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No more visits. Informal care in nursing homes prior to the outbreak of Covid-19

Lucas Jeanneau[1], Quitterie Roquebert[2], Marianne Tenand[3]

Amid the spread of the Covid-19, restrictions on external visits to nursing home residents were widely implemented. Such measures may affect the well-being of the institutionalized elderly, notably by depriving them of care that would be otherwise be provided by relatives and friends. There is little quantitative evidence about informal care receipt by residents in `normal times'. The aim of this study is twofold. First, it investigates quantitatively the importance of informal care in nursing homes, the forms it takes and its determinants outside the corona-crisis. Second, based on the findings, it discusses the likely implications of the Covid-19 restrictions on visits for nursing home residents. It relies on a sample representative of the French 60+ population living in nursing homes (N=3,223) from the 2016 CARE-Institutions survey. Over 80% of residents receive informal support. Relatives are primarily involved in help with the activities of daily living), which generally comes along with moral support. Residents are mostly helped with administrative tasks and activities related to mobility and the outside**.** Both the probability to receive informal care and its intensity highly depend on having close relatives alive (partner, children, siblings), age and health status. Loss of informal care due to visit bans may undermine the well-being of residents and entail medium-run adverse effects, in terms of further activity restrictions and deterioration of mental health. Policy makers should factor in the usual role of informal caregivers when assessing the benefits and costs of restrictions on visits for nursing home residents.

Keywords: Nursing home; Informal care; Long-term care; Covid-19

JEL: J14; I1; C2

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Data:

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SUMMARY INFORMATION IN FRENCH

« Aide informelle en EHPAD : état des lieux et impact attendu des restrictions de visites liées à la Covid-19 »

Mots-clefs-FR: EHPAD; aide informelle; soins de longue durée; covid-19

Résumé-FR:

Dès le début de la pandémie de la Covid-19, des restrictions sur les visites en maisons de retraite ont été mises en œuvre. De telles mesures sont susceptibles d'affecter le bien-être des résidents, en les privant notamment de l'aide apportée par leurs proches. On sait cependant peu de choses sur le rôle joué par ces proches dans l'aide apportée aux personnes en maison de retraite. Cet article propose deux contributions. Il documente d'abord de manière quantitative l'importance, les modalités et les déterminants de l'aide informelle en maison de retraite hors contexte épidémique, en s'appuyant sur un échantillon représentatif de la population française de plus de 60 ans vivant en maison de retraite (N=3223) de l'enquête CARE-Institutions (2016). Il discute ensuite des implications des interdictions de visite dans le contexte de la Covid-19. Environ 80 % des résidents déclarent recevoir de l'aide informelle. Cette aide, généralement associée à un soutien moral, porte principalement sur les activités de la vie quotidienne, en particulier pour les tâches administratives et les activités en lien avec la mobilité. Avoir des proches en vie, l'âge et l'état de santé sont des déterminants majeurs de la probabilité d'être aidé et de l'intensité de l'aide. L'interdiction des visites est susceptible d'affecter le bien-être des résidents et d'avoir des effets néfastes à moyen terme en termes de santé physique et mentale. Cette dimension est à prendre en compte dans l'évaluation des coûts et des bénéficies associés à la restriction des visites aux résidents.

1. Introduction

The ongoing corona-crisis has shed light on a key aspect of life in the nursing home: visits by relatives are routine for many residents and encompass a large range of contributions, from moral support to concrete help. The sanitary measures implemented to contain the spread of the virus among the institutionalized elderly suddenly deprived residents and their relatives and acquaintances of the possibility to see each other. In France, on March 11th, 2020, even before the general lock-down, the Ministry of Health decided to put on hold all external visits to residents of nursing homes. On April 20th, visits could resume under strict conditions, upon the request of the resident and its approval by the head of the institution. On June 5th, restrictions on external visits were further relaxed. By the end of September 2020, each nursing home however is allowed to strengthen the conditions for external visits or suspend them altogether, if the epidemic risk for residents warrants such measures. Going out of the institution and physical contacts between residents and their visitors remain forbidden. Similar rules apply in many other countries.

How have the restrictions imposed on external visits affected the daily life of residents? Qualitative studies have already shown that these restrictions have increased loneliness of residents and deteriorated their well-being (Giebel et al., 2020; Van Der Roest et al., 2020; Verbeek et al., 2020). There are several ways in which visits may contribute to the well-being of residents and that were upset by the corona-outbreak. This article will focus on one, namely the role that relatives and friends may play as informal care providers. There is remarkably little quantitative evidence about informal care receipt by nursing home residents in normal times (i.e. outside the corona crisis).

The role of relatives for community-dwelling elderly as caregivers is well-documented, both in countries with limited (accessible) formal care options and countries with more generous

systems (Zigante, 2018). Conceptually, the economic literature hypothesizes that informal care is a critical input in the production of functional status and well-being for the community-dwelling elderly (Stabile et al., 2006). Furthermore, informal care is perceived to foster ageing in place by delaying nursing home admissions (Charles & Sevak, 2005; Zigante, 2018) and empirical evidence suggests that informal care substitutes with formal home care to some extent (Bonsang, 2009).

By contrast, nursing home residents have long been considered as individuals without any family resource. Historically, social isolation was indeed the common feature of nursing home entrants. This representation somehow persists nowadays (Désesquelles & Brouard, 2003; Trépied, 2014). Nursing home admission is associated to the idea of caregivers' relief since professional workers are supposedly available to provide care to residents. In France, the definition of an informal caregiver provided in a law passed in 2015[1] does not specify whether the person being helped lives at home or in an institution. However, the definition of '*proche aidant indispensable*' (essential informal caregiver) only applies to individuals living in the community, somehow suggesting that informal care to nursing home residents cannot be similarly essential.

Several studies in sociology, geriatrics and gerontology show that relatives may remain or become informal caregivers after a nursing home admission (Gaugler, 2005; Keating et al., 2001; Mallon, 2005; Trépied, 2014). These studies also investigate the combination of professional care and informal support within care institutions. Early models posited the specialization of each type of caregivers, whereby professional workers would provide nursing care and help with the activities of daily living while informal caregivers would provide moral

[1] Loi n 2015 1776 du 28 décembre 2015 relative à l'adaptation de la société au vieillissement, dite Loi ASV.

support. However, both anecdotal evidence and qualitative literature show that informal caregivers also help with the activities of daily living, including personal care.

This suggests that the corona-crisis may have a major influence on the daily life of nursing home residents specifically by depriving them of regular informal care. How many residents were affected? Which types of residents were most likely to receive informal care and thus lose it due to the sanitary measures? Which types of tasks were performed by relatives and friends before they were not allowed in anymore?

The objective of this article is twofold. First, it sheds light on the questions here-above by providing quantitative elements on informal care receipt by nursing home residents in France before the corona-breakout. Second, it aims at discussing the potential impact of restrictions to visits for nursing home residents, based on the findings. We take advantage of a high-quality survey (CARE-Institutions), conducted in 2016. As it is representative of the 60+ institutionalized population and includes rich information on informal care support, this survey allows us to describe in a quantitative way how important informal care is within nursing homes. Furthermore, focusing on help with the activities of daily living, we use econometric models to analyze which individual characteristics are associated with the receipt of informal care, both at the extensive margin (the fact of receiving informal care) and the intensive margin (number of caregivers and volume received).

The rest of the paper proceeds as follows. Section 2 provides information on the data and a description of the French nursing home residents. Section 3 documents the types of informal care received by residents and zoom in on the tasks performed by informal caregivers. Section 4 sheds light on the determinants of the extensive and intensive margins of formal care, showing which characteristics are associated with informal care receipt, the number of caregivers and the volume of care received. Section 5 concludes by discussing the implications of the findings in the context of the Covid-19 epidemics. It also highlights the limitations of our study and the

directions for future research aiming to understanding how sanitary measures may affect care arrangements and well-being for nursing home residents.

