# GENDER DIFFERENCES IN ACCESS TO HOME AND COMMUNITY-BASED CARE: A LONGITUDINAL ANALYSIS OF THE EFFECTS OF WIDOWHOOD AND LIVING ARRANGEMENTS

*Stefania Ilinca[1], Ricardo Rodrigues[1], Eszter Zólyomi[1], Stefan Fors[2], Janet Jull[3], Johan Rehnberg[2], Afshin Vafaei[3] and Susan Phillip[3]*

Please direct correspondence to: ilinca@euro.centre.org

**Abstract**

**Background and Objectives**: Persistent inequalities in access to community-based support limit opportunities for independent living for older people with care needs in Europe. Our study focuses on disentangling the effects of gender, widowhood and living arrangement on the probability of receiving home and community-based care, while separating the shorter-term effects of transitions into widowhood (bereavement) and living alone from the longer–term effects of being widowed and living alone.

**Methods**: We use comparative, longitudinal data from the Survey of Health, Ageing and Retirement in Europe (collected between 2004 and 2015 in 15 countries) specifying sex-disaggregated random-effects within-between (REWB) models, which allow us to examine both cross-sectional and longitudinal associations among widowhood, living arrangements and community-based care use.

**Results**: We find widowhood and living alone are overlapping but independent predictors of care use for both older women and men, while bereavement is associated with higher probability of care use only for women. Socio-economic status was associated with care use for older women, but not for men in our sample.

**Discussion**: The gender-specific effects we identify have important implications for fairness in European long-term care systems. They can inform improved care targeting towards individuals with limited informal care resources (e.g. bereaved older men) and lower socio-economic status, who are particularly vulnerable to experiencing unmet care needs. Gender differences are attenuated in countries that support formal care provision, suggesting gender equity can be promoted by decoupling access to care from household and family circumstances.

[1] European Centre for Social Welfare Policy and Research, Vienna
[2] Aging Research Center, Karolinska Institutet and Stockholm University, Stockholm
[3] Queen's University, Kingston, Canada

## Background and Objectives

Increasing numbers of older adults spend longer periods with chronic illness and functional limitations, rendering them reliant on formal and informal support to continue living independently in the community (Spasova, Baeten, Vanhercke, 2018). Large differences in the availability and affordability of home and community-based care services – commonly referred to as 'long-term care' in the European context and throughout this paper – lead to marked variability in how older people in need of care can access such support across European countries (Oliveira & Llena-Nozal, 2020; Rodrigues, Ilinca &Schmidt, 2018). Furthermore, taken together, key life events and socio-economic dynamics create variability in care needs and care use patterns between different groups within those same countries, such that available care is not always used by those in most need, but rather by those most able to afford and access it (Ilinca, Rodrigues & Schmidt, 2017; Rodrigues et al. 2018).

The experience of ageing, as well as functional and socio-economic trajectories, differ markedly between women and men (Phillips, Auais, Belanger, Alvarado & Zunzunegui, 2016). Due to higher longevity, women are significantly more likely to outlive their male spouses, leading to a sex imbalance in widowhood and living arrangements in old age. In addition, the experience of widowhood affects men and women differently, both with respect to care needs and in relation to accessibility of care resources (Arber, Davidson & Ginn, 2003). Women live longer than men, but more of those added years are lived with disability and functional impairment (Leveille, Resnick & Balfour, 2014). They are therefore more reliant on care resources in later life but often less able to afford care. Gender differences in factors such as income, wealth and social capital, while relevant across age groups, are particularly pronounced for current old age cohorts: in Europe, the share of individuals at risk of poverty is highest among women aged 75 years or older, partially reflecting the higher share of older women who are widowed (Eurostat, 2019).

We focus on three important dimensions of unequal care use in later life: gender, widowhood and living arrangements. Gender is intertwined with every aspect of the experience of ageing and often inseparable from patterns of socio-economic inequality in old age (Van der Linden et al., 2019). In this study, we aim to understand how widowhood and living arrangements are associated with the probability of receiving home and community-based formal and informal care for older people with care needs and how sex/gender and socio-economic differences affect this association. Throughout our analysis, we place gender differences at the core of our analytical strategy, while also recognizing the intersectional nature of different sources of disadvantage in old age (Phillips et al., 2020).

