

## Overview of academic output of the IN-CARE project, February 2023



### Published

Abbing, J., Suanet, B., & Van Groenou, M. (2021). Socio-economic inequality in long-term care: A comparison of three time periods in the Netherlands. *Ageing and Society*, 1-21. <https://doi.org/10.1017/S0144686X21000647>

Abbing, J., Suanet, B., & Broese Van Groenou, M. (2022). How does long-term care impact the psychological wellbeing of older adults in different care policy contexts in the Netherlands? A comparison of 1998, 2008 and 2018. *Health and Social Care in the Community*, 00, 1-11. <https://doi.org/10.1111/hsc.13719>

Brandt, M., Deindl, C., Floridi, G., Heidemann, R., Kaschowitz, J., Quashie, N.T., Verbakel, E., & Wagner, M. (2023). Social inequalities and the wellbeing of family caregivers across European care regimes. *Journal of Family Research* 35, 181–195. <https://doi.org/10.20377/jfr-861>

Brandt, M., Kaschowitz, J. & Quashie, N.T. (2022). Socioeconomic inequalities in the wellbeing of informal caregivers across Europe. *Aging and Mental Health* 26(8), 1589-1596. <https://doi.org/10.1080/13607863.2021.1926425>

Carrino, L., Bertin, G., & Pantalone, M. (2021). Do standard classifications still represent European Welfare typologies? Novel evidence from studies on health and social care. *Social Science & Medicine* 281. <https://doi.org/10.1016/j.socscimed.2021.114086>

Carrino, L., Nafilyan, V. & Avendano, M. (2022). Should I Care or Should I Work? The Impact of Work on Informal Care. *Journal of Policy Analysis and Management*, 22457. <https://doi.org/10.1002/pam.22457>

Floridi, G., Carrino, L., & Glaser, K. (2021). Socioeconomic inequalities in home-care use across regional long-term care systems in Europe. *The Journals of Gerontology, Series B* 76(1), 121-132. <https://doi.org/10.1093/geronb/gbaa139>

Floridi, G., Quashie, N.T., Glaser, K. & Brandt, M. (2022). Partner Care Arrangements and Well-Being in Mid- and Later Life: The Role of Gender Across Care Contexts, *The Journals of Gerontology: Series B* 77(2), Pages 435–445, <https://doi.org/10.1093/geronb/gbab209>

Ibuka, Y. & Ohtsu Y. (2021) Socioeconomics status and the likelihood of informal care provision in Japan: An analysis considering survival probability of care recipients, *PLoS One* 16(8), e0256107. <https://doi.org/10.1371/journal.pone.0256107>

Le, D. D. & Ibuka, Y. (2023). Understanding the effects of informal caregiving on health and well-being: Heterogeneity and mechanisms. *Social Science & Medicine* 317, 115630.  
<https://doi.org/10.1016/j.socscimed.2022.115630>

Quashie, N.T., Wagner, M., Verbakel, E. & Deindl, C. (2022). Socioeconomic differences in informal caregiving in Europe. *European Journal of Ageing* 19, 621-632.  
<https://doi.org/10.1007/s10433-021-00666-y>

Verbakel, E. Glaser, K., Amzour, Y., Brandt, M. & Broese van Groenou, M. (2022). Indicators of familialism and defamilialization in long-term care: a theoretical overview and introduction of macro-level indicators. *Journal of European Social Policy*.  
<https://doi.org/10.1177/09589287221115669>

**This document entails all our publications and work in progress by Work Package**

## WP1 Macro-level indicators of LTC policies

### Paper Indicators of familialism and defamilialization in long-term care: a theoretical overview and introduction of macro-level indicators

**Published as:** Verbakel, E. Glaser, K., Amzour, Y., Brandt, M. & Broese van Groenou, M. (2022). Indicators of familialism and defamilialization in long-term care: a theoretical overview and introduction of macro-level indicators. *Journal of European Social Policy*. <https://doi.org/10.1177/09589287221115669>

**Abstract:** Many countries have been working on revising their long-term care (LTC) policies to meet the increasing demand for care. Generally, little attention is paid to the potential (unintended) consequences of LTC policies for inequality among care users or informal caregivers. Saraceno (2016) explicitly argued that differences in care use and provision depend on the type of LTC policy, and that policies with contrasting consequences for inequality can be implemented at the same time. We call upon future research to empirically test the impact of different types of LTC policies on socio-economic (SES) inequalities in care. To stimulate and facilitate such research, our aims are to outline theoretical arguments for the differential impact of LTC policies on SES inequalities in care and to create macro-level indicators for different types of supportive LTC policies in European countries over time. Our study's research question is: Can we find and capture different dimensions of LTC policies in macro-level indicators that are comparable over countries and time? In particular, we focus on supported familialism (e.g., informal caregiver support), supported defamilialization through the market (e.g., in-cash benefits for care users), and defamilialization through public provision (e.g., availability of beds in residential care). Besides a summary of the literature on LTC policies and how they may affect SES inequalities in care, we outline our search process for macro-level LTC indicators and present descriptive information on the different types of LTC policies and their correlations. We discuss the difficulties that arise when translating theoretical insights about different types of LTC policies into high-quality measures for many countries and time points.