2. Data and study population

2.1.A representative survey of the institutionalized elderly population

We take advantage of the survey *Capacités, Aides et REssources des seniors* (CARE), which is a general population survey targeting the French aged 60 and older. It was conducted by the statistical division of the Ministry of Health (Drees) in order to document the living conditions of the elderly, their relationships with their relatives, the limitations in the activities of daily living they face as well as the human, technical and financial support they receive. The survey consists of two parts: CARE-Ménages (CARE-M) is devoted to the individuals living in the community, while CARE-Institutions (CARE-I) surveys institutionalized elderly.

Our analysis makes use of CARE-I, which was conducted between September and December 2016. The sampling was made in two steps. First, a sample of long-term care institutions was drawn and surveyed. in order to and retrieve the list of residents. Long-term care institutions include non-medicalized and medicalized nursing homes (respectively EHPA and EHPAD)[2] as well as the long-term care units of hospitals (USLD).[3] In a second step, a sample of permanent residents was drawn within each institution. General information about the institution and some individual information about the residents that were surveyed (e.g. long-term care transfers

[2] Individuals living in intermediate housing facilities (*foyers logements*) are included in CARE-Ménages.
[3] EHPA stands for *Établissement d`hébergement pour personnes âgées*; it hosts individuals with no or limited activity restrictions (GIR 5 and 6, on the disability scale used by the French administration). Professional workers perform tasks relating to room and board, personal hygiene, medication management and social animations. Residents may benefit from paramedical care and a medical surveillance by external professionals. EHPAD stands for *Établissement d`hébergement pour personnes âgées dépendantes*; it hosts disabled elderly (GIR 1 to 4). Residents are provided a medical surveillance, nursing care and personal care. Finally, USLD stands for *Unités de soins de longue durée*, which hospital units dedicated to hosting dependent individuals with very high medical care needs. All EHPA, EHPAD and USL welcome individuals aged 60 or older.

received) was collected through a questionnaire at the level of the institution (*Questionnaire Etablissements*). A second questionnaire, containing most of the variables we exploit in our analysis, was administered to the selected residents or to proxy respondent (*Questionnaire Seniors*). 3,262 respondents from 616 institutions participated into the survey. Due to the compulsory nature of the survey the response rate was high (88% at the institution level and 86% at the respondent level). Survey weights are nonetheless provided together with the data to correct for partial non-response. We use them to compute descriptive statistics representative of the 60+ institutionalized population.

2.2. Study population and sample

Our study population covers the entire population surveyed in CARE-I, i.e. the 583,000 nursing home residents in 2016, representing 3.5% of the 60+ French population. We only drop 39 observations for which critical information on activity restrictions is missing. Our baseline sample therefore consists of 3,223 individuals. Table I displays general descriptive statistics.

[Table 1 about here]

93% of the institutionalized elderly population lives in an EHPAD. i.e. a medicalized nursing home; 6% live in a hospital long-term care unit (USLD) and only 1% live in a non-medicalized nursing home (EHPA). Almost 30% of residents live in a private non-profit institution. 20% live in a for-profit institution while the other residents reside in a public institution, either a hospital (27%) or a not-for-profit nursing home (29%). The size of the institution varies, with 14% of residents living in an institution with less than 60 beds being occupied, 51% in an institution counting between 60 and 100 beds, and 30% with 100 other residents or more.

In terms of socio-demographic characteristics, 8/10 of the residents are between 75 and 95 years-old, with an average age of 86 years. Consistent with the higher life expectancy and higher prevalence of widowhood for women, ¾ of residents are females. About 10% of residents received the high school final diploma (Baccalaureat) or completed higher education; for over 60%, the highest diploma received is the primary school final diploma (Certificat d'etudes) or a lower secondary school diploma (BEP or CAP). Finally, almost 3/10 residents did not complete primary school. This distribution reflects the fact that most residents grew up before access to secondary and higher education was enlarged.

2.3. Health and functional status

To assess the functional status of each resident, we primarily refer to their self-reported ability to perform a number of activities. Following the epidemiological literature (Katz, 1983), the CARE survey distinguishes between the activities of daily living (ADLs) and the instrumental activities of daily living (IADLs). The former correspond to basic and critical activities relating to self-care. They encompass grooming, dressing, toileting, transferring (from and to bed), and cutting and eating food (once it is ready). IADLs are more complex activities of daily living requiring a higher organizational capacity. In the CARE survey, they include doing the grocery, doing the domestic chores, preparing meals, managing medication, moving around alone (on the floor of one's room), using a phone, managing transportation, going out of the institution, finding one's way and managing administrative tasks.

For each such activity, a CARE respondent is asked whether she can perform it: (i) without difficulty, (ii) with some difficulties, (iii) with a lot of difficulties or (iv) whether she is unable

to perform the activity with no assistance. We consider that a respondent is restricted for a given activity as soon as she reports at least *some* difficulties in performing it (level (i)).[4]

Figure 1 shows the proportion of residents who report ADL restrictions, by activity. For each ADL except for eating (once the food is ready), over half of residents report at difficulties in performing the activity. Over 8/10 residents report difficulties with grooming or with dressing. Table 1 indicates that 86% of residents have a restriction in at least one ADL. These statistics reflect the fact that most residents require frequent assistance. Similarly, Figure 2 shows the proportion of residents who report IADL restriction (for non-filtered IADLs). If 40% of residents can move around on the floor of their residence and 1/3 can use a phone without difficulty, more than 80% cannot either go out, manage transportation or find their way once out of the institution without difficulty. Virtually all residents have difficulties with at least one IADL (96%, Table 1).

[Figure 1 and Figure 2 about here]

We combine information on ADLs and IADLs restrictions to construct as scale of disability with 3 levels. First, the least severely dependent correspond to the respondents who do not report restrictions for any ADL. Second, the moderately dependent are the respondents reporting ADL restrictions in combination with IADL restrictions. The third level groups the most severely dependent defined as those who cannot either (i) eat, (ii) toilet or (iii) transfer alone. Inability to perform these three ADLs implies the need for very frequent human assistance and studies from epidemiology have shown these ADLs to be the last (chronologically) activities to be affected in the disablement process (Barberger-Gateau et al.,

[4] Some questions relating to IADLs were filtered in the questionnaire that was administered to residents. In the institution-level questionnaire, it was asked whether residents could (i) do the grocery, (ii) do the domestic chores, (iii) prepare meals, (iv) manage medication and (v) move around alone. Within institutions in which one or several activities were not allowed for residents, the questions about their ability to perform these tasks were not asked to respondents.

2000; Edjolo et al., 2016). Only 1/8 of institutional care residents have no ADL restriction, 40% are moderately dependent and almost 45% are severely dependent.

To control for the overall health status above and beyond functional limitations, we create a dummy variable equal to one if the respondent reports a `very good', a `good' or `rather good' general health status (the other two modalities were: `bad' or `very bad' health).

2.4.Potential informal care: presence of relatives

For the elderly living in the community, partners and adult children are the main providers of informal care, in France as in the other European countries (Colombo & Al., 2011). We posit that, likewise, having either a partner or children alive is a major determinant of the probability of informal care for the institutionalized elderly. Among the 60+ French nursing home residents, 87% do not have a partner alive, 6.5% have a partner who also lives in an institution (possibly but not necessarily the same one as their partner) and the remaining 6.5% have a community-dwelling partner.[5] A majority (3/4) of the institutionalized elderly have at least one child alive. Most have either one or two children (22.4% and 23.8% respectively). 14% have 3 children and 14% have four children or more. Combining the presence of a partner and that of children, we observe that 24.1% of residents have neither a child nor a partner alive – thus limited supply of informal care in their close family, while 10.7% have both a partner and at least a child alive. The modal situation (63.4% of individuals) is having at least one child but no partner (anymore) while having a partner but no child is extremely rare (1.8% of individuals).

