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## **Patterns of Social Care Provision in England**

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# PATTERNS OF SOCIAL CARE PROVISION IN ENGLAND

## 1. Introduction

### 1.1. Overview

Mirroring similar processes in other developed countries, the United Kingdom in general - and England in particular- have gone through two key demographic processes over the last decades, which are still in process and which are behind the ageing of the population: the extension of longevity and the reduction in the natality rate (Dunnell, 2008; Matheson, 2009).

This process of population ageing, even though is taking place alongside improvements in the mean healthy life expectancy (Gu et al, 2014; PHE, 2018), carries with it an increase in the number and the proportion of older adults in need of long-term social care, especially due to the fact that the age group experiencing the highest increase is that of people over 85 years of age (Rutherford, 2012). This phenomenon is also taking place in other advanced countries such as Spain (Gómez-Redondo et al., 2014).

In parallel, three other socio-demographic processes have led to an increase in the demand for homecare services, provided either by state-funded organisations or private businesses:

- The reduction in the average household size and, in particular, the increase in the number of older adults who live alone. These two processes have increased the likelihood that, for a given level of care needs, more older people are admitted to residential and nursing care facilities compared to those who do not live on their own. Furthermore, there is a reduced probability that older people with co-habiting adult children are admitted into residential and nursing care facilities and a higher probability that they may receive care services at home compared to those without co-habiting adult children (Bond, 1992; Evandrou et al, 2001; Vlachantoni et al, 2015).
- The increase in female labour force participation. This process is inversely associated with the availability of formal care workers for older people with care needs. It is

worth noting that this relationship works both ways: on the one hand, all other things constant, the hike in the female labour supply reduces the supply of informal care workers (who, in the vast majority, are women) and, at the same time, the necessity to take up informal caregiving responsibilities reduces female labour market participation.

McCann et al (2011) concluded that, once the intensity in informal care is controlled, it is more likely that middle-aged women with non-cohabiting older relatives in need of care services reduce their labour market participation compared to middle-aged women without informal caregiving responsibilities, for the same education level and marital status.

Besides, regarding male labour market participation, Drinkwater (2015) has observed, using data from Wales, that the causality runs, predominantly, in one direction: the provision of informal caregiving services by men to older relatives is considered a 'last resource' and brings about not necessarily a reduction in the number of hours worked but an exit from the labour market altogether of those men who assume informal caregiving responsibilities.

- The increase in the intensity of migration flows, both internal and international. This process brings along structural changes in social networks and in the supply of informal carers (Burholt, 2018; Hussein, 2018; Ranci, 2019). These changes are usually linked to mobility patterns in ages younger than old age (Puga González, 2001). On the one hand, England has witnessed a positive net flow of formal care workers migration, which has contributed to meet the increasing demand for this type of services (Cangiano and Shutes, 2010; Hussein et al., 2011; Shutes and Chiatti, 2012). However, certain cultural criteria to the interior of given immigrant social groups -such as the reluctance to ask for help outside their innermost family circle among older people with South Asian background (Katbamna et al, 2004; Merrel et al, 2005) or the language barriers which become steeper after the onset of Alzheimer's among older adults whose first language is not English (Adebayo et al, 2019; Martin et al, 2019; Sun et al, 2019)- have added layers of complexity to and created new challenges in the adult care system in England. Concomitantly, internal

migration flows can also significantly affect the provision of informal caregiving services. Internal migration patterns of adults are associated to transitions along the life course. With regards to older adults, the main determinants of these patterns are retirement, that children leave home, the onset or deepening of disability and caregiving needs, and widowhood (Warnes, 1996; Litwak and Longino, 1987; Bailey et al, 2004; Warnes and Williams, 2006; Uren and Goldring, 2007; Evandrou et al, 2010; Lomax and Stillwell, 2017).

When it comes to long-term caregiving services, those older adults with care needs who move closer to their adult children would have a greater probability of receiving informal care services compared to those who remain geographically distant from their adult children. This could explain that, among younger adults, health problems and long-term disabilities are associated with a reduced probability of internally migrating -what Cox et al (2007) termed 'selective immobility'- whereas the opposite happens among older adults (Wilding et al, 2016).

On the other hand, there exists a growing flow of internal migration of older people in the United Kingdom that is not the result of the presence or the onset of care needs, but of 'lifestyle' decisions and individualist cultural trends (Tyrrell and Kraftl, 2012). These internal migration patterns may negatively affect the provision of social care services in case of an increase in disability and care needs. In the annex, I present some empirical evidence on the internal migration flows among people older than 65 years of age within the United Kingdom, which updates to 2017/18 the existing literature that has only studied these processes up to 2011 (Champion and Shuttleworth, 2017).

Any economic crisis leaves scars in the demographic processes (Castro Martín et al., 2016), including the process of population ageing, and in locally provided public services (Sullivan, 2010). The financial crisis of 2007 has deepened the process of the curtailing of public services and the reduction of public spending which began in the late '70s (Mishra, 1990; Starke, 2006), even in areas of expenditure that have seen increasing demand such as adult social care services.

Many authors have linked the contraction in the public funds allocated to social programmes to the recent deterioration in health and disability indicators in England (Giovanella and Stegmüller, 2014; Watkins et al, 2017; Hiam et al, 2018a y 2018b) –the so-called ‘austerity hypothesis’ (Stuckler and Basu, 2013; Demakakos, 2019). At the same time, the financial crisis has brought about a reduction of the budgets to the interior of the households, with repercussions in how formal care services are provided and funded (Appleyard, 2012; Searle and McCollum, 2014; Overton and O’Mahony, 2017), and in the participation in the labour market of close family members of older adults with social care needs (Heitmueller, 2007; Leigh, 2010).

The financial crisis could have effected, in the British labour market, an increase in the availability of informal caregivers with the family networks of older adults, had it led to an increase in unemployment figures. However, the crisis provoked a countercyclical increase in labour market participation, monthly via an increase in the proportion of full-time workers in the workforce (i.e. it led to many part-time workers to shift to full-time work), accompanied by an extension of the effective average retirement age (Berry et al, 2015; Coulter, 2016). In addition, the labour market participation among people aged between 50 and 64 years increased linearly, continuing a secular trend, whilst the crisis contributed to plateauing the labour supply among young people aged 18-24, thus bringing to an end a fall that had taken place for over a decade (Berry et al, op. cit., Table 5).

This dissertation focuses upon one country, England. Comparative studies across countries do serve as guides to add to existing knowledge and provide insight of various social topics, especially when different societies are confronted and compared. For example, in the context of informal caregiving of older adults with care needs, Herlofson and Brandt (2019) studied the care services provided by grandparents to their own parents in fourteen European countries. These authors concluded that the welfare state regime in place in a country significantly influences on the probability that grandparents may provide care services to their parents, and that the welfare regime effect is more pronounced among grandmothers than grandfathers. Similarly, Puga Gonzalez et al. (2007) have found in three quite distinct countries (Costa Rica, Spain, and England), equally distinct models of family

networks, but these authors have also highlighted that certain factors have a similar positive effect on health conditions in old age -for example, co-habitation and frequency of social contacts between family members-, and that these factors operate independently from the country and the prevailing configuration of family networks. Without comparative studies such as these, these findings could never have been brought to light. Nevertheless, there are a number of semantic aspects, in particular around the polysemic concept of 'care', that mean that the terminology used in other European languages to refer to social care is not altogether equivalent, which introduces difficulties in international comparative approaches to social care and care needs (Durán, 2016). On another hand, concerning the links between public expenditure and the satisfaction of social care needs -and despite similar trends in the demand for long-term care services across most developed countries-, it is crucial to consider how the social care regime and system is organised to the interior of each country, along with relevant cultural traits, institutional processes and mechanisms, and the social roles assigned to and adopted by the various social actors, as well as the imbrication of the adult social care system with the labour markets and the healthcare system, so as to better understand the current situation and make evidence-based recommendations that help design better social care policies. This is also crucial to avoid what is known as the 'epistemologies of ignorance' (Sullivan and Tuana, 2007; Bowleg et al, 2017 -see also, Whitfield et al, 2008, and Willis, 2012). All this reinforces the importance to delve deeper into each particular country, as a case study in its own, without reducing the importance of comparative approaches.

I have chosen England as a case study because this country has been a pioneer in the introduction of ideas and practices developed to the interior of private markets into the provision of a service such as adult social care, which has been traditionally the remit of the state. In addition, using the terminology developed in the welfare state literature, England is an example of an Anglo-Saxon model, liberal or residual (Esping-Andersen, 1990), but with its own characteristics (e.g. the centralisation of policy decisions alongside the decentralisation of responsibility for providing the services; high level of regulation; etc.), which are distinguishing features compared to other countries within this same type of



welfare state category such as Australia, Ireland or the United States of America (Vrooman, 2013; Klenk and Pavolini, 2015). Moreover, this country has experienced various and continuous changes to the interior of its institutional milieu, financial framework, and legal and regulatory systems (Joshua, 2017; Amin-Smith et al, 2018; Burchardt et al., 2018; Moriarty et al, 2019). These characteristics make it possible that the analysis of the recent evolution of adult care social services in England may provide an excellent opportunity to generate and test hypotheses in connection with the relationship between service provision and delivery, public funding, socio-demographic changes, and the satisfaction of caregiving needs among older adults. On a different note, demographic projections in general and those of older adults with social care needs in the United Kingdom suggest that there will be a contraction in the supply of younger caregivers and an increase in the supply of older caregivers (Age UK, 2019) -a process that has also been found in the Spanish context (Fernández-Carro et al., 2019).

In short, in the context of a deepening of the demand for domiciliary care services among older adults and of a reduction in public and household spending, the general objective of this dissertation is to add to the knowledge of the impact of changes in public monies allocated to adult social care on the level of satisfaction of needs in later life, the implications for family members in their capacity of informal caregivers and the surcharge in the activity of healthcare facilities given the implications on the delayed discharges of patients from hospitals.

This general objective is broken down into the following specific objectives:

- To assess the impact of cuts in public budget allocations for publicly funded adult social care services upon the satisfaction of social care needs in later life
- To contribute to the existing knowledge of the dynamics between the provision of formal and informal adult care services and the changes in the social roles among family members insofar as their capacity of providers of informal care services to older adults

- To explore the impact that the uptake of informal caregiving responsibilities has had on the labour market participation of informal caregivers
- To analyse the impact that budgetary reductions in the adult social care funding upon the delays in discharges from hospitals of older patients who could return to their homes or residences to receive non-medical social care services, both formal and informal

### **1.2. Hypotheses and research questions**

In the second chapter, I look into the hypothesis that a contraction in the public budget items allocated to adult social care is statistically associated with an increase in unmet social care needs among older adults. The objective is, firstly, either to validate or refute the hypothesis, and if it cannot be statistically rejected, to quantify the monetary impact of a reduction in public spending. In other words, the chapter seeks to study the austerity hypothesis in the context of the English social care system.

The third chapter looks into the empirical validity of the hypothesis of substitution, complementarity, compensation and specificity in the provision of formal and informal care services to older adults. The chapter seeks statistically to test the empirical validity of each of these conjectures. Once the hypothesis that best explains or fits the results, the second objective is to understand the implications to the interior of households with older members with care needs. In this regard, the chapter studies the hypothesis that there exists a complex relationship between formal (i.e. paid) providers of domiciliary care services -funded directly by older adults with care needs, their families, or the state- and informal carers, which have to do with gender issues in the context of a care services provider-receiver relationship and with the type of service that is provided.

The fourth chapter deals with two hypothesis which are connected to the relationship between informal care services of older adults and the labour market participation of their informal carers. In particular, the chapter explores whether workers in paid employment who take up informal caregiving responsibilities continue working although for a reduced

number of hours or whether they quit the labour market altogether. The objective of this chapter is to establish, firstly, whether there exists a deleterious effect on the labour market participation of informal carers and, if so, to determine whether it manifests as a reduction in the number of hours or in the labour supply itself. The chapter propounds the hypothesis that the combination of an increase in the social long-term care needs of older adults and the reduction in public funding allocated to adult care services result in a reduction in the labour supply of family members who have to take up informal caregiving responsibilities.

The fifth chapter presents a piece of research into a possible determinant of delayed transfers from hospitals of older patients who have been discharged but have unduly to stay due to problems within the adult social care system related to cutbacks in adult care public spending. The main hypothesis in this chapter is that these delays -which the academic literature has indicated are positively associated with the prevalence rates of clinical depression (Jasinarachchi et al, 2009; Rojas-García et al, 2018) and the prevalence of difficulties with performing daily activities (Kojima et al. 2012; Rojas-García et al, op. Cit.), and even with mortality rates (Green et al., 2017) among older adults- are significantly associated with the levels of public funding allocated to the provision of adult social care services.

The sixth chapter brings together the global conclusion of this dissertation and the conclusions of each individual chapter, whereas the seventh chapter describes the scientific contributions directly derived from this dissertation known to me up to the day of submittance.

In order to complete the introductory framework to the dissertation, in the following section I describe the theoretical frameworks within which each of the different hypotheses set out above as well as the objectives per chapter are inscribed and by which they are supported. After this, a review of the literature on each of the topics to be explored is presented.

### **1.3. Theoretical frameworks and literature review**

#### **1.3.1. Theoretical frameworks**

The neoliberal restructuring of the state and public spending both in advanced and developing countries led by what is known as the Washington consensus has been deepened since the financial crisis in 2007. This process has brought about, among many other structural changes, a contraction and restriction of the volume of social services delivered by publicly funded means (Mishra, 1990).

These changes depend, mostly, upon the model of welfare state in place and the level of economic development in each country as well as upon institutional features of their respective labour markets and the roles of social agents with regards to the supply and delivery of public services (Giovanella and Stegmüller, 2014). For example, and unlike Spain, the United Kingdom presents a liberal capital regime (Spain, in turn, would go through a transitional phase from a mixed market economy towards a similar regime as that of the United Kingdom). According to Giovanella and Stegmüller (op. cit.), these structural and institutional differences can explain the different effects and the varied public policy responses that the financial crisis has brought about to the health and adult social care systems in each of these countries. Therefore, whilst Spain has experienced drastic public funding cuts which have led to increases in co-payment and reductions and exclusions of levels of coverage, England has gone through a seismic reorganisation of the health and social care systems as a result of which private providers and increasing co-funding by families have taken a more prominent role as before.

Filippon et al (2016) have indicated likewise, and distinguished three stages in the restructuring of the health care system in England over the last decades. The current phase - starting in 2005- would be characterised by an increase in the opening to private markets, the fragmentation and discontinuity of services, territorial fragility, and greater restrictions to access to services.

In the United Kingdom, the adult social care system has traditionally been considered the 'little brother' of the healthcare system. This unbalance responds to both institutional and sociological considerations. From the institutional point of view, the adult social care system presents a territorial and administrative decentralisation in favour of local councils (i.e. municipalities), whereas the delivery of health care services is responsibility of the central (i.e. national) government (Roberts, 2001; Hunter, 2003; Heenan et al, 2006). In addition to this institutional difference, the medical professions enjoy a greater social prestige compared to formal, professional social carers -a sociological trait widely studied in the literature of sociology of professions (Lymbery, 2006): social care, especially of older adults, would correspond to a 'semi-profession' according to the classification proposed by Etzioni (1969) -see also Lymbery (1998) and Hudson (2002). Domiciliary and institutional adult social care has been undervalued and has lacked the same level of social prestige as, for example, the provision of healthcare services -even though a clear-cut distinction between both services may not be always made. This lower social value and recognition carries with it a reduction in the relative allocation of public funds and a lower relative remuneration of formal social carers compared to those in the medical professions.

Cutbacks in public expenditure and budgets as a result of substantial changes in the composition and nature of the state, have created quasi-markets (Hudson, 1992; Ferlie, 1994). In addition, public policies are based on social expectations that the various spheres that make up the social capital of older adults with social care needs take up increasingly new and augmented roles, including volunteering, participation in formal labour markets, and the looking after of children and older adults (Ashida and Heaney, 2008; Bowling, 1991; Choi et al, 2007). These changes have led to two, interrelated consequences: the increase of private sector providers in the formal adult social care markets -both domiciliary and residential- and the modification of the roles and responsibilities socially ascribed to the family and the community when it comes to caregiving of older adults with care needs. This dissertation is framed within the academic debate about whether these sociological and economic changes add to the demographic transitions in place in developed countries -both with respect to their population structure and to the interior of households- to create

greater pressure in families for the provision of services to older members of the household with social care needs as well as greater unmet care needs among those older adults with long-term care needs.

Another theoretical framework related to the research in this dissertation is the articulation between social disadvantage and long-term care needs in later life. Even though old age usually brings about a reduction in the social position of individuals in advanced societies, other elements of social status -particularly, economic or financial capital- may compensate for this loss. Therefore, the social disadvantage is a double whammy for older people with modest financial means. On the other hand, older adults on low incomes or with limited resources (including those who *perceive* they have few resources irrespective of their actual relative level of resources) evidence a higher probability of needing social care services and of greater complexity than those older adults with greater actual or perceived financial means (Matthews et al., 2005; Shippee et al, 2012). The second chapter of this dissertation explores a hypothesis closely linked to these topics: whether the impact of public budget reductions in adult social care services is associated with an increase in unmet social care needs among older adults on low incomes and reduced financial means.

The theoretical framework of the third chapter embraces the distinction between formal and informal care. This distinction is based on an epistemological stance that has originated in the sociology of social care literature, and of informal social care in particular, which links the type of care service with ways of intimacy and support. According to this approach, informal caregivers share with the older adults they care for levels and ways of intimacy that do not exist between formal caregivers and the older adults they look after (Adelman et al, 1098; Krause, 1990; Roseneil and Budgeon, 2004; Fine and Davidson, 2018). This dissertation takes into account a central element of this theoretical approach: that with greater levels of intimacy between caregiver and the older recipient of care services, the perception of the care services by both parties -but especially by the caregivers- as work or a task diminishes, because the care services are increasingly construed as part and parcel of an intimacy relationship that bonds caregiver and recipient together: “before” I used to make breakfast; “now” I help my husband have it (Sterneck, 1990; Kunkel et al., 2003).

Hence, the third chapter distinguishes between types of informal carers, as the intimacy relationships differ according to the type of family relationship and even more in case of friends or neighbours.

Social care activities are socially identified as primordially “feminine” (Phillips, 2002; Durán, 2014; Díaz Jiménez, 2007; Aristegui Fradua et al, 2018). The feminisation of social roles is a branch of the sociology that particularly looks into the configurations to the interior of formal labour markets, but that transcends this sphere encompassing daily tasks to the interior of households, groups, and institutions (Cooke-Reynolds and Zukewich, 2004; Carrasquer Oto, 2013). The feminisation of health and social care activities has a long pedigree in the academic literature (Torns, 2008; Irvine, 2013), but with regards to informal caregiving, the third chapter in this dissertation considers, in particular, and given the added presence of the intimacy dimension between the provider and the recipient of the services, whether certain dyads such as, for example, father-son or mother-daughter are more frequent than, for instance, father-daughter or mother-son. In other words, the chapter explores the question as to whether there are conflicts between the feminisation of care services on the one hand and aspects related to intimacy and sexual taboos. On the other hand, the responsibility for providing informal care services to older members of the household, which, according to Durán has given way to the birth of a nascent social class - the ‘caretoriat’ -or ‘cuidatoriado’ in Spanish; Durán (2018a)-, takes up time out of the hands of the providers of services, and both time use and the tensions that the uptake of care responsibilities brings about have been subject to theoretical analysis (Merrill, 1996 and 1997; Arora and Wolf, 2018; Durán, 2018b; Carrino et al, 2019). Within this theoretical framework, becoming an informal carer would reduce leisure time and, among those individuals who turn into carers whilst they are in paid employment, it would reduce either labour supply in the shape of a fewer number of hours worked or labour market participation altogether. Either way, it would clash with other personal or lifestyle projects such as retirement saving, financial support or help to adult children, and so on. These conflicts and negative impacts become more acute as we take into account the phase in the life course these social care responsibilities arise.

With regards to the dynamic relationships between the provision of formal and informal care services, the academic literature has developed five alternative models or approaches: the substitution model, the compensation model, the complementarity model, the specific tasks model, and the convoy model (Jiménez-Martín and Villaplana-Prieto, 2012; Kemp et al., 2013). Briefly, each model is described below.

- The substitution model postulates that the formal and informal sources of services compete between one another and that the eventual composition of the mix of service provision is defined by the relative costs between each type of service. To the interior of the households, this model at the same time forecasts that care services of, for example, sons and daughters would be perfect substitutes.
- The compensation model also postulates the presence of levels of substitution between the formal and informal sources, but establishes a hierarchical order of preferences, according to which informal care services -especially provided by a member of the family- would take precedence over formal care services, which would be tapped into as a last resort in case of needs *a posteriori*.
- The complementarity model combines the two previous approaches inasmuch as it postulates the presence of substitution effects but with the qualification that families would only seek formal sources of care services in case of burnout or the need to provide particular types of care services to their older members in need of receiving care.
- This last point is propounded by the task specificity model, as it postulates the existence of complementarity but irrespective of the sources of care service delivery: it proposes an “each one to what it belongs to them” approach.
- The convoy model propounds that the dynamic relationship between formal and informal care services and the changes in the mix or composition of carers depend on changes to the interior of the support networks of older adults, the society, the community, the state, and the care services industry.

Consequently, except for the substitution model, from which a concrete hypothesis about the relationship between the provision of caregiving services by different members of a



household to elderly members with care needs can be derived, the other models and approaches are agnostic in terms of the intra-household dynamics of care services provision and delivery. In the third chapter of this dissertation, I study the hypothesis of complementarity, substitution, compensation, specificity of tasks, and convoy/networks in relation to the provision of care services with particular emphasis on the changes in informal caregiver roles within households. An understanding and a quantitative estimate of which kind of dynamic relationship prevails within the English institutional context is of paramount importance to better design policies that foster the labour participation of older workers, given -on the one hand- the delay in the effective average retirement age and -on the other- the contraction in public spending on adult social care services -two traits that are also present in other developed countries.

In relation to taking on informal caregiving responsibilities, other theoretical frameworks worth mentioning include the theory of social identity (Turner and Reynolds, 2010) and the theory of social roles (Eagly and Wood, 2012). Besides, the sociological literature on social care sees care as a process associated with the ups and downs (more generally the latter) within the presence of limitations and disability of older people in need of receipt of care services, which lead to changes over time in the type of care services being provided and therefore in the required skills and effort necessary to deliver them (Pavalko and Woodbury 2000; Montgomery et al., 2007). The third chapter, even though it does not explore these changes, does assess the differential impact of the level of care needs upon which the different skills and effort required depend.

A strand of academic literature has developed in tandem to that described above, which identifies several factors that would make it more likely for adult children to provide social care services to their elderly parents: in case of adult daughters, affection; in case of adult sons, a sense of filial obligation, questions related to bequests, and frequency of contact (Silverstein, Parrot, and Bengston, 1995). The third chapter does not look into these hypotheses but points out that these motives may give way either to complementary or substitutive behaviour. Certain caregiving tasks require a level of intimacy that make it more likely that the services are provided by a partner, whilst other tasks demand such a physical

effort that it is more likely that men tend to deliver them. These conjectures would support the explanations that favour the importance of the specific characteristics of the care activities delivered to understand the specialisation or division of labour between partners, and adult sons and daughters. In this sense, both compensatory and complementary mechanisms could be accommodated within the informal sources of care services insofar as partners would be to, say, adult daughters and the latter to adult sons, and so on, or as adult daughters might step in when the partner of an elderly member of the household in need of care cannot provide enough care services (Stoller and Earl, 1983).

The fourth chapter of this dissertation is inscribed within a branch of the sociological literature on social care that focuses upon the contraction or the stress of caregivers given the opposing trends mentioned above (Pavalko, 2001; Rubin and White-Means, 2009): on the one hand, the increasing demand for care services that results from larger birth cohorts that cut across the advanced ages when the risks of fragility and disability are greater, and, on the other hand, the reduction in the pool of caregivers, given a number of socio-demographic changes such as the reduction in autonomy, the increase in the female labour market participation, and the expanding geographical distance between places of abode of members of a same family due to internal and international migration.