*Widowhood, living arrangements and care needs in later life*

Widowhood is understood as the long-term and ongoing state of having lost a spouse through death, and the new social status that results from this transition. It is distinguished from bereavement (transition into widowhood) which refers to the experience of the death of a spouse and the status of mourning that follows it, generally with shorter-term consequences (Bennett & Soulsby, 2012). Widowhood and bereavement are among the most distressing life events individuals can experience and have both immediate and long-lasting effects that profoundly impact functioning and care needs for older people. Both widows (women who have lost a spouse) and widowers (men who have lost a spouse) often experience lower psychosocial wellbeing, physical and mental health, changes in their personal relationships and social interactions, as well as negative economic consequences and financial strain (Soulsby & Bennett, 2017; Bíró, 2013). However, gender is an important determinant for the experience

of and adjustment to late life widowhood (Arber et al., 2003). Whereas women are more vulnerable to financial distress and poverty after the loss of a spouse (Gillen et al., 2009; Bíró, 2013), the adverse mental and physical health effects of widowhood are more pronounced for men who are more likely to be depressed and experience subsequent higher mortality (Lee, DeMaris, Bavin & Sullivan, 2001; Bennett, Smith & Hughes, 2005). In addition, widowhood triggers changes in living arrangements. As the majority of older people in Europe live solely with a spouse or partner (Eurostat, 2019), widowhood is often equivalent to a transition to living alone in old age. This exposes those widowed to increased risk of loneliness and social isolation and subsequent adverse effects on functioning, and physical and mental health at a time when emotional and psychological support are essential for maintaining morale and coping with grief (de Jong Gierveld, Dykstra & Schenk, 2012).

*Widowhood, living arrangements and care resources in later life*

Loss of a spouse has a double impact: it may increase older adult's need for care and support and also can represent the loss of a key caregiver. The care literature has overwhelmingly focused on intergenerational support patterns and caregiving by children to older parents, but a significant share of informal caregiving in Europe today is provided within the household, most often by a spouse (Bertogg & Strauss 2020). Surviving spouses are faced with needing to manage household tasks that were shared when living as a couple and all personal care tasks. As a result, for older people who experience functional limitations, dependence on home and community-based support (both formal and informal) often increases with widowhood and when living alone (Pimouguet et al., 2016). Those who cannot rely on well-developed social support networks are particularly vulnerable to experiencing unmet care needs and see their ability to continue living in the community severely affected (Thomeer, Mudrazija & Angel, 2016), especially shortly after the loss of a spouse (Nihtila & Martikaainen, 2008).

*Study objectives*

In combination, widowhood and living alone expose older people to a series of health, emotional, social and practical challenges that increase their need for support while concomitantly depriving them of key caring resources. However, to the best of our knowledge, no study has attempted to disentangle the effect of widowhood and living arrangement transitions on the probability of receiving needed home and community-based care. Because they co-occur so frequently and are so closely related to all the established determinants of care use (health and functionality, economic resources and social ties), separating their effect can be a complex exercise. We argue that this analysis is rendered both timely and highly relevant by changing patterns of co-habitation among future older age cohorts (i.e. decrease in intergenerational households) and the increasing necessity to ensure all older adults are facilitated to live independently, irrespective of their marital and partnership status. In addition, it is important to understand whether transitions into widowhood and changes in living arrangements in old age have an independent effect on care use, and if such patterns are gendered, in order to correctly target support services and provide guidance to families and other informal caregivers.

The aim of our study is therefore, to explore the complex pattern of associations between widowhood, living arrangements and use of home and community-based care for older men and women. We state three inter-related objectives. Firstly, to examine if widowhood and living alone are independent predictors of the probability of using care in the community for older women and men with care needs. Secondly, we investigate gender specific patterns in the association of marital status and living arrangements with care use patterns, with particular attention to the effect of transitions into widowhood

and living alone. Finally, we aim to account for the effects of financial and human capital (i.e. educational achievement), and reflect on how disadvantage in these dimensions can intersect with sex to influence patterns of home and community-based care use for older women and men with care needs.

To this end, we employ a random-effects within-between model specification which allows us to estimate both cross-sectional and longitudinal effects, including for time invariant variables that are of interest to our study, without relying on strong exogeneity assumptions. This approach overcomes the shortcomings of more common fixed- and random-effects specifications and is gaining increasing attention in political science, health research and economics studies (Rummo, Feldman, Lopez, Lee, Thorpe & Elbel, 2020; Fairbrother, Sevä & Kulin, 2019; Schumann, 2020).