[5] When the respondent did not answer to the question 'Do you have a partner?', we coded her as not having a partner alive. 4.8% of those who responded they had a partner did not report where she lived. We assumed then she lived in the community. Along the same lines, we considered that those who did not answer to the question 'Do you have any children (including adopted children)?' had no children alive.

Other close relatives, and in particular siblings, may also be a source of informal support in old age; 44% of residents have either a sister or a brother alive.

Respondents were also asked to report the frequency at which they met and spent with either family members or friends in the 12 months prior to the survey. In-person contacts may play an important role in the well-being of nursing home residents, but they are also time windows in which relatives might provide informal care while spending time with the resident. 73% of the residents meet at least once a month with a family member and 50% at least once a week. 21% spent time with friends at least once a month but only 7% did so on a weekly basis.[6] 12% of the institutionalized elderly haven't spent any time with either a friend or a family member over the past 12 months. It is also worth noting that 56% of the respondents declare they have not established any friendship or `privileged relationship' with the other residents, meaning that for them valuable social relationships lie entirely outside the nursing home.

3. Caregivers are primarily involved in providing help with the activities of daily living

This section describes the informal care received by residents of nursing homes. We distinguish between three types of informal care (help with ADL or IADL, moral support, financial support) and zoom in on the help provided for each ADL and IADL.

[6] Less than 2% of the residents declare having no family and 3% having no friends.

3.1. Three different types of informal support

A major strength of the CARE survey relates to information about the care being provided. For each of the ADLs or IADLs for which the respondent reported a limitation, she is asked whether she is helped by a relative or friend for this activity. In addition, each respondent is asked to list the persons among her relatives or friends who provide informal care. For each of her informal caregivers, the respondent is asked whether she provides help with any ADL or IADL, moral support (i.e. contacts between the caregiver and the respondent that aim at supporting the respondent's well-being, without direct help with ADL/IADL being provided) or/and financial support (e.g. contributions to the cost of the nursing home, payments of some purchases etc.). Based on information provided by the respondent for each caregiver, three dummy variables at the respondent-level are derived, which indicate whether the respondent receives (i) help with ADL/IADL, (ii) moral support or (iii) financial support respectively.[7]

3.2. How common are these types of help?

Help with ADL/IADL and moral support are the most common types of care declared by elderly in institution (Figure 3). About 75% of individuals declare they receive help with ADL/IADL from at least one caregiver, and almost 4/5 of them additionally receive moral support. Financial

[7] Discrepancy may occur between the initial declaration of some respondents and the information they provided about the care provided by each of their caregivers (e.g. the respondent declares not being helped for grooming, but later reports that caregiver X helps grooming). Drees used information provided for each caregiver to construct and release corrected versions of the respondent-level dummy variables for informal care receipt for each ADL and IADL (variables RAAIDENT_R1 to RAAIDENT_R13). We create a dummy variable indicating help with ADL/IADL if the respondent is helped for at least one ADL or IADL (i.e. at least one of dummies RAAIDENT_R1 to RAAIDENT_R13 is equal to 1). In the same vein, two corrected variables, AIDENTFI_C and AIDENTSOU_C were released; they indicate whether the respondent receives any financial support or any moral support respectively, based not only on her initial declaration but also on the detailed information she provided for each of their caregivers. We use these corrected variables to document how common financial and moral support is.

support is relatively marginal among individuals who declare receiving informal care: 12.1% of seniors who declare informal care are provided with financial support, which is almost systematically associated with moral support and help with ADL/IADL.

[Figure 3 here]

The relative frequency of these three types of care is similar to what is observed for elderly living in the community (Besnard et al., 2019; Roquebert et al., 2018): moral support and help with ADL/IADL are the most frequent types of care and they are frequently associated with each other. However, for elderly living in the community, it is more frequent that seniors declare only one of these two types of care.

In the rest of our study, we focus on help with ADL/IADL and the caregivers providing such care, for two reasons. First, this is a major component of care provided to individuals in institution. Second, such care requires the effective presence of the caregiver, contrary to moral and financial support that might be more easily provided remotely: help with ADL/IADL is thus the type of informal care that is likely to have been radically affected by the ban on visits.

3.3 Relatives focus on administrative tasks and activities related to mobility

Respondents are invited to list the types of activities for which they receive help from an informal caregiver, by ticking the ADLs and IADLs "For which [they] receive some care from your relatives (family. friends) on a regular basis". As explained in Section 2.3 (footnote 3), some IADLs were not included in the list shown to a subset of respondents whose institution reported that their residents are not offered the possibility to accomplish these tasks by themselves. These filtered variables will be treated apart in the following analysis.

Figure 4 presents the activities for which the respondent declares receiving informal care (excluding filtered activities). Informal care for ADLs is scarcely declared; transferring is the most frequent task declared among ADLs.

[Figure 4 about here]

Informal care is more common for IADLs: about 75% of individuals declare being helped for administrative tasks, nearly 50% for grocery shopping. Relatives also play a role regarding mobility and access to the outside: 15% are helped to move within the institution, 25% receive help to go out of the institution and 10% to find their way outside.

These figures illustrate that the role of relatives is concentrated on certain IADLs related to administrative tasks and mobility and that they provide little support with ADLs. It is probably related to the fact that professionals are *de facto* present to perform the ADL tasks and some IADLs relating to personal care and domestic chores. These tasks, in particular those referring to personal care, might require more technical skills when individuals are severely disabled. Relatives tend to get involved in tasks that are not necessarily part of professionals' duties, suggesting a form of dual specialization within the care provided for ADLs and IADLs.

When comparing the role of relatives by gender of the recipient (Figure 5), the distribution of informal care according to tasks is similar for men and women. Both are predominantly helped for administrative tasks, grocery shopping and going out. Slight differences, however, are observed since the share of women declaring they receive help for transfers or administrative tasks. These differences could be due either to differences in characteristics between men and women (e.g. disability level) or to differences in reporting behaviors.

4. The determinants of informal care in nursing homes

In order to identify the individual characteristics associated with the receipt of informal help with ADL/IADL, we conduct an econometric analysis using the software R. We first focus on the receipt of such help (extensive margin analysis) and then explore the determinants of the hours of care received and the number of caregivers involved (intensive margin).

4.1 Who receives informal help with ADL/IADL?

To highlight the determinants of informal care receipt at the extensive margin, we fit a multivariate Probit model with binary outcome Y_i (equal to 1 when respondent i receives informal care with ADL/iADL) and a vector of k regressors $X_i = (X_{1i}. \ldots . X_{ki})$. The Probit model writes:

$$P(Y_i = 1|X_i) = \Phi(\beta_0 + \beta_1 X_{1i} + \cdots + \beta_k X_{ki}) \qquad (1)$$

where $\Phi(.)$ is the reduced centered normal distribution function and $\beta = (\beta_0.\beta_1. \ldots . \beta_k)'$ is a vector of parameters to be estimated. We report as a result the average marginal effect (AME) of each regressor, computed as a function of the vector of parameters. The AME shows the change in the outcome associated with a marginal (or one-unit) change in regressor X_l while all other regressors are held constant.

Regressors include (i) socio-economic characteristics (gender, age recoded as a categorical variable, education level), (ii) functional status (i.e. the disability level to which the individual belongs) and subjective health, (iii) measures of potential informal care supply (having children alive/ having siblings alive/ having a partner alive in institution or in the community) and (iv) the status of the institution (for-profit vs not-for-profit). Regarding inference, we cluster standard errors at the institution level to take into account the fact that all respondents living in

the same institution may share common unobserved determinants of informal care receipt (e.g. a nursing home care team that encourages relatives to engage into helping the residents with cooking).

In addition, we stratify our sample according to the presence of potential informal caregivers. We consider three groups: (i) individuals who have a partner (whether they have children or not), (ii) individuals who live without a partner and have children, (iii) individuals who don't have a partner nor children. When comparing these groups, we observe that the share of individuals declaring some informal care is of about 84% among individuals who have a partner, 83% among those having children and no partner and 48% among individuals who don't have a partner nor children.