The expansion in the demand for adult care services may result from a combination between the increase in the number of older people with care needs and the expansion in morbidity, which comes about if longevity increases over and above the additional number of years of healthy life. In England, this positive shift in the demand for adult care services stems principally from the greater proportion of adults older than 85 years of age in total population than from an increase in the burden associated with infirmities in later life. In England, the population aged 65 years or older has been projected to reach 14.9 million in 2040, up from 9.7 million in 2015, whilst the population in that age bracket with at least one care need is expected to increase from 17 per cent (i.e. 1.7 million) to 20 per cent (3 million) over the same period (Wittenberg et al, 2018). Besides, medical conditions associated with advanced age represent 48.7 per cent of the total burden of disease after age standardisation (Chang et al., 2019), which places the country in the 37<sup>th</sup> place worldwide

(Spain, for instance, occupies the 7<sup>th</sup> place). However, some more recent projections point to the presence of an expansion of morbidity in England (Kingston et al., 2018).

Consequently, it may result in one of the drivers of social care service demand in the future. It is worth noting that even though an increase in morbidity does not necessarily imply that fragility or dependence should go up and that therefore it does not follow a one-to-one relationship with an increase in the burden of care because the demand for care services is also derived from the structure of the family, the severity of disability, the presence of multi-morbidity, and the underlying medical conditions that bring about the morbidity and determine its evolution and duration (Soldo and Manton, 1985), the presence of morbidity is one of the significant factors behind the risk of needing care (Pritchard, 2013).

The new family configurations, particularly in later life, have repercussions for the supply of informal caregivers, especially within the households -the main source of informal care services. Official projections of the number of households by family type in England indicate that there will be a substantial increase in the number and proportion of older adults living alone -either due to singlehood, widowhood, divorce, or separation (GAD, 2017). These demographic changes impact on the size of social networks, particularly of those with greater levels of intimacy, and therefore in the pool of potential informal caregivers (Gostoli and Silverman, 2019). Moreover, the existence of social networks does perform a protective role against the prevalence and incidence of disability and provides emotional support in later life (Escobar-Bravo et al., 2012).

Furthermore, the increase in the geographical distance of abode between generations resulting from internal migratory trends is an indicator of the availability of adult children as informal caregivers for their older fathers (Charles and Sevak, 2005; Bonsang, 2009; Masuy, 2011; Broese van Groenou and De Boer, 2016).

This theoretical stance is framed within the social theory of roles, and impinges especially upon the scarcity hypothesis, which purports that the like of time adequately to perform the roles of worker and caregiver brings about conflict and stress (Goode, 1960; Mui, 1992). A branch of this literature links these countervailing forces with the increasing levels of stress among caregivers and a widening discrepancy between the nature of tasks involved in the

provision of care services and the social identity and social role of the carer, along with tensions between these social roles (Montgomery and Kosloski, 2009) especially among women (Wakabayashi and Donato, 2005).

The economics of labour literature has highlighted the need to consider the decision to be in paid employment and provide informal, unpaid care services as interrelated. This conceptualisation only started by the mid '90s. Until then, the prevailing view was to suppose that both classes of activities were independent from each other (Chang and White-Means, 1995). Consequently, the fourth chapter in this dissertation analyses the impact of assuming informal care responsibilities on behalf of older adults. In particular, it investigates what in economics of labour is known as the 'extensive margin' (that is, the decision to work in paid employment or not) as what is known as the 'intensive margin' (that is, a change in the number of hours in paid employment whilst remaining in the labour market) (Bauer and Sousa-Poza, 2015). The fourth chapter investigates how the tension between providing unpaid informal care services to older adults with care needs and working in paid employment is resolved. Within this context, the chapter presents a test of the hypothesis that the assumption of greater caregiving responsibilities brings about negative impacts on the labour market participation among informal carers.

The fifth chapter explores an empirical question of current great political and mediatic importance in England (Tipping and Akpan New, 2020; Grist and Jennings, 2020) and other developed countries (Polivka and Luo, 2020): namely, the delays in discharges or transfers from hospitals of elderly patients due to bottlenecks in the adult social care system. The modern health and the adult social care systems in England started with the so-called Beveridge report (Beveridge, 1942), which established the basis of the post-war British welfare state. The institutional nature of the provision of both services led to the concept of "British exceptionalism". Baldock (2003, p. 109) highlights the following characteristics that distinguish how adult social care services are delivered in England compared to other European countries: inconsistent selectivity regarding needs, social and geographical inequality, administrative disorganisation, and proclivity to chronic failure and crises. As a result such administrative disorganisation, the delays in transfers of older patients who are

discharged from hospital to their homes or residences has become a pressing problem in England. Even though it is not exclusively an English problem: the Organisation for Economic Cooperation and Development (OECD) compiled comparable data for England, Denmark and Norway. The conclusion of the report is that the English case is the most pressing of the three (with 32 days per 1,000 inhabitants in 2015 against 12.6 days per 1,000 inhabitants in Norway and 7.1 days per inhabitant in Denmark<sup>1</sup>) (OECD, 2016, Figure 5.7). According to the OECD, the main reason for the delays in England is the increase in people having to wait for social services, “which have seen significant funding reductions” (p. 204).

### **1.3.2. Literature review**

The second chapter considers the question of the impact of public adult social care funding on the levels of unmet needs among older adults. Vlachantoni et al. (2011) propose this conjecture, but they left it open without investigating its empirical validity. Dunatchik et al. (2016) reported that in England, 58 per cent of older people with social care needs have some level of unmet needs, but do not attempt to relate this estimate with trends in public spending. An earlier study (Forder, 2007) estimated that around 5.5 per cent of the population over 65 years old in England presented unmet social care needs and predicted that the proportion would rise if public spending in adult social care services was reduced or eligibility criteria were made more restrictive. Both processes -the contraction in public funding and the increasing stringency in eligibility to adult social care services- have taken place along the last decade. For example, Innes and Tetlow (2015) conclude that between 2009/10 and 2014/15, per capita public spending by local councils went down by 23.4 per cent in real terms and that spending in adult social care went down by 16.7 per cent over the same period. Moreover, Fernández et al. (2013) observed that the contraction in public spending was more acute in services mainly destined to serve older adults. However, none

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<sup>1</sup> The figure for Denmark corresponds to 2014.

of these studies have attempted to empirically establish the relationship between public spending and unmet social care needs among older adults.

Similarly, NAO (2014a) found that around the 74 per cent in local council public spending between 2010-11 and 2012-13 brought about reductions in the volume of adult social care services delivered, whilst Fernández et al (2013) observed that most contractions in services for older adults took place among those living in the community (i.e. at their homes) compared to those in residential or nursing homes. In addition, Age UK (2014) estimated that 1,004,000 people aged 65 or over in England had unmet social care needs (approximately, 10.3 per cent of all people in this age cohort), and I estimated that around 91,000 of them experienced difficulties to deliver three or more activities of daily life (Iparraguirre, 2015).

The third chapter of this dissertation deals with a question of which little is known: the dynamic relationship between the different sources of formal and informal care of older adults living in the community in England. The academic literature has studied, both theoretically and empirically, whether the opportunity costs, the burnout, or other factors influence the decision by adult family members to provide caregiving services to their elderly parents or other elderly relatives with care needs. However, most of this branch of the literature only considers the service delivery by one adult member -for example, an adult son or daughter- without taking into account the role of the presence of, say, any siblings on their decisions. Another important aspect is whether care providers and recipients live in the same house, and whether the expected social roles of carers who co-habit with the older relatives they provide care services to -i.e. the expected nature of the tasks they are to perform- differ from the social roles non-cohabiting carers are expected to assume. Within this context, there is an ample literature that analyses whether formal and informal social care services to older adults are complementary or substitutive and a less extended bibliography on transitions between different sources of care service provision.

In this respect, the international literature -with a strong presence of papers based on data from the United States of America- converges towards the conclusion that there exist significant inertia (or state-dependence) effects and that the duration of the dynamics

across social care tasks also differ significantly (Goeree Sovinsky y Stern, 2016): the transition rates between the sources of care service provision would be affected by the duration of the delivery of each type of service. Heidemann et al (2018) also reported strong inertia effects for informal caregiving.

On the other hand, one strand of the literature has analysed the role of opportunity costs and burnout in the dynamics of the delivery of informal care services within households. However, these studies start from the assumption that the presence of other family members (including siblings) is independent of the decision to deliver the services or not.

An earlier study looked into data from the USA between 1982 and 1984 and reported that the caregiving decisions by adult children are dependent upon time availability and the member of the family with care needs (Checkovich and Stern, 2002). For example, these authors identified that two sets of significant factors -one related to the characteristics of the adult children as providers and the other set, to the characteristics of their elderly parents as recipients of the care services. Among the adult children, the significant factors are sex (e.g. adult daughters are more likely to provide care services than adult sons), geographical distance of residence between the adult children and their elderly parents, the labour force participation of the adult children, and the number of siblings. Among the elderly parents receiving the care services, significantly associated characteristics included sex, age, marital status, and level of disability.

However, none of these studies included England except Mentzakis et al (2009), who analysed data from the period 1999-2004 and found a level of complementarity in the provision of informal care services by adult children to their elderly parents in need when the tasks were not too demanding and substitution effects in favour of formal care service providers when the tasks required a given level of specialisation or technical knowledge. These authors used a statistical model that treated the presence of formal care as an exogenous variable in the decision to provide informal care services within a specification that included contemporary observations of the variable social care instead of lagged values. The justification presented by the authors was that the eligibility to access to formal care services is independent of the availability and provision of informal care services (what

in the literature is known as '*carer blind*' eligibility). The statistical model strategy in the paper was a two-part regression in which firstly the probability that either an adult son or daughter may provide informal care services to an elderly parent and secondly the level or intensity of the service provided conditioned upon the primary decision of providing any services or not. Among the conclusions these authors arrived, it is worth noting that they found that informal care service decisions on behalf of elderly parents by both adult sons and adult daughters depend on their ages and the household size, but that the intensity in the provision of informal care services varies as a function of the intersectionality of two or more factors. For example, higher income or wealth levels reduced the probability that adult sons would provide informal care services to their elderly parents in need but increased the probability that adult daughters would deliver the services. Another important finding is that there would exist complementarity between adult sons and daughters with regards to care tasks that involved low level complexity or technical ability, but substitution when they demanded higher complexity or technical skills.

The fourth chapter of this dissertation has antecedents in the literature, including for England. At a general level, in their systematic literature review, Lilly et al. (2007) concluded that the intensive provision of informal care services would lead to a greater probability of exit from the labour market alongside a reduction in the number of hours in paid employment among those workers with caregiving responsibilities who remain in the labour market. Similar adverse repercussions for labour market participation of assuming intensive informal care responsibilities have been mentioned by Ettner (1995), Heitmueller (op. cit.), and Carmichael and Charles (2003a y 2003b). Bauer and Sousa-Poza (op. cit.) and Malke Moussa (2018) reviewed the literature after 2007 and arrived at similar conclusions. However, more recent studies have pointed to a considerable methodological heterogeneity across the literature, which would explain the presence of dissimilar and at times conflicting results. Some of the discrepancies have to do with econometric questions and the statistical methods used, the units of observation (for example, non-comparable age groups), and so on. Other sources of the discrepancies across the studies include how the dependent



variables have been defined, how informal care services has been operationalised, or how the number of caregiving hours has been categorised.

The studies in this topic can be classified as comparative across countries and country studies. The first type combines individual data from different countries or resorts to a more traditional comparative approach. Three relatively recent examples from a European context are Ciani (2012), Crespo and Mira (2014), and Ciccarelli and Van Soest (2018). The first study looked into data from sixteen countries between 1994 and 2001 and reported negative though small effects on paid employment from providing informal care services. Crespo and Mira analysed data on women aged 50 to 60 years old in eleven countries between 2004 and 2006. These authors reported significant adverse effects on the probability of remaining in employment in countries from the south of Europe but a very small effect in northern European countries. In turn, Ciccarelli and Van Soest focused upon individuals aged between 50 and 70 years old in 2004-2015. They reported very significant negative effects on both the probability of remaining in paid employment and the number of hours worked among those individuals who had taken up informal care responsibilities.

Single country studies shed more light on the nexus between the provision of informal care services and employment of informal carers within a given institutional and cultural context. This corpus of studies also exhibits important methodological differences, which would go a long way to give account of the discrepancies in the reported findings. For example, using data from Australia, Leigh (op. cit.) failed to find any significant effects on the labour market participation among informal caregivers between 2001 and 2007, whereas Nguyen and Connelly (2014) did report a substantial impact using data from 2008. For Germany, Meng (2013) did not find any effects on the labour market between 2001 and 2007. In contrast, using data from Spain, Casado-Marín et al (2011) reported important effects on labour market participation following the assumption of informal care responsibilities, provided the level of provision was high (i.e. intensive service provision) and over a long period. In the United States of America, recent studies by Lee and Tang (2015) and Skira (2015) report negative effects among female workers only, and in Canada, Proulx and Le Bourdais (2014) obtained negative effects among women working full-time and for both female and male

workers in general with or without adult children. Chen et al (2015) studied the Chinese case, using data from the period 1991 – 2009. They reported negative effects both in the probability of remaining in paid employment and in the number of hours worked. The statistical techniques applied in the literature can also be the source of the discrepancies in the reported results. Several authors used simultaneous modelling techniques, according to which the decisions to provide informal care services and to work in a paid job are jointly modelled. Johnson and Lo Sasso (2006) applied this statistical approach to data from women in the United States of America between 1992 and 1998, and Michaud et al (2010) also resorted to this technique in their study of data from Great Britain between 1991 and 2003. Both papers reported substantial negative effects on employment.

One methodological innovation is the use of propensity score matching, a statistical technique firstly used by Walsh and Murphy (2018) in a study of Irish data. These authors, even though they restricted their analysis to people aged over 65 years old and to only one quarter, reported negative employment effects following the provision of intensive informal care services.

Some recent papers analysing the English situation include:

- King and Pickard (2013), who obtained negative effects on employment but only for providing 10 or more hours of informal care per week. They looked into data for the period 2002/3 - 2008/9
- Yeandle and Buckner (2017), who studied the changes in the relationships between informal caregiving responsibilities and paid employment among adults aged 50-64 between 2001-2011. They found increasing levels of intensity in the delivery of services combined with an expansion in female labour market participation, a lengthening of the working lives of both men and women, and improvement in the health condition among older workers.
- Carr et al (2018), who in fact investigated data for the United Kingdom as a whole. These authors failed to find any significant adverse effects on labour market participation between the period 2009-2014. However, they did report that the onset of informal caregiving responsibilities is associated with an increase in the

probability of ceasing paid employment, particularly among full-time workers and female workers in general.

- Gómez-León et al (2019), who studied data for Great Britain (i.e. England, Wales, and Scotland) between 2008/09 and 2013/15. This paper presents a birth cohort study exclusively focused upon individuals born in 1958. The main conclusion is that the assumption of informal caregiving responsibilities negatively impacts on the labour market participation of both male and female workers (and to the same extent), but that the intensity in the level of care services, defined by the number of hours delivered, would impact more on male workers than on female workers.

All these studies suggest the existence of differential impacts on labour market participation for men and women, depending on the class of tasks and the required intensity of the care services provided. The fourth chapter in this dissertation adds to this literature as it is based on recent microdata (for the period 2010-2016) and applies state-of-the-art statistical approaches. Furthermore, the chapter presents an estimate of the magnitude of the impact in terms of the number of people directly affected -something that usually is absent from the academic literature.

The fifth chapter of this dissertation also has theoretical and empirical antecedents. Glasby et al (2006), in their literature review of delayed transfers of older patients from hospitals and healthcare centres, highlight the multifarious nature of the factors that contribute to this phenomenon, including the importance of rehabilitation services and hospital-related variables. In turn, Bryan et al (2006) carried out a local study on delayed discharges from hospitals of older patients in England and concluded that the delays reflect, on the one hand, the complex needs of older people with healthcare problems, but that, to a greater extent, the delays originate in organisational, financial, and planning pitfalls at the moment of discharge, including a contraction in the supply of formal workers, reduced number of available beds in residential and nursing homes, and an increase in the costs of the delivery of care services for older adults both in domiciliary and residential settings.

Victor et al (2000) identified four factors associated with delayed discharges from hospitals of older patients (see also Victor, 1990):

- predisposing factors (such as the patient's age)
- enabling factors (for example, the availability of a family carer)
- vulnerability factors (including dependency and multiple pathology), and
- organisational/administrative factors (such as referral for services, type of team undertaking assessments, and the availability of beds in residential and nursing homes).

These authors reported that vulnerability and predisposing factors would not be statistically associated with delayed discharges from hospitals, but that organisational/administrative and enabling factor would. In particular, among the organisational/administrative factors, they identified the most relevant would be the duration of the evaluation and decision processes about the type of care service to be provided, the uncertainty around which institution is responsible for funding the services, and the existence of waiting lists.

In contrast to the conclusions by Victor et al (op. cit.), Meo et al (2019) -in their study based in the United States of America- identified that the level of vulnerability of older patients that experienced delayed discharges would be the most relevant determinant compared to those older patients who were discharged on time.

Other authors used similar categorisations as that one introduced in Victor et al (op. cit.) For example, Santos Modas et al. (2019), in a literature review, identified a number of causal factors which are related to the availability of resources at a community level, including the lack of places in healthcare centres; factors related with the organisations that provide care services, including their management and administration; and individual-level factors, such as family structure and financial condition.

Several authors have pointed out that certain organisational factors are key in the management of the processes related with the transfers of older patients who have been discharged (e.g. Rockwood, 1990; Falcone et al, 1991; Baumann et al, 2007; Hendy et al, 2012; Caminiti et al, 2013; Lenzi et al, 2014; Challis et al, 2014).

In the same vein, other studies have identified the presence of predisposing factors in delayed discharges of older patients. For example, based on data of older hospital in-

patients from Australia, Ou et al (2009) reported that predisposing factors such as not having an Anglo-Saxon background, living alone or not being married increase the probability of having to wait longer than necessary to be transferred out of a hospital after having been medically discharged. In Portugal, Landeiro et al (2016) obtained that being in social isolation or at risk of social isolation positively contributes to the number of delayed discharge days among older patients, whilst for Spain, Mendoza Giraldo et al (2012) concluded that not having any available members of the family or a wider network of potential informal carers are the main factors behind delayed discharges from hospital of older patients.

Toh y otros (2017) pointed to stress, burnout, and fatigue among carers as the main culprits of delayed hospital discharges of older patients in Singapore.

On a different note, the resistance by older patients and their relatives to be transferred from hospitals has also been flagged up by some authors (e.g. Bryan et al, op. cit.; Ajimura and Malik, 2016). However, in a qualitative study of the perspectives of older patients, Swinkels and Mitchell (2008) found that the presence of feelings of lack of empowerment and agency would be an explaining factor, which would lead older patients to leave any participation in decision making to other actors involved in the discharge process.

And it is in the context of this wide variety of explanatory factors that the funding and financial resources publicly allocated to the social care system has been unfrequently included in the literature. When it has, the authors have usually highlighted that they would be strong predictors of delayed discharges of older patients from hospitals. Among these factors, Fernández and Forder (2008) reported that the local variability in the quantity of places in residential and nursing homes in England between 1998/9 and 1999/2000 has significantly affected the rates of transfers across local authorities. Holmås et al (2013) arrived at a similar conclusion in their study based on data from Norway, and equally Gaughan et al (2015 y 2017), although they reported only modest effects, in a study of residential and nursing places in England between 2009 and 2013. These authors, incidentally, have found significant effects on delayed discharges from hospitals of older patients initially admitted for hip fracture but not for strokes.

Houghton et al (2016) presented a case study of a hospital ward specialised in vascular surgery in England and found that the two most powerful predictors of delayed discharges of older patients were the provision of social care and rehabilitation services. In a systematic and meta-analytical review of the literature, Spiers et al (2019) concluded that the availability of adequate social care services would lead to a reduction in the demand for secondary healthcare services.

In other words, the rather scant literature suggests that public funding and budgetary considerations would play an important role in the number and duration of delayed discharges from hospitals of older patients.

As reviewed so far, the studies on delayed discharges of older patients from hospital have primordially focused on the formal social care sector, with a strong emphasis on the availability of places in residential and nursing homes and to a lesser degree on the importance of the possibility of receiving informal care services. In addition, these studies did not investigate the relative impact of budgetary reductions on the different institutional settings where the problems that give way to the delayed discharges ultimately originate. These are topics that the fifth chapter in this dissertation explores.

## **1.4. Methods**

### **1.4.1 Data sources**

The methodological tools used in this dissertation consist in statistical analyses of microdata from representative surveys of the older population in England combined with secondary data. In terms of their sources, the data can be classified into those that come from longitudinal surveys and from administrative records.

In the second and third chapters, I used data from the English Longitudinal Study of Ageing (ELSA), a survey that is carried out every two years and is representative of the non-

institutionalised population aged 50 or over in England. It is administered by University College London (Marmot et al, 2015).

These two chapters combine microdata from ELSA with data aggregated to local council level for 150 municipalities (out of a total of 152<sup>2</sup>), whose source is the Health and Social Care Information Centre -the national provider of information, data and IT systems for commissioners, analysts and clinicians in health and social care-, the Office for National Statistics - the largest independent producer of official statistics and the recognised national statistical institute of the United Kingdom-, and two national ministries: the Department for Communities and Local Government and the Department for Environment, Food and Rural Affairs.

The ELSA survey started in 2002 out of a sub-sample of the Health Survey for England. In its first wave, 11,578 households were surveyed, comprising 18,813 individuals. It has been running every two years with replacement sampling. In the 2016-17 wave, 8,445 households were surveyed. Chapters two and three study data from between 1,530 and 1,762 adults aged 65 or over, depending on the wave, who had social care responsibilities of older adults between 2004–05 and 2012–13 (see Table 2.2). Even, as mentioned above, ELSA is representative of the population aged 50 years or older, I have restricted the age groups under study to people aged 65 or over, because around sixty-four per cent of all individuals living in the community (i.e. non-institutionalised) who receive social care services directly funded or delivered by local councils in England are aged 65 or over (HSCIC, 2014b, Table P1a).

The main source of data for the analysis in chapter four is the longitudinal survey known as Understanding Society (USoc). USoc is carried out annually and, unlike ELSA, covers the whole of

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<sup>2</sup> I have excluded two local authorities -namely, the City of Westminster and the Isles of Scilly, for which data are lacking for most of the variables included in the studies. Anyhow, these two local councils represent, 0.315% and 0.006% of the population aged 65 years or older in England, respectively.

the United Kingdom (USOC, 2018)<sup>3</sup>. USoc is a longitudinal household survey nationally representative of the population aged 15 years or older. It is administered by the Institute for Social and Economic Research at the University of Essex. *Understanding Society* started in 2009 with 26,000 households and is carried out every year and includes an over-represented sample of around 4,000 households from ethnic minority backgrounds.

Longitudinal surveys are exposed to the drop-off problem, that is when units of observation cease to be part of the sampling units thus reducing the representativeness of the data gathered over time. The Understanding Society survey records an acceptable retention rate: of the 50,138 individuals who took part in the first wave, seventy three percent of them (i.e. 36,559) took part in the seventh wave (Boreham et al., 2012; Carpenter, 2017).

The fourth chapter studies the labour participation in households with at least one member aged 65 years old or older and at least one son or daughter or partner between the period 2010-2016 (a total 58,921 unit-years).

The fifth chapter uses data from the same 150 local councils mentioned above on public spending in adult social care and the amount of services delivered to people aged 65 years old or over between the financial years 2013/14 to 2018/19. These data come from the Health and Social Care Information Centre and are combined in the statistical models with poverty indicators from the Department for Work and Pensions.