## Research Design and Methods

*Analysis sample*

We use data from the Survey of Health, Ageing and Retirement in Europe (SHARE) a multidisciplinary and cross-national database including information on health, socio-economic status and social and family networks of older Europeans (Börsch-Supan et al., 2013). We maintain for the analysis only data from the panel waves of the survey, collected in 2004-5 (wave 1), 2006-7 (wave 2), 2011 (wave 4), 2013 (wave 5) and 2015 (wave 6). Waves 3 and 7 (collected in 2009 and 2017), which include retrospective data and life histories, were excluded from the present analysis. We excluded all observations from countries that have not participated in at least two consecutive panel waves, leading to coverage of 15 European countries, representing four different welfare regimes (see Appendix A): a) Continental (Austria, Germany, France, Belgium and Switzerland); b) Nordic (Sweden, Denmark, Netherlands); c) Southern (Italy, Spain, Greece) and d) Eastern (Czech Republic, Slovenia, Poland, Estonia) (Albertini & Pavolini, 2017; Carrieri, Di Novi & Orso, 2017).

We further restricted the sample to those individuals who are aged 60 years or older at least at one point in the panel and who report continued care needs for at least two consecutive panel waves. Care needs are assessed as the presence of one or more limitations in activities of daily living (ADL) and independent activities of daily living (IADL), three or more mobility, arm function and fine motor limitations or diagnosed cognitive impairment (Alzheimer's or dementia diagnosed by a physician). By focusing on those older individuals (population of interest) who experience sustained functional limitations we are able to identify the effect of changes in marital status and living arrangement, not confounded by changes in care needs status. Moreover, in order to ensure we can separate the effect of widowhood from that of any marital status transition, we excluded from the sample those individuals who reported living in a registered partnership, never being married or being divorced.

Our final analytic sample includes 32139 observations from 12733 individuals, describing an unbalanced panel (see Appendix B). The sample includes 21972 observations (representing 68.4% of the total sample) from 8561 women and 10167 observations (representing 31.6%) from 4174 men.

The large imbalance in sex distribution of the sample, more pronounced than the gender gap in survival for older age groups, is closely linked to the restriction of the sample to older people with care needs only and the higher prevalence of functional limitations and care needs among older women. Descriptive statistics for the study sample, disaggregated by sex, are presented in Table 1.

Table 1. Descriptive statistics for study sample, by sex

| | Women | | Men | | | |
|---|---|---|---|---|---|---|
| | % (Mean) | N | % (Mean) | N | Min | Max |
| Receives care | | | | | 0 | 1 |
| No | 48.17 | 10585 | 52.65 | 5353 | | |
| Yes | 51.83 | 11387 | 47.36 | 4814 | | |
| Age | (74.98) | 21972 | (75.02) | 10167 | 49 | 106 |
| Poor self-reported health | 75.87 | 16671 | 78.34 | 7965 | 0 | 1 |
| No. of chronic conditions | (2.96) | 21972 | (2.88) | 10167 | 0 | 14 |
| No. ADL limitations | (0.91) | 21972 | (1.1) | 10167 | 0 | 6 |
| No. IADL limitations | (1.64) | 21972 | (1.70) | 10167 | 0 | 9 |
| Poor mental health | 58.32 | 12815 | 48.83 | 4965 | | |
| Widowed | 44.24 | 9720 | 14.84 | 1509 | 0 | 1 |
| Transitions into widowhood | 7.3 | 567 | 3.24 | 168 | | |
| Transitions out of widowhood | 0.27 | 15 | 0.25 | 2 | | |
| Household size | (1.88) | 21972 | (2.15) | 10167 | 1 | 11 |
| Lives alone | 35.87 | 7881 | 13.89 | 1412 | | |
| Low education [a] | 45.80 | 10063 | 36.79 | 3740 | 0 | 1 |
| Income quartile [b] | | | | | 1 | 4 |
| First | 25.95 | 5701 | 18.31 | 1862 | | |
| Second | 25.85 | 5680 | 22.61 | 2299 | | |
| Third | 24.50 | 5383 | 28.37 | 2884 | | |
| Forth | 23.70 | 5208 | 30.71 | 3122 | | |
| Welfare cluster [c] | | | | | | |
| Continental | 34.38 | 7554 | 36.83 | 3744 | | |
| Nordic | 11.62 | 2553 | 12.39 | 1260 | | |
| Southern | 26.73 | 5874 | 24.19 | 2459 | | |
| Eastern | 27.27 | 5991 | 26.60 | 2704 | | |