**Database** of macro level indicators – to be published on the SPLASH database ([Project Description | SPLASH DB \(splash-db.eu\)](#));

## WP2 papers - SES-inequality in care use and wellbeing across nations

### 1. Socioeconomic Inequalities in Home-Care Use Across Regional Long-term Care Systems in Europe (Ginevra Floridi, Ludovico Carrino, & Karen Glaser)

**Published as:** Floridi, G., Carrino, L., & Glaser, K. (2021). Socioeconomic inequalities in home-care use across regional long-term care systems in Europe. *The Journals of Gerontology, Series B* 76(1): 121-132. <https://doi.org/10.1093/geronb/qbaa139>

We examine whether socioeconomic inequalities in home-care use among disabled older adults are related to the contextual characteristics of long-term care (LTC) systems. Specifically, we investigate how wealth and income gradients in the use of informal, formal, and mixed home-care vary according to the degree to which LTC systems offer alternatives to families as the main providers of care (“de-familization”). We use survey data from SHARE on disabled older adults from 136 administrative regions in 12 European countries and link them to a regional indicator of de-familization in LTC, measured by the number of available LTC beds in care homes. We use multinomial multilevel models, with and without country fixed-effects, to study home-care use as a function of individual-level and regional-level LTC characteristics. We interact financial wealth and income with the number of LTC beds to assess whether socioeconomic gradients in home-care use differ across regions according to the degree of de-familization in LTC. We find robust evidence that socioeconomic status inequalities in the use of mixed-care are lower in more de-familized LTC systems. Poorer people are more likely than the wealthier to combine informal and formal home-care use in regions with more LTC beds. SES inequalities in the exclusive use of informal or formal care do not differ by the level of de-familization. The results suggest that de-familization in LTC favors the combination of formal and informal home-care among the more socioeconomically disadvantaged, potentially mitigating health inequalities in later life.

## **2. Socio-economic inequality in the relationship between care receipt and psychological well-being (Ginevra Floridi, Ludovico Carrino, & Karen Glaser)**

Across Europe, increasing proportions of the population are in need of long-term care (LTC). The relative share of disabled middle-aged and older adults relying exclusively on informal caregivers – as opposed to professional providers – is projected to rise in line with cuts to public LTC spending, especially among those of lower socio-economic status (SES). Despite much theoretical and empirical interest in the relationship between care receipt and psychological well-being, socio-economic differences in the association between the receipt of informal and formal care and subsequent well-being remain unexplored. We propose a theoretical model of SES inequality in the relationship between care and well-being and provide an empirical test of the model using data on physically impaired Europeans aged 50 and above from the Survey of Health, Ageing & Retirement in Europe (N = 2,992). We analyse SES moderation in the longitudinal associations between informal and formal care and various dimensions of well-being, including self-appraised control, autonomy, self-realisation, pleasure and absence of depressed mood. In line with our theoretical model, we find that the negative association between informal care and self-perceived control and autonomy is stronger at lower levels of SES. However, we do not find SES moderation in the association between care and other dimensions of well-being. Our results suggest that the increased reliance on informal LTC across Europe may exacerbate SES inequalities in psychological well-being among physically impaired individuals in mid- and later life.

## **3. Partner care arrangements and older Europeans' well-being: Variations by gender and welfare context (Ginevra Floridi, Nekehia Quashie, Karen Glaser, & Martina Brandt)**

*\* collaboration between WP2 and WP3*

**Published as:** Floridi, G., Quashie, N.T., Glaser, K. & Brandt, M. (2022). Partner Care Arrangements and Well-Being in Mid- and Later Life: The Role of Gender Across Care Contexts, *The Journals of Gerontology: Series B* 77(2), 435-445.  
<https://doi.org/10.1093/geronb/gbab209>

**Objectives** We assess gender moderation in the association between partner care arrangements and individuals' well-being, and the extent to which gender differences vary across European care contexts. **Methods** We use 2015 data from the Survey of Health, Ageing and Retirement in Europe for 3,465 couples aged 50+, where at least 1 partner receives care. We assess gender differences in individuals' life satisfaction and depressive symptoms across 5 partner care arrangements: solo-; shared formal; shared informal; outsourced formal; and outsourced informal care. We explore heterogeneity in the gendered associations across 4 care contexts: Northern, Western, Southern, and Eastern Europe. **Results** Sharing care with formal providers is associated with lower well-being among women than men, with a significant well-being "penalty" among Southern European women with partners in shared formal care. Outsourcing partner care to informal providers is associated with higher well-being than other care arrangements for men across care contexts, but with lower well-being for women in Southern Europe. **Discussion** Policies to support caregivers' well-being need to be sensitive to the coordination of formal and informal caregiving support for men and women in their respective care contexts.