As mentioned, in chapters two and three, I have explored data from the ELSA survey whilst in chapter four the microdata come from the Understanding Society survey. Although both are longitudinal surveys, it is worth explaining the rationale behind these choices. I used data from the ELSA survey when the focus was exclusively on people aged over 50 years or 65 years, because as it has already been consigned this longitudinal dataset is representative of the population within this age bracket in England. In turn, as in chapter four I study the implications for the labour force participation of workers who take up social

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<sup>3</sup> University of Essex. Institute for Social and Economic Research, NatCen Social Research, Kantar Public. (2018). *Understanding Society: Waves 1-7, 2009-2016 and Harmonised BHPS: Waves 1-18, 1991-2009*. [data collection]. 10th Edition. UK Data Service. SN: 6614, <http://doi.org/10.5255/UKDA-SN-6614-11>



care responsibilities on behalf of older people with care services needs, I have used the USoc survey because it is representative of the population aged 16 or over and, in this chapter, the units of observation are individuals in paid employment who take up social care responsibilities irrespective of their age.

#### **1.4.2 Overview of statistical methods**

With regards to the statistical methods used to analyse the data, the choice has been informed by the type of datasets, the type of the dependent variables under study, and the objectives set out in each chapter.

The piece of research presented in the second chapter is based on a hierarchical (or nested) longitudinal multivariate model with three levels and cross-classification. The dependent variable in this chapter is the presence or absence of unmet social care needs among older people living in the community. I constructed this variable as binary or dichotomic starting from an operational definition of unmet needs: a person is classified as having an unmet social care need if they report to have a need and either does not receive any social care services or, if they do, they report that the services they receive do not meet their care needs all the time. The model distinguishes between three levels of analysis, hence its nested or hierarchical nature: the individual, household, and local council (i.e. municipal) levels. Consequently, the statistical specifications incorporate explanatory variables corresponding to each of these levels. The main independent variables by level are:

- Individual level: the chronological age and gender of each older person in the sample, and their level of disability (measured by the number of activities of daily life they report to have difficulty in performing)
- Household level: the size of the household and net income and wealth household indicators
- Municipal level: the level of older people's index of deprivation, the type of local council, and the level of public spending on adult social care services per older inhabitant

In the third chapter, I applied dynamic, hierarchical, logistic and mixed-effect models. The dependent variables are dichotomous or binary, and include the receipt or not of adult social care services funded by the following three different sources:

- formal services funded by the local council
- formal services self-funded by the older person beneficiary of the services or their family
- informal, unpaid social care services

In the same fashion as in chapter two, the models in chapter three are also structured in three levels. The main independent variables by level are:

- Individual level: the source of informal care (partner, son/s, daughter/s), the age and gender of the older beneficiary, and the level of need, proxied by the degree of disability
- Household level: the size of the household, and net income and wealth household indicators
- Municipal level: the degree of rurality of the household, the type of municipality, and the level of public spending on adult social care services per older inhabitant

In the fourth chapter I present an analysis based on two classes of statistical models: multivariate logistic regression models and multivariate linear regression models. The variable of research interest in the first class of models is the probability of leaving paid employment. It is defined for those respondents in the survey who were in paid employment in one wave and were not in paid employment in the following wave. This is a dichotomous or binary variable that is constructed, therefore, combining observations every two waves. Regarding the multivariate linear regression models, their specification set as the dependent variable the change in the number of hours worked. To this effect, I combined indicators of the number of usual weekly hours of work excluding overtime in a normal working week, both in the main job and, if applicable, in a second job. A key regressor in this chapter is the intensity in the level of provision of informal social care services. I chose ten hours or over per week as cut-off level. Other variables included in the

models are economic activity, educational level and gender, plus a time trend to capture any macroeconomic cyclical effects.

The fifth chapter presents econometric panel models, both in levels and in first differences. These models are run exclusively on data at local council level, thus departing from the statistical strategies of the previous chapters. The reason is to do with the research question the chapter seeks to answer, as set out in section 1.2 above. I ran panel data models on levels using two specifications: fixed and random effects. Under the assumption of fixed effects, the intercept coefficient in a regression differs by local municipality. In symbols:

$$y_{i,t} = \alpha_i + \beta_1 x_{1i,t} + \beta_2 x_{2i,t} + \dots + u_{it} \quad (1.1)$$

where  $i$  and  $t$  represent each of the 150 local councils or municipalities ( $i=1, 2, \dots, 150$ ) and the period ( $t=2013/14 \dots 2018/19$ ) respectively. In turn,  $y$  represents the number of days of wait as a result of delayed transfers from hospital settings due to questions related to the adult social care system. In equation 1.1,  $x_1, x_2, \dots$  denote the independent variables;  $\beta_1, \beta_2, \dots$  their respective regression coefficient; and  $u$  the error term.

As mentioned, in this model specification, the intercepts ( $\alpha_i$ ) vary by local council.

Therefore, the main assumption is that the association between each predictor and the dependent variable is the same for each local council.

Under the alternative assumption of random effects, the model assumes that the differences across local authorities are not correlated with the predictors. In other words, the heterogeneity between municipalities is of a random nature, or at least not explained by any of the dependent variables in the model. In symbols:

$$y_{i,t} = \alpha + \beta_1 x_{1i,t} + \beta_2 x_{2i,t} + \dots + u_{it} + \varepsilon_{i,t} \quad (1.2)$$

where, compared to equation 1.1., there is only one intercept ( $\alpha$ ), but the error term is decomposed into a source of randomness to the interior of each municipality ( $u_{it}$ ) -the so-

called within effect- and a source of error across municipalities ( $\varepsilon_{i,t}$ ) -i.e. the between effect.

I applied the Hausman test (Hausman, 1978) to decide between each model specification. The fifth chapter also presents models in first differences, which include an intercept to account for any possible time trend effects. In symbols, these models can be expressed thus:

$$\Delta y_{i,t} = \alpha + \beta_1 \Delta x_{1i,t} + \beta_2 \Delta x_{2i,t} + \dots + \delta_t + \Delta u_{it} \quad (1.3)$$

where  $\Delta$  denotes changes over two consecutive periods and  $\delta$  corresponds to the time trend.

In these models, the regressors enter measured in first differences (with regards to public spending per head, after having been logarithmically transformed). All the models in this chapter were run with the library *plm* (Croissant and Millo, 2008) in the statistical platform *R* (R Core Team, 2019).

In the fifth chapter, the dependent variable is the number of days between a patient aged 65 years or older is medically discharged from hospital and finally transferred out of the hospital because of problems related to the English adult social care system. The independent variables considered are the level of public spending on adult social care per inhabitant aged 65 or over in each local authority, the proportion of older people on low incomes, the level of demand for adult social care services in the municipality, and the delayed discharges (in days) due to all other reasons than problems in the adult social care system. The government has distinguished between two types of reasons for delayed transfers of patients medically discharged from hospital settings: factors related to the medical and hospital settings and the healthcare system, and factors related to the adult social care system.

## **2. Local Government Spending on Community-based Social Care and Unmet Social Care Needs of Older People in England**

### **2.1 Introduction**

Despite the increase in numbers of older people in England –the resident population aged 65 or over, for example, grew by 11.3 per cent between 2011 and 2015 (ONS, 2016) – the number of older people who need help to perform daily activities such as getting up and down stairs, having a bath or a shower, using the toilet, or doing routine housework has gone down over this period. For example, 9.5 per cent fewer older people needed help with getting up and down stairs in 2015 compared to 2011, 14.7 per cent needed help with having a bath or a shower, and so on (Jones, 2016). In fact, more adults aged 65 or over were having difficulty only with taking medicine in 2015 than in 2011, but again the numbers had gone down by 9.2 per cent in 2015 compared to a peak in 2013.

This positive finding should not mask the relevance of the problem: about 2 million people need help with negotiating stairs, shopping for food, or doing routine housework; almost 1 million cannot get in and out of bed without help; and around 400,000 find it difficult to cut up food or use the toilet unless they get help.

Within this context, this chapter focuses on whether there is a statistical association between spending per person in community-based adult social care and the number of older people in England with unmet needs.

### **2.2. Adult social care in England**

Adult social care refers to ‘care and support services to help with personal care and practical tasks to adults who need it due to physical disabilities, learning disabilities, physical or mental ill-health, or old age’ (NAO, 2014b, p. 55). The Care Act 2014 stipulates that it is the responsibility of local authorities to provide or arrange for the provision of services, facilities or resources that may contribute towards preventing or delaying the development of needs by adults for care and support, or towards reducing such needs. However, not all the local authorities in England have responsibility for adult social care services (henceforth, we refer to these as CASSR). Therefore, some CASSRs provide adult social care services for residents in more than one local authority (Table 2.1):

Table 2.1  
Local authorities in England with and without Adult Social Care responsibilities by type

Type of Area	Type of Local Authority	With ASC responsibilities	Total
Metropolitan areas	District councils	36	36
	Single purpose authorities	0	20
Shire areas	Unitary authorities	56	56
	County councils	27	27
	District councils	0	201
	Single purpose authorities	0	55
London area	City of London	1	1
	London boroughs	32	32
	Greater London Authority	0	1
	Single purpose authorities	0	4
Total		152	433

Even though the time period under study in this chapter predates the Care Act 2014, the most relevant aspects of the previous system for our purposes –eligibility criteria, needs assessments, financial assessments, and means tests were not, by and large, modified by the new legislation. The legal duty to provide or arrange for provision does not entail the duty to fund the services or provide them free of charge at point of delivery but to ensure that the needs are met: CASSRs can charge for the services identified to meet the needs of older people. CASSRs must carry out a financial assessment ('means test') after assessing the care needs. Based on agreed outcomes and a support plan, the authorities have discretion as to whether to charge for services and by how much.

There are two main types of provision of adult social care services: residential, and day and domiciliary care. Residential care includes nursing and residential care placements, whereas day and domiciliary care comprises home care, day services, direct payments, equipment and adaptations, and meals. There are two delineating factors between these types of services: first, the place where it is provided: nursing and residential care as well as day care is provided not at the house of the beneficiary and second, adults receiving day care and domiciliary services live in their homes whilst beneficiaries of residential care reside in residential homes.

Assessment and care management -which encompass referrals; assessing need and eligibility; the financial assessment; arranging, agreeing and reviewing care packages; and the evaluation of quality- make up the rest of public spending on adult social care.

In 2014–15, gross current expenditure on long-term support for adults aged 65 or over in England amounted to almost £6.8 billion, of which 34 per cent corresponded to day and domiciliary care, and another £445 million was spent on short-term care support provision to maximise independence (HSCIC, 2015) .

### **2.3. Definition of unmet need**

The response (or dependent) variable in this investigation is unmet social care needs. Unmet social care need has been defined in various forms in the literature, according to the definition of need itself and to wider research objectives and focus. Before we explain the definition of unmet need we used in this chapter, we must start with the definition of need in the context of social care.

Local authorities identify social care needs using outcome-based criteria set out in the Care Act 2014 (see below). However, these intentionally involve an element of subjectivity as they are intended to reflect the individual's priority. In seeking a more objective measure of unmet need research studies have used concepts of having difficulty with performing activities of daily living (ADL), instrumental activities of daily living (IADL), or mobility tasks. ADL is a classification of routine, everyday self-care activities (Katz et al, 1963) and comprise:

- having a bath or a shower,
- walking across a room
- dressing or undressing,
- getting in and out of bed,
- using the toilet, and
- eating, including cutting up food

IADL are activities that require higher mental and physical capacity and functioning compared to ADL (Lawton and Brody, 1969), and include:

- using a map to get around in a strange place,
- preparing a hot meal,
- shopping for groceries,
- making telephone calls,
- taking medication,
- doing work around the house or garden, and
- managing money

We excluded paying bills, using a telephone or a map from the IADL list and focused instead on the other IADL, which are more likely to trigger formal or unpaid social care .

Mobility tasks include walking 100 yards, sitting for about two hours, getting up from a chair after sitting for long periods, climbing one or several flights of stairs without resting, stooping, kneeling, or crouching, reaching or extending the arms above shoulder level, pulling or pushing large objects like a living room chair, lifting or carrying weights over 10 pounds, and picking up a 5p coin from a table.

Vlachantoni et al (op. cit.) presented alternative operationalisations of unmet need according to the type and level of need and the type and level of support: an unmet need arises if individuals with a low level of need receive no support, if individuals with a moderate level of need fall short of the assessment criteria set by their local authority, or if individuals with high needs receive formal support which is not fully satisfactory.

In 2015 the UK Parliament set eligibility criteria for older people to receive social care services from their local authority (HoP, 2015). First, the needs must arise from, or be related to, physical or mental impairment or illness. Second, as a result of these needs, the older person's well-being must be significantly impacted –namely, the person is unable to achieve two or more of the outcomes listed below without assistance or, if able without assistance, only with significant pain, distress or anxiety or endangering their health or safety or that of others, or it would take



up significantly longer than otherwise. Finally, the other defining eligibility criterion is that two or more of the following outcomes must be compromised:

- managing and maintaining nutrition;
- maintaining personal hygiene;
- managing toilet needs;
- being appropriately clothed;
- being able to make use of the adult's home safely;
- maintaining a habitable home environment;
- developing and maintaining family or other personal relationships;
- accessing and engaging in work, training, education or volunteering;
- making use of necessary facilities or services in the local community including public transport, and recreational facilities or services; and
- carrying out any caring responsibilities the adult has for a child.

Dunatchik et al (op. cit.) recently employed two different definitions of unmet need: a 'local authority' definition and a wider definition. According to the former, a person has unmet social care needs if they have 3 or more ADL difficulties or 2 ADL difficulties with an impact on well-being; and they do not receive care for at least one of their difficulties or have their needs met by an unpaid carer who helps them for 20 or more hours a week. In the wider definition, a person has unmet social care needs if they have 1 ADL difficulty, and/or 2 or more IADL or mobility difficulties regardless of the number of hours provided. Unlike the 'local authority' definition, in this case adaptations and aids are regarded as meeting needs.

The definition of unmet need adopted in this chapter is based on having difficulty with at least one ADL or one IADL: an unmet need was detected if an individual who had difficulty with one or more ADL/IADL did not receive any help at all or if they received help, the respondent reported that the help did not always meet their need to perform the activity or activities.

The absence of any care provision (formal or unpaid) may reflect personal choice, in which case it could be argued that those people with needs but not receiving help out of their own decision

should not be classified as with unmet needs. However, this absence may also originate in unaffordability, unavailability, sub-standard quality or appropriateness (real or perceived) including experience or fear of abuse and neglect, stigma (Goberman-Hill and Ebrahim, 2007; Barken, 2017), or clashes with societal values (e.g. independence) and social positioning (Allen and Wiles, 2014) . Consequently, the reasons behind such a ‘choice’ are complex and in many cases absence of any care provision could be incorporated into a definition of unmet need. Alas, the data does not allow us to discern, among those respondents experiencing difficulty with ADL/IADL who did not receive any help, the reasons behind this lack of care services. Therefore, we present the results stemming from two definitions: including and excluding those people who do not receive any help.

These definitions depart from the notion of significant impact and the requirement that two or more outcomes have to be compromised in order to become eligible for publicly-funded social care, because these requirements are less related to the care needs of the population and more to do with fiscal policy and budget considerations. The main purpose of this chapter is to study whether there is a statistical association between public expenditure on adult social care and the probability that an older person cannot meet all their social care needs to perform functional daily tasks, rather than whether public spending has met the needs of people made eligible to receive social care services as a result of a definition of eligibility that is informed by financial considerations. For example, Fernández et al (2015) found that apart from the number of ADL and IADL a person has difficulty with, two strong predictors of their being eligible to formal care paid by their local authority and of the amount of the care package they may get are whether a person lives alone and whether they receive informal care. This finding suggests that publicly-funded social care is becoming a service delivery option of last resort.

In one sense, our definitions are more encompassing than the ‘wider definition’ proposed by Dunatchik et al (op. cit.) as we include difficulty with performing at least one IADL instead of at least two IADL. In another sense, it is less so: the definition in this chapter does not include mobility difficulties (other than walking across a room) whilst Dunatchik et al’s ‘wider’ definition incorporates at least two mobility difficulties. However, these authors only included problems with walking 100 yards and climbing one or several flights of stairs, given that questions about needing or receiving help to perform other measures of mobility (e.g. stooping, kneeling or

crouching, or getting up from chair after sitting long periods) as well as strength (e.g. pulling or pushing large objects) and fine motor skills (e.g. picking up a coin from a table) were not included in ELSA. Besides, those mobility indicators for which data regarding help and need are available in ELSA tend to be of higher prevalence among the older population compared to ADL and IADL but relatively easier to deal with by means of low cost equipment or minor adaptations. For example, problems with climbing several flights of stairs without resting affect 42 per cent of the population aged 65 or over but 91 per cent of these people report they do not need any help to perform this activity (Dunatchik et al, op. cit., Appendix Table A:2). . Besides, severe mobility limitations lead to difficulties in performing activities of daily living and instrumental activities of daily living, so individuals suffering from these limitations would have also been captured by the measures of ADL and IADL.

#### **2.4. Data**

The ELSA survey included questions about difficulty with performing each of the ADL and IADL (e.g. question “headldr: ADL: difficulty dressing, including putting on shoes and socks”, dichotomised into 0= Not mentioned and 1=Mentioned, apart from categories Refusal, Don't Know and Not applicable).

We use all the ADL but we excluded paying bills, using a telephone or a map from the IADL list so that we only considered the activities more likely to trigger formal or unpaid social care use (Whalley, 2012 and Jones, op. cit.).

The variables of interest are related to the three different funding sources of adult social care services: formal social care services funded by local authorities (LA-funded), formal social care services privately funded (private), and informal or unpaid social care (unpaid). For respondents who declare to have difficulty with one or more ADL or IADL, ELSA includes questions about who helps with these activities, from which we constructed the variables for the three sources.

The survey also asked about a subjective assessment of how much the help respondents receive meets their needs -question “hehpc: Would you say that the help you receive...? meets your needs...”, with categories (apart from Refusal, Don't Know and Not applicable):

- ... meets your needs all the time,
- usually meets your needs,
- sometimes meets your needs,
- hardly ever meets your needs?

With these two variables we constructed the binary dependent variable, unmet needs, which adopts a value of 1 if the person has difficulty with one or more ADL/IADL and either did not receive help or the help they received did not meet their needs all the time, and a value of 0 otherwise. (In the alternative definition of unmet need, only those individuals who have difficulty with one or more ADL/IADL and received help that did not meet their needs all the time were classified as having an unmet need).

The following covariates were included in the econometric modelling:

- Age (continuous variable truncated at 90 for respondents aged over 90).
- Gender. (Female=0; Male=1)
- Number of ADL respondent have difficulty with (discrete, from 1 to 6).
- Number of IADL respondent have difficulty with (discrete, from 1 to 4).
- Income. Benefit-unit (BU) equivalised income. A BU is either a single person or a couple regardless of whether they keep their finances separate or together (ELSA, 2015a). Income is the sum of income from employment, self-employment, state benefit, state pension, private pension, assets, and other sources (ELSA 2015b). Equivalised means that the amount is adjusted by the benefit unit size.
- Non-housing wealth. Net total non-housing wealth, equivalised by BU. Net total non-housing wealth is the sum of savings, investments, and physical wealth after financial debt is subtracted (ELSA 2015b).
- Household size (discrete, from 0 to a cut-off level set at 5 or over - this upper limit was set because around 0.77% of respondents in the sample lived in households with 6 or more people).

As mentioned above, respondents were asked whether they received any help. Our definition of the population under study includes all people with needs and who either do not receive any help or who are recipients of help who have reported that this help does not fully meet their care needs. We decided against factoring in the source of help (i.e. whether they either receive paid/formal or unpaid/informal help or both) among those who do receive some for two reasons:

- the literature is divided as to whether paid and unpaid social care services are compensatory, substitutes, complementary or task specific (Ward-Griffin and Marshall, 2003), or whether the convoy metaphor (Kemp et al., op. cit.) better conceptualises the relationship between different sources of help. Moreover, irrespective of the nature of the relationship, little is known about by how much –if at all- such links change as a result of funding restrictions or rationing by modifications in eligibility criteria, etc.
- regarding formal help (i.e. help received from a privately paid employee, a social or health service worker, etc.), the data do not allow us to distinguish whether the social or health service workers employed were fully or partially paid for by the local authority and in the latter case by how much - about 33 per cent of homecare funding is paid by individuals from their own private resources (LaingBuisson, 2016, Table 2.2). Besides, the introduction of a ‘mixed economy of purchasing’ (Glendinning, 2012) with personal budgets (particularly not managed by the local authority) and direct payments may blur to the eyes of some clients the distinction between privately paid and publicly funded care (Rodrigues and Glendinning, 2015) as well as that between social care and health (Glendinning et al., 2000). Direct payments represent 14 per cent of all sources of homecare funding, but most services commissioned by local authorities are purchased directly by local authorities (LaingBuisson, op. cit., Table 2.2).

Given this research gap, the potential endogeneity between sources of help and funding levels, and that it would be beyond the objective of this study to look into these issues, we opted for including all help sources with no distinction by source. Consequently, the objective of this study

is to gauge whether funding levels affect unmet needs irrespective of whether any help was provided and if it was, who provided and who funded the service.

The models included the following local-authority level covariates:

- Type of CASSR. CASSR are classified into county councils, district councils, unitary authorities, metropolitan districts and London boroughs (apart from the City of London Corporation and the Council of the Isles of Scilly, which we excluded from our sample due to data limitations on public spending and social care activity). We included this variable because the type of local authority an individual lives in has been found to be significantly associated with changes in net expenditure on adult social care (Fernández et al, 2013). Furthermore, the National Audit Office has raised concern about the capacity of metropolitan districts and unitary authorities to deliver their medium-term savings targets (NAO, 2014c).
- Expenditure on community-based adult social care services per head. We used the Net Current Expenditure on community-based social care services for clients aged 65 or over inflated to 2015-16 prices using the GDP deflator. We included the following services: Home care, Day Care / Day Services, Fairer charging - Community services, Direct Payments, Equipment and adaptations, Meals, and Other services to older people. We explicitly omitted spending on Assessments and Referrals, as these activities do not correspond to actual provision of care services; furthermore, in 2014-15, 31 per cent of all people aged 65 or over who were assessed by their local authority were not offered any services. To coincide with the fieldwork dates of ELSA Waves 2 to 6, we used biennial data covering the financial years 2004-05 to 2012-13. To obtain the per head estimates by CASSR, we divided spending figures in each local area by the total resident population aged 65 or over using the mid-year population estimates by single year of age for local authorities from the Office for National Statistics for each year (ONS, 2016). We used the natural logarithm of this variable for modelling purposes. We preferred to divide spending by the number of residents aged 65 or over rather than by the number of clients of community-based care services aged 65 or over, because the latter is affected by eligibility and other rationing criteria which, in themselves, may be influenced by budgetary reasons. In turn, dividing spending by resident population

provides comparativeness to the expenditure variable across local authorities.

Furthermore, we preferred to use net current expenditure figures instead of gross current expenditure because the former excludes all sources of income as well as capital charges. Net current expenditure, in turn, though excludes capital charges and income from joint arrangements, the National Health Services and other minor concepts, includes client contributions –that is, the amount of money beneficiaries are asked to pay to their local authority on the basis of the needs and financial assessments. Given that including this source of income might introduce bias in the analysis for the contribution levels could be influenced by budget considerations, we opted for using net spending figures. Deflated figures of net spending by local authority were also adjusted by the cost adjustment factor for older people’s personal social services for the respective area. These factors are coefficients that reflect differences in the cost of providing social services for older people across local authorities (DCLG, 2013).

- Income deprivation affecting older people. This indicator measures the percentage of the population aged 60 and over who receive low-income benefits. There is some evidence that the relative deprivation of a geographical area is associated with the level and composition of social care. For example, local authorities with more deprived older populations have suffered from recent adult social care budget reductions disproportionately more than relatively well-off areas (Hastings et al, 2015; Humphries et al., 2016). Furthermore, regarding unpaid care in particular, a study using Census 2001 data found that poorer areas tend to have a higher proportion of in-house care compared to wealthier communities where there is a relatively higher prevalence of unpaid carers from outside the household (Norman and Purdam, 2013). Young et al (2005), also looking into Census 2001 data, found a strong correlation between increasing disadvantage of an area and higher rates of provision of intensive (i.e. 20 or more hours a week) unpaid care. This variable is available with a periodicity (2004, 2007, 2010 and 2015) that differs from the ELSA waves used in this study; hence, we used the average rankings for each local authority over these four periods. Source: DCLG (2015b).
- Rural/Urban classification. We used the rural/urban classification developed by the Office for National Statistics based on the Census 2011. This is a six-category

classification of local authorities including: mainly rural; largely rural; urban with significantly rural; urban with city and town; urban with minor conurbation; and urban with major conurbation (DEFRA, 2017).