Note: Unweighted pooled data (SHARE 2004-2015). [a] Primary or no education [b] Income quartiles are calculated at the country level for the sample aged 60 and above. [c] Welfare clusters include the following countries: Continental - AT, DE, FR, BE, CH; Nordic – SW, DK, NL ; Southern – IT, ES, EL; Eastern - CZ, PL, SLO, EST

*Dependent variable*

Our dependent variable is a binary indicator of whether an individual receives any type of care in their own home, including informal care from family members, neighbors and members of one's social network or formal care, provided by care professionals. The variable captures care provided by persons residing either within the same household as the care recipient or outside the household and takes a value of 1 if an individual responded 'Yes' to at least one of the following survey items:

- Thinking about the last twelve months, has any family member from outside the household, any friend or neighbor given you any kind of help [*with personal care or domestic tasks*]?
- Is there someone living in this household who has helped you regularly during the last twelve months with personal care, such as washing, getting out of bed, or dressing?
- During the last twelve months, did you receive in your own home any professional or paid [*care*] services due to a physical, mental, emotional or memory problem? [*including personal care, domestic tasks, meals-on-wheels*].

*Independent variables*

The main exposures of interest for our study are sex, widowhood and living arrangements. A binary variable that identifies widowhood was generated based on self-reported marital status in each panel wave – married living with spouse, married not living with spouse or widowed. Living arrangements are described in our analysis by two separate variables: a binary variable for living alone and a continuous variable for household size (i.e. number of household members, irrespective of their familial relationships with the respondent). Socio-economic capital is captured by two predictors: income quartile and education achievement. We calculated country-specific quartiles for equivalized net household income, obtained through the aggregation of all household level income components (including social benefits). Low education achievement is a binary indicator for individuals whose highest level of completed education achievement is primary education only or no formal education (derived from ISCED codes, harmonized across countries).

We further controlled for a set of physical and mental health status indicators, which include: poor or very poor self-reported health; the self-reported number of chronic conditions as diagnosed by a physician, and poor mental health (defined as a EURO-D score higher than 3). While our sample has already been selected to include only individuals with care needs, we further included covariates for physical functioning, i.e. the number of limitations with ADL and IADL, which allowed us to capture the effect of severe care needs.

*Analytical approach*

Data are hierarchically structured, with each individual observed on several occasions over time. This structure is significant methodologically and substantively, as we are interested in modelling both the effect of widowhood and living arrangements on the probability to receive care across the population and the effect of transitioning into widowhood for individuals in the population. In order to examine both cross-sectional (between individuals) and longitudinal (within individuals, over time) associations, rather than assuming they are equivalent, we employ the random effects within-between model – REWB (Allison, 2009; Bell et al., 2019; Schunk & Perales, 1017). REWB is a multi-level modelling approach, which is gaining increasing attention in social and political science due to its ability to combine the strengths of

more established fixed- and random-effects estimation approaches. Fixed-effects models are commonly considered the gold standard for longitudinal data analysis as they provide consistent estimates of within-cluster effects even in the presence of unobserved heterogeneity. However, they are limited in that they cannot estimate effects of variables that do not vary within clusters. Conversely, random effects specifications can be used to identify the effect of cluster-invariant variables but only under strict exogeneity assumptions. Similar to random-effects models, the REWB models allow for the inclusion of cluster-invariant variables, which are of significant interest in our study. This is the case for educational achievement which is virtually constant for older individuals with care needs, considered in our study. At the same time, the model provides fixed effects estimates for within cluster effects allowing for a causal interpretation. Throughout, we run sex disaggregated models, presenting results for women and men independently. This approach allows us to evaluate whether widowhood and living alone are dissimilarly associated with care receiving for women and for men and to reflect on the intersectional nature of sex and socio-economic disadvantage.