Table 2 presents the results of the Probit estimation on the full sample (Column 1) as well as on the subsamples of individuals who have a partner (Column 2), individuals who live without a partner and have children (Column 3) and individuals who don't have a partner nor children (Column 4).

[Table 2 about here]

When considering the full sample of seniors in institution (Column 1), we first observe a strong effect of variables capturing the potential supply of informal care: having a partner, children, brothers and/or sisters. Stronger effects are found for children and partner than for siblings: having children increases the probability to declare some informal care by 28 percentage points (pp) while having a partner at home – thus, plausibly having her/his relatively good health status – increases this probability by 13pp. It confirms the interest of stratifying the analysis according to the marital status and children. The presence of siblings, capturing the potential availability of additional caregivers, significantly increases the probability to declare informal care and this effect is found regardless of the presence of a partner or children.

The second group of variables affecting the probability to declare informal care in the full sample are age, sex and functional status as captured by our disability groups. Older individuals and women have a higher probability to receive some informal care, other things equal. Compared to individuals with both ADL and IADL restrictions but not severely disabled, individuals without ADL restriction – thus with better functional status - have a lower probability to declare informal care. Individuals severely disabled have a slightly lower probability to receive informal care, possibly capturing the fact that when individuals are severely disabled, relatives are not able or allowed anymore to provide care given the skills that such care would require. Additionally, individuals in for-profit institutions have a higher probability to receive informal care. It is likely to reflect differences in unobserved characteristics of residents according to institution type, since individuals in for-profit nursing homes tend to have larger families as well as increased economic and social resources (Trépied, 2014).

Turning to the subsample estimates, we observe that for individuals having a partner (Column 2), informal care receipt is much less sensitive to the determinants we consider. Apart from the positive effect of having close relatives (children and brothers/sisters) or a partner in good health (partner at home), we only observe that the disability level affects the probability to declare some informal care. Although this subsample is fairly small (402 observations), point estimates suggest marginal effects close to zero with small standard errors. Thus, these results suggest that the fact of being provided with care by relatives – here, the partner in front line – for these individuals little depends on the personal characteristics of the senior receiving care.

Among individuals with children but without a partner (Column 3), in addition to the effect of having brothers/sisters, age and health correlates to informal care receipt, like in the full sample. These effects are also observed for individuals without neither a partner nor children (Column 4), except that severely disabled individuals do not have a lower probability to declare some

informal care. Moreover, this last subgroup is the only one in which education level affects the probability of declaring informal care: low-educated individuals (no diploma) have a slightly lower probability to declare some informal care. For these individuals having no potential caregivers within the nuclear family, informal care provision might depend more on social capital, which relates to education level.

Overall, individuals who are the most likely to receive informal care are those with existing close relatives (partner, children, brothers or sisters). Age and health status are also associated with informal care, with older and disabled individuals more likely to declare some informal care. The relationship, however, is not linear: individuals aged 95+ and severely disabled individuals do not have a higher probability to receive some informal care.

4.2 What are the determinants of the intensity of informal care?

We now turn to the intensive margin of informal care in institutions, considering both the number of caregivers and the volume of informal care declared by care recipients.

In our sample. 2,396 seniors declare they have at least one informal caregiver and that they are helped with ADLs or IADLs. Among them, 51% has only one caregiver, 24% have two caregivers and 25% three or more. Only 1,816 respondents reported the volume of care provided for at least one of their caregivers. Among these residents, 50% received 8 hours or less of care per month. The 10% residents with the lowest volume of care declared receive half an hour or less, but the 10% residents with the highest volume declared receive 51 hours or more. These figures illustrate the substantial heterogeneity in individual situations with respect to the receipt of help with ADLs and IADLs.

In order to identify the individual characteristics associated with the number of caregivers all other things being equal. we adopt an econometric approach similar to the one implemented in Section 4. We fit two Ordinary Least Squares (OLS) models with the vector of k regressors $X_i = (X_{1i}. \ldots . X_{ki})$ and, as for outcome, either (i) the number of caregivers N_i (Equation (2)) or (ii) the volume of care received H_i (Equation (3)):

$$N_i = \alpha_0 + \alpha_1 X_{1i} + \cdots + \alpha_k X_{ki} + u_i \quad (2)$$

$$H_i = \gamma_0 + \gamma_1 X_{1i} + \cdots + \gamma_k X_{ki} + v_i \quad (3)$$

where u_i and v_i are error terms. capturing the unobserved determinants of the number of informal caregivers or the volume of care respectively. We are interested in the change in the outcome associated with a marginal, or one-unit, change in regressor X_l while all other regressors are held constant. In the linear model, this effect is directly captured by parameter α_l (Equation (2)) or γ_l (Equation (3)). Regressors are the same as in Section 4 and standard errors are similarly clustered at the institution level.

The volume of informal care H_i is computed summing up the volume of care received from each caregiver declared by the respondent. For some caregivers, hours provided are missing such that the total volume declared by the senior is then a lower bound for the effective volume of informal care received. To deal with this measurement issue,[8] we additionally estimate the probability to receive an important volume of informal care, corresponding to a monthly volume higher than 19 hours, corresponding to the third quartile of the distribution of informal care hours. It additionally makes it possible to identify specific profiles of individuals being "high-

[8] We hypothesize that respondents will be more likely not to provide any care volume when their caregivers provide infrequent and limited informal care.

recipient" of informal care. We fit a Probit model with binary outcome equal to 1 when respondent i receives more than 19 hours and the vector of k regressors $X_i = (X_{1i}. \ldots . X_{ki})$.

[Table 3 about here]

Table 3 presents the results of these estimations. The existence of close relatives is still a major determinant of informal care intensity: the number of caregivers and the volume received are higher when the individual has a partner (either at home or in institution), child(ren) alive and brothers or sisters alive. Having a partner in institution is associated with an increased volume or higher probability to be a high recipient compared to individuals with a partner at home, which may reflect the longer time that partners may spend together if they both reside in the same nursing home. Age, health and disability level are not significantly related to the intensity, except for high recipients who tend to be more disabled. The education level is significantly and non-linearly associated with the number of caregivers: individuals with low and high education have a higher number of caregivers, everything else being equal. It might reflect differences in human capital and family endowments correlated with education (Van Broese Groenou & Van Tilburg, 2003). Living in a for-profit institution is associated with a higher probability to be a high recipient.

Overall, having close relatives alive appears as the main (observed) determinant of the intensity of informal care. Intensity is little affected by other characteristics, except for the fact that severely disabled individuals are more likely to be high recipients (more than 19 hours per month).

5 Discussion: informal care receipt by institutionalized elderly and expected impact of the Covid-19 outbreak

This paper describes the characteristics of informal care in the French nursing homes in 'normal times', prior to the corona-outbreak. 3/4th of residents receive some concrete help from relatives. Those are primarily involved in providing help with the (instrumental) activities of daily living, in particular administrative tasks and activities related to mobility and the outside**.** Reporting receiving such help is almost systematically associated with moral support receipt.

Our econometric analyses shed light on the individual characteristics associated with the receipt help with ADLs/IADLs. They reveal three main findings. First, individuals who are the most likely to receive informal care are those with close relatives alive (partner, children, siblings), for given disability, health, age, gender and education. Second, age and health status are important determinants of informal care receipt, with younger and less disabled individuals being less likely to declare some informal care. The relationship, however, is not linear: individuals aged 95+ and severely disabled individuals do not have a higher probability to receive informal care. Third, the intensity of informal care is mainly associated with the fact that the resident has close relatives alive. It is little affected by other characteristics, except for the fact that severely disabled individuals are more likely to be high recipients (more than 19 hours per month).