The dataset consists of an unbalanced panel given that, starting in Wave 2, we kept those individuals who entered the survey after Wave 2 as well as those who dropped from the survey, and those who remained in the survey but moved outside England or to a residential or nursing home at Waves 3-6. Descriptive statistics for each of the variables are presented in Table 2.2.

Table 2.2  
Descriptive statistics

Wave 2					
Variable	N	mean	sd	min	max
Unmet needs	1,695	0.53	0.50	0.00	1.00
Community-based adult social care spending per person aged 65+	1,695	321.32	104.13	152.90	954.06
Age	1,695	76.74	7.09	65.00	90.00
ADL	1,695	1.49	1.40	0.00	6.00
IADL	1,695	1.27	1.11	0.00	4.00
Gender	1,695	1.39	0.49	1.00	2.00
Household income (deciles)	1,695	218	200	0	6,661
Non-housing wealth (deciles)	1,695	44,732	172,780	-21,000	4,236,800
Household size	1,695	1.65	0.69	1.00	5.00
Rurality	1,695	3.16	1.96	1.00	6.00
Income deprivation	1,695	64.74	46.35	3.00	151.00
Wave 3					
Variable	N	mean	sd	min	max
Unmet needs	1,530	0.63	0.48	0.00	1.00
Community-based adult social care spending per person aged 65+	1,530	350.72	123.57	167.83	1,045.39
Age	1,530	77.36	7.37	65.00	90.00
ADL	1,530	1.62	1.50	0.00	6.00
IADL	1,530	1.38	1.20	0.00	4.00
Gender	1,530	1.38	0.49	1.00	2.00
Household income (deciles)	1,530	224	134	-126	2,431
Non-housing wealth (deciles)	1,530	50,187	148,370	-41,100	3,201,000
Household size	1,530	1.63	0.75	0.00	5.00
Rurality	1,530	3.15	1.96	1.00	6.00
Income deprivation	1,530	63.35	45.71	3.00	151.00
Wave 4					



Variable	N	mean	sd	min	max
Unmet needs	1,762	0.57	0.50	0.00	1.00
Community-based adult social care spending per person aged 65+	1,762	374.87	112.52	178.91	1,171.82
Age	1,762	76.76	7.30	65.00	90.00
ADL	1,762	1.54	1.47	0.00	6.00
IADL	1,762	1.32	1.18	0.00	4.00
Gender	1,762	1.40	0.49	1.00	2.00
Household income (deciles)	1,762	264	188	0	3,755
Non-housing wealth (deciles)	1,762	64,636	199,790	-35,000	4,055,000
Household size	1,762	1.65	0.71	0.00	5.00
Rurality	1,762	3.09	1.92	1.00	6.00
Income deprivation	1,762	63.60	45.75	3.00	151.00
Wave 5					
Variable	N	mean	sd	min	max
Unmet needs	1,624	0.57	0.49	0.00	1.00
Community-based adult social care spending per person aged 65+	1,624	332.43	106.01	156.14	1,186.19
Age	1,624	76.04	6.71	65.00	89.00
ADL	1,624	1.50	1.47	0.00	6.00
IADL	1,624	1.31	1.16	0.00	4.00
Gender	1,624	1.40	0.49	1.00	2.00
Household income (deciles)	1,624	273	165	8	2,574
Non-housing wealth (deciles)	1,624	63,404	154,311	-70,000	2,215,000
Household size	1,624	1.67	0.71	0.00	5.00
Rurality	1,624	3.06	1.93	1.00	6.00
Income deprivation	1,624	63.25	45.89	3.00	151.00
Wave 6					
Variable	N	mean	sd	min	max
Unmet needs	1,737	0.57	0.50	0.00	1.00
Community-based adult social care spending per person aged 65+	1,737	306.76	105.13	95.01	1,194.91
Age	1,737	77.01	7.68	65.00	90.00
ADL	1,737	1.62	1.59	0.00	6.00
IADL	1,737	1.42	1.23	0.00	4.00
Gender	1,737	1.60	0.49	1.00	2.00
Household income (deciles)	1,737	306	257	0	8,079
Non-housing wealth (deciles)	1,737	71,264	185,172	-53,500	2,710,000
Household size	1,737	1.66	0.72	0.00	5.00

Rurality	1,737	3.02	1.94	1.00	6.00
Income deprivation	1,737	64.80	46.56	3.00	151.00

The number of local authorities and the number of CASSR changed over the period under study, especially as a result of the 2009 restructuring of local government in England (DCLG, 2009). The LAs of residence over the waves were aggregated according to their respective 2013-14 CASSR classification. Even though the ELSA survey is carried out in England, respondents remain eligible if they move to Wales or Scotland. We deleted the respondents who moved out of England but remained eligible (ninety-one in total).

## 2.5. Statistical Methods

The dataset contains a mix of variables at individual-level –including the response variable unmet needs- and of variables at CASSR-level. This structure suggests that a multi-level, hierarchical framework would be appropriate to fit the data. However, the dataset records 224 moves between CASSR over the period under study (0.89 per cent of all valid individual-wave records). Therefore the data are not purely hierarchical and a cross-classification model (Goldstein and Sammons, 1997; Rasbash and Goldstein, 1994) would be, in principle, preferable because assuming that the data structure is perfectly hierarchical could introduce misattribute response variation bias (Leckie, 2013a y 2013b).

Sun and Pan (2014) suggest that given a low proportion of individuals with multiple residence across waves, the implementation of multiple-membership random effects models would not be necessary. However, there is a gap in the theoretical literature on multiple membership models concerning the minimum proportion of cases of multiple membership below which the misspecification bias is statistically negligible and the assumption of perfectly hierarchical data would consequently be acceptable . Therefore, we ran two-level and cross-classified panel logistic regressions and obtained very similar results, which would indicate that the low proportion of movers over the period may not add much to the hierarchical model results. However, both the Akaike information criterion (AIC) and the Bayesian information criterion

(BIC) suggest that the cross-classified model specification is preferable to the nested version (Burnham and Anderson, 1998).

Let's define the indices  $i$ ,  $j$ , and  $t$  as, respectively, respondents (aged 65 or over), CASSR of residence, and wave ( $t=2, \dots, 6$ ).

A hierarchical (or nested) longitudinal model for our data would respond to a three-level framework where level-1 corresponds to the repeated measures of unmet needs for the respondents (the temporal level), which are nested in the respondents (level 2), who are in turn nested in CASSR (level 3). This model can be represented thus:

$$\text{Level 1: } y_{ijt} = \pi_{0ij} + \pi_{1ij} \cdot a_{ijt} + e_{ijt}$$

where  $y_{ijt}$  denotes the binary response 'Unmet Needs' for the  $i^{\text{th}}$  individual residing in the  $j^{\text{th}}$  CASSR in wave  $t$ ;  $\pi_{0ij}$  is the initial measurement of unmet need for the  $i^{\text{th}}$  respondent in the  $j^{\text{th}}$  CASSR;  $\pi_{1ij}$  is a linear growth rate per wave and  $e_{ijt}$  is the level-1 residual assumed as normally distributed with a mean of zero:  $e_{ijt} \sim N(0, \sigma^2)$ .

The level-2 (CASSR) equations are:

$$\begin{cases} \pi_{0ij} = \beta_{00j} + r_{0ij} \\ \pi_{1ij} = \beta_{10j} + r_{1ij} \end{cases}$$

where  $\beta_{00j}$  is the initial (i.e. at wave 2) average unmet needs for respondents in CASSR  $j$ ;  $r_{0ij}$  corresponds to the initial random effects for respondent  $i$  in CASSR  $j$ ;  $\beta_{10j}$  is the average growth rate for CASSR  $j$ ; and  $r_{1ij}$  is to the deviation of the growth rate for respondent  $i$  from the average growth rate for CASSR  $j$ . The level-2 random effects are assumed to be normally distributed and with the following covariance structure:

$$\text{cov} \begin{bmatrix} r_{0ij} \\ r_{1ij} \end{bmatrix} = \begin{bmatrix} \tau_{r00} & \tau_{r01} \\ \tau_{r10} & \tau_{r11} \end{bmatrix}$$

The level-3 is represented by the following equations:

$$\begin{cases} \beta_{00j} = \gamma_{000} + u_{00j} \\ \beta_{10j} = \gamma_{100} + u_{10j} \end{cases}$$

where  $\gamma_{000}$  denotes the initial grand mean of unmet needs across CASSR (i.e. in wave 2);  $u_{00j}$  is the random effect for CASSR  $j$ ;  $\gamma_{100}$  is the grand mean growth rate across CASSR; and  $u_{10j}$  denotes the random effect of CASSR  $j$  on the respondents' growth rates. The level 3 random effects are assumed to be normally distributed and with covariance structure

$$\mathbf{cov} \begin{bmatrix} u_{00j} \\ u_{10j} \end{bmatrix} = \begin{bmatrix} \tau_{u00} & \tau_{u01} \\ \tau_{u10} & \tau_{u11} \end{bmatrix}$$

A cross-classified longitudinal model of the data under study would respond to a two-level structure. It would share the same level-1 specification as the hierarchical model. The level-2 equations in this case can be expressed thus:

$$\begin{cases} \pi_{0ij} = \theta_0 + r_{00i} + \sum_{j=1}^J \sum_{t=2}^{t=6} D_{ijt} \cdot c_{00j} \\ \pi_{1ij} = \theta_1 + r_{10i} \end{cases}$$

where  $\theta_0$  is the initial (i.e. at wave 2) average unmet needs,  $r_{00j}$  corresponds to the initial random effects for respondent  $i$ ;  $c_{00j}$  is the random effect for CASSR  $j$ ;  $D_{ijt}$  is a dummy variable that reflects moves across CASSR ( $D_{ijt}=1$  if respondent  $i$  resided in CASSR  $j$  at wave  $t$  or before);  $\theta_1$  denotes the mean growth rate  $j$ ; and  $r_{10i}$  is the deviation of the growth rate for respondent  $i$  in CASSR  $j$  from the average growth rate for CASSR  $j$ . The double summation captures accumulated effects of each CASSR over time.

The level-2 residuals are assumed to have this covariance structure:

$$\begin{pmatrix} r_{00i} \\ r_{10i} \end{pmatrix} \sim N \begin{pmatrix} 0 \\ 0 \end{pmatrix}; \begin{bmatrix} \tau_{r00} & \tau_{r00,10} \\ \tau_{r10,00} & \tau_{r10} \end{bmatrix}; c_{00j} \sim (0, \tau_{c00})$$

The structure of the data suggests the need of a multilevel structure (either nested or cross-classified). However, we formally test the hypothesis that higher-level effects are not significant. Were this the case, a single-level logistic panel regression would be more appropriate for fitting the data. The likelihood-ratio (LR) test statistics for testing the null hypothesis that there is no statistically significant variation across CASSR corresponds to  $\chi^2 = 58.60$  ( $p=0$ ) for the nested model and to  $\chi^2 = 277.83$  ( $p=0$ ) for the cross-classified model.

Therefore we reject the null hypothesis: the p-values indicate that both the nested and the cross-classified models fit the data significantly better than the single-level model.

Once we accepted that a multilevel structure is better than a single-level model, we had to choose between a nested and a cross-classified specification. As already mentioned, there are no guidelines in the literature regarding a minimum proportion of cases showing cross-classification below which a more parsimonious nested model could be fitted without raising concerns about the introduction of bias into the results. Consequently, we proceeded by fitting first a nested model version and a cross-classified model and then we compared the results using information criteria. Both the AIC and BIC favour the cross-classified specification<sup>4</sup>; hence in what follows we focus on the results from this model. Similarly for the model based on the second definition of unmet need<sup>5</sup>.

## 2.6. Results

### 2.6.1. Unmet needs as either not receiving help or receiving insufficient help

Table 2.3 presents the results for the cross-classified model under the first definition of unmet needs.

Table 2.3

#### Cross-classified logistic regression

Response variable: unmet needs	Coef.	Std. Err.	z	p	[95% C.I.]	
ASC spending per person (in £ hundreds)	-0.061	0.035	-1.75	0.081	-0.129	0.007
Age	0.033	0.005	7.17	0.000	0.024	0.041
ADL						
1 ADL	0.175	0.082	2.13	0.033	0.014	0.337
2 ADL	0.219	0.093	2.35	0.019	0.037	0.401
3 ADL	0.184	0.115	1.60	0.109	-0.041	0.410

<sup>4</sup> AIC=10353.400 BIC=10500.27 (cross-classified) against AIC=10186.57, BIC=10340.44 (nested). Full results from the nested model specification available from the author.

<sup>5</sup> AIC= 4205.066, BIC= 4338.695 (cross-classified) against AIC= 4212.858 , BIC= 4334.338 (nested). Full results from the nested model specification available from the author.

4 ADL	0.470	0.149	3.15	0.002	0.178	0.763
5 ADL	0.507	0.178	2.85	0.004	0.159	0.856
6 ADL	0.657	0.217	3.02	0.003	0.231	1.082
IADL						
1 IADL	-1.014	0.086	-11.82	0.000	-1.182	-0.845
2 IADL	-1.353	0.095	-14.17	0.000	-1.540	-1.166
3 IADL	-1.281	0.119	-10.80	0.000	-1.514	-1.049
4 IADL	-1.533	0.163	-9.42	0.000	-1.852	-1.214
Gender (1 = Male)	0.003	0.058	0.04	0.966	-0.111	0.116
Income	8.2E-05	1.6E-04	0.52	0.602	-2.3E-04	3.9E-04
Non-housing wealth	8.2E-08	1.8E-07	0.46	0.649	-2.7E-07	4.4E-07
Household size	-0.546	0.048	-11.39	0.000	-0.639	-0.452
Council type (Baseline=London Borough)						
<i>Metropolitan</i>	-0.484	0.152	-3.18	0.001	-0.781	-0.186
<i>Non-metropolitan</i>	-0.479	0.248	-1.93	0.054	-0.966	0.008
<i>Unitary</i>	-0.524	0.219	-2.39	0.017	-0.954	-0.094
Rural/Urban classification (Baseline: Mainly rural)						
<i>Largely rural</i>	0.050	0.132	0.38	0.707	-0.209	0.309
<i>Urban with significant rural</i>	0.096	0.207	0.46	0.645	-0.311	0.502
<i>Urban with city and town</i>	0.062	0.191	0.33	0.744	-0.312	0.437
<i>Urban with minor conurbation</i>	-0.311	0.296	-1.05	0.293	-0.891	0.269
<i>Urban with major conurbation</i>	-0.050	0.241	-0.21	0.834	-0.522	0.422
Income deprivation	-1.3E-04	0.001	-0.13	0.894	-0.002	0.002
Constant	5.116	0.501	10.20	0.000	4.133	6.099

Random-effects Parameters	Estimate	Std. Err.	[95% C.I.]	
Var(CASSR)	0.064	0.026	0.029	0.142
var(_cons)	0.918	0.104	0.735	1.147
	N = 4,058 ; groups = 146			
	Log likelihood = -5069.9895			
	LR test vs. logistic regression: $\chi^2$ (01) = 218.27 (p = 0)			

There is some indication (at 8 per cent confidence level) that the level of expenditure on adult social care per person in a local authority is negatively associated with the probability

that an older person experiencing difficulty with one or more ADL or IADL cannot always meet their social care needs: an increase in £100 in net current expenditure on community-based social care services for clients aged 65 or over per person aged 65 or higher reduces the log odds of having an unmet need by -0.061, equivalent to a reduction in the odds of having an unmet need by 0.939. Put it differently, a reduction of £100 in community-based social care spending increases the odds of an older person having unmet needs by 1.063 times.

The other results are as follows:

The older the individual the more likely it is that they may have an unmet need –a finding also reported by Whalley (op. cit.). It is worth noting that the model controls for the impact of the accumulation of difficulties with chronological age. As expected, once we control for chronological age and the number of IADL, we find that the higher the number of ADL an older person has difficulty with, the more likely it is that they may have an unmet need. Interestingly, we find the opposite regarding IADL: having difficulty with one or more IADL –controlling for all the other covariates, including age and the number of ADL- is negatively associated with experiencing unmet needs. This may be related to the sources of help that the different activities bring into play: people experiencing difficulty with ADL only or to whom not being to perform one or more ADL is more relevant for their self-evaluation of need than having difficulty with one or more IADL are more likely to be in receipt of formal care activities than unpaid care (Vlachantoni et al., 2015; Jacobs et al., 2016). This could also be a result of local authorities mostly providing services to people with difficulties with ADL or that people do not recognise difficulty with one or two IADL as a social care issue so they do not seek help from their local authority.

The probability of having an unmet social care need is not associated with the gender of the person. Furthermore, neither the household's income nor non-housing wealth are significant –a finding in line with Leece and Leece (2011), who reported that income and wealth were not associated with the probability of being a direct payment user as opposed to a user of social care services provided or purchased by the local authority, and with Whalley (op. cit.) who found that although levels of need and probability of receiving help

decreased with household income, it was inconclusive whether there was a significant statistical association between unmet needs and household income.

The bigger the size of the household an older person lives in, the less likely the probability that they may experience unmet needs, which may indicate the importance of unpaid help as a source of care services.

Concerning area-level covariates, we find evidence that the type of local council with adult social care responsibility the individuals reside in is significant: living in a London Borough increases the chances of having unmet needs compared to any other type of local authority. However, neither the degree of rurality of the area nor the level of income deprivation of older people are associated with the probability of having unmet needs.

Finally, the random-effect parameters show that around 6 per cent of the variance in the probability of having unmet needs lies between local authorities, and 92 per cent between individuals. This is not surprising given that, information criteria aside, we have not obtained major differences between the nested and the cross-classified specifications. Apart from the low proportion of multiple membership records, another possible reason is that, over the period under study, there has been convergence in eligibility criteria across the adult social care system in England. CASSR have responded to increasingly tighter financial conditions by raising individual eligibility thresholds to the Substantial or Critical bands: whereas in 2007/08, 5 councils had set eligibility criteria for allocating social care services at the Low eligibility band, 25 at Moderate and none at Critical, by 2013/14 no local authority had set their eligibility threshold at Low or Moderate (Ismail et al, 2014). These changes could have made residential variations a less significant factor over time. The 2014 Care Act (CSEC, 2014) set national eligibility criteria, which would iron out most of the variation across local authorities though not all, as there is scope for local variation in their interpretation – for example the requirement that failure to achieve outcomes must have a ‘significant’ impact on the person’s wellbeing could lead to differences across areas in view that regulations do not define what is meant by ‘significant’.



## 2.6.2. Unmet needs as receiving insufficient help

Table 2.4 presents the results.

Table 2.4  
Cross-classified logistic regression – sample receiving help

Response variable: Unmet needs	Coef.	Std. Err.	Z	p	[95% C.I.]	
ASC spending per person (in £ hundreds)	-0.093	0.045	-2.06	0.04	-0.182	-0.004
Age	0.016	0.007	2.31	0.02	0.024	0.003
ADL						
2 ADL	0.447	0.116	3.840	0.000	0.219	0.675
3 ADL	0.453	0.136	3.320	0.001	0.186	0.720
4 ADL	0.785	0.167	4.700	0.000	0.457	1.112
5 ADL	0.681	0.199	3.430	0.001	0.291	1.070
6 ADL	0.783	0.249	3.140	0.002	0.294	1.272
IADL						
2 IADL	0.116	0.110	1.060	0.290	-0.099	0.332
3 IADL	0.244	0.133	1.830	0.068	-0.018	0.505
4 IADL	-0.160	0.188	-0.850	0.394	-0.529	0.208
Gender (1 = Male)	-0.238	0.093	-2.57	0.01	-0.420	-0.057
Income	-3.4E-05	3.62E-04	-0.090	0.925	-7.43E-04	6.75E-04
Non-housing wealth	-2.1E-08	3.29E-07	-0.060	0.948	-6.7E-07	6.24E-07
Household size	-0.437	0.072	-6.11	0.00	-0.578	-0.297
Council type (Baseline=London Borough)						
<i>Metropolitan</i>	-0.362	0.225	-1.610	0.107	-0.802	0.078
<i>Non-metropolitan</i>	-0.198	0.361	-0.550	0.584	-0.905	0.509
<i>Unitary</i>	-0.310	0.320	-0.970	0.333	-0.937	0.318
Rural/Urban classification (Baseline: Mainly rural)						
<i>Largely rural</i>	-0.052	0.170	-0.310	0.760	-0.385	0.281
<i>Urban with significant rural</i>	-0.249	0.288	-0.870	0.386	-0.813	0.314
<i>Urban with city and town</i>	0.025	0.262	0.100	0.924	-0.489	0.539
<i>Urban with minor conurbation</i>	-0.256	0.399	-0.640	0.522	-1.039	0.527
<i>Urban with major conurbation</i>	0.026	0.333	0.080	0.937	-0.626	0.679
Income deprivation	-2.2E-05	1.27E-03	-0.02	0.986	-2.51E-03	2.46E-03
Constant	1.866	0.739	2.530	0.012	0.419	3.313

Random-effects Parameters	Estimate	Std. Err.	[95% C.I.]	
Var(CASSR)	0.058	0.041	0.014	0.231
var(_cons)	0.975	0.180	0.679	1.400
N = 3,210 ; groups = 146				
Log likelihood = -2085.3944				
LR test vs. logistic regression: $\chi^2$ (01) = 98.75 ( $p = 0$ )				

A reduction in public spending on community-based services has a significant detrimental effect in the sense that it increases the probability of having unmet needs even after receiving some help. The odds are increased by 1.097 if spending is cut by £100 per head.

For considerations of space, we only focus on the main differences in Table 2.4 compared to Table 2.3:

- Having 2 or more IADL is not significantly associated with having unmet needs
- Women are more likely to have unmet needs than men
- Income (at 10 per cent) and non-housing wealth (at 6 per cent) seem to be negatively associated with the probability of having unmet needs
- There are no significant differences by type of local authority

## 2.7. Comments

Looking into data for 148 local councils with adult social care responsibilities and a representative survey of older people living in the community for the period 2004-05 and 2012-13, we report that there is a statistically significant association: a reduction in community-based adult social care spending per older resident increases the odds that an older person has unmet social care needs.

We used two alternative definitions for unmet needs. The first, broader definition considers not receiving any help or receiving help that does not meet the needs all the time. The second approach defines unmet need solely as receiving help that does not meet the needs all the time. We acknowledge that the ELSA dataset does not allow for discerning reasons for either not seeking or, if sought, not receiving any help at all. Therefore, the first

definition would incorporate as having unmet needs people who have decided not to seek help out of their own volition, in which case it could be argued that they should not be included in the definition as they would not feel the need for care though they report difficulty with one or more ADL or IADL. The second definition suffers from the opposite drawback: it would exclude from the analysis people who do not receive any care also out of choice but where such decision is associated with structural, environmental or social factors such as unaffordability or stigma so much so that it could be argued that they should be included. Consequently, our two definitions capture both extremes. Given that the results regarding the impact of reductions in spending are qualitatively similar, we are confident that this finding is robust to more finely-tuned definitions.

We can only speculate about the different findings related with gender and income and wealth under the second definition of unmet need as the data do not allow for further analysis. Regarding gender, there is some evidence stigma and the loss of independence and privacy (Roe et al, 2001) and threat (Qureshi and Walker, 1989) is felt more strongly among women than men receiving care, so women may be more prone to report unmet needs than men irrespective of their need and the care services they benefit from. Besides, informal care roles tend to be gendered with men more likely to provide help with gardening and shopping and women more likely to help with personal support –which could suggest that women with care needs may be less likely to obtain all the help they need from informal sources (Rutherford and Bowes, 2014)-compounded with the well-known fact that older women are more likely to be living alone. Another aspect has to do with the indication that the demand for publicly funded and privately funded formal social care help differ by type of need among women and men: for example, urinary incontinence makes women, not men, more likely to seek privately-funded help (Stoddart et al., 2012). Inasmuch as the effectiveness of the care service activities required to meet the needs differ by type of need, there may be variation in unmet needs by gender among older people receiving help.