**Results**

Although we included in the sample only individuals who report functional limitations that are indicative of care needs, the sex/gender patterns we observe closely reflect results from previous population-based studies (Table 1). Only half of the older people in our sample receive care although all are in need of care according to the indicators of functionality we measure, indicating a considerable proportion of unmet care needs in older European populations. Women are on average more likely to receive care, although average age and the distribution of care needs are comparable across sexes. The share of women who transition into widowhood and who live alone is substantially higher than that of men, who live in households of larger average size. Differences between sexes are also apparent in socio-economic conditions. Fewer men report only primary or no education achievement. While women are relatively evenly distributed across income quartiles, older men in our sample are concentrated in richer income quartiles.

Table 2 summarizes the results of our analysis. We find widowhood is significantly and positively associated with the probability of receiving long-term care for both women and men (between effect), while the transition into widowhood increases the likelihood of receiving care only for older women (within effect). In other words, while both widows and widowers have a higher probability of receiving care than older individuals with partners, bereavement (i.e. the transition from marriage to widowhood) triggers an average increase in care use only for older women (Model 1, unadjusted). Because widowhood is associated with changes in care needs and in financial and human capital, albeit differently across sexes, we further account for their effects. Our results are robust, controlling for the confounding effect of a complex set of health and functional status indicators, including severity of care needs (Model 2) and of income and education achievement (Model 3). The direction and statistical significance of this association is confirmed when considering the effect of living arrangements (Model 4), although the strength of the association is markedly reduced. Living alone is a significant predictor of the probability of receiving care for both women and men, while household size is only weakly associated with care use for women, and not at all for men (between effects). We find no evidence for an association between changes in household size or transitioning to living alone and the care use by older women and men.

Our results further confirm previous findings of a differential effect of socio-economic status indicators across sexes. The probability of receiving care is significantly associated with income and education achievement only for older women in our sample, while no significant effects are identified for older men.

Table 2- Results of nested random between-within effects models on probability to receive care, by sex

| | (1) | | (2) | | (3) | | (4) | |
|---|---|---|---|---|---|---|---|---|
| | Women | Men | Women | Men | Women | Men | Women | Men |
| Widowed, within effect | 0.490*** | 0.249 | 0.382** | 0.0698 | 0.396** | 0.0828 | 0.530*** | -0.0244 |
| Widowed, between effect | 0.818*** | 0.843*** | 0.739*** | 0.851*** | 0.762*** | 0.865*** | 0.328*** | 0.438** |
| Poor health, WE | | | 0.143* | 0.275** | 0.144* | 0.276** | 0.145* | 0.279** |
| Poor health, BE | | | 0.488*** | 0.403*** | 0.507*** | 0.413*** | 0.511*** | 0.407*** |
| Mental health, WE | | | 0.283*** | 0.298*** | 0.284*** | 0.300*** | 0.285*** | 0.296*** |
| Mental health, BE | | | 0.114 | 0.147 | 0.127* | 0.151 | 0.125* | 0.137 |
| Chronic conditions, WE | | | 0.118*** | 0.0424 | 0.116*** | 0.0417 | 0.116*** | 0.0418 |
| Chronic conditions, BE | | | 0.138*** | 0.0598** | 0.137*** | 0.0592** | 0.130*** | 0.0611** |
| ADL limitations, WE | | | 0.190*** | 0.279*** | 0.190*** | 0.280*** | 0.189*** | 0.279*** |
| ADL limitations, BE | | | 0.242*** | 0.445*** | 0.240*** | 0.443*** | 0.237*** | 0.441*** |
| IADL limitations, WE | | | 0.210*** | 0.211*** | 0.211*** | 0.211*** | 0.209*** | 0.210*** |
| IADL limitations, BE | | | 0.342*** | 0.301*** | 0.347*** | 0.304*** | 0.362*** | 0.307*** |
| Low education | | | | | -0.152** | -0.0611 | -0.136** | -0.0494 |
| Income, WE | | | | | 0.0456* | 0.0528 | 0.0448* | 0.0534 |
| Income, BE | | | | | 0.0503* | 0.0633 | 0.0544* | 0.0539 |
| Live alone, WE | | | | | | | -0.182 | 0.262 |
| Live alone, BE | | | | | | | 0.545*** | 0.513** |
| Household size, WE | | | | | | | 0.0153 | 0.112 |
| Household size, BE | | | | | | | -0.082* | -0.0655 |
| No. of observations | 21972 | 10167 | 21972 | 10167 | 21972 | 10167 | 21972 | 10167 |
| No. of individuals | 8561 | 4172 | 8561 | 4172 | 8561 | 4172 | 8561 | 4172 |