These results shed light on the consequences of bans on visits in nursing homes. Individuals who are the most likely to suffer from the visit bans are those with a partner, children, siblings alive, older and with some health limitations. Since relatives are mostly involved in help with the activities of daily living, their absence implies that residents have been limited in the accomplishment of some tasks. These tasks do not relate with the essential activities of daily living, since the share of individuals who receive help with ADLs is relatively

small. Instead, they encompass mainly administrative tasks and activities related to mobility. Without visits, administrative tasks might have been postponed, left to the professionals or performed by caregivers at distance. Regarding mobility, it is likely than even without visits ban, mobility outside of the institution would have been limited by the restrictions applying to the general population and, more generally, by the sanitary context. The visits ban *per se* is thus likely to affect mainly mobility within the institution or in its close vicinity (e.g. walks outside). Yet even small-scale mobility is critical at old age, as it is a matter of 'use it or lose it' (Hultsch et al., 1999; Rantanen, 2013). Sarcopenia, frailty and loss of balance may be accentuated by a reduction in physical activity (see e.g. Piastra et al., 2018). They may in turn lead to more severe activity restrictions (Cambois et al., 2005) and (thus) higher long-term care costs, but also to adverse health events and higher health care costs (Sicsic & Rapp, 2019). Finally, help with the activities of daily living is in normal times associated with moral support to the residents. The visits ban questions the ways relatives have been able to provide moral support to residents while not being able to come in person. Let alone the fundamental rights of nursing home residents and their immediate quality of life, the benefits of restrictions on external visits (in terms of a lower Covid-19 risk) should be assessed against their costs in terms of a deterioration of the physical and mental health that may be induced by the deprivation of the moral support and help with mobility provided by visitors. Local or pilot initiatives during the crisis have shown that visits of relatives can be organized using strict guidelines and maintain the connections with relatives while efficiently limiting the risks of contagion (Verbeek et al., 2020).

Our analysis has four types of limitations. The first type relates to data. Most of the information depends on the declaration of the resident, in particular for the identification of caregivers and the nature and the volume of the care they provide. It is likely to induce bias in the analysis, e.g. the risk that some caregivers and the volume they provide are missing. Furthermore, given

the poor health and cognitive difficulties of many nursing home residents, 65% of the respondents were assisted by a proxy respondent during the survey; 57.5% of them were relatives and 42.5% were professional workers (Drees, 2019). It is difficult to predict how the presence of a proxy respondent may affect the reporting of informal care receipt.

The second limitation relates to the explanatory power of the linear models we fit for the intensive margin analysis. In Table 3, the R-square in Columns (1) and (2) are low, indicating that no more than 6% of cross-sectional variation in the number of caregivers and the volume of care received can be explained by the variables we include in the model. Although low R-squares are a common feature for linear models explaining care volumes or spending, they imply that our analysis leaves out many of the individual or contextual determinants of the heterogeneity in the quantity of informal care received.

Thirdly, from a methodological viewpoint, we do not rely on data collected while restrictions on visits were in place. We have no information on which activities have been prevented, for how long and for how many of the French nursing home residents, beyond the national-level measures. Surveying nursing home residents during an epidemic is nearly impossible precisely because of the sanitary measures. Given this methodological challenge, we believe that improving knowledge about the living situation of nursing home residents prior the Covid-19 outbreak is an essential way of understanding and dampening the adverse consequences of the epidemics on this population, beyond that of the disease itself.

Finally, our study is limited in its scope, and as such will hopefully pave the way for further investigation. We did *not* aim at assessing how informal care affect the well-being of residents in normal times, while such an exercise would be useful to estimate how this outcome was affected by the restrictions on visits. Furthermore, we only focused on informal care. Future research could investigate into how informal caregiving articulate with formal caregivers within

nursing homes. It could additionally focus on the effect of the visit bans on the professional caregivers, their workload and whether the nature of the tasks they perform change in the absence of informal caregivers. Such analysis would contribute further to understanding how the visit bans has affected the level and the quality of care received by nursing home residents and their quality of life.

References

Barberger-Gateau, P., Rainville, C., Letenneur, L., & Dartigues, J. F. (2000). A hierarchical model of domains of disablement in the elderly: A longitudinal approach. *Disability and Rehabilitation*, *22*(7), 308–317. https://doi.org/10.1080/096382800296665

Besnard, X., Brunel, M., Couvert, N., & Roy, D. (2019). *Les proches aidants des seniors et leur ressenti sur l'aide apportée. Résultats des enquêtes «CARE» auprès des aidants (2015-2016)* (No. 45; Les Dossiers de La Drees). http://www.epsilon.insee.fr/jspui/bitstream/1/112265/1/dossiers_45.pdf

Bonsang, E. (2009). Does informal care from children to their elderly parents substitute for formal care in Europe? *Journal of Health Economics*, *28*(1), 143–154. https://doi.org/10.1016/j.jhealeco.2008.09.002

Cambois, E., Robine, J. M., & Romieu, I. (2005). The influence of functional limitations and various demographic factors on self-reported activity restriction at older ages. *Disability and Rehabilitation*, *27*(15), 871–883. https://doi.org/10.1080/09638280500030860

Charles, K. K., & Sevak, P. (2005). Can family caregiving substitute for nursing home care? *Journal of Health Economics*, *24*(6), 1174–1190. https://doi.org/10.1016/j.jhealeco.2005.05.001

Colombo, F., & Al. (2011). Help Wanted? Providing and Paying for Long-Term Care. In *OECD Health Policy Studies*.

Désesquelles, A., & Brouard, N. (2003). Le réseau familial des personnes âgées de 60 ans ou plus vivant à domicile ou en institution. *Population*, *58*(2), 201. https://doi.org/10.3917/popu.302.0201

Drees. (2019). *Enquête CARE-Institutions. Dictionnaire des codes. Présentation de l'enquête et consignes d'utilisation des bases*.

Edjolo, A., Proust-Lima, C., Delva, F., Dartigues, J. F., & Pérès, K. (2016). Natural History of Dependency in the Elderly: A 24-Year Population-Based Study Using a Longitudinal Item Response Theory Model. *American Journal of Epidemiology*, *183*(4), 277–285. https://doi.org/10.1093/aje/kwv223

Gaugler, J. E. (2005). Family involvement in residential long-term care: A synthesis and critical review. In *Aging and Mental Health* (Vol. 9, Issue 2, pp. 105–118). NIH Public Access. https://doi.org/10.1080/13607860412331310245

Giebel, C., Cannon, J., Hanna, K., Butchard, S., Eley, R., Gaughan, A., Komuravelli, A., Shenton, J., Callaghan, S., Tetlow, H., Limbert, S., Whittington, R., Rogers, C., Rajagopal, M., Ward, K., Shaw, L., Corcoran, R., Bennett, K., & Gabbay, M. (2020). Impact of COVID-19 related social support service closures on people with dementia and unpaid carers: a qualitative study. *Aging & Mental Health*, 1–8. https://doi.org/10.1080/13607863.2020.1822292

Hultsch, D. F., Hertzog, C., Small, B. J., & Dixon, R. A. (1999). Use it or lose it: Engaged lifestyle as a buffer of cognitive decline in aging? *Psychology and Aging*, *14*(2), 245–263. https://doi.org/10.1037//0882-7974.14.2.245

Katz, S. (1983). Assessing self-maintenance: Activities of daily living, mobility, and instrumental activities of daily living. In *Journal of the American Geriatrics Society* (Vol. 31, Issue 12, pp. 721–727). J Am Geriatr Soc. https://doi.org/10.1111/j.1532-5415.1983.tb03391.x

Keating, N., Fast, J., Dosman, D., & Eales, J. (2001). Services provided by informal and formal caregivers to seniors in residential continuing care. *Canadian Journal on Aging, 20*(1), 23–45. https://doi.org/10.1017/s0714980800012125

