, there is perhaps a greater need of users to have support in advanced activities of daily living as opposed to those living in more developed municipalities.

Another important contextual influence is the number of users. A higher number of users would significantly decrease the probability of reporting

informal specialisation over informal care only. It may happen that, when the number of users is small, the social home caregivers would also have a lesser care burden (fewer users to cover) and, therefore, organisations with a smaller number of users would be willing to perform more instrumental activities of daily living and therefore share the care with informal carers. The situation is quite the contrary for personal activities of daily living where the effect of having a larger number of users (and social carers) would increase the probability of reporting formal care only and of dual specialisation over informal care only. Perhaps in larger organisations, with more carers available, the more intense needs such as getting into and out of bed, dressing, bathing, using the toilet, and feeding may be more easily met with a division of care between formal and informal carers, thus relieving informal carers from performing those tasks which are less intimate and less burdensome.

Discussion

The purpose of this study was to evaluate the possible impact of less emphasised community and organisational factors on how formal and informal care is combined. We assessed the impact of predisposing, enabling factors as well as need (Andersen, 1995; Andersen & Newman, 2005; Bass & Noelker, 1987; Bookwala et al., 2004; Geerlings et al., 2005; Geerts & Van der Boch, 2012; Suanet et al., 2012; Hlebec, 2012; Hlebec, 2014) on preferences for care arrangements, focusing on community and organisational enabling factors. To evaluate care arrangements, empirical distributions of care arrangements across all 22 tasks were computed and coded into eight empirically possible care arrangements (Jacobs et al., 2014). We evaluated care arrangements across separate task areas (AADL, IADL and PADL). Since in this study we looked only at those who use social home care, this means the care arrangements discussed here are limited to a specific population and could potentially differ from those observed in the general population, where a combination of different formal carers could also be included (potentially also used as a substitute for social home care). However, since home care is one of the most important services for elderly living in the community understanding the relationship between formal and informal care use is vital for the further development and delivering the good quality of this service.

As expected, the need and availability of informal care are the two most important determinants of care arrangements in Slovenia, a finding similar in other studies (Bass & Noelker, 1987; Chappel & Blanford, 1991; Denton, 1997; Jacobs et al., 2014). A lower need is systematically associated with a formal only arrangement over an informal only arrangement. A higher need is systematically associated with a supplementary role of formal care in an informal specialisation care arrangement. The availability of informal care systematically reduces formal only arrangements, indicating a compensatory role of formal care in the case of the absence of informal care. The availability of informal care within the household also reduces the likelihood of combining informal and formal care (in various combinations) over informal care only. This holds only for advanced and instrumental activities of daily living. However, as regards personal activities of daily living, the availability of informal care within the household increases the probability of combining informal and formal care (in various combinations) compared to informal care only. It might be that spouses (often the caregivers living within the same household) are less able to perform the difficult tasks and are therefore less able to independently perform more personal caring activities and recognise the need for additional formal care services. On the other hand, however, the existence of children decreases the likelihood of a formal care only arrangement, but does not affect the likelihood of combining informal and formal care (regardless of observed activities). Perhaps, as suggested by Jacobs et al. (2014), the formal carer should manage the overall organisation of care in some care arrangements and encourage the stronger involvement of children or other parts of informal networks.

Most importantly, the research also confirmed that the organisational context, interwoven with the community context, has an effect on care arrangements, which is our most significant finding. For example, in small, rural municipalities, where social home care is only available in the mornings, the advanced activities of daily living are also provided by formal carers since in these municipalities there is a lower availability of other services as well. In the absence of other services, social home care would step in as an important actor in providing quality of life for the elderly in functions that would not be considered the primary purposes of this service. On the other hand, intense care which also includes personal activities of daily living is more likely to be divided between informal and formal

caregivers in a complementation care arrangement or to be performed by formal carers only in communities where there is a larger number of users. These are usually urban communities with bigger organisations that are able to adapt to the more intense needs of the elderly. These results indicate that, while provision of services may well be achieved on the municipal level as a goal of policy measures, there are significant underlying inequalities among users across municipalities in the ways services are actually distributed and provided. This indicates that the provision of services should be closely monitored and evaluated not only by counting the numbers of users or assessing the fee for users, but also from a service delivery perspective. Our results also indicate that the organisation of services should be tailored to users' needs and not solely focused on organisational standards, such as selecting the provider for a municipality regardless of the amount and type of services actually provided to users. There is also a question of whether the municipal level is too small to carry out the burden of providing such services as a large number of municipalities are very small (three-quarters of municipalities has fewer than 5,000 inhabitants) (Hlebec et al., 2014).

Clearly, in the complex decision-making process on ensuring care for the elderly and given that our study reflects one point in time such that we cannot discern the time of the choice, making it difficult to claim causality, we use our study to mainly point to associations between different factors and the way care is organised. Based on quantitative data only, it is impossible to understand in detail the process of making choices in the care process from older people's perspective and from the perspective of their informal carers. Both longitudinal and qualitative data would deepen the understanding of the occurrence of certain care arrangements.

Our study was carried out in Slovenia, a focus we feel is particularly valuable because research on care arrangements is more developed in Western European countries than in Central and Eastern European ones (e.g. Suanet et al., 2012). The findings suggest that a dispersed organisational context may add to the varying opportunities of the elderly in different types of communities, thus enhancing the inequality among them. It is thus possible that transferring the responsibility for welfare provision from the welfare state to lower levels, such as very small municipalities in Slovenia, reduces the equality of access to services. Our findings suggest that community and organisational factors should be taken into account not only in national case studies such as ours, but also in larger cross-national studies

(e.g. Suanet et al., 2012) together with welfare system characteristics, cultural factors and socioeconomic and demographic contextual factors as they may contribute to variability in care arrangements in a systematic way.

Notes

¹ In the literature various names are used for care arrangements: no care, a mix (only supplementation), informal only (kin independence), informal specialisation, formal only (formal independence), formal specialisation, dual specialisation (complementation) and supplementation (all mix).

² Education was measured using 12 categories ranging from – without any school education to a Ph.D.

³ Initial categories – it is very easy to manage with our family income, 2 – we can manage with our family income, 3 – it is difficult to manage with our family income, 4 – it is very difficult to manage with our family income.

⁴ The number of users correlates strongly (0.86) with the size of community and the rural vs. urban typology; therefore, these two variables were omitted from the regression analysis.

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