#### **4. How do changes in public social care provision affect socio-economic inequalities in users' wellbeing and access to care. Evidence from local authorities in England (Mauricio Avendano, Ludovico Carrino, Ginevra Floridi, Karen Glaser)**

*\* collaboration between WP2 and WP5*

In this study we will examine how changes in public social care provision affect socio-economic inequalities in the use of long-term care and in the wellbeing of older people in England. We will link individual-level data from the English Longitudinal Study of Ageing (ELSA) to indicators of public social care provision in England, such as spending at local authority level, residential care beds, and social care workforce. We will first study the association between such measures of public provision and inequalities in care use and in users' wellbeing. We will then use quasi-experimental techniques and evaluate how recent reductions in LTC provision (through expenditure cuts) affected socio-economic inequalities in the use of care among older adults, and in their wellbeing.

#### **5. Wealth-related inequality in physical and cognitive impairments and macro relationships with the inequalities: a comparative study across Japan and Europe. Dung Le, Nekehia Quashie, Martina Brandt and Yoko Ibuka**

##### **Summary**

Although previous empirical evidence has provided insights on the association between country-level factors and health inequalities, there remain potential research gaps in this research strand. First, most previous studies use a subjective health rather than an objective one. Second, the wealth dimension in health inequalities has been largely unexplored. Third, a handful of studies have been explicitly focused on older people. To bridge the research gaps,

this study aims to: i) measure wealth-related health inequalities in physical and cognitive impairments; and ii) examines the extent to which welfare states moderate wealth inequalities in physical and cognitive impairments among older people across Japan and Europe. We used harmonized data from the Japanese Study of Aging and Retirement (JSTAR) and the Survey of Health, Ageing and Retirement in Europe (SHARE), containing non-institutionalized 31,969 and 31,348 individuals aged 50-75 for physical and cognitive impairments, respectively. The concentration index was used to quantify the degree of wealth inequalities in impairments. We performed multilevel linear regression analyses to examine whether welfare states in public health spending and healthcare access resources explained cross-country differences in wealth inequalities in physical and cognitive impairments. Inequalities in both impairment outcomes favoring the wealthier were found in all countries and the degree of the inequality varied considerably across countries under examination. The multilevel regression results showed that a higher share of public health spending, a lower OOP, and more investment in the availability of healthcare resources are associated with lower wealth inequalities impairments, and that such associations are less pronounced in cognitive impairments compared to physical ones. Our findings suggests that health is multidimensional and different health interventions and policies may be needed to mitigate specific impairment inequalities. Our findings stimulate future longitudinal analyses, which should also account for potential selection and reporting biases.

## **WP3 - papers - SES-inequalities in care provision and wellbeing across nations**

### **1. Socioeconomic Differences in Care Provision in Europe**

**Nekehia Quashie, Melanie Wagner, Ellen Verbakel, Christian Deindl**

**Published as:** Quashie, N.T., Wagner, M., Verbakel, E. & Deindl, C. (2021). Socioeconomic differences in informal caregiving in Europe. *European Journal on Ageing* 19, 621-632.

<https://doi.org/10.1007/s10433-021-00666-y>

#### **Abstract**

Disclosing socioeconomic differences in informal care provision is increasingly important in aging societies as it helps to identify the segments of the population that may need targeted support and the types of national investments to support family caregivers. This study examines the association between individual-level socioeconomic status and informal care provision within the household. We also examine the role of contextual factors, income inequality, and the generosity of social spending, to identify how macro-level socioeconomic resource structures shape individuals' provision of care to household members. We use pooled data from the Survey of Health, Ageing and Retirement in Europe (SHARE, waves 1, 2, 4, 5, 6) and the English Longitudinal Study of Ageing (ELSA, waves 2, 3, 4, 6, 7). Poisson regression multilevel models estimate the associations between household socioeconomic status (education, income, and wealth), and country socioeconomic resources (income inequality and social spending as a percentage of GDP), and the likelihood of older adults' informal care provision within the household. Results indicate that lower individual socioeconomic resources—education, income, and wealth—were associated with a higher incidence of older adults' informal care provision within the household. At the macro-level, income inequality was positively associated while social spending was negatively associated

with older adults' care provision within the household. Our findings suggest that socioeconomically disadvantaged groups are more likely to provide informal care, which may reinforce socioeconomic inequalities. At the national level, more equitable resource distribution and social spending may reduce intensive family caregiving.