Mallon, I. (2005). Les personnes âgées en maison de retraite : une redéfinition des espaces familiaux. *Espaces et Sociétés, 2005/1-2*(120–121), 163–178. https://doi.org/10.2307/3271319

Piastra, G., Perasso, L., Lucarini, S., Monacelli, F., Bisio, A., Ferrando, V., Gallamini, M., Faelli, E., & Ruggeri, P. (2018). Effects of two types of 9-month adapted physical activity program on muscle mass, muscle strength, and balance in moderate sarcopenic older women. *BioMed Research International, 2018*. https://doi.org/10.1155/2018/5095673

Rantanen, T. (2013). Promoting mobility in older people. In *Journal of Preventive Medicine and Public Health* (Vol. 46, Issue SUPPL.1, p. S50). Korean Society for Preventive Medicine. https://doi.org/10.3961/jpmph.2013.46.S.S50

Roquebert, Q., Fontaine, R., & Gramain, A. (2018). Aider un parent âgé dépendant. Configurations d'aide et interactions dans les fratries en France. *Population (Ined), 73*(2), 323–350. https://doi.org/10.3917/popu.1802.0323

Sicsic, J., & Rapp, T. (2019). Frailty transitions and health care use in Europe. *Health Services Research, 54*(6), 1305–1315. https://doi.org/10.1111/1475-6773.13208

Stabile, M., Laporte, A., & Coyte, P. C. (2006). Household responses to public home care programs. *Journal of Health Economics, 25*(4), 674–701. https://doi.org/10.1016/j.jhealeco.2005.03.009

Trépied, V. (2014). La détresse psychologique en établissement d'hébergement pour personnes âgées dépendantes : les ambivalences du lien de filiation. In S. Paugam (Ed.), *L'intégration inégale. Force, fragilité et rupture des liens sociaux* (p. 63). Presses Universitaires de France. https://doi.org/10.3917/puf.paug.2014.01.0063

Van Broese Groenou, M. I., & Van Tilburg, T. (2003). Network size and support in old age: Differentials by socio-economic status in childhood and adulthood. *Ageing and Society, 23*(5), 625–645. https://doi.org/10.1017/S0144686X0300134X

Van Der Roest, H. G., Prins, M., Van Der Velden, C., Steinmetz, S., Stolte, E., Van Tilburg, T. G., & De Vries, D. H. (2020). Journal Pre-proof The impact of COVID-19 measures on well-being of older long-term care facility residents in the Netherlands. *Journal of the American Medical Directors Association Netherlands, Journal of the American Medical Directors Association*. https://doi.org/10.1016/j.jamda.2020.09.007

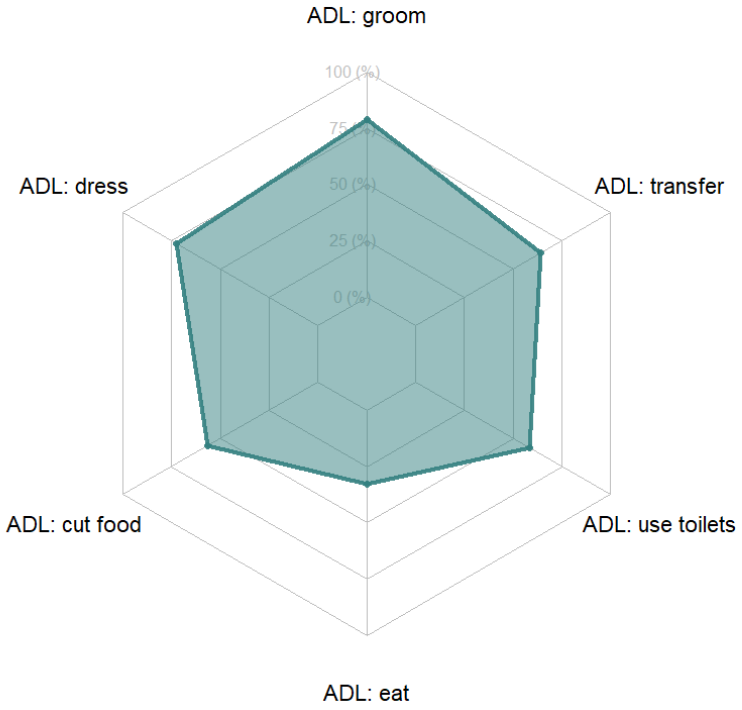
Verbeek, H., Gerritsen, D. L., Backhaus, R., de Boer, B. S., Koopmans, R. T. C. M., & Hamers, J. P. H. (2020). Allowing Visitors Back in the Nursing Home During the COVID-19 Crisis: A Dutch National Study Into First Experiences and Impact on Well-Being. *Journal of the American Medical Directors Association, 21*(7), 900–904.

https://doi.org/10.1016/j.jamda.2020.06.020

Zigante, V. (2018). Informal care in Europe. In *Informal care in Europe Exploring. Exploring Formalisation, Availability and Quality*. https://doi.org/10.2767/78836

Figures

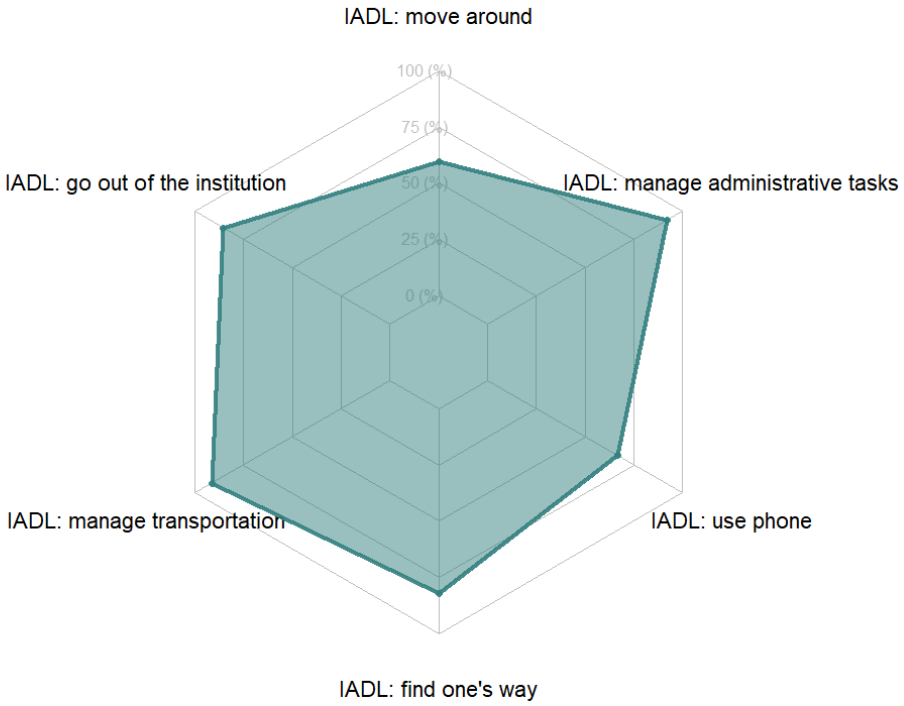
Figure 1: Share of residents with a restriction in an ADL



Sample: Respondents of CARE-I with no missing value on ADL and IADL restrictions (N=3,223). Statistics weighted by survey weights.