Note: Unweighted results. All models include age and country controls.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 - Results of random between-within effects models on probability to receive care, by sex and welfare regime

| | Continental | | Nordic | | Southern | | Eastern | |
|---|---|---|---|---|---|---|---|---|
| | Women | Men | Women | Men | Women | Men | Women | Men |
| Widowed, within effect | 0.704* | -0.107 | -0.254 | -0.326 | 0.508* | 0.437 | 0.607* | -0.627 |
| Widowed, between effect | 0.448*** | 0.489* | 0.0017 | 0.419 | 0.325* | 0.728* | 0.262* | 0.189 |
| Live alone, WE | 0.192 | 0.527 | 0.543 | 0.627 | -0.628 | 0.0076 | -0.299 | 0.545 |
| Live alone, BE | 0.541** | 0.407 | 1.452*** | 1.079 | 0.515** | -0.244 | 0.429** | 0.920** |
| Low education | -0.145 | -0.0332 | 0.0134 | 0.0536 | -0.254* | -0.103 | -0.0942 | -0.179 |
| Income, WE | 0.0445 | 0.0661 | 0.0783 | -0.106 | 0.0666* | 0.105* | -0.0186 | -0.0781 |
| Income, BE | 0.152** | 0.148 | 0.260* | 0.0806 | 0.0246 | 0.0269 | -0.0211 | -0.0033 |
| No. of observations | 7554 | 3744 | 2553 | 1260 | 5874 | 2459 | 5991 | 2704 |
| No. of individuals | 2858 | 1489 | 1014 | 533 | 2251 | 1014 | 2438 | 1136 |

Note: Unweighted results. All models include age, country dummies, poor self-reported health, Poor mental health, number of chronic conditions, ADL limitations, IADL limitations, household size (results not reported).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We next turn our attention to the possibility that the above results are moderated by country specific characteristics and institutional factors that are not fully captured by country specific dummy variables. In Table 3, we present the results of separate analyses of country clusters organized along the care regime typology. For Continental and Southern European care regimes the results are very similar to those reported for the pooled European sample. Widowhood is a positive and significant predictor of care use for both women and men, while transitions into widowhood (within effect) only affect care use by older women. In Eastern European countries (Czech Republic, Slovenia, Poland, Estonia) we find evidence of an effect of widowhood and bereavement only for older women, while in Nordic countries (Sweden, Denmark, Netherlands) the association is not statistically significant for either gender. Living alone is associated with higher probability of receiving care for women across all care regimes, while results for men vary between country clusters. Finally, we find a highly variable pattern of association between socio-economic status indicators and care use across sexes and care regimes.

**Discussion and Implications**

Our study set out to explore how marital status and living arrangements in later life are associated with home and community-based care use among older Europeans with care needs, while paying particular attention to the role of transitions into widowhood and living alone, and the role of gender. Because widowhood and living alone co-occur frequently in current older age cohorts, it has proved difficult to disentangle their effects on care use. Our results show that being widowed and living alone have overlapping but independent effects on long-term care use and are both associated with increases in the probability of using care in later life for women and men alike (Objective 1). The cumulative effect of being widowed and living alone places certain groups of older individuals (e.g. bereaved men) in positions of increased vulnerability and exposes them to being at higher risk of unmet care needs. As prevailing trends in marriage and living arrangements will lead to an increasing number of widows and widowers facing the possibility of old age dependency without being able to rely on support from members of their household, long-term care systems must respond by increasing service availability and targeting older individuals with limited informal care resources. While many European countries already implement carer-sensitive policies (prioritizing access for individuals without informal support within the household), our results point to the need to also facilitate access for those who have been widowed, irrespective of their living arrangements.