## **2. Socioeconomic inequalities in the wellbeing of informal caregivers across Europe.**

**Martina Brandt, Judith Kaschowitz, Nekehia Quashie.**

**Published as:** Brandt, M., Kaschowitz, J. & Quashie, N.T. (2022). Socioeconomic inequalities in the wellbeing of informal caregivers across Europe. *Aging and Mental Health* 26(8), 1589-1596. <https://doi.org/10.1080/13607863.2021.1926425>

### **Summary:**

**Objectives** Due to increasing care needs and decreasing care potentials, research around informal caregiving gains attention. Relatively new – but of utmost importance – is the role of socioeconomic inequalities in care and wellbeing. Although caregiving can be rewarding, a growing body of research shows that informal caregiving often has negative consequences for individuals' wellbeing. Theoretically, we expect these negative outcomes to be more pronounced among caregivers with lower socioeconomic resources. The current study examines socioeconomic inequalities in the consequences of caregiving inside the household for life satisfaction. **Methods** We draw on longitudinal data from the Survey of Health, Ageing, and Retirement in Europe (SHARE waves 2, 4, 5, and 6). We estimated pooled ordinary least squares and fixed-effects regression models to examine the consequences of informal care provision within the household for individuals' life satisfaction, and whether household wealth moderates this relationship, controlling for individuals' sociodemographic and health characteristics. **Results** Care provision inside the household was negatively associated with older adults' life satisfaction. The longitudinal analyses accordingly show that the uptake of care led to declines in life satisfaction. Differentiating by socioeconomic background, we find that caregivers with higher socioeconomic resources in terms of wealth generally experienced higher life satisfaction. Our longitudinal analyses on wellbeing declines reveal, however, that these mechanisms did not significantly differ by socioeconomic status of the caregiver. **Discussion** Our findings suggest the need for increased investments in support services for informal caregivers to mitigate caregiving burdens, irrespective of socioeconomic status, and enhance later life wellbeing.

## **3. Partner care arrangements and older Europeans' well-being: Variations by gender and welfare context (same as WP2 paper 3)**

**Ginevra Floridi, Nekehia Quashie, Karen Glaser, Martina Brandt**

*\* collaboration between WP2 and WP3 (post-doc exchange)*

**Published as:** Floridi, G., Quashie, N.T., Glaser, K. & Brandt, M. (2022). Partner Care Arrangements and Well-Being in Mid- and Later Life: The Role of Gender Across Care Contexts, *The Journals of Gerontology: Series B* 77(2), 435-445. <https://doi.org/10.1093/geronb/gbab209>

**Objectives** We assess gender moderation in the association between partner care arrangements and individuals' well-being, and the extent to which gender differences vary across European care contexts. **Methods** We use 2015 data from the Survey of Health, Ageing and Retirement in Europe for 3,465 couples aged 50+, where at least 1 partner receives care. We assess gender differences in individuals' life satisfaction and depressive symptoms across 5 partner care arrangements: solo-; shared formal; shared informal; outsourced formal; and outsourced informal care. We explore heterogeneity in the gendered associations across 4 care contexts: Northern, Western, Southern, and Eastern Europe. **Results** Sharing care with formal providers is associated with lower well-being among women than men, with a significant well-being "penalty" among Southern European women with partners in shared formal care. Outsourcing partner care to informal providers is associated with higher well-being than other care arrangements for men across care contexts, but with lower well-being for women in Southern Europe. **Discussion** Policies to support caregivers' well-being need to be sensitive to the coordination of formal and informal caregiving support for men and women in their respective care contexts.