With respect to income and wealth, the finding would point to a greater chance of having unmet needs the lower the income and wealth of an older person. Again, our study considers all funding sources of help.

As mentioned in the introduction, 10.3 per cent of the 9,305,179 population 65 or over experience unmet social care needs; the unadjusted odds of having unmet needs is therefore 0.1148 (0.103/1-0.103). The 65+ population is projected to rise to 10,609,000 by 2020 and to 11,727,000 by 2025<sup>6</sup> (an increase of 9.3 per cent and 20.8 per cent, respectively) (ONS, 2015). Under the assumption that nothing else changes, we expect that the number of people aged 65 or over with unmet needs in England by 2020 will be 1,217,913 and 1,346,260 in 2025. However, a reduction in £100 in community-based social care per older resident would increase the odds by 1.063 times or by 1.097 times, depending on the definition of unmet needs, so the projected number of people in later life with unmet needs would rise to 1,294,642 (first definition) or 1,336,051 (second definition) by 2020 and 1,431,074 (1,476,847) by 2025 if there is such a drop in funding across local authorities in England. Table 2 shows that over the period under study community-based adult social care spending has amounted, on average, to £345 per resident aged 65 or over. A reduction in £100 represents a fall by 29 per cent. Consequently, we conclude that a reduction by 29 per cent in spending would increase the proportion of older people with unmet needs between 6.1 per cent and 9.7 per cent depending on the definition of unmet needs.

The chapter reports unmet needs exist among community-dwelling older people even when all sources of help were considered. However, it does not investigate the dynamics of the relationship between the different funding sources of community-based social care (i.e. whether receiving services by one source is more or less likely if a person was already receiving services funded by the same source or another in a previous period). Nor it explores whether older people are procuring more unpaid care or privately-funded services as a result of this public sector retrenchment. All this is left for further research, but the findings in this chapter suggest that the gap remains open: that a shortfall in public spending on community-based adult social care exacerbates this issue, and large numbers of older people experience the double plight of having social care needs and not being able to meet

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<sup>6</sup> Principal population projections.

them in full. With the supply of unpaid care projected to lag increasingly behind than the care needs of the older population (Pickard, 2015), further contractions in public sector budgets are likely to negatively affect particularly older people on low incomes.

### **3. Household composition and the dynamics of community-based social care in England**

#### **3.1 Introduction**

In the financial year 2014/15, around 400,000 people aged 65 or over received community-based social care services in England with an estimated value of £3 billion (LaingBuisson, 2016). Non-residential adult social care services comprise home care, day services, direct payments, equipment and adaptations, and meals. Due to changes in the information systems and returns used to collect data on adult social care in England, since 2015/16 expenditure and activity cannot be broken down by these types of services. Non-residential care services for people aged 65 or over represented about 32 per cent of the annualised value of care services, of which just over 65 per cent was publicly funded. Moreover, domiciliary-based services represented about 40 per cent of all public and private expenditure in adult care services for people aged 65 or over (LaingBuisson, 2015). In addition to these formal care services, around 6.5 million people provide unpaid care in the United Kingdom whose services are estimated to be worth £132 billion a year (Carers UK, 2017).

Of all community-based social care services, local authority paid 59 per cent -either directly, through direct payments or by commissioning the services to private providers-; households paid about 35 per cent privately; and the NHS commissioned the remaining 6 per cent (LaingBuisson, 2015).

Despite the size of this market, little is known about the interplay between the dynamics of formal and informal care services and the structure of households. A vast literature has considered whether formal and informal care services are complementary goods or act as substitutes of each other. There is also a smaller literature whose focus is on the dynamics between caregiving and labour market decisions (e.g. Nguyen and Connelly, *op. cit.*), and another strand that looks into the transitions in and out of dependence and between domiciliary and institutional settings (e.g. Garber and MaCurdy, 1990; Börsch-Supan et al, 1991).

However the question of whether the probability of receiving services from one source (e.g. local authority-funded services) is related to the receipt of services from the same or any other source (e.g. unpaid services) in a previous period has not been investigated thoroughly –that is, whether there is dynamic complementarity or substitution between different community-based adult social care services (Goeree Sovinsky and Stern, *op. cit.*).

Care arrangement dependence has been reported for the United States of America by Dostie and Léger (2005) and Heidemann et al. (*op. cit.*), using two different datasets. Mentzakis et al (*op. cit.*) found strong inertia effects in informal care but focusing on the carers' decision to provide the services rather than the older recipients of those services.

Considering the changes in family structure, the restructuring of and reductions in publicly-funded social care and the increasing pressure on social care services stemming from current projected demographic trends, a better knowledge of the dynamics in the provision of and demand for different sources of care services is of crucial importance.

The focus of this chapter is to look into the dynamics of the interplay between formal (local authority and privately funded) and informal community-based caregiving services to older people in England, and, within the informal provision of care, the relationship between spousal and filial care. We investigate two related research questions:

a) that receiving formal care services significantly influences the probability of receiving informal care services in the future, and

b) that these effects vary within the informal caregiving context by source (i.e. spouse, sons, and daughters).

### **3.2 Data**

We use data from waves 2 to 6 (fieldwork between June 2004 - July 2005 and May 2012- June 2013, respectively) of the English Longitudinal Study of Ageing (ELSA) survey.

The unmet needs, ADL and IADL variables were constructed as in the previous chapter. Social care encompasses 'services to help with personal care and practical tasks to adults

who need it due to physical disabilities, learning disabilities, physical or mental ill-health, or old age' (NAO, 2014a, p. 55). An objective measure of such need is to have difficulty with performing activities of daily living (ADL), instrumental activities of daily living (IADL), or mobility tasks.

We classified as informal source help from unpaid volunteers and from relatives (husband, wife or partner; mother or father; son; daughter; etc.). The category 'privately paid employee' was used to define private help –except for wave 6 for which, due to changes in the questionnaire, we resorted to the 'other formal help' category. Finally, help from social or health service workers became the LA-funded help variable.

The models included the following individual-level independent variables:

- Household income. Benefit-unit (BU) equivalised income (according to the OECD equivalisation scale, Hagenaars et al, 1994). A BU is either a single person or a couple regardless of whether they keep their finances separate or together (ELSA, 2015a). Income is the sum of income from employment, self-employment, state benefit, state pension, private pension, assets, and other sources (ELSA 2015b).
- Non-housing wealth. Net total non-housing wealth, equivalised by BU. Net total non-housing wealth is the sum of savings, investments, and physical wealth after financial debt is subtracted (ELSA, 2015b).

Other individual-level covariates include the number of ADL with difficulty (from 1 to 6), the number of IADL with difficulty (from 1 to 4), chronological age (in years, truncated at 90), gender, and household size (with categories 1 and 2 or more, as only 7 per cent of respondents in the sample lived in households with 3 or more people including themselves).

We used four local-authority level variables:

- Public expenditure. We used the Net Current Expenditure on community-based social care services for clients aged 65 or over (sources: HSCIC 2014a and earlier) inflated to 2015-16 prices using the GDP deflator divided by the resident population aged 65 or over (source: ONS, 2016). We included the following services: Home care,



Day Care / Day Services, Fairer charging - Community services, Direct Payments, Equipment and adaptations, Meals, and Other services to older people. We omitted spending on Assessments and Referrals to focus on spending on activities closely related to the actual provision of services. To coincide with the fieldwork dates of ELSA Waves 2 to 6, we used biennial data covering the financial years 2004-05 to 2012-13.

- Income poverty. A higher concentration of older people on low incomes may be associated with access to and the density and quality of care services available to their residents (Phillipson et al, 2002; Hancock et al, 2003). The Income Deprivation Affecting Older People Index is one of the supplementary indices of the English Index of Deprivation (DCLG, 2015b). However, it is only available for 2004 (relating to 2001), 2007 (relating to 2005), 2010 (relating to 2008), and 2015 (relating to 2012/13). Therefore, we used the percentage of beneficiaries of pension credit in receipt of the guarantee-credit element only as the data is available for the whole period under study -this element of the pension credit benefit is a top-up amount for people on low incomes (Age UK, 2016). We estimated the average percentages for the four quarters in each year.
- Rurality. Social care services in rural areas are affected by sparcity (Asthana et al, 2003) and higher costs (Hindle et al, 2009) compared to more urban locations. Therefore, we controlled for the degree of rurality of the local authority as this may influence the relative prevalence of the sources of care services. We used the percentage of residents in mainly and largely rural areas and rural-related hub towns based on the rural-urban classification (Bibby and Brindley, 2016). Urban areas include major and lesser conurbations, cities and towns. Rural areas include smaller towns, villages, and hamlets and isolated dwellings.
- Type of local authority. Local authorities in England are classified into county councils, district councils, unitary authorities, metropolitan districts and London boroughs (apart from the City of London Corporation and the Council of the Isles of Scilly, which we excluded from our sample).. Of 353 local authorities, responsibility for the provision of adult social care services falls on 152 upper tier authorities,

which excludes the 201 district councils. We included this variable because the type of upper tier local authority an individual resides in is significantly associated with changes in net expenditure on adult social care (Fernández et al, 2013).

Table 3.1 provides the summary statistics by wave.

Table 3.1  
Summary statistics – Means of each variable by wave

	Wave 2 (n=1695)	Wave 3 (n=1530)	Wave 4 (n=1762)	Wave 5 (n=1624)	Wave 6 (n=1737)
Unmet needs	0.53 (0.50)	0.63 (0.48)	0.57 (0.50)	0.57 (0.49)	0.57 (0.50)
Funding sources					
LA-funded	0.07 (0.26)	0.06 (0.24)	0.08 (0.27)	0.06 (0.23)	0.08 (0.28)
Informal	0.65 (0.48)	0.54 (0.50)	0.58 (0.49)	0.57 (0.49)	0.59 (0.49)
Privately-funded	0.16 (0.36)	0.10 (0.31)	0.12 (0.33)	0.11 (0.31)	0.11 (0.31)
Individual-level variables					
Household income	218.21 (200.13)	223.52 (134.45)	263.80 (187.85)	273.22 (164.64)	305.75 (257.25)
Non-housing wealth	44,732 (172,780.20)	50,187 (148,370.20)	64,636 (199,789.80)	63,404 (154,310.90)	71,264 (185,172.30)
Age	76.74 (7.09)	77.36 (7.37)	76.76 (7.30)	76.04 (6.71)	77.01 (7.68)
ADL	1.49 (1.40)	1.62 (1.50)	1.54 (1.47)	1.50 (1.47)	1.62 (1.59)
IADL	1.27 (1.11)	1.38 (1.20)	1.32 (1.18)	1.31 (1.16)	1.42 (1.23)
Gender	1.39 (0.49)	1.38 (0.49)	1.40 (0.49)	1.40 (0.49)	1.60 (0.49)
Household size	1.65 (0.69)	1.63 (0.75)	1.65 (0.71)	1.67 (0.71)	1.66 (0.72)
Local-authority level variables					
Adult Social Care (ASC) net current expenditure per person	328.77 (118.24)	360.45 (142.04)	383.66 (131.16)	339.89 (120.46)	314.84 (124.54)
Guarantee-only pension credit (%)	0.08	0.08	0.09	0.09	0.09

	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Rurality (% residents)	19.81	19.39	19.75	20.35	20.17
	(19.93)	(19.36)	(19.17)	(19.58)	(19.73)
Sample size	1695	1530	1762	1624	1737
<i>Note: standard deviations in parentheses</i>					

### 3.3 Statistical methods

As mentioned, the goal of the chapter is to investigate whether receiving help from one source makes it more or less likely to receive help from that source or any of the other sources conditioned on local authority of residence, public spending on social care, and the other covariates.

As observations in one period or wave are linked to those in some other period, we fitted dynamic regression models (Box-Steffensmeier et al., 2014, ch. 3) to the data. Given that the individual respondents were nested into their respective local authority of residence, the models needed to count for this multilevel structure. In particular, because we identified that some individuals moved local authority of residence in around 0.89 per cent of all valid individual-wave records we tested whether a multilevel cross-classification (Rasbash and Goldstein, 2008) model fitted the data better than a purely hierarchical specification using the Akaike information criterion (AIC) and the Bayesian information criterion (BIC). We found that cross-classified models did not significantly improve the fit and therefore we opted for a simpler nested specification. We did not impose any restrictions to the coefficients for each local authority –that is, we allowed them to vary both in slope and intercept- so we used a mixed-effects specification.

Dynamic linear models suffer from the ‘initial condition problem’ (Heckman, 1981a): they would render biased and inconsistent estimators if the initial conditions were not handled properly. Following Heckman (1981b) and Woolridge (2005), we included the initial conditions of each variable of interest (e.g. whether the individual received care from the particular source under investigation in the first wave they have entered the survey) to solve such problem.

Finally, as each variable of interest in the equations above are binary (e.g. whether the individual received LA-funded social care in period  $t$  or not), we applied logistic regression models.

Consequently, we fitted the following dynamic multilevel mixed-effects logistic regression models:

$$\begin{aligned}
 \text{LA-funded}_{t,i} &= \alpha + \beta_1 \text{LA-funded}_{t-1,i} + \beta_2 \text{Private}_{t-1,i} + \beta_3 \text{Unpaid}_{t-1,i} + \beta_4 \text{LA-funded}_{0,i} + \\
 &\quad + \beta_5 \text{Private}_{0,i} + \beta_6 \text{Unpaid}_{0,i} + \beta_7 \text{Spending}_{t,i} + \text{B.OC}_{t,i} + \varepsilon_{t,i} \\
 \text{Private}_{t,i} &= \alpha + \beta_1 \text{LA-funded}_{t-1,i} + \beta_2 \text{Private}_{t-1,i} + \beta_3 \text{Unpaid}_{t-1,i} + \beta_4 \text{LA-funded}_{0,i} + \\
 &\quad + \beta_5 \text{Private}_{0,i} + \beta_6 \text{Unpaid}_{0,i} + \beta_7 \text{Spending}_{t,i} + \text{B.OC}_{t,i} + \varepsilon_{t,i} \\
 \text{Unpaid}_{t,i} &= \alpha + \beta_1 \text{LA-funded}_{t-1,i} + \beta_2 \text{Private}_{t-1,i} + \beta_3 \text{Unpaid}_{t-1,i} + \beta_4 \text{LA-funded}_{0,i} + \\
 &\quad + \beta_5 \text{Private}_{0,i} + \beta_6 \text{Unpaid}_{0,i} + \beta_7 \text{Spending}_{t,i} + \text{B.OC}_{t,i} + \varepsilon_{t,i}
 \end{aligned}$$

where  $t$  is the time period or wave and  $t-1$  refers to the previous period to  $t$ ;  $o$  corresponds to the initial conditions;  $i$  is the local authority; OC stands for other covariates (with B as the respective vector of regression coefficients) including the number of ADL and IADL with difficulty, age, gender, and household size; and  $\varepsilon$  is the stochastic error.

Our sample consists of people aged 65 or over who have at least one son, one daughter, and a spouse. Let's consider the probability of receiving help from a son in a given period. The model investigates whether it depends on having received help from a partner or a son in the previous period, or from formal sources, as well as on the other covariates. Crucially, it also considers whether having received help from a daughter in the previous period is significant. It would not have been correct simply to have included a binary variable for help from daughter in the previous period, as the older recipient of services may not have any daughters. Not receiving help from a living daughter is not the same as not receiving help from a daughter because the older person in need does not have any daughters in the first place! Therefore, the model to test for the probability of receiving help from a son in period  $t$  was run on the sub-sample of older people who had difficulty with ADL and IADL, and who had a son and at least one daughter in  $t-1$ . Similarly for spousal care. This means that our models belong to the family of models with multiple children (Checkovich and Stern, op. cit.; Byrne et al, 2009).

### 3.4 Results

Table 3.2 presents the regression results on each variable of interest.

Table 3.2  
Regression results

	Informal help from partner			Informal help from son			Informal help from daughter			Formal LA-funded help			Privately-funded formal help		
	Coef.	z	P> z	Coef.	z	P> z	Coef.	z	P> z	Coef.	z	P> z	Coef.	z	P> z
Help from partner in (t-1) <sup>(*)</sup>	0.986	6.060	0.000	0.130	0.470	0.641	0.152	0.460	0.643	-0.559	-2.650	0.008	-0.481	-3.390	0.001
Help from son in (t-1)	-0.406	-1.390	0.164	1.797	7.310	0.000	-0.804	-2.890	0.004	0.063	0.310	0.756	-0.082	-0.520	0.601
Help from daughter in (t-1)	-0.982	-3.910	0.000	-0.775	-3.460	0.001	2.622	8.400	0.000	-0.506	-2.670	0.008	-0.181	-1.320	0.188
LA-funded help in (t-1)	-0.243	-0.480	0.633	0.296	0.800	0.424	-0.341	-0.880	0.378	1.916	10.190	0.000	0.618	3.420	0.001
Privately-funded help in (t-1)	-0.218	-0.840	0.402	0.175	0.670	0.506	0.104	0.320	0.748	0.430	2.560	0.011	1.332	10.510	0.000
Age	-0.026	-2.010	0.045	0.002	0.130	0.898	-0.012	-0.620	0.537	0.049	4.260	0.000	0.042	5.120	0.000
Gender (1=Male)	-0.055	-0.350	0.725	-0.171	-0.820	0.410	-0.543	-2.260	0.024	-0.109	-0.730	0.464	-0.026	-0.250	0.804
Household size	0.179	1.010	0.314	0.203	1.820	0.068	0.127	0.850	0.393	-0.433	-3.270	0.001	-0.422	-4.410	0.000
ADL (baseline=1)															
2	0.487	2.430	0.015	0.427	1.660	0.097	0.195	0.650	0.515	0.397	2.000	0.045	-0.085	-0.640	0.525
3	0.580	2.340	0.019	0.117	0.390	0.697	-0.413	-1.170	0.242	0.582	2.520	0.012	0.062	0.380	0.702
4	0.381	1.530	0.127	0.068	0.220	0.826	-0.060	-0.160	0.871	0.995	4.790	0.000	0.149	0.960	0.336
IADL (baseline=1)															
2	0.617	3.160	0.002	0.092	0.360	0.721	0.282	0.960	0.337	0.167	0.850	0.395	-0.073	-0.560	0.573
3	0.505	2.000	0.045	0.157	0.540	0.588	0.572	1.640	0.101	0.789	3.790	0.000	0.226	1.460	0.145
4	0.878	2.730	0.006	0.122	0.330	0.743	1.015	2.280	0.023	0.900	3.540	0.000	0.618	3.180	0.001
Household Income	0.234	2.200	0.028	0.068	0.550	0.580	0.156	0.950	0.340	0.051	0.430	0.668	0.194	2.030	0.042

Non-housing wealth	-0.018	-0.640	0.522	0.014	0.520	0.601	0.007	0.230	0.819	-0.010	-0.500	0.618	0.043	2.540	0.011
Pension credit	-2.045	-0.820	0.415	3.638	1.370	0.172	-3.171	-1.020	0.309	-0.621	-0.280	0.780	1.484	0.940	0.347
ASC spending per capita	0.152	0.440	0.662	-0.581	-1.370	0.171	-0.189	-0.390	0.693	0.685	2.180	0.029	-0.202	-0.900	0.369
Rurality	-0.004	-1.020	0.307	0.005	0.950	0.344	-0.008	-1.370	0.172	0.004	1.110	0.268	0.000	-0.050	0.963
Type of local authority															
Metropolitan Borough	-0.101	-0.280	0.781	-0.137	-0.320	0.748	-1.387	-2.370	0.018	0.534	1.530	0.127	-0.221	-0.930	0.354
Non-metropolitan council	0.390	0.840	0.402	-0.422	-0.750	0.456	-0.724	-0.990	0.323	0.423	0.980	0.329	0.151	0.510	0.613
Unitary Authority	0.322	0.800	0.423	-0.050	-0.110	0.916	-1.269	-1.990	0.047	0.442	1.180	0.237	-0.067	-0.260	0.791
Intercept	-0.070	-0.030	0.978	1.020	0.350	0.729	1.797	0.520	0.603	-10.857	-4.730	0.000	-4.341	-2.640	0.008

(\*)  $t-1$  refers to the period previous to  $t$

The sources of social care older people receive are subject to temporal inertia, confirming previous results reported in the literature. Receiving local-authority funded services in one year is a strong predictor of the probability of receiving LA-funded services two years later, and the same applies to the other sources of formal and informal help.

We also find a complex dynamics within sources of informal care, and between these and formal care. Starting with informal care, help from sons and daughters appear to be substitutes: it is less likely for an elderly parent to receive help from an adult son if an adult daughter was already providing help, and vice versa. However, the interplay between help from an offspring and partners is less clear cut: receiving help from a daughter reduces the probability of obtaining help from a partner in the future, but the converse is not true: having received help from a partner two years earlier is not associated with the probability of receiving help from a daughter. Furthermore, there is no dynamic relationship between help from adult sons and help from partners.

Focusing on formal care, we find that LA- and privately-funded care services are complementary to each other. Regarding the relationship between formal and informal care, receiving formal help is not associated with the probability of receiving informal help in the future, which suggests that the substitution hypothesis between formal and informal services would not be validated. However, our more detailed analysis reveals that receiving help from a partner reduces the probability of receiving formal help (and in the case of help from a daughter, it reduces LA-funded help), whereas informal help from sons does not affect the chances of receiving formal help. This would indicate that daughters and partners would substitute formal help, but not sons. More generally, this result points to the need of refining the theoretical models with the addition of a gender dimension.

Increasing age reduces help from partners and increases dependence of formal help, but age is not associated with informal help from adult children.

The gender of the older person with care needs is only associated with receiving help from a daughter: daughter-father provision is less likely than any other offspring/parent combination. This would bring additional evidence to explanations of gendered caregiving based on mediating cultural



norms, although not on same-sex care as we failed to find that the son-mother dyad is less likely than the son-father relationship.

Compared to those living alone, older people who live with others are less likely to receive local authority-funded and privately-funded help. We ran, following Mentzakis et al (op. cit.), models for each of the three informal care sources in which the two formal sources (LA- and privately-funded services) did not enter as lagged covariates, but as contemporaneous to the dependent variables. As these authors, we failed to find significant differences in any of the regression coefficients<sup>7</sup>.

However, we prefer to present the results from the specifications with the lagged variables because the statistically significant result about the probability of receiving formal services and living alone or not shows that, despite the assessment and eligibility processes for the provision of formal care by local authorities are, in principle (though not according to the legislation, regulation and guidance; see Schwehr, 2014) 'carer blind', the actual packages of care and support plans are not.

In addition, household size is not associated with getting informal help except from a son, in which case it is more likely. We surmise that this may reflect that older people who reside with other people in their homes are more likely to delay seeking help from their local authorities or from private providers until the severity or number of activities they have difficulty with increases, which would provide some empirical evidence in favour of the complementary model.

Having difficulty with two or more ADLs is associated with receiving local-authority funded help (and to some extent with informal help from a partner) whereas having problems with IADLs is mostly associated with receiving informal help from a partner, except when performance of three or more IADLs is compromised when LA and privately-funded help is also more likely. This would suggest a degree of specialisation in the type of need that each source of help is aimed at, indicative of task specificity: having difficulty with ADLs and with a high number of IADLs seem to trigger LA-funded help. In contrast, informal help from partners is more likely when older people have difficulty with

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<sup>7</sup> Results available from the author.

IADLs and with a relatively low number of ADLs. Neither informal help from sons and daughters nor privately-funded formal help seem to be associated with the type or degree of care needs.

Informal help from a partner is more likely in households on higher incomes, and so is privately-funded formal help. Regarding non-housing wealth stock, it is not associated with a higher probability of receiving any type of help except that privately-funded formal help provision becomes more likely the higher the non-housing wealth of the household.