The second objective of our study was to investigate gender specific associations of marital status and living arrangements with care use patterns, by separating the shorter-term effects of transitions into widowhood (bereavement) and living alone from the long-term effects of the state of being widowed and living alone. We found bereavement is significantly associated with increased care use only for older women, after controlling for the intensity care needs. This suggests older widows are better able to access care resources following bereavement, whereas older widowers are less likely to do so. The literature suggests a number of potential causal mechanisms. Firstly, widowers have on average less extensive social networks and less contact with children following bereavement (Soulsby & Bennett, 2017) which may limit the availability of informal care resources. Secondly, older men are less likely to seek and participate in community-based care programs (Milligan et al., 2013). Finally, the surviving spouses in our study (i.e. the widows and widowers) were likely previously providing informal care to their deceased spouse. There is evidence that households where the wife is the informal carer tend to receive less formal care service due to persistent gender stereotypes of women's roles as caregivers (Schmidt 2017, Larsson et al. 2014).

Further research should attempt to establish whether frail older women regularly forgo needed care if their spouse has higher support needs and how long-term care services are allocated within households where both spouses are in need of support, albeit at different intensity levels.

Our third objective was to reflect on the intersection of sex and access to financial and social capital in influencing patterns of home and community-based care use for older women and men with care needs. We found socio-economic status indicators were associated with care use only for older women, suggesting a modifying effect of sex. Lower education is more prevalent among women relative to men in current older age cohorts, and our results point to it acting as a barrier in accessing care that goes beyond the issue of affordability (i.e. after controlling for the effect of household income and changes in income). Such findings raise concerns with respect to the ability of older people to navigate complex procedures for identifying and accessing formal care services to which they are entitled.

We note two particular limitations of our study. First, the results presented rely on data aggregation at European or regional country clustering levels, which obscures important national level differences. Unfortunately, we were limited in our ability to carry out country-specific analyses by the size of the longitudinal sample in SHARE. To fill in the resulting gap in detail we encourage the replication of our approach using richer, national level datasets, where they are available. The second limitation arises from the inability to control for the intensity of care received, due to data limitations. Consequently, we cannot establish whether widows and widowers who receive care do so at a level commensurate with their need for support. It is possible therefore, that our results underestimate the number of individuals who forgo needed care and the prevalence of care poverty (inadequate coverage of care needs) in certain population groups.

It is noteworthy that our results point to marked differences across clusters of countries, grouped according to core characteristics of national long-term care systems. More specifically, we find gender differences in the effect of widowhood and living arrangements on probability to receive long-term care are attenuated in countries that emphasize *defamilialization (of care) through public provision*, shifting responsibility for care from the family towards the state (Saraceno (2016: 317). In countries belonging to the Nordic cluster, the State recognizes and assumes responsibility for fulfilling individual care of older adults with functional impairment, therefore decoupling, to a large extent, access to care from household and family circumstances. The association between socio-economic status indicators and care use varies across country clusters. While partly attributable to large differences in cultural and social underpinnings across country clusters, such variability also highlights remaining gaps in equity achievement across European care systems.

Our study is concerned with identifying differences between groups and inequalities in accessing care, but we believe important implications for fairness in long-term care systems (i.e. inequities in care use) can be derived from our findings. An important step has been made in the European context towards recognizing that "everyone has a right to affordable long-term care services of good quality, in particular home-care and community-based services" (Principle 18) with the adoption of the European Pillar of Social Rights (2017). As equity achievements are increasingly recognized as a key priority for national long-term care systems in Europe a better understanding of gender and socio-economic differences in care use will play a crucial role in defining a pathway towards more effective and fairer systems and ensuring care is accessible to all those who need it. This is particularly relevant in view of the increased reliance on carer-sensitive policies in European countries, as part of a concerted effort to ensure fiscal sustainability of long-

term care systems in the face of an ageing population. With very few studies focusing on the equity impact of carer-sensitive policies (Bakx, de Meijer, Schut & Van Doorslaer, 2015; Ilinca et al., 2017), further analyses are sorely needed. Our results indirectly point to a potential downstream effect of eligibility criteria and service targeting practices for formal care to older couples, before bereavement and widowhood. Even when eligibility is not explicitly conditioned on household characteristics, the allocation of scarce resources may still be underpinned by stereotyping the spouses' ability to provide care. The findings presented here suggest that care use patterns following bereavement and widowhood should be understood in light of these systemic inequalities.

A better understanding of how community-based caring resources are accessed by older women and men is essential to inform policies that address care gaps for groups at risk of experiencing unmet care needs and to ensure all older people are able to continue living independently and with dignity in their communities. Our study highlights, once more, that at the core of this understanding must lie an appreciation of the role of gender in the experience of ageing, of key life-course transitions and of household and family characteristics.

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