#### **4. Socioeconomic status and the likelihood of informal care provision in Japan: An analysis considering survival probability of care recipients**

**Yoko Ibuka, Yui Ohtsu**

**Published as:** Ibuka, Y. & Ohtsu Y. (2021) Socioeconomics status and the likelihood of informal care provision in Japan: An analysis considering survival probability of care recipients, *PLoS One* 16(8), e0256107. <https://doi.org/10.1371/journal.pone.0256107>

Studies show that the burden of caregiving tends to fall on individuals of low socioeconomic status (SES); however, the association between SES and the *likelihood* of caregiving has not yet been established. We studied the relationship between SES and the likelihood of adults providing long-term care for their parents in Japan, where compulsory public long-term insurance has been implemented. We used the following six comprehensive measures of SES for the analysis: income, financial assets, expenditure, living conditions, housing conditions, and education. We found that for some SES measures the probability of care provision for parents was greater in higher SES categories than in the lowest category, although the results were not systematically related to the order of SES categories or consistent across SES measures. The results did not change even after the difference in the probability of parents' survival according to SES was considered. Overall, we did not find evidence that individuals with lower SES were more likely to provide care to parents than higher-SES individuals. Although a negative association between SES and care burden has been repeatedly reported in terms of care intensity, the caregiving decision could be different in relation to SES. Further research is necessary to generalize the results.

#### **5. Understanding the Effects of Informal Caregiving on Health and Well-being: Heterogeneity and Mechanisms**

**Dung Le and Yoko Ibuka**

**Published as:** Le, D. D. & Ibuka, Y. (2023). Understanding the effects of informal caregiving on health and well-being: Heterogeneity and mechanisms. *Social Science & Medicine* 317, 115630. <https://doi.org/10.1016/j.socscimed.2022.115630>



This study examines the heterogeneous effects of informal caregiving on caregivers' health and well-being and the mechanisms of the effects. We found robust evidence of the negative effects of informal caregiving on caregivers' mental health and life satisfaction, but not on physical health. Regarding the heterogeneous effects, we found that caregiving had adverse effects on female caregivers' mental health and life satisfaction, but not male caregivers. Our results also showed that caregiving had greater effects on individuals with a higher socioeconomic status, living with their in-laws, and for those in younger groups. Our results indicated that social networks and leisure and social activities were important channels through which informal caregiving might negatively affect caregivers' health and well-being. This study provides suggestions that policy makers can use to mitigate the negative effects of caregiving with targeted interventions, while formulating policy to support informal caregivers.

## **WP4 papers - SES-inequality in care use and wellbeing in the Netherlands over time**

### **1. Socioeconomic inequality in long term care: A comparison of three time periods in the Netherlands. Jens Abbing, Bianca Suanet & Marjolein Broese van Groenou**

**Published as:** Abbing, J., Suanet, B., & Van Groenou, M. (2021). Socio-economic inequality in long-term care: A comparison of three time periods in the Netherlands. *Ageing and Society*, 1-21. doi:10.1017/S0144686X21000647

#### **Abstract**

As a result of the rapid ageing of societies, meeting the demands for long-term care has become increasingly difficult. In the Netherlands, informal care has been recognized as a key-element to compensate for cut-backs in formal care provision. Formal, informal and privately paid long-term care services, however, are not used equally across socioeconomic groups and whether these inequalities have been reduced or exacerbated over time has not been researched. This study aims at investigating to what extent educational and income inequalities in the use of formal, informal and privately paid care have changed over time. Data from the Longitudinal Aging Study Amsterdam (LASA) was used from three points in time: 1995 (N = 787), 2005 (N = 550) and 2015 (N = 473). Participants were between 75 and 85 years of age and living independently. The results showed that the use of formal, informal and privately paid care have decreased over time for all educational and income groups, but in particular for the higher socioeconomic groups. Socioeconomic differences in informal care use have increased over time, but differences in the use of privately paid or formal care remained the same. The findings suggest that governmental efforts to mobilize informal caregivers are outweighed by the trends towards less long-term care use and that inequalities in care use are maintained.

## **2. The role of long-term care and perceived care sufficiency for the wellbeing of Dutch older adults in the Netherlands: A comparison of 1998, 2008 and 2018. (Jens Abbing, Bianca Suanet, Marjolein Broese van Groenou)**

**Published as:** *Abbing, J., Suanet, B., & Broese Van Groenou, M. (2022). How does long-term care impact the psychological wellbeing of older adults in different care policy contexts in the Netherlands? A comparison of 1998, 2008 and 2018. Health and Social Care in the Community, 00, 1-11. <https://doi.org/10.1111/hsc.13719>*

**Abstract:** Receipt of long-term care (LTC) is generally associated with worse psychological wellbeing for community-dwelling older adults. In addition to objective features of care use (e.g. formal versus informal care), the subjective evaluation of care provision in terms of perceived sufficiency might be particularly predictive of one's wellbeing, but is seldomly considered in the literature. Substantial changes in the availability of long-term-care in past decades, raise the question to what extent this effect, if any, is consistent over time. The present study therefore aims at better understanding the association between types of LTC use and perceived care sufficiency on psychological wellbeing in a changing LTC context in the Netherlands. Data from the Longitudinal Aging Study Amsterdam (LASA) was used from three points in time: 1998 (N = 582), 2008 (N = 459) and 2018 (N = 415). Participants were between 75 and 85 years of age and living independently. The results show that, after adjusting for gender, age, education and health, using formal LTC had a negative effect on depressive symptoms only in 2018, but that perceived care sufficiency was consistently positively associated with depressive symptoms in all three points in time. These findings suggest that in the current less generous Dutch LTC system, psychological wellbeing among formal LTC users might suffer. Perceiving care provision as sufficient, however, can help older adults maintain psychological wellbeing and should be considered by researchers and policymakers that aim at improving care recipients' wellbeing.