Local-authority spending per capita on social care is positively associated with the probability of receiving LA-funded services; it does not directly affect the provision of help from any of the other sources. We mentioned above that receiving help from a spouse or a daughter diminishes the probability of getting publicly-funded help in the future. Now we see that the reverse is not true: in particular, a reduction in publicly-funded care does not increase the probability of obtaining informal help. This is important because it would indicate that a contraction in adult social care budgets would manifest in higher unmet care needs among the older population (Iparraguirre, 2017).

Finally, whether an older person in need of community-based care lives in a more rural or urban locality is not associated with the probability of receiving help –either formal or informal. However, we did find that it is less likely that daughters provide informal help to their parents if they live in Metropolitan Boroughs and Unitary Authorities.

### **3.5 Comments**

This chapter has examined the dynamic relationships between community-based social care services for older people in England between 2004 and 2013 from different sources: formal help, including local-authority funded and privately-funded services, and informal unpaid services by partners, sons, and daughters.

We noticed a rich tapestry of dynamic interactions between formal and informal sources of help, as well as within households regarding the provision of informal, unpaid care services. We found that help from sons and daughters acts as substitute services. This result points to a division of roles,

perhaps led by proximity of residence (which we could not test due to data limitations). Neither the type nor the intensity of need seems to indicate whether it is the son or the daughter who would first provide the care. We did find, however, that in case that a father needs care services, it is more likely that a son steps in, which confirms previous results in the literature indicative of mediating cultural norms in the provision of informal care within families.

In addition to filial care, privately-funded formal care is not associated with either the intensity or the type of need; however, both care from a partner and LA-funded care are. In particular, demand for the latter increases as older people have difficulty with a higher number of ADL.

We found that informal help from daughters partially substitutes formal help, which does not apply to caregiving services from sons. Therefore, the division of tasks by gender within households has an impact on the demand for formal care services. We failed to find that this division is related to the type of tasks or the intensity of services, so we suggest that wider cultural norms would be in place – a surmise that is further based on the finding that father-son and mother-daughter dyads are more likely than father-daughter or mother-son configurations. Consequently, we envisage that employment policies that aim to maintain women in paid employment for longer, thus extending their working lives, will increase the financial and operational pressure that publicly funded community-based social care services are under.

In relation to public funding of social care services, and considering the results from Table 2 about household income, wealth and public spending, we arrive at an additional, worrying conclusion regarding older people on lower incomes and with a relatively lower stock of non-housing wealth. Their relative lower financial status makes it less likely for them to rely on privately-funded help. If, in addition, they reside in local authorities that spend less per person or which cut public spending on community-based social care services, they are faced with the additional problem of being less likely to receive LA-funded care services. In other words, a contraction in public expenditure by their local authority reduces the probability that they may receive publicly-funded services, and their lower income makes it less likely for them to purchase services privately. This doubly adverse effect is compounded by the fact that household income levels are inversely related with the number of

activities of daily living and instrumental activities of daily living older adults have difficulty with: the lower the income, the higher the need for care services.

The negative impact of the reductions in public spending on the probability that an older person in need may have their needs fully met and the partial substitution of formal home care services by daughters in times of increases in pensionable age calls into question the trend towards increasing marketisation of the homecare and community-based social care sector in England –a model that according to LaingBuisson (2016, p. 1), has ‘political support from the main parties (in contrast with politically controversial outsourcing of NHS clinical services)’ which makes it ‘now effectively impossible to roll back the ‘privatisation’ of social care’.

The chapter is subject to three principal limitations. The ELSA survey is carried out every two years, a period too long to test the presence of compensatory decisions or adaptive behaviour following transitions such as the onset or aggravation of disability as well as intra-household changes. Second, the data do not include any information about the daughters or sons providing care, so we could not control for their chronological age, marital or employment status (which is a strong determinant of opportunity costs), proximity of residence to their parents, etc. Finally, as it is usually the case with household-based surveys, there is an assumption of intra-household equality that was not testable with the data. Neither could we check for inter-vivos financial transfers to fund, partially or in full, privately-provided care services.

## 4. Informal caregiving and labour market participation in later life

### 4.1. Introduction

With increasing numbers of older people and, especially, of the ‘oldest-old’, the provision of social care services is ever more pressing. However, a retrenchment in public spending in adult care services over time, coupled with the marketization of community care provision, has led to an increasing prevalence of unmet care needs which families, other relatives, and even friends and neighbours have only partially succeeded in reducing (Iparraguirre, 2017).

The fact that more people are stepping in and taking up informal social care responsibilities poses additional challenges to the labour market participation of older people, whose rise is sought by employment and pension policies. If taking on caregiving responsibilities reduces the probability of being in employment or the number of hours worked, then aspects of the social care system may be jeopardising the efforts and initiatives in other areas of policy.

It is within this policy context that this research looks into the effects of taking up caring responsibilities on the labour market participation of people in paid employment before the onset of this transition in England. In particular, this chapter seeks to respond to two research questions:

- a) Is the onset of caring responsibilities associated with an increase in the probability of leaving paid employment?
- b) Amongst those who remain in paid work, is the onset of caring responsibilities associated with a reduction in the number of hours worked?

The first question refers to the extensive margin decision –i.e. whether to remain in paid employment or not. The second question refers to the intensive margin decision –i.e. having decided to be in paid employment, how many hours to allocate to remunerated work. The extensive margin question is a binary decision about participating in the labour market or not; the intensive margin question is about the extent of the participation.

There is a burgeoning literature on the relationship between informal caregiving and paid employment, the bulk of which deals with the possible implications for labour supply and career

progression of taking up care responsibilities although another strand considers whether work commitments hamper the provision of informal care of relatives, neighbours and friends with social care needs. This chapter belongs to the first group. However, in addition to contributing to the literature on the implications for labour market participation of informal caring responsibilities, the chapter also reports population estimates of the effects that were found to be statistically significant, thus providing an understanding of the orders of magnitude of the relationship – something usually missing in the academic literature- to help guide the discussions among decision- and policy-makers.

#### **4.2. Data and Methods**

Previous research in England and Wales has reported that female informal caregivers are concentrated in the 35-54 years age group, whereas the highest proportion of male informal caregivers is found at older ages; furthermore, among informal caregivers of either sex, there is a higher probability that they provide 50 hours or more a week than less (Robards et al, 2015). Therefore, we included in our models the age and gender of the carer and an indicator for intensity of caregiving as covariates. In addition, given the strong association between education attainment and labour market participation, we also controlled for the carer's education level.

In the literature on the impact of informal caring on wellbeing, physical or mental health, or social and family relations of carers, intensive caregiving is usually defined as a provision of between 10 to 20 hours or more of informal care per week (DoH, 2003; Heitmueller, 2007; Di Gessa et al, 2016). We chose to use 10 hours or more as our cut-off point, so this analysis compares the working patterns of those doing at least 10 hours of care a week with those doing fewer than ten hours over the period and those who did not provide any informal care services.

The variables included in the models are:

- Caregiving. USoc includes two variables for the provision of informal care according to the locus of care: whether caring services are provided for a sick, elderly, or disabled person in

or outside the household. Following usual practice in the literature (eg Carmichael y Ercolani, 2016; Lacey et al, 2018; Carr et al, 2018), we combined both variables to obtain an indicator of informal caregiving provision. This choice is driven mainly by the small percentage of respondents who report exclusively to provide help to older adults within the household, and that those who do are very unlikely to work (Della Giusta y Jewell, 2014).

- Hours of caregiving. There is a question in the survey about how many hours a week are spent in caring both in and outside the household. In previous specifications, the number of hours was treated as a categorical variable. Apart from respondents who do not have any caregiving responsibilities, the variable was categorized into seven groups of unequal range: 1-4 hours, 5-9 hours, 10-19 hours, 20-34 hours, 35-49 hours, 50-99 hours, and 100 hours a week. For the statistical analyses, we assigned the following number of hours to each individual for each of these categories, respectively: 2, 7, 15, 27, 42, and 50 for the last two. In addition, there are three open categories for a variable number of hours under and over 20 hours, and for 'some other times'. Following Hirst (2005), we classified respondents who provided a variable number of hours a week under a maximum of 20 within the 10-19 hours category, those who provided over 20 hours in the 20-34 hours category, and classified respondents in the 'some other times' category as providing 0-4 hours a week.

In parallel, we used a dichotomous classification intensive/non-intensive caregiving defined with the cut-off mark of 10 hours or more per week. The literature is inconsistent regarding this definition of intensive caregiving, with Berecki-Gisolf et al (2008) using 7 weekly hours or more or Jacobs et al (2014) distinguishing between mid- (5-14.9 hours a week) and high-intensity caregivers (15 weekly hours or more), and so on. However, since Ettner (op. cit.), the presence of a 'threshold effect' is a usually considered hypothesis. In general, the threshold ranges between 10 and 20 hours a week -though in studies based on the British Household Panel survey, this choice was restricted by the question asked, which only discerned between providing help for under or over 20 hours a week. Recent

studies using the 10-hour a week threshold include Verbakel et al (2017); Moscarola et al (2017); Maynard et al (2018); and Sacco et al (2020).

Given that both specifications rendered similar results, we report the findings based on the latter modelling, which has the advantage of being easier to interpret.

- Hours worked. We combined the number of usual hours (i.e. excluding overtime and meal breaks) worked per week and the number of hours overtime usually worked in a normal week, both in the main and in a second job, plus –for the self-employed- the number of hours normally worked per week.
- Economic activity. We distinguished between respondents in paid employment (irrespective of sector), unemployed, retired and inactive.
- Education: we dichotomised this variable as having a higher education or not, defining as ‘higher’ education the attainment of at most a first degree, a diploma in higher education, a teaching qualification (except the Postgraduate Certificate in Education), or a nursing or other health-related qualification.

As the research is based on longitudinal data, apart from gender, age, and educational attainment, our models also include a time trend to adjust for any period effects such as the influence of contractionary phases in the annual business cycle over the period.

Given that the first question, related to the extensive margin decision, is whether taking up intensive informal caring responsibilities is associated with ceasing to be in paid employment or not, we use multivariate logit panel regression models. Regarding the second question, related to the intensive margin decision, given that it is to do with changes in the number of hours worked, we use multivariate panel regression models for continuous response variables.

When using longitudinal data, it is important to check whether there is heterogeneity within individuals of the impact of a predictor and the outcome variable: a host of unobserved characteristics may influence or not whether a person leaves paid employment or reduces the number of hours worked following the uptake of intensive caring responsibilities beyond gender,



educational attainment, or age. These other individual characteristics are captured by so-called fixed effects models. However, the assumption of the presence of fixed effects is valid only if these unobserved characteristics do not vary (i.e. are ‘fixed’) over time and are not correlated with any of the other predictors (in our models, age, education, gender). If these assumptions do not hold, and there are time-variant characteristics influencing the decision whether to work or not, or for how many hours, the fixed effect specification is incorrect. In this case, the alternative random effect model should be used. The Hausman test is a statistical test to check which model specification is more appropriate. Consequently, for both questions, we ran fixed effects and random effects models, followed by Hausman tests. The tests suggested that a random effect model was the best specification to answer the first question and that the second question did not require the inclusion of either fixed or random effects<sup>8</sup>.

### 4.3. Results

The first model regresses the probability of leaving paid employment (i.e. of changing the economic activity from employed in a previous period to unemployed, inactive, or retired in the next period) conditional on the provision of intensive (i.e. 10 hours or over per week) informal care services and the chronological age, gender and higher educational attainment of the individual, and dummies for each wave (not shown). Table 4.1 presents the results.

Table 4.1  
Multivariate logit panel regression. Probability of leaving paid employment  
(England 2010-2016, N=58,921)

Dependent variable: Left Paid Employment	Odds ratio	Std. Err.	z	P> z	[95% conf. interval]	
Intensive caring	1.612	0.188	4.100	0.000	1.283	2.026
Age	0.996	0.002	-1.880	0.060	0.992	1.000
Gender (Male=1)	0.496	0.025	-14.130	0.000	0.450	0.547

<sup>8</sup> Results available from the author upon request.

Higher qualification	0.796	0.038	-4.770	0.000	0.724	0.874
Intensive caring in previous wave	1.153	0.105	1.560	0.119	0.964	1.379
Constant	0.067	0.007	-24.940	0.000	0.054	0.083

*Notes: L=-12964.538 (p >c2=0) the model also included a dummy variable for period effects and two interactions, between intensive caring and qualification (OR: 0.957; z: -0.260), and intensive caring and gender (OR: 1.034; z: 0.190).*

Table 4.1 shows that individuals who provide 10 or more hours of care a week are almost two thirds (61%) more likely to have dropped out of employment than those who are not intensive unpaid carers. Furthermore, individuals who are older, men, and have higher educational qualifications are more likely to have left paid employment following the uptake of intensive caring responsibilities. The provision of intensive caring in the previous period is not significant, which means that it is the onset of intensive caring responsibilities that is influencing the employment decisions.

The second model seeks to answer whether the number of usual hours worked, among individuals with intensive caring responsibilities who decided to stay in paid employment, has varied over time. We fitted a panel linear regression model of the changes in the number of hours worked every two waves on being an intensive caregiver, age, gender, and educational attainment, plus dummies for each wave (not shown) and conditional on being in paid employment in the previous period. Table 4.2 presents the results.

Table 4.2  
Multivariate linear panel regression. Changes in hours worked  
(England 2010-2016, N=55,081)

Dependent variable: change in hours worked	Odds ratio	Std. Err. <sup>9</sup>	z	P> z	[95% conf. interval]
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<sup>9</sup> We used the sandwich estimator of variance to obtain robust standard errors.

Intensive caring	-0.199	0.194	-1.030	0.304	-0.578	0.181
Age	-0.039	0.004	-9.630	0.000	-0.047	-0.031
Gender (Male=1)	-0.249	0.081	-3.090	0.002	-0.407	-0.091
Higher qualification	-0.283	0.081	-3.500	0.000	-0.441	-0.124
Constant	1.794	0.212	8.460	0.000	1.378	2.209
<i>Notes; F(9, 55071) = 14.47. The model also included a dummy variable for period effects (not shown in the table)</i>						

Table 4.2 shows that people with intensive caring responsibilities who remain in paid employment are no more likely to reduce their hours of work than people who either provide less than 10 hours a week or are non-carers. The other findings indicate that older individuals are less likely to reduce the number of hours once they decide to remain in paid employment and so are men and those with higher qualifications.

#### 4.4. Comments

This chapter looked into the relationship between caring responsibilities and employment in England. We found that providing 10 or more hours of care a week significantly reduces the probability of remaining in paid employment compared to individuals who are not unpaid carers. Moreover, we reported that this effect is unrelated to having been a carer in the past, but that it is the uptake of caregiving responsibilities which pushes individuals out of the labour market. Besides, we also found that the intensive margin decisions are not related to the number of hours of informal care provided.

These findings suggest, then, that informal caregiving makes it less likely for an individual to remain in paid employment but that if she decides to remain in the labour market, her labour supply is not affected: the extensive margin is affected, not the intensive margin. This is in line with most of the literature, which finds significant effects on the extensive margin (Bolin et al, 2008; Crespo y Mira, op. cit.) but reports conflicting evidence on the intensive margin implications of caregiving. It is also aligned with the finding reported in Jacobs et al (2016) who, although in their study based on US data reported significant effects of intensive caregiving on the number of hours worked, found that it was

associated with a reduction in 13 percentage points of the probability of being employed against a fall in 4 percentage points of the probability of cutting back working hours.

We applied these results to the estimated number of people aged 16-64 in the UK in paid work for 2018<sup>10</sup> and concluded that approximately 83,000 men and 135,000 women would stop working each year because of intensive caring responsibilities.

One potential limitation in the analysis is that among carers in paid employment we have not factored in their availability of flexible working arrangements, which could accommodate employment and (especially non-intensive) caring responsibilities.

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<sup>10</sup> Labour Force Survey (November 2018). Available on:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/november2018>

## **5. Public spending on adult social care and delayed transfers of care in England**

### **5.1. Introduction**

A delayed transfer of care occurs when a patient is ready to depart from acute or non-acute care but is still occupying a bed. A measure of delayed transfers is given by the number of days from when a patient was medically fit to be transferred or discharged and the date they were transferred or discharged. In England, the total number of delayed days of care of patients aged 18 years or over amounted to 1,665,725 in 2018/19 –in other words, on average, on every single day 4,564 adults medically ready for discharge waited to be transferred or discharged (NHS England, 2019a).

A metric used to compare the extent of the problem across geographical areas is the daily average rate of delayed transfers of care per 100,000 people aged 18 years or over. For England as a whole, the daily average rate of delayed transfers of care for all delays was 10.4, but it exhibited some regional variation, ranging from 12 in the West Midlands to 5.8 in the North East. Across local councils (also known as local authorities), the disparity was even wider: from 1.2 in Barnsley and 2.5 in Bromley, to 20.2 in Cornwall and 20.5 in Cambridgeshire (NHS England, 2019b).

Delayed transfers originate in three different settings -the publicly funded healthcare system (i.e. the National Health Service –NHS), the social care system, or a combination of both- and occur due to a variety of causes. This chapter looks into whether current public expenditure on adult social care services might be associated with the number of delayed days of care attributable to the social care system in England.

### **5.2. Data**

The dependent variable in this study is the number of delayed days of transfer of care due to social care per older resident by local authority as reported by the Health and Social Care Information Centre in their monthly delayed transfers of care reports<sup>11</sup>.

Roughly, around 30 per cent of all delayed days can be attributable exclusively to the social care system and 60 per cent to the NHS, with the remaining 10 per cent to a mix of NHS and social care related causes. Almost 21 per cent of all delayed days originated in unavailability of or tardiness in the design of care packages in patients' own homes, 12.3 per cent resulted from the lack of available residential home places, and 17.2 per cent of total delayed days in 2018/19 originated in problems with further non-acute NHS care (NHS England, 2019a).

This chapter used two definitions of delayed transfers of care due to social care: a) the delays exclusively attributable to the social care system and b) a wider definition that adds to these attributed delayed transfers an estimated proportion of the combination of NHS and social care reasons that would correspond to the social care system. For the second definition, the days attributable to both settings were apportioned on the basis of the proportion of days attributable exclusively to social care and exclusively to NHS in each local authority each year. The chapter presents the results based on this extended definition, as using the days exclusively attributable to the social care system does not qualitatively modify the results. NHS England collects monthly data in its situation reports on the total delayed days during the month for all patients delayed throughout the month for each agency (i.e. NHS, Social Services or both) and local authority responsible for each patient delayed (NHS England, 2019b). The monthly data between April and March in the following year were aggregated to obtain the annual figures, later divided by the mid-year population estimates of residents aged 65 years or over by local authority<sup>12</sup> to obtain per head estimates.

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<sup>11</sup> Disponible en: <https://www.england.nhs.uk/statistics/statistical-work-areas/delayed-transfers-of-care/>

<sup>12</sup>

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesandnorthernireland>

The statistical models included four predictors (expressed in per population aged 65 or over):

- Gross current expenditure on adult social care services for adults aged 65 or over. Public spending may be partially responsible for delays transfers in each setting, particularly in the social care system: gross current expenditure in adult social care services for people aged 65 year or over went down, in real terms, by 18.9 per cent between 2013/14 and 2017/18 across local councils in England, which, combined with an increase by 7.8 per cent in the adult population in this age group over the same period, led to a fall in gross current expenditure per person by almost 25 per cent (HSCIC 2014a and NHS 2018).

Gross current expenditure is a measure of public spending that represents the amounts of spend not offset by income from clients and that does not include a capital charge. Consequently, it is the fiscal metric that best captures local government expenditure. Social care expenditure funds long-term and short-term physical, sensory, memory and cognition, learning disability, and mental health support services. This variable was constructed by adding together the gross current spending on all these services targeted at clients aged 65 or over. These amounts were transformed in real terms (2018 prices) using the implied gross domestic product deflator at market prices<sup>13</sup>. In the statistical models in this chapter, gross current expenditure per head enters lagged by one year and transformed using natural logarithms. This chapter uses a one-period lag under the assumption that the association between spending in adult social care and the number of delayed transfers of care is not contemporaneous –i.e. that the amount spent in one particular year affects the transfer of patients in the following year. Natural logarithms were applied to reduce the skewness in the distribution of public spending on adult social care per head across local authorities.

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<sup>13</sup> <https://digital.nhs.uk/data-and-information/publications/statistical/adult-social-care-activity-and-finance-report/2018-19/appendix-a>

- Beneficiaries of the guarantee credit component of the pension credit (source: DWP<sup>14</sup>). The pension credit is an income-related benefit to which people who have reached state pension age are eligible. It consists of two parts: the guarantee credit and the savings credit. The guarantee credit component is a top-up of weekly incomes up to a given minimum (£167.25 for single people and £255.25 for couples as in November 2019). DWP makes pension credit data by component available by number of claimants and beneficiaries. This chapter uses the latter as an indicator of income poverty among older people, given that take-up depends on several reasons (Hancock et al, 2004).
- Requests for support received from new clients aged 65 and over, irrespective of the assessment outcome and the route of access. This chapter includes this variable as a proxy for the level of social care demand in the area, as areas with greater needs may find their resources overstretched due to excess demand as well as to supply-side factors such as public funding.
- Delayed days of transfer of care per older resident due to NHS (NHS England, 2019b). This variable is an indicator of inefficiency in the pathways of care unrelated to the social care system. The rationale for including it in the models is that a higher number of delayed days due to social care may be the result of general inefficiencies in the process of transfers of patients from hospitals to other settings, rather than due to factors specific to the social care system and, in particular, to public spending on adult social care. Conversely, there could be substitution effects between both systems so that greater delays due to the NHS may be associated with fewer delays due to social care.

Table 5.1 presents descriptive statistics per variable and year.

Table 5.1  
Summary statistics

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<sup>14</sup> <https://stat-xplore.dwp.gov.uk/webapi/jsf/login.xhtml>



Year	Statistic	Delayed transfers of care due to social care	Gross current expenditure	Pension credit beneficiaries	Requests from new clients	Delayed transfers due to NHS
2013	Mean		1.13			
	SD		0.34			
	Median		1.04			
	Min		0.69			
	Max		2.88			
2014	Mean	0.05	0.89	0.08	0.14	0.12
	SD	0.04	0.26	0.05	0.08	0.07
	Median	0.03	0.83	0.07	0.13	0.11
	Min	0.00	0.50	0.03	0.00	0.02
	Max	0.22	1.96	0.35	0.67	0.42
2015	Mean	0.06	0.85	0.09	0.14	0.12
	SD	0.05	0.24	0.05	0.07	0.11
	Median	0.04	0.79	0.07	0.13	0.06
	Min	0.00	0.50	0.03	0.03	0.37
	Max	0.25	1.85	0.35	0.79	0.03
2016	Mean	0.08	0.86	0.09	0.14	0.14
	SD	0.06	0.26	0.05	0.08	0.08
	Median	0.07	0.79	0.07	0.12	0.12
	Min	0.00	0.18	0.03	0.05	0.03
	Max	0.32	2.16	0.34	0.80	0.41
2017	Mean	0.07	0.85	0.09	0.14	0.12
	SD	0.06	0.23	0.05	0.08	0.06
	Median	0.05	0.79	0.07	0.12	0.11
	Min	0.00	0.50	0.03	0.03	0.03
	Max	0.25	1.87	0.33	0.77	0.36
2018	Mean	0.05		0.10	0.14	0.11
	SD	0.04		0.06	0.08	0.06
	Median	0.04		0.08	0.12	0.10
	Min	0.00		0.03	0.04	0.01
	Max	0.19		0.38	0.73	0.31

*Notes: variables expressed per person aged 65 or over*  
*SD: Standard deviation*

The mean and median gross current expenditure per person aged 65 or over show a decline in 2014/15, since when both statistics have remained unchanged. However, the standard deviation of the mean across local authorities have oscillated over the period albeit along a negative slope: there

was less disparity in how much each council spends on adult social care services for older people per resident aged 65 or over in 2018/19 compared to any other year under study. Delayed transfers of care due to social care per person aged 65 or over have gone up between 2014/15 and 2016/17 to fall to its 2014/15 level by 2018/19; similarly for the dispersion of the mean number of delays per head across local councils.

### 5.3. Results

Table 5.2 presents the results from the fixed and random effects models in levels. The Hausman test favours the fixed effects specification; therefore, in what follows, this chapter focuses on the results from model.