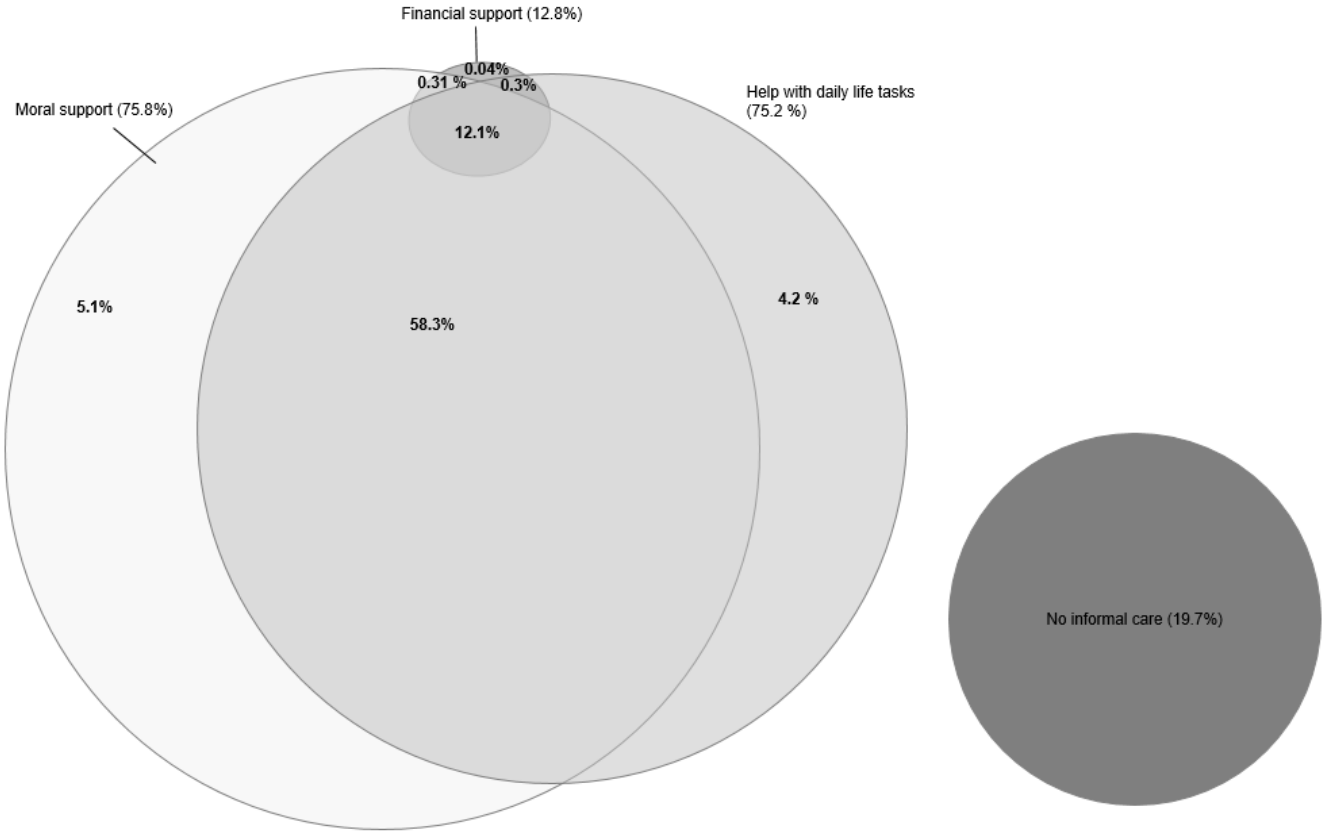
Reading: 74% of nursing home residents have difficulty with dressing or undressing.

Figure 2: Share of residents with a restriction in an IADL



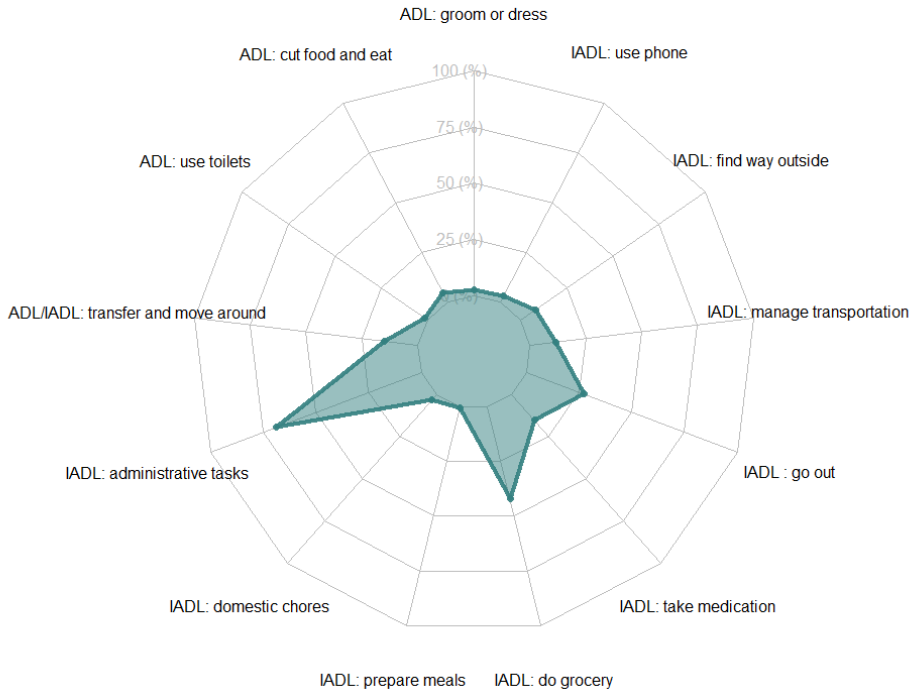
Sample: Respondents of CARE-I with no missing value on ADL and IADL restrictions (N=3,223). Statistics weighted by survey weights.

Figure 3: Share of residents receiving each type of informal care



Sample: Respondents of CARE-I with no missing value on ADL and IADL restrictions (N=3,223). Statistics weighted by survey weights.

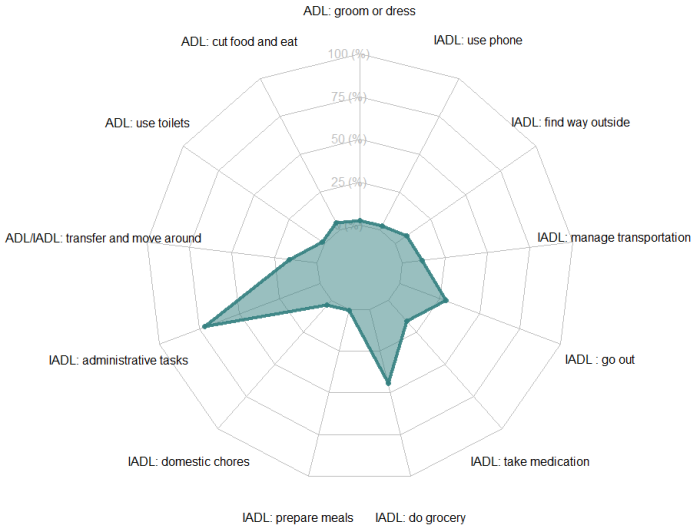
Figure 4: Share of residents receiving informal care for each ADL/IADLs



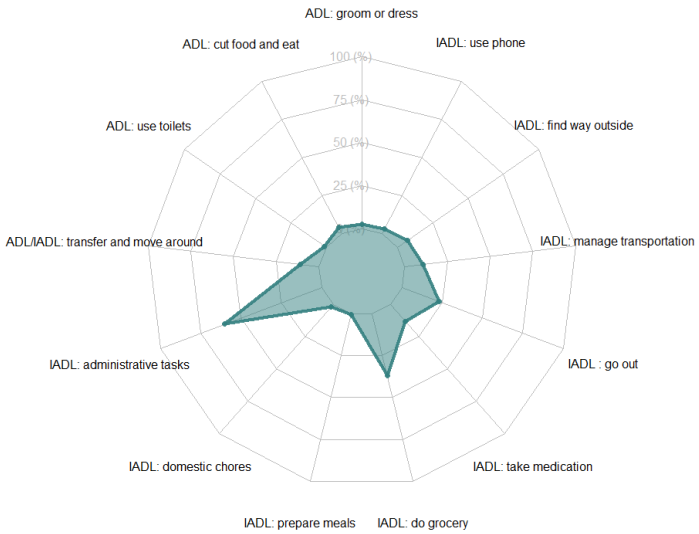
Sample: Respondents of CARE-I with no missing value on ADL and IADL restrictions (N=3,223). Statistics weighted by survey weights.