## **3. Long-term care trajectories in times of retrenchment: The case of the Netherlands. Jens Abbing, Bianca Suanet, Marjolein Broese van Groenou**

**Submitted to The European Journal of Ageing**

### **Abstract**

The organization of long-term care (LTC) in the Netherlands has changed substantially as a result of the 2015 long-term care act. Consequently, those who need assistance are confronted with changes in the organization and availability of LTC provision. This might have led to instability in long-term care arrangements as they need to (re)arrange LTC according to their needs. Individuals with a lower socioeconomic status (SES) might be particularly affected as they use publicly paid care more often. The present study therefore identifies the types and stability of long-term care trajectories of Dutch older adults between 2012 and 2018 and investigates SES-differentials in these trajectories. Data from the Longitudinal Aging Study Amsterdam was used on LTC arrangements in 9-months intervals between 2015 and 2018, which were compared with the observation in 2012. In total, 600 participants were included in this study. Using sequence analysis, five distinct clusters of LTC trajectories could be identified that are characterized by the main use of one type of care:

no care, privately paid care, informal care, formal care and residential care, that were complemented by other types of care. These clusters were discussed with regards to characteristics of the trajectories (sources of care and stability) and individual characteristics (SES, partner status, physical and cognitive health). The findings indicate that informal care was seldomly used as a main-source of care, but rather complementarily or as a transition to formal or privately paid care. Higher SES-groups were more likely to follow privately paid care trajectories, while lower SES-groups were more likely to follow informal care or residential care trajectories. The latter was the most unstable trajectory where frequent transitions between LTC arrangements occurred. This suggests that lower SES-groups might be particularly disadvantaged due to their higher risk of following unstable LTC trajectories.

#### **4. Socio-economic inequality in care use by older adults: The role of macro level indicators of policy changes in the Netherlands**

**Jens Abbing, Bianca Suanet and Marjolein Broese van Groenou**

##### **Abstract (work in progress)**

Older adults from different socioeconomic status (SES) groups differ substantially in their use of long-term care (LTC). While privately paid care is used more among higher SES-groups, informal care and publicly paid formal care use is concentrated among those with a lower SES. These differences are to a large part explained by SES-differences in individual determinants, like health, preferences for care and the presence of potential informal caregivers. What is less known is to what extent long term changes in LTC policies characterizing familialization of the care regime (reducing the availability of publicly provided residential or home care), impact on SES-differences in care use. The aim of the study is twofold: 1) to what extent add macro-level indicators of (de)familialization to micro-level determinants in the explanation of SES-differences in care use, and 2) to what extent do these macro level indicators impact differently on the care use of older adults with higher and lower SES?. Data is used from eight waves of the Longitudinal Aging Study Amsterdam (LASA, 1992-2018). Dependent variables are use of informal (0,1), formal care (0,1) and privately paid care (0,1). Independent variables on the micro-level are health, mastery, living arrangement, children in the neighborhood and other potential caregivers in the social network. Macro-level indicators are the number of beds in residential care at all waves, and the budget spend on professional home care personnel. Analyses are in progress.

#### **WP5 papers - SES-inequality in care use and provision: issues of causality and eligibility**

**Should I care or should I work? The impact of working longer on informal care**  
**Ludovico Carrino, Vahe Nafilyan, Mauricio Avendano**

**Published as:** Carrino, L., Nafilyan, V. & Avendano, M. (2022). Should I Care or Should I Work? The Impact of Work on Informal Care. *Journal of Policy Analysis and Management*, 22457. <https://doi.org/10.1002/pam.22457>

This paper examines the impact of an increase in women's labour supply on informal caregiving in the years leading up to retirement, and how is it affected by multigenerational

care responsibilities. We exploit a unique reform in the UK that increased the female State Pension-age by up to 6 years. We use an instrumental variable approach to account for the endogeneity of labour supply, employing data from Understanding Society. We show that an increase in working time by 10 hours per week reduces the probability of providing intensive care outside the household by 1.3 percentage points. These effects are concentrated among women working in demanding jobs, and among women from the "sandwich" generation. For women with both grandchildren and at least one parent alive, increasing working-hours by 10 hours/week reduces the probability of providing parental care by 4 percentage points, an effect significantly larger than observed for women with parents alive but without grandchildren. We then estimate the intergenerational impacts of these changes on the receipt of informal care by older people. Using the English Longitudinal Study of Aging, we show that older people whose daughters became ineligible to claim their pension experienced a significant reduction in the amount care received, which was not compensated by other forms of informal or formal care. Our results provide evidence that increasing women's labour supply by raising the State Pension age reduces the supply of informal care provided by women and received by their older parents, which may reduce overall welfare.