Table 5.2

Regression results in levels (Dependent variable: number of delayed transfers of care due to social care per resident aged 65 or over)

Independent variables (per person aged 65 or over):	Fixed Effects coefficients	Random Effects coefficients
Gross current expenditure <sub>(t-1)</sub> (in logs)	-0.045 (0.01)	-0.026 -(0.01)
Pension credit beneficiaries <sub>(t)</sub>	-0.382 (0.15)	0.159 -(0.06)
Requests from new clients <sub>(t)</sub>	0.002 (0.04)	-0.013 -(0.03)
Delayed transfers due to NHS <sub>(t)</sub>	0.153 (0.03)	0.194 (0.03)
(Intercept)		0.021 -(0.01)
<p><i>Note: for both models, n = 150, T = 5, N = 750</i>  <i>FE model fit statistics: R<sup>2</sup>: 0.08; Adj. R<sup>2</sup>: -0.157; F-stat: 12.89 on 4 and 596 DF; p-value: 4.491e-10</i>  <i>RE model fit statistics: R<sup>2</sup>: 0.076; Adj. R<sup>2</sup>: -0.07; <math>\chi^2</math>: 12.89 on 4 DF; p-value: 1.30e-12; shares: idiosyncratic effect: 0.39; individual effect: 0.61 (theta: 0.67)</i>  <i>Hausman test: <math>\chi^2</math> = 19.382, df = 4, p-value = 0.0007</i></p>		

Public gross current spending on adult social care per older resident in a local authority is significantly associated with the number of delayed transfers of care due to the social care system run in the council area. The dependent variable is expressed in days per older person, and current

gross expenditure per head is expressed in natural logarithms. Therefore, the regression coefficient (-0.045) means that a 4.5% reduction in current spending per head on adult social care per older person in a year is associated with an increase by 0.01 delayed days per head the following year. Over the period, there were 0.0578 delayed days per older person on average each year, which equals 578,000 delayed days a year (the population aged 65 or over has averaged 10 million residents over the period). The average gross current spending on adult social care per older person across local authorities amounted to £907. Therefore, a 4.5% reduction (i.e. £41) in spending per head is associated with an additional 5,780 delayed transfers due to social care among the population aged 65 or over.

The indicator for income poverty is not statistically significant, once other characteristics across local authorities are controlled for. The coefficient for the number of requests from new clients per person aged 65 or over in an area is statistically significant and positive. This provides some evidence in support of the hypothesis that local councils with greater social care services demand would exhibit more delayed transfers due to social care independently of the amounts spent on social care. Finally, the coefficient for the delayed transfers due to NHS per head is significant and positive, which suggests the existence of inefficiency in the transfer convoy of older patients not circumscribed to the social care system.

The pooled first differences model suggests that the annual changes in gross current expenditure on social care per older resident between any two years are significantly and inversely associated with year-to-year changes in delayed transfers of care due to social care over the following two years (Table 5.3). In other words, on average, the annual number of delayed days of transfer due to social care increased in local authorities that reduced their current spending on adult social care in the previous year.

Moreover, Table 5.3 shows that annual changes in the number of pension credit beneficiaries are not associated with changes in delayed transfers of care. In turn, changes in the demand for new social care services are negatively associated with changes in delayed transfers. This result suggests that delayed transfers due to social care went down in local authorities that experienced a fall in demand

for social care services. The coefficient for the annual changes in the delayed transfers of care due to the NHS further suggests the presence of general inefficiency within the transfer pathways of older patients. Finally, the sign of the intercept coefficient indicates the existence of positive time trends in delayed transfers of care per older resident due to social care.

Table 5.3  
Regression results – first difference model (Dependent variable: annual change in delayed transfers of care per resident aged 65 or over due to social care)

Independent variables (annual change, per person aged 65 or over)	Coefficients
Gross current expenditure $_{(t-1-t-2)}$ (in logs)	-0.037 (0.01)
Pension credit beneficiaries $_{(t-t-1)}$	-0.566 (0.19)
Requests from new clients $_{(t-t-1)}$	-0.001 (0.04)
Delayed transfers due to NHS $_{(t-t-1)}$	0.281 (0.03)
(Intercept)	0.002 (0.00)
<i>Note: n = 150, T = 5, N = 750 (600 observations used in estimation)</i>	
<i>Fit statistics: R<sup>2</sup>: 0.029; Adj. R<sup>2</sup>: 0.028; F-statistic: 18.08 on 1 and 598 DF; p-value: 2.4546e-05</i>	

#### 5.4. Comments

The delivery of social care services in England is the responsibility of local authorities, whilst policy decision making is centralised in the national government. Various commentators and academics have raised their concern about the state of the provision of social care services, particularly to the older population (Age UK, 2017 and 2018; Ham, 2017; Limb, 2018; Thorlby et al, 2018). Unlike other developed countries, the resources allocated to the social care system in England have dwindled since the 2007 recession (Wiener et al, 2019). This chapter focused on one indicator of inefficiency in social care: the number of delayed transfers of care of medically fit older patients from hospitals due to problems in the social care system.

This chapter found that the annual amounts spent on social care services per older resident are negatively associated with the number of delayed days of care of older patients attributable to the social care system. Similarly for annual changes in public spending per head and the annual variation in delayed days transfers of care. The finding of a link between spending and delayed transfers holds after incorporating the other organisational source of inefficiency (i.e. the NHS), the level of demand in the area, and the income poverty among the resident older population.

This suggests that budgetary constraints to social care services would bring about a false economy of public funds, considering that the UK National Audit Office estimated that delayed discharges of older patients from hospitals between 2014 and 2015 due to social care cost around £820 million to the NHS (NAO, 2016).

One avenue for further analysis is the possibility of disentangling the sources of delays in the social care sector between those arising in residential services and in community-based services. The data on delayed transfers does not allow for this distinction. We recommend this break down of the information reported by HSCIC for the benefit of gaining more insight into the links and dynamics between the health and social care sectors in England.

## 6. Conclusions

The main, overall conclusion of this dissertation is that reductions in the public budget allocated to adult social care along with a contraction in the public provision and funding of adult social care services have brought about an increase in the number and proportion of the elderly population with unmet care needs, changes in the dynamic relationships to the interior of the households with older members with social needs regarding the delivery of informal services which are traversed by questions of gender and socially defined family roles, and a negative impact on the labour force participation of those family members of older adults with care needs who have to take up informal caregiving responsibilities as a result of the public budget, which has deepened income inequalities both between sexes and generations with a marked impact especially on women. The study has also found that the contraction in public spending on adult social care has damaged the level of efficiency in the delivery of services as translated into increased delayed transfers out of hospitals and into either their own homes or residential and nursing homes of older inpatients who had been medically discharged because the social care services they need to receive once out of the hospital setting are not ready.

The specific conclusions are as follows:

With regards to unmet needs, the second chapter reports:

- Reductions in local authority public funding of adult social care services is significantly associated with an increase in the likelihood that an older person with social care needs experience unmet needs.
- This result is independent of how the concept of social care need is operationalised (two alternative definitions were used), which leads to the assertion that the finding is robust to changes in the measurement of need.
- Unmet needs are present among older people experiencing difficulty with basic disability (as measured by the index of activity of daily living, ADL). In turn, among older adults experiencing difficulty with performing instrumental activities of daily living (IAD), the care services they receive would seem to enough to meet their care needs. However, I could not

test the relative effectiveness of the intensity in care services provision, the type of service and its source, due to limitations in the data compiled in the survey I studied.

- A significant statistical association was found between income and wealth levels and the probability of having unmet social care needs: older people on lower monetary resources exhibit a higher likelihood of not finding all their social care needs met often or all the time not even after resorting to their social network for informal care services. This negative effect compounds the well-known inverse association between income and wealth on the one hand and the probability of developing disability demanding care needs on the other.
- The chapter presents the following quantitative estimation: a one-hundred sterling pound reduction in the local council funding of adult social care services per older resident (which is equivalent to a fall by twenty-nine percent) increases the probability that older people in need of those services cannot fully meet their social care needs by between 6.1 and 9.7 per cent. Based on demographic projections to 2015, the estimation suggests that a £100 contraction in the public funding local authorities allocate to adult social care services would render an additional 1.294.642 to 1.336.051 older adults with some unmet social care need by 2020 in England.

With regards to the dynamic relationship between formal and informal care delivery and the changes in the roles ascribed to the different members of a household inasmuch as providers of informal care to elderly relatives, the third chapter reports:

- There exists a substantial degree of substitution between informal care services provided by adults sons and adult daughters. I have failed to find any significant degree of specialisation in tasks by gender (in that adult sons would perform certain tasks whereas adult daughters would perform others). I have also failed to find any patterns denoting precedence in the timing of service delivery by gender -that is, I reject the hypothesis that adult daughters would step in first compared to adult sons when one of their elderly parents develop a difficulty that requires the provision of some social care service. In contrast, the chapter does find consistency with the cultural norm that establishes that adult sons tend to provide care

services to their elderly fathers in need, and adult daughters to their elderly mothers: the father-son and mother-daughter dyads are more common than the father-daughter and mother-son relationship dyads.

- I failed to find any significant evidence that formal social care services relate with either the intensity or the type of task the service requires. The demand for formal adult social care service is associated with the number of activities of daily living the older adults experience difficulty in performing: the more ADL they have difficulty with, the higher the probability they use formal care services.
- Informal care provided by adult daughters partially substitute formal care services, but this does not apply to the informal care services delivered by adult sons. The gender division in the source of informal care within households would have therefore an impact on the demand for formal adult social care. This finding suggests that public budget reductions that impact on the provision of formal adult care services would affect the adult daughters of older people in need of social care (for example, in terms of their capacity to remain in paid employment) to a much greater degree than adult sons.
- From the latter finding, I developed an additional hypothesis that the following chapter investigated: the employment policies that aim to maintain the level of female labour market participation and to extend the duration of their working lives would create additional financial and operational pressure and stress in the local authorities with responsibility for the provision of adult social care services.
- Not only are older people on low income or with relatively lower non-housing wealth less likely to demand long-term care services from private providers, but a larger proportion of these older adults live in local authorities that have reduced more, in relative terms, their funding of adult social care services. It is therefore more likely that these older people may be negatively affected by a contraction in the publicly-funded formal care services and less likely that they may be able to substitute these services with privately-funded services. These are the older people that depends the most upon their own family and extended social network



to meet their social care needs and, to make matters even worse, they are the sub-population more at risk to develop the disabilities leading to those needs.

With regards to the impact that the onset of responsibilities to provide informal social care services to older relatives have upon the labour market situation of informal carers, the fourth chapter reports:

- Among those people in paid employment, the necessity to provide ten or more hours of care services per week to an elderly family member with difficulty in performing an activity of daily living reduces the probability of remaining in paid employment by sixty-one percent.
- This negative impact on the extensive margin (that is, on the decision to continue in paid employment or not) is greater among men, irrespective of their greater labour market participation vis-à-vis women- and among individuals (men or women) with higher education levels and older ages.
- The onset of these responsibilities to provide informal social care services to older relatives for ten or more hours per week is what drives the decision concerning paid employment, not the fact that the carer may have provided care services in previous periods.
- Concerning those informal carers who remain in paid employment after assuming informal care responsibilities, I have not found any statistically significant effect on the number of hours worked or the intensity levels in the delivery of the informal care services. That is, I fail to find any intensive margin effects on the labour supply of carers, but I do find an impact on the extensive margin: assuming informal caregiving responsibilities for older adults would lead to an exit of the labour market but not to a reduction in the number of hours worked among those informal carers who continue working.

With regards to the impact that budget reductions on adult social care services has had on delayed transfers from hospitals of elderly patients medically discharged, the fifth chapter reports:

- Public funding allocated to adult social care services is inversely associated with the number of delayed days in the discharge of elderly inpatients out of hospital settings due to problems within the adult social care system
- At the same time, the annual changes in public funding allocated to adult social care are inversely associated with the annual variations in the number of delayed discharge days.
- Given the estimates of the fiscal cost imposed by delayed hospital discharges of elderly inpatients, the findings suggest that public sector budget reductions would render a 'false' economy of public monies.

## 7. Direct scientific contributions from this dissertation

The *National Institute for Health and Care Excellence* of the United Kingdom has included my estimate of the cost of meeting the unmet needs of older adults presented in the second chapter of this dissertation<sup>15</sup>. This estimate has informed the recommendation made by this organisation to the national government for the social care reference costs to be established. This estimate was originally published in a technical report I wrote for the charitable organisation based in London, Age UK<sup>16</sup>.

In June 2019, the House of Lords in the UK Parliament published a report with proposals for funding the adult social care system in England<sup>17</sup>, which quotes two sources that included the quantitative estimates included in the second chapter of this dissertation (citations 33 and 45).

The second chapter is based on an academic paper that has been cited in three peer-reviewed papers of which I was not a contributing author:

- *"Identifying acceptable components for home-based health promotion services for older people with mild frailty: A qualitative study"*, by Frost, Kharicha et al (Health and Social Care in the Community, 2018, 26(3):393-403)
- *"Does older adults' use of social care influence their healthcare utilisation? A systematic review of international evidence"*, by Spiers et al (2019). Health & social care in the community

<sup>15</sup> <https://www.evidence.nhs.uk/search?om=%5B%7B%22srn%22:%5B%22Age%20UK%22%5D%7D%5D&q=NHS+Reference+Costs>

<sup>16</sup> [https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/care--support/rb\\_sept15\\_cost\\_to\\_meet\\_the\\_unmet\\_social\\_care\\_needs.pdf](https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/care--support/rb_sept15_cost_to_meet_the_unmet_social_care_needs.pdf)

<sup>17</sup> <https://publications.parliament.uk/pa/ld201719/ldselect/ldconaf/392/39202.htm>

- *“Understanding the Unmet Needs among Community-Dwelling Disabled Older People from a Linkage Perspective”*, by Wu, Danxian, Xiaolu Gao, Zhifei Xie, and Zening Xu. *International Journal of Environmental Research and Public Health* 18, no. 2 (2021): 389.

It has also been quoted in the following working paper published by the health, econometrics and data group from the University of York, England:

- Carrino, L., Nafilyan, V. and Pabon, M.A. (2019). *“Should I Care or Should I Work? The Impact of Working in Older Age on Caregiving”* (WP 19/23). Health, Econometrics, and Data Group, Department of Economics, University of York.

Finally, it has been cited in the following PhD dissertation:

- Spiers, G. F. (2019). *Exploring the relationship between access to social care and healthcare utilisation by older adults* (Doctoral dissertation, Newcastle University).

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## **Annex – Internal migration flows of older adults in England and Wales, 2011/12 – 2017/18**

This annex focuses upon migration flows between local councils in England between 2011/12 and 2017/18 by age group. Given that the local authorities are the units of observation, flows within a given municipality (for example, from Esher to Weybridge, two localities within the Elmbridge Borough Council) have not been included. Another consideration is that the number of flows may not coincide with the number of internal migrants, because some individuals may have moved across councils more than one within the period under study.

The data source is the compilation of migration flows across local authorities in England and Wales by age group produced by the *Office for National Statistics* -these flows also include moves to and from Scotland although without distinguishing municipalities in that country<sup>18</sup>.

It is worth noting that in the United Kingdom there is not an official register of internal migrations. Consequently, the dataset produced by the *Office for National Statistics* using records from the *Higher Education Statistics Agency* about changes in school registrations and, more pertinent to the subject of this dissertation, the registers of general practitioners –in the United Kingdom, each inhabitant must register with and only with one general practitioner in the local authority where they live<sup>19</sup>.

The main result in this annex is that migration flows of people aged 65 years or older across municipalities have increased over the period under study and in a greater proportion than the rate

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<sup>18</sup> Available at :

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/datasets/internalmigrationlaandregionmovesandbysexandsingleyearofagetotals>

<sup>19</sup> For more details about the methods used to compile the data, see:

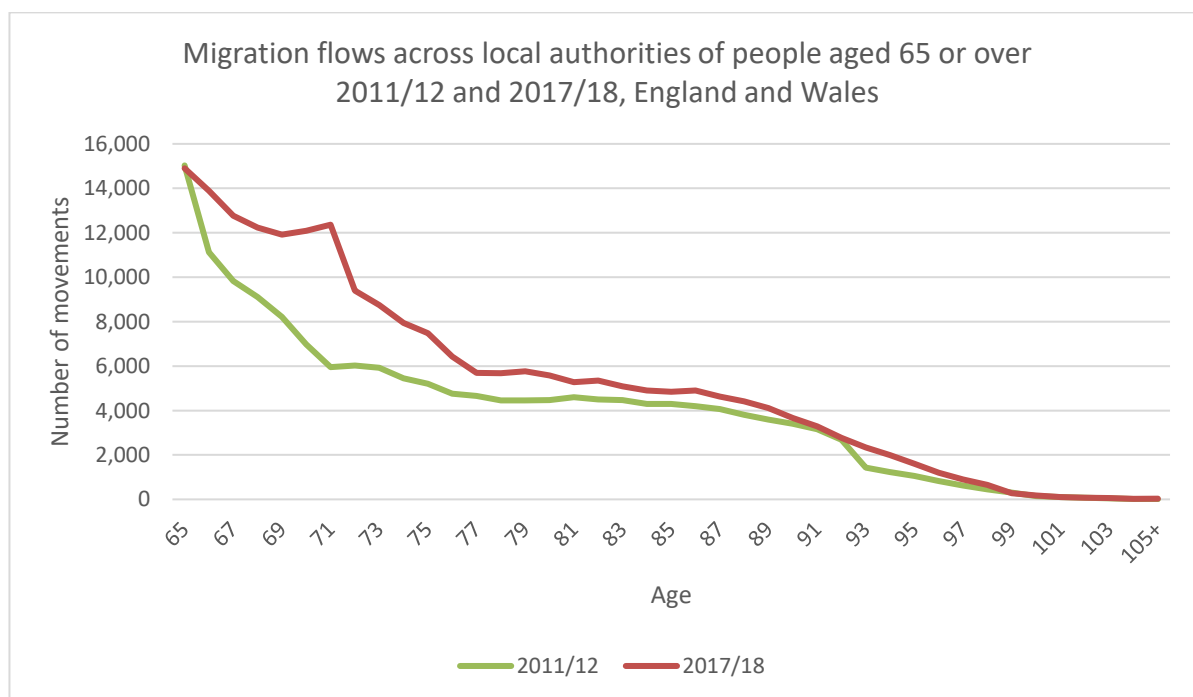
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/methodologies/internalmigrationestimatesqmi>

of growth of the population of this age group. Therefore, migration flows per older person have gone up.

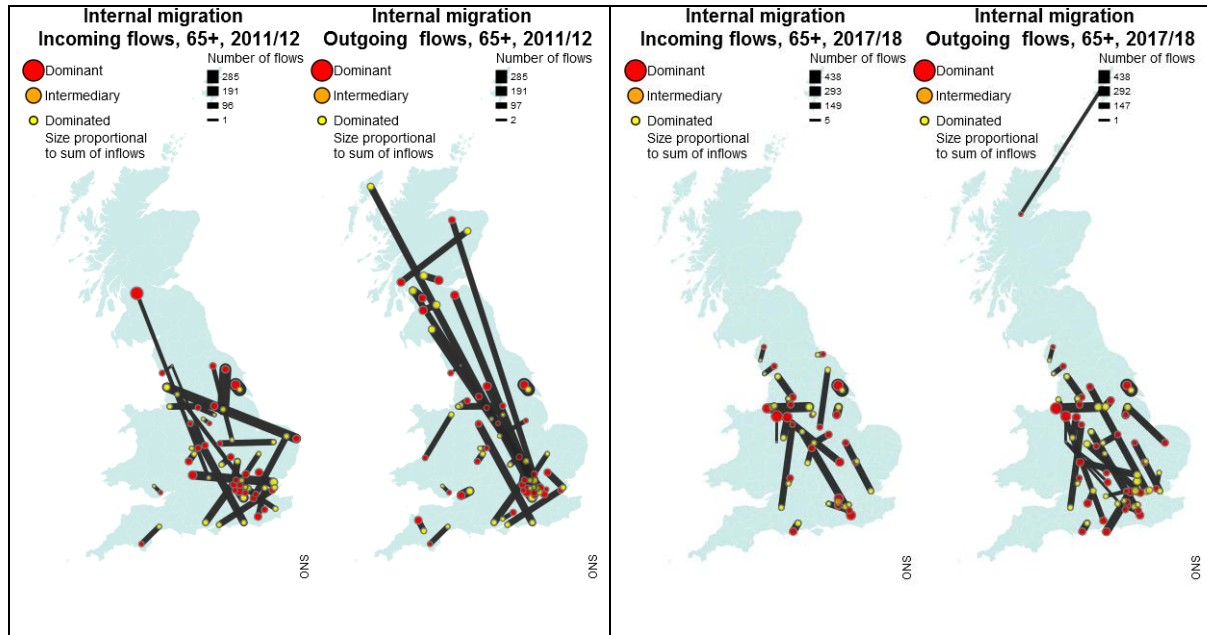
Another result is that as a proportion of all migration flows across municipalities that took place in the period under study, those of people aged 65 or over went down in 2017/18 compared to earlier years. The following table presents bi-annual estimates:

Flows	2011/12	2013/14	2015/16	2017/18
65+	165,000	194,530	200,721	215,499
All	2,854,490	2,931,320	2,949,124	3,374,584
65+ (% all flows)	5.78%	6.64%	6.81%	6.39%
Flows of 65+ (% population aged 65 or over)	1.89%	2.04%	2.03%	2.12%

The following figure shows the distribution of migration flows across local authorities by age group in 2011/12 and 2017/18.



The maps below show internal migration patterns and the main local authorities classified as dominant, intermediary and dominated destination -the usual categories in migration studies.



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Resumen de la Tesis Doctoral "Patterns of Social Care Provision in England"

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### Motivación

Esta tesis se inscribe en un marco sociodemográfico signado por el proceso de envejecimiento poblacional que atraviesan las sociedades industriales avanzadas. Este proceso está siendo impulsado por diversos factores, entre los cuales caben distinguirse: el aumento de la longevidad y la reducción de la tasa de natalidad; el incremento en la cantidad y proporción de adultos mayores que requieren de cuidados de asistencia social; la reducción del tamaño de las familias; la intensificación en la participación laboral femenina; y los cambios en los movimientos migratorios internos e internacionales que traen aparejados cambios estructurales en las redes sociales y en la oferta de cuidadores informales, y que suelen estar asociados con la movilidad en edades previas a la vejez.

En este marco la tesis doctoral estudia:

- El impacto que los recortes en el presupuesto público para el financiamiento y prestación de servicios sociales a adultos mayores con necesidades de recibir cuidados sociales tienen sobre la satisfacción de dichas necesidades a edades avanzadas.
- La dinámica entre la prestación de servicios formales e informales de cuidado social por un lado y los cambios en los roles de los miembros de las familias como prestadores de servicios asistenciales a adultos mayores por el otro.
- El impacto que la asunción de responsabilidades de brindar servicios informales de cuidado a adultos mayores ha tenido en la participación en el mercado laboral de los cuidadores, especialmente de hijos e hijas adultas
- El impacto que los recortes presupuestarios públicos para financiar servicios sociales a adultos mayores tienen sobre las demoras en las transferencias de pacientes mayores dados de alta desde centros hospitalarios a sus hogares o a residencias donde puedan recibir cuidados sociales (no médicos), tanto informales como formales, y continuar de ser necesario su recuperación.