Reading: More than 25% of nursing home residents receive informal help to go out of the institution.

Figure 5: Share of men and women receiving informal care for ADL/IADLs



(a) Women



(b) Men

Tables

Table 1: General descriptive statistics on nursing home residents

Variable	Mean	Standard-deviation
Women	74.5%	-
Age: [60;75]	11.5%	-
Age:]75;85]	25.2%	-
Age:]85;90]	28.6%	-
Age:]90;95]	26.1%	-
Age: >96	8.6%	-
No diploma	27.2%	-
Primary school or lower secondary school diploma	43.0%	-
Baccalauréat or higher diplima	10.9%	-
No partner	87.5%	-
Partner at home	6.6%	-
Partner in institution	5.9%	-
Has a child	74.1%	-
Number of children	1.82%	1.71
Has siblings	44.2%	-
Any IADL restriction	96.6%	-
Number of IADL restrictions	8.44	0.04
Any ADL restriction	84.1%	-
Number of ADL restrictions	3.63	2.22
Both ADL and IADL restrictions	40.7%	-
Severely disabled	43.4%	-
Positive subjective health	64.7%	-
Institution type: EHPAD	92.8%	-
Institution type: SLD	6.2%	-
Institution type: EHPA	1.0%	-
For-profit institution	20.3%	-
Not-for-profit institution	28.8%	-
Public hospital institution	26.8%	-
Public non-hospital institution	0.0%	-
Institution size: <60 residents	13.8%	-
Institution size: [60;99] residents	50.6%	-
Institution size: >100 residents	30.0%	-
Institution size: unknown	5.7%	-
N(sample)	3,223	
N(population)	583,572	

Notes: The number of IADL restrictions is computed assuming that all nursing home residents who live in an institution where residents do not perform meal preparation, grocery shopping, medication managing and domestic chores, have restrictions in these activities. For binary variables, the standard deviation is not a relevant statistic.

Table 2: Determinants of the probability to declare some informal care for ADL/IADL

	Dependent variable : Receives informal care			
	(1)	(2)	(3)	(4)
Age group:				
[60;75]	-0.18507***	-0.05572	-0.25112***	-0.15267***
	(0.03014)	(0.07901)	(0.04485)	(0.05291)
]75;85]	-0.05129***	-0.02926	-0.05900**	-0.03106
	(0.01968)	(0.04380)	(0.02336)	(0.04949)
Reference =]85 ;90]				
]90;95]	0.04951***	-0.04125	0.06417***	0.04524
	(0.01837)	(0.05350)	(0.01945)	(0.05193)
]95+]	0.04052	-0.03146	-0.00739	0.23419***
	(0.02597)	(0.09650)	(0.03035)	(0.06591)
Woman	0.03249*	0.01995	0.05946**	-0.02829
	(0.01713)	(0.03370)	(0.02312)	(0.03917)
Family situation:				
Reference = partner in institution				
Alone	-0.00680			
	(0.02978)			
Partner at home	0.13563***	0.07735*		
	(0.02902)	(0.04023)		
Child alive	0.28092***	0.15736***		
	(0.01906)	(0.05870)		
Brother or sister alive	0.07337***	0.08611**	0.03882**	0.15884***
	(0.01408)	(0.03413)	(0.01621)	(0.03552)
Disability levels:				
No ADL restriction	-0.17074***	-0.24920***	-0.15575***	-0.17621***
	(0.02411)	(0.07699)	(0.03102)	(0.04600)
Reference = ADL and IADL restrictions				
Severely disabled	-0.03309**	0.00899	-0.04304**	-0.02600
	(0.01574)	(0.04123)	(0.01809)	(0.03943)

Positive subjective health	-0.00154	-0.00188	-0.01559	0.04231
	(0.01519)	(0.03682)	(0.01699)	(0.03902)
Educational background:				
No diploma	0.00677	0.04601	0.01301	-0.06753*
	(0.01591)	(0.03959)	(0.01828)	(0.03914)
Reference = Primary school/lower secondary school diploma				
Baccalauréat or higher education	-0.03198	-0.03536	-0.00526	-0.08276
	(0.02395)	(0.05678)	(0.02732)	(0.05533)
For-profit institution	0.03551**	0.02475	0.02943	0.05826
	(0.01703)	(0.03843)	(0.01887)	(0.04664)
Observations	3,223	402	2,036	785
Log Likelihood	-1,524.75500	-145.26200	-835.84880	-514.35300
Akaike Inf. Crit.	3,081.51100	320.52400	1,697.69800	1,054.70600

Samples:
(1) full sample
(2) individuals with a partner, with or without children
(3) individuals without partner, with children
(4) individuals without partner and without children
Notes: * p<0.1; ** p<0.05; *** p<0.01. Standard-errors clustered at the institution level. Estimations of Probit models. Average marginal effects are presented. Informal care is defined specifically as help with ADLs or IADLs.

Table 3: Determinants of the intensity of informal care

	Dependent variable :		
	Number of caregivers	*Volume of informal care received*	*Probability to receive more than 19 hours per month*
	(1)	(2)	(3)
Intercept	1.47671***	52.93218***	
	(0.12546)	(7.19626)	
Age group:			
[60;75]	-0.08132	-0.12360	-0.02129
	(0.09667)	(5.67085)	(0.04148)
]75;85]	-0.09606	4.52563	0.00292
	(0.06298)	(3.60008)	(0.02695)
Reference =]85 ;90]			
]90;95]	0.02872	-0.28458	0.00953
	(0.05979)	(3.40535)	(0.02588)
]95+]	-0.02887	5.85004	0.06425
	(0.08774)	(4.94245)	(0.03984)
Woman	-0.04480	-1.31110	0.04699**
	(0.05806)	(3.31789)	(0.02361)
Family situation:			
Reference = partner in institution			
Alone	-0.21355**	-45.89042***	-0.08136*
	(0.09895)	(5.72736)	(0.04720)
Partner at home	0.10631	-30.05121***	0.15986**
	(0.12581)	(7.13646)	(0.06255)
Child alive	0.56163***	8.18348**	0.09291***
	(0.06188)	(3.58475)	(0.02411)
Brother or sister alive	0.25803***	1.63067	0.05181**
	(0.04795)	(2.72301)	(0.02046)

Disability levels:			
No ADL restriction	0.09453	-1.55230	-0.04986
	(0.07572)	(4.28991)	(0.03051)
Reference = ADL and IADL restrictions			
Severely disabled	0.06307	3.23642	0.04120*
	(0.05048)	(2.88097)	(0.02172)
Positive subjective health	-0.06434	-0.21819	0.05351***
	(0.04931)	(2.82088)	(0.02042)
Educational background:			
No diploma	0.09192*	1.80875	0.04035*
	(0.05303)	(2.97992)	(0.02297)
Reference = Primary school/lower secondary school diploma			
Baccalauréat or higher education	0.15937**	5.74435	0.05785*
	(0.07857)	(4.32463)	(0.03459)
For-profit institution	-0.05042	0.28381	0.06213**
	(0.05665)	(3.20173)	(0.02503)
Observations	2,396	1,816	1,816
R2	0.06070	0.04968	
Adjusted R2	0.05478	0.04176	
Log Likelihood			-1,074.10200
Akaike Inf. Crit.			2,180.20400

Samples:
(1): Individuals receiving informal help with ADLs/IADLs and declaring at least one caregiver.
(2) and (3): Individuals receiving informal help with ADLs/IADLs and declaring a positive volume of care for at least one caregiver.
Notes: * p<0.1; ** p<0.05; *** p<0.01. . Standard-errors clustered at the institution level.
(1) and (2): Linear regression estimations. (3): Probit estimation (average marginal effects).
Informal care is defined specifically as help with ADLs or IADLs.