## **2. Stop me from falling: The causal impact of public home-care on the wellbeing of older Europeans (Ludovico Carrino, Erica Reinhard, Mauricio Avendano)**

This study provides novel evidence on the causal effect of public home-care on users' psychological wellbeing and quality of life. We implement an instrumental variable approach that exploits the nonlinearity and heterogeneity of eligibility rules for public LTC in Europe. In order to receive public LTC support, older Europeans need to fulfil area-specific eligibility rules, which are a nonlinear aggregation of functional and cognitive health limitations. Moreover, rules differ substantially across countries and regions, so that two individuals with similar clinical profiles but different combinations of limitations or different area of residence may experience different eligibility for LTC. Using longitudinal data from the Survey of Health, Ageing & Retirement in Europe (SHARE, 2004-2017), we matched respondents' self-reported characteristics on relevant outcomes with the local prevailing LTC legislation in Belgium, France, Germany and Spain, where eligibility rules are unambiguous. We operationalise psychological wellbeing with the Euro-D depression scale, the R-UCLA Loneliness scale, and the CASP Quality-of-life scale. Our identification strategy uses an individual-level variable identifying respondents eligibility for public home-care as instrument for formal home-care use in a 2SLS model. This approach exploits the interaction between individual health characteristics and country-specific legislation for causal identification. While the probability of receiving care increases as health status worsens, LTC-eligibility is only triggered by country-specific combinations of health characteristics. Hence, controlling for health conditions and time-invariant regional fixed-effects, the eligibility instrument captures the exogenous increase in the probability of receiving care only due to the functional form of the local eligibility rule. Our instrument strongly predicts the probability of formal-care use, and is exogenous to psychological wellbeing, due to its legislation-based nature. Our results show that receiving formal home-care significantly reduces depressive symptom scores by 2.2 points (a large effect-size as measured with the Cohen *d*) and the risk-of-depression by 14 percentage points. The effect is accompanied by a 5.5 percentage-point reduction in the risk of perceived loneliness, and a 16 percentage point increase in the probability of reporting

higher than average quality of life CASP scores. Our results have important public policy implications. First, they suggest that the net effect of home-based LTC on psychological health and quality of life is positive and large. Second, they support calls for more inclusive eligibility criteria for home-based LTC and suggest that budget cuts to LTC services should factor in possible welfare losses for older people.

### **3. Do standard classifications still represent European welfare typologies? Novel evidence from studies on health and social care (Giovanni Bertin, Ludovico Carrino, Marta Pantalone)**

Published as: Carrino, L., Bertin, G., & Pantalone, M. (2021). *Do standard classifications still represent European Welfare typologies? Novel evidence from studies on health and social care. Social Science & Medicine, 281*, <https://doi.org/10.1016/j.socscimed.2021.114086>

While most comparative studies on welfare systems rely on the Three Worlds of Welfare (TWW) classification by Esping-Andersen as a benchmark, the representativeness of such taxonomy has been questioned due to the profound changes that have characterized welfare systems. A growing body of literature has favored the analysis of welfare typologies limited to sub-areas of welfare provision, as opposed to considering several policy areas at once (welfare state as-a-whole), in response to the concern that welfare services do not necessarily share a common rationale across policy areas. Still, there is little evidence on the extent to which such policy-specific welfare typologies are (i) consistent with the standard welfare classifications (the TWW); and (ii) consistent across policy areas. In this paper, we perform a meta-analysis of 22 studies which identified welfare typologies in Europe focusing on economically relevant areas such as healthcare and social care policies. We build a novel index of “welfare similarity” to measure the extent to which welfare systems have been grouped together in previous studies, separately for both policy areas. Our findings are twofold: on the one hand, we highlight the coexistence and overlap of multiple regimes in both healthcare and social care policies, which results in a hybridization of the original TWW classification. On the other hand, we find that countries classifications are substantially different between healthcare and social care policies, which provides evidence for the lack of coherence of welfare provision rationales across policy areas. Our results are important for both the academic and policy debate. They suggest that classifications of welfare systems should enhance their focus on the developments in policy-specific welfare areas, which are not necessarily in line with standard classifications. Hence, comparative analysis focusing on policy-specific welfare typologies may prove more informative to policymakers than general classification of the welfare state as-a-whole.

### **4. The future of Long Term Care in Europe. An investigation on LTC eligibility rules and costs using a dynamic microsimulation model (Federico Belotti, Ludovico Carrino, Andrea Piano Mortari).**

In this paper we investigate the evolution of public European LTC systems in the forthcoming decades, using the Europe Future Elderly Model (EuFEM), a dynamic microsimulation model which projects the health and socio-economic characteristics of the 50+ population of ten European countries, augmented with the explicit modelling of the eligibility rules of 5 countries. The use of SHARE data allows to have a better understanding of the trends in the demand for LTC differentiated by age groups, gender, and other demographic and social

characteristics in order to better assess the distributional effects. We estimate the future potential coverage (or gap of coverage) of each national/regional public home-care system, and their potential costs. We then disentangle the differences between countries in a population and a regulation effects. Our analysis offers new insights on how would the demand and costs for LTC evolve over time, what would the distributional effects of different LTC policies be if no action is taken, and what could be potential impact of alternative care policies.

## **5. Trends in admission to residential care in the Netherlands: a comparison of 2006-2009 and 2016-2019.**

**Ludovico Carrino, Marjolein Broese Van Groenou, Dorly Deeg**

*\* collaboration between WP5 and WP4*

The LTC reform of 2015 in the Netherlands changed the legal arrangements for long term care considerably. In particular, the AWBZ was abolished and the Long Term Care Act (Wlz) was introduced to arrange the access to residential care (24/7 care). In addition, the Health care Act (ZvW) organized the eligibility for home care paid by insurers. The Social Support Act (Wmo) was extended to more services paid and allocated by the local municipality. This paper aims to understand the consequences of the Wlz compared to the AWBZ. In the Wlz the allocation of residential care remained organized at the national level, but the eligibility criteria had changed considerably: only those who needed 24/7 hours of care were now allowed to enter a nursing home compared to a need for care for at least three days per week under the AWBZ. The current paper aims to examine whether the changes in eligibility for residential care is visible in the health and social profiles of those entering residential care. This can be done by comparing those who entered residential care in 2016-2019 (after the reform) with those who entered residential care in 2006-2009 (before the reform). A paper by Alders, Comijs & Deeg (2017) already compared residential care uptake in two earlier periods (1996-2009 and 2006-2009), and showed that a lower proportion entered residential care in the later period, and that their health condition was more severe compared to the earlier period. We expect that both findings (lower % of residential care, and more severe health problems) will be even more the case in the comparison of 2006-2009 with 2016-2019. We extend the paper by Alders in two ways: first, we study the residential uptake before and after a considerable reform of the eligibility criteria, and second, we aim to understand whether social profiles and the receipt of formal care at home delayed access to residential care more often after 2015, as the 2015 reform intended to let people stay at home for a longer period of time with more informal and formal care. Preliminary results show that there is not effect of 'year' on the uptake of residential care (comparing 2006-2009 with 2016-2018), and there is no significant interaction effect of year and most of the determinants of residential care. Only the effects of having a partner and use of formal care seem to have been changed a bit, suggesting that having partner care and/or formal home care decreased the likelihood of residential care to a larger extent in recent years compared to earlier.

## **6. The Impact of contracting formal care benefits on informal care provision and caregiver well-being: evidence from Japan (Rong Fu, Dung Le and Yoko Ibuka)**

*\*Collaboration between WP5 and WP3*

### **Summary**

The rapid demographic transition has resulted in an ever-increasing demand for both formal and informal long-term care. This study investigated how changes in formal care availability affect informal caregiver well-being, which adds to the heated discussion on what constitutes an appropriate level of formal care that is both sustainable and adequate. We leveraged a reform of Japan's public long-term care insurance in 2006, which contracted formal care benefits among a group of recipients. By applying a difference-in-difference approach with fixed effects to a nationally representative sample of informal caregivers, we found that informal caregivers took on care duties when formal care benefits were reduced, which was detrimental to their well-being. The negative impact on well-being was reflected in decreased mobility and stability, as well as increased stress from financial strains and domestic work. We also found that the impact of contracting formal care was not always detrimental. Caregivers who are female, working, or low-income are particularly vulnerable to the negative effects of a lack of formal care, whereas male and non-working caregivers benefit from it in terms of reduced stress levels. The results suggest that policymakers should consider the diverse well-being impact of providing informal care for future reforms on long-term care systems.