Esta tesis se centra en el caso de Inglaterra. Esta elección obedece a una primera decisión metodológica: o bien estudiar el caso de un país en particular o bien realizar un estudio comparado entre un número de países. Ambas estrategias de investigación tienen sus virtudes y asimismo sus limitaciones. Ciertos hallazgos y conocimientos no pudieron haber sido generados sino a partir de la realización de estudios comparados -por ejemplo, la influencia que tiene la conformación del régimen del estado de bienestar sobre variables tales como la provisión de cuidados sociales a personas mayores por parte de sus hijos, también adultos mayores y si existen distinciones de género en estos efectos, algo que Herlofson y Brandt (2019) no podrían haber respondido a partir de

un estudio de un caso particular<sup>1</sup>, o, para mencionar otro caso, el estudio de Puga González et al. (2007) en el que se destaca la existencia de ciertos factores que influirían positivamente en las condiciones de salud de los adultos mayores en países tan diferentes como Costa Rica, España o Inglaterra independientemente de las configuraciones de las redes familiares, las cuales presentan variaciones significativas entre esos países<sup>2</sup>. Sin embargo, la realización de estudios enfocados en un país en particular es igualmente importante. En primer lugar se elimina el posible efecto de la polisemia de conceptos como 'cuidado' o 'necesidades', que incluso entre países que comparten una misma lengua oficial puede dar lugar a interpretaciones, enfoques, o conclusiones parcialmente equivocadas. Por otra parte, el estudio de un caso nacional es menester si se requiere conocer los procesos y mecanismos institucionales al interior de la configuración de los sistemas de cuidado social en un país para contemplar la imbricación entre los rasgos culturales, la asignación de roles sociales y su adopción por parte de los distintos actores, los mercados laborales, y los sistemas públicos de salud y presupuestarios. Finalmente, los estudios de caso permiten a priori reducir lo que se conoce como las 'epistemologías de la ignorancia'<sup>3</sup>, especialmente la ignorancia de la importancia del contexto en las observaciones y relaciones a estudiarse.

La elección de Inglaterra como caso de estudio se basa asimismo en que, a pesar de tratarse de temáticas de gran relevancia en la discusión pública y política local, la literatura especializada no posibilita un conocimiento profundo del impacto que tienen en el país los cambios en las partidas presupuestarias públicas asignadas al cuidado de adultos mayores sobre el nivel de satisfacción de necesidades en la vejez, ni la implicación que tienen para los familiares de adultos mayores con necesidad de recibir servicios asistenciales el asumir responsabilidades de cuidado informal en la dinámica intrafamiliar y en la participación laboral, o los efectos que problemas al interior del sistema de provisión de servicios de cuidado de adultos mayores acarrear en términos de prolongación de la hospitalización de pacientes dados de alta clínica. Por otra parte, Inglaterra ha sido un país pionero en la introducción de ideas y prácticas de negocio, organización y administración propias de los mercados privados en el sector del suministro de cuidados sociales de responsabilidad gubernamental -la creación de los llamados cuasi mercados. Asimismo, dentro de un modelo de estado de bienestar conocido como 'anglosajón'<sup>4</sup>, Inglaterra presenta algunas características peculiares que lo ubican como un caso de estudio útil para el contraste de hipótesis acerca de las relaciones entre la provisión de servicios de cuidado de larga duración, financiamiento público, envejecimiento poblacional, participación laboral de cuidadores informales, y satisfacción de las necesidades de cuidado de los adultos mayores. Al respecto, la reestructuración neoliberal del estado y del gasto público, tanto en países avanzados como en desarrollo, liderada por lo que se conoce como el consenso de Washington, se ha profundizado desde la crisis financiera de 2007. Este proceso ha provocado, entre muchos otros cambios estructurales, una contracción y restricción del volumen de servicios sociales prestados por recursos financiados con fondos públicos. Estos cambios dependen, en su mayoría, del modelo de estado de bienestar vigente y del nivel de desarrollo económico de cada país, así como de las características institucionales de sus respectivos mercados

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<sup>1</sup> Herlofson, K. y Brandt, M. (2019). "Helping older parents in Europe: the importance of grandparenthood, gender and care regime", *European Societies*.

<sup>2</sup> González, M. D. P., Rosero-Bixby, L., Glaser, K., & Castro, T. (2007). "Red social y salud del adulto mayor en perspectiva comparada: Costa Rica, España e Inglaterra". *Población y Salud en Mesoamérica*, 5(1), 1.

<sup>3</sup> Ver, por ejemplo: Bowleg, L., del Río-González, A. M., Holt, S. L., Pérez, C., Massie, J. S., Mandell, J. E., y A. Boone, C. (2017). "Intersectional epistemologies of ignorance: How behavioral and social science research shapes what we know, think we know, and don't know about US Black men's sexualities", *The Journal of Sex Research*, 54(4-5): 577-603

<sup>4</sup> Esping-Andersen, G. (1990). *Three Worlds of Welfare Capitalism*. Princeton, NJ: Estados Unidos de América: Princeton University Press

laborales y de los roles de los agentes sociales en la oferta y prestación de servicios públicos. Estas diferencias estructurales e institucionales pueden brindar elementos explicativos parciales acerca de los diferentes efectos y de las variadas respuestas de política pública que la crisis financiera ha traído aparejada al interior de los sistemas de salud y de atención o cuidado social de los adultos mayores en cada uno de estos países. Inglaterra, por caso, ha atravesado una reorganización que podríamos denominar sísmica de sus sistemas de asistencia sanitaria y social, descentralizados entre ayuntamientos, como resultado de la cual los proveedores privados y la creciente cofinanciación por parte de las familias han asumido un papel más destacado que antes. La fase actual, iniciada en 2005, se caracterizaría por un aumento de la apertura a los mercados privados, la fragmentación y discontinuidad de los servicios, la fragilidad territorial y un incremento en las restricciones al acceso a los servicios (es decir, una elevación de los umbrales mínimos de elegibilidad para el acceso).

En el Reino Unido, el sistema de atención social para adultos se ha considerado tradicionalmente el "hermano menor" del sistema de salud. Este desequilibrio responde a consideraciones tanto institucionales como sociológicas. Desde el punto de vista institucional, el sistema de atención social de adultos presenta una descentralización territorial y administrativa a lo largo de una clase de ayuntamientos, mientras que la prestación de los servicios de salud es responsabilidad del gobierno central. Además de esta diferencia institucional, las profesiones médicas gozan de un mayor prestigio social en comparación con los cuidadores sociales profesionales formales: la atención social, especialmente de los adultos mayores, correspondería a lo que Etzioni denominó una "semi profesión"<sup>5</sup>. La atención social de adultos domiciliaria e institucional ha sido tradicionalmente infravalorada y ha carecido del mismo nivel de prestigio social que, por ejemplo, la prestación de servicios de salud, aunque no siempre se haya podido hacer una distinción clara entre ambos servicios o delimitar el ámbito de cada uno de los sistemas institucionales responsables de la provisión pública de estos servicios. A pesar de esto, dicho menor valor y reconocimiento sociales han conllevado una reducción en la asignación relativa de fondos públicos para financiar la provisión de cuidados sociales comparados con los de salud y una remuneración relativa menor de los cuidadores sociales formales en comparación con los de las profesiones de atención médica.

Los recortes en el gasto público y los presupuestos como resultado de los cambios sustanciales que han tenido lugar en la composición y naturaleza del Estado han llevado a la creación de cuasi mercados. Además, las políticas públicas en materia de cuidado social se basan en las expectativas sociales de que los distintos ámbitos que componen el capital social de los adultos mayores con necesidades de atención social asuman roles cada vez más nuevos y aumentados en cantidad y complejidad, como el voluntariado, la participación en los mercados laborales formales y el cuidado de la niñez y de adultos mayores. Estos cambios han tenido dos consecuencias interrelacionadas: por una parte, el aumento de los proveedores del sector privado en los mercados formales de atención social de adultos -tanto domiciliaria como residencial- y, por el otro, la modificación de los roles y responsabilidades socialmente adscritos a la familia y la comunidad en lo que se refiere a la prestación de cuidados de los adultos mayores con necesidades de cuidados. Esta disertación se enmarca dentro del debate académico sobre si estos cambios sociológicos y económicos se suman a las transiciones demográficas que acaecen en los países desarrollados -tanto con respecto a su estructura poblacional como al interior de los hogares- para generar aun mayores presiones en las familias para la provisión de servicios a los miembros mayores de sus hogares que presentan necesidades de atención social, así como mayores necesidades de atención insatisfechas entre los adultos mayores con necesidades de atención a largo plazo.

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<sup>5</sup> Etzioni, A. (1969). *The semi-professions and their organisation*. New York: Free Press.



Otra consideración que guía a los trabajos presentados en esta tesis es la articulación entre la desventaja social y las necesidades de cuidados a largo plazo en la vejez. Si bien la vejez suele ir aparejada de una reducción de la posición social de los individuos en las sociedades avanzadas, otros elementos del estatus social -tales como el capital económico, financiero, o social- pueden compensar esta pérdida posicional. Por lo tanto, el impacto de la desventaja social que viene con alcanzar edades avanzadas puede entenderse como un doble golpe que reciben las personas mayores con medios económicos modestos. Por otro lado, los adultos mayores de bajos ingresos o con recursos limitados (y entre estos cabría incluir aquellos que perciben que tienen pocos recursos independientemente de su nivel relativo real de recursos) son más proclives a evidenciar una mayor probabilidad de necesitar servicios de atención social y de mayor complejidad que los adultos mayores con mayores medios financieros, tanto reales o percibidos.

### Estructura y marcos teóricos

Tras un primer capítulo donde se presentan las hipótesis de trabajo, los marcos teóricos, una reseña detallada de la literatura, y una descripción de los datos y métodos estadísticos a utilizarse, la tesis se desarrolla a lo largo de cuatro capítulos en los cuales se aborda una temática diferente en cada uno. La tesis se cierra con un capítulo donde se reúnen las principales conclusiones a las que se ha arribado. Se incluyen además los registros de las contribuciones científicas directas en materia de citas bibliográficas recibidas por alguno de los trabajos incluidos en la tesis a la fecha de elevación, así como un anexo sobre migraciones internas de adultos mayores dentro de Inglaterra y Gales entre 2011/12 y 2017/18.

El segundo capítulo explora una hipótesis estrechamente vinculada al envejecimiento poblacional en el marco de un proceso de ajuste presupuestario y de cambios en la estructuración de los servicios públicos: si el impacto de las reducciones del presupuesto público en los servicios de atención social para adultos se asocia con un aumento de las necesidades de atención social insatisfechas entre los adultos mayores de bajos ingresos y medios económicos reducidos. Un aspecto ampliamente discutido en la bibliografía especializada es la definición de necesidades insatisfechas de cuidado social. La ley de cuidado social (Care Act 2014) establece un criterio con un componente subjetivo para determinar la necesidad de recibir servicios de cuidado, que trata de reflejar la prioridad que cada adulto mayor le da a realizar cada una de las distintas actividades de la vida diaria, como vestirse, caminar por una sala, cocinar, comer y cortar alimentos, hacer compras, o darse un baño o una ducha. La normativa regulatoria ha fijado criterios restringentes para el acceso a servicios públicos de cuidado, incluyendo que como mínimo dos actividades de la vida diaria estén comprometidas y que el adulto mayor no pueda realizarlas sin ayuda o que al hacerlo incurra en dolor, ansiedad o angustia. En esta tesis, se ha optado por una definición amplia de necesidad de servicios de cuidado según la cual una persona mayor se encuentra en situación de necesidad de cuidado si tiene dificultad para realizar al menos una actividad de la vida diaria. Independientemente de como se defina necesidad de cuidado, otra cuestión epistemológica es la definición de insatisfacción de la necesidad. La necesidad insatisfecha puede reflejar la falta de acceso a los servicios tanto como el acceso a servicios insuficientes para satisfacer la necesidad. La primera causa da lugar a una problemática en cuanto a la correcta delimitación del concepto, por cuanto la falta de acceso puede ser el resultado de una elección personal del adulto mayor necesitado (o de un adulto responsable), en cuyo caso podría aducirse que no debería incluirse dentro de un análisis del impacto de decisiones de políticas públicas en los niveles de necesidades insatisfechas de servicios de cuidado. Sin embargo, dicha ausencia en la recepción de servicios puede originarse en la falta de disponibilidad en la oferta, en el costo en el acceso, en el temor a ser víctima de abuso o descuido, o en la percepción real o imaginaria de estándares inadecuados en la calidad de los servicios a los que

puede accederse. Muchas de estas causas pueden originarse o pueden eliminarse a partir de medidas y decisiones financieras al interior del sistema gubernamental de asistencia y cuidado social, con lo que las necesidades insatisfechas derivadas de las mismas sí cabrían de ser incluidas en un estudio sobre las implicancias de recortes presupuestarios en los niveles de insatisfacción de las necesidades. Los datos disponibles no han posibilitado discernir entre las causas. Por ello, el estudio se ha desarrollado sobre dos muestras alternativas: la primera se circunscribe a las personas mayores que teniendo necesidades de cuidado para realizar al menos una actividad de la vida diaria han recibido alguna clase de servicio, y la segunda ampliando las unidades de observación con quienes no han recibido ningún servicio de cuidado social a pesar de tener necesidades.

El marco teórico del tercer capítulo abarca la distinción entre servicios de cuidado formales e informales. Esta distinción se basa en una postura epistemológica que vincula el tipo de servicio de cuidado con formas de intimidad y apoyo. Así, los cuidadores informales compartirían con los adultos mayores que cuidan niveles y formas de intimidad que no existen entre los adultos mayores que reciben servicios de cuidado y los cuidadores formales que cuidan de ellos. Este capítulo tiene en cuenta un elemento central de esta aproximación teórica: que con mayores niveles de intimidad entre el cuidador y el mayor receptor de los servicios de cuidado, la percepción de los servicios de cuidado por ambas partes -pero especialmente por los cuidadores- como trabajo o tarea, disminuye, porque los servicios de cuidado se interpretan cada vez más como parte integral de una relación de intimidad que une al cuidador y al receptor. De ahí que el tercer capítulo distinga entre tipos de cuidadores informales, ya que las relaciones de intimidad difieren según el tipo de relación familiar y más aún en el caso de amigos o vecinos. Si bien estas consideraciones han sido desarrolladas en la literatura especializada, no se ha dado la misma atención a la dinámica temporal de la interacción entre servicios de cuidado formales e informales -es decir, si la probabilidad de recibir una clase de servicio de cuidado en un periodo determinado depende de la clase de servicio que se ha recibido en el pasado- y en especial si dicha dinámica varía según o está asociada con la estructura del núcleo familiar del adulto mayor. Y este es el foco de la investigación presentada en este capítulo: la dinámica en la interacción entre servicios formales (financiados por los ayuntamientos o de manera privada) de cuidado social de adultos mayores no institucionalizados y servicios informales y, dentro de la evolución de estos últimos, las implicancias o importancia de si los servicios son prestados por cónyuges o hijos.

Por otra parte, las actividades de asistencia social se identifican socialmente como primordialmente "femeninas". La feminización de los roles sociales es una rama de la sociología que mira particularmente las configuraciones al interior de los mercados laborales formales, pero que trasciende este ámbito abarcando tareas cotidianas al interior de hogares, grupos e instituciones. El tercer capítulo considera entonces, dada la presencia agregada de la dimensión de intimidad entre el prestador y el destinatario de los servicios, si determinadas díadas como, por ejemplo, padre-hijo o madre-hija son más frecuentes que, por ejemplo, padre-hija, o madre-hijo. Es decir, el capítulo explora la cuestión de si existen conflictos entre la feminización de los servicios de cuidado, por un lado, y aspectos relacionados con la intimidad y los tabúes sexuales.

Por otro lado, la responsabilidad de brindar servicios de cuidado informal a los miembros mayores del hogar les quita tiempo a los prestadores de servicios: convertirse en cuidador informal reduciría el tiempo libre y, entre aquellos individuos que se convierten en cuidadores mientras tienen un empleo remunerado, reduciría la oferta laboral en la forma de un número menor de horas trabajadas o la participación en el mercado laboral en conjunto. Cualquiera de ambas alternativas sea el caso, la asunción de dichas responsabilidades chocaría con decisiones vinculadas a proyectos personales o de estilo de vida, como el ahorro para la jubilación, el apoyo financiero o la ayuda a los

hijos adultos, etc. Estos conflictos e impactos negativos se agudizan a medida que se tiene en cuenta la fase del curso de la vida en la que surgen estas responsabilidades de atención social.

Finalmente, el tercer capítulo estudia la hipótesis en relación con la provisión de servicios de cuidado con especial énfasis en los cambios en los roles de los cuidadores informales dentro de los hogares. En cuanto a las relaciones dinámicas entre la prestación de servicios de cuidado formal e informal, la literatura académica ha desarrollado cinco modelos o enfoques alternativos: el modelo de sustitución, el modelo de compensación, el modelo de complementariedad, el modelo de tareas específicas y el modelo de convoy. El modelo de sustitución postula que las fuentes de provisión de servicios formales e informales compiten entre sí y que son los costos relativos de los distintos servicios los que determinan la composición mixta en las prestaciones recibidas por adultos mayores con necesidades -extendiendo el supuesto al interior de los prestadores de servicios informales, se postula la hipótesis de que, por ejemplo, hijos e hijas serían sustitutos perfectos. El modelo de compensación postula la existencia de niveles o grados de sustitución entre las fuentes formales e informales de prestación de servicios pero siguiendo un orden jerárquico que reflejaría las preferencias de los adultos mayores con necesidad de recibir dichos servicios según el cual los miembros del grupo familiar tendrían precedencia mientras que se recurriría a los cuidadores formales externos como última instancia. El modelo de complementariedad combina los dos enfoques anteriores y postula la existencia de efectos de sustitución entre servicios formales e informales pero con la salvedad de que se recurre a los primeros en tanto y en cuanto los cuidadores informales se vean excedidos o desgastados. El modelo de tareas específicas postula la existencia de complementariedad entre servicios formales e informales de cuidado pero sin intercambio alguno entre las fuentes: los cuidadores informales brindan ciertos servicios y los cuidadores formales otros. Finalmente, el modelo de convoy postula que la relación dinámica entre prestadores formales e informales así como los cambios en la composición de los cuidadores dependen de cambios al interior de las redes de apoyo de los adultos mayores con necesidades de servicios de cuidado, de la comunidad en la que viven, del estado, y de la industria de servicios sociales.

El cuarto capítulo de esta disertación se inscribe dentro de una rama de la literatura sociológica sobre el cuidado social que se centra en la contracción o el estrés de los cuidadores dadas las siguientes tendencias opuestas: por un lado, la creciente demanda de servicios de cuidado que resulta de cohortes de nacimiento más grandes y que atraviesan las edades avanzadas en las que los riesgos de fragilidad y discapacidad son mayores y, por otro lado, la reducción de las fuentes u oferta de cuidadores ante una serie de cambios sociodemográficos como la reducción de la autonomía, el aumento de la participación de las mujeres en el mercado laboral y la creciente distancia geográfica entre los lugares de residencia de los miembros de una misma familia debido a la migración interna e internacional. La expansión de la demanda de servicios de atención para adultos puede resultar de una combinación entre el aumento del número de personas mayores con necesidades de atención y la expansión de la morbilidad, que se produce si la longevidad aumenta por encima del número adicional de años de vida saludable. En Inglaterra, este cambio positivo en la demanda de servicios de atención para adultos se debe principalmente a la mayor proporción de adultos mayores de 85 años en la población total que a un aumento en la carga asociada con enfermedades en la edad adulta. Sin embargo, algunas proyecciones más recientes apuntan a la presencia de una expansión de la morbilidad en Inglaterra. En consecuencia, puede resultar en uno de los impulsores de la demanda de servicios de atención social en el futuro.

Las nuevas configuraciones familiares, particularmente en la edad adulta, repercuten en la oferta de cuidadores informales, especialmente dentro de los hogares, principal fuente de servicios de cuidado informal. Las proyecciones oficiales del número de hogares por tipo de familia en Inglaterra

indican que habrá un aumento sustancial en el número y la proporción de adultos mayores que viven solos, ya sea debido a la soltería, la viudez, el divorcio o la separación. Estos cambios demográficos impactan en el tamaño de las redes sociales, particularmente de aquellas con mayores niveles de intimidad, y por lo tanto en el grupo de potenciales cuidadores informales. Además, la existencia de redes sociales desempeña un papel protector frente a la prevalencia e incidencia de la discapacidad y proporciona apoyo emocional en la vejez. Por su parte, el aumento de la distancia geográfica de residencia entre generaciones resultante de las tendencias migratorias internas es un indicador de la disponibilidad de hijos adultos como cuidadores informales de sus padres mayores. Esta postura teórica se enmarca en la teoría social de los roles, e incide especialmente en la hipótesis de la escasez, que pretende que el tiempo como para desempeñar adecuadamente los roles de trabajador y cuidador genera conflicto y estrés. Una rama de esta literatura vincula estas fuerzas compensatorias con los niveles crecientes de estrés entre los cuidadores y una discrepancia cada vez mayor entre la naturaleza de las tareas involucradas en la prestación de servicios de cuidado y la identidad social y el papel social del cuidador, junto con las tensiones entre estos factores sociales. roles especialmente entre las mujeres.

La literatura sobre economía del trabajo ha destacado la necesidad de considerar la decisión de tener un empleo remunerado y proporcionar servicios de cuidado informales y no remunerados como factores interrelacionados. Vista desde el punto de los adultos mayores con necesidades de servicios de cuidado, la expansión de la participación laboral, especialmente femenina, y la reducción en el tamaño de los grupos familiares vendría en detrimento de la obtención de servicios de cuidado social informales. Vista desde el punto de los miembros adultos de las redes sociales de las personas mayores con necesidades de servicios de cuidado, la asunción de responsabilidades de provisión de estos servicios de manera informal se enfrentaría con las decisiones personales de participación en el mercado de trabajo, los planes de carreras laborales, y con proyecciones financieras durante la edad activa y con vistas a la acumulación de ahorros jubilatorios. En este marco, el cuarto capítulo de esta disertación analiza el impacto desde este segundo punto de vista y se centra en las consecuencias en la participación laboral de quienes asumen responsabilidades de cuidado informal en nombre de adultos mayores. En particular, se investigan los márgenes extensivo e intensivo -es decir, la decisión de trabajar en un empleo remunerado o no una vez que se asumen responsabilidades de cuidado informal (margen extensivo) y, de optarse por continuar participando en el mercado laboral, si se reducen las horas trabajadas o no (margen intensivo). Este capítulo investiga cómo se resuelve la tensión entre brindar servicios de cuidado informal no remunerado a adultos mayores con necesidades de cuidado y trabajar en un empleo remunerado. En este contexto, el capítulo presenta una prueba de la hipótesis de que la asunción de mayores responsabilidades de cuidado genera impactos negativos en la participación laboral de los cuidadores informales.

El quinto capítulo explora una cuestión empírica de gran importancia política y mediática actual en Inglaterra: a saber, los retrasos en las altas o traslados de los hospitales de pacientes ancianos debido a los cuellos de botella en el sistema de atención social de adultos. El carácter institucional diferenciado de la prestación pública de ambos servicios llevó al concepto de "excepcionalidad británica". Según esto, existiría un conjunto de características distintivas de cómo se prestan los servicios de atención social para adultos en el Reino Unido (en Inglaterra en particular) en comparación con otros países europeos. Los siguientes elementos se han destacado en la literatura del tema: una selectividad inconsistente con respecto a las necesidades; alta desigualdad social y geográfica; elevada desorganización administrativa; y propensión a fallas y crisis crónicas. La tesis no intenta abordar ni si este conjunto de variables es apropiado o suficiente para caracterizar las relaciones entre los sistemas de salud y de cuidado social al interior de cada país, ni si los patrones

institucionales y organizativos, niveles de prestaciones, resultados y demás aspectos que se observan en Inglaterra difieren significativamente de aquellos en otros países de Europa. Este capítulo plantea un objetivo más modesto: dentro de este marco teórico, presentar la primera estimación cuantitativa de la relación entre los rezagos en traslados de hospitales de adultos mayores dados de alta debidos a cuestiones vinculadas con el sistema de cuidado social y la reducción en el gasto público en el sistema de cuidado de larga duración de adultos mayores. Debido a limitaciones propias de como se han compilado los datos utilizados en el capítulo, se ha recurrido a dos definiciones operativas alternativas de rezagos debidos a cuestiones vinculadas con el sistema de cuidado social, ya que un porcentaje de la cantidad de días de demora se adjudica a problemas al interior de ambos sistemas a la vez -el de salud y el de cuidado.

En cuanto a las contribuciones científicas directas de alguno de los capítulos que conforman este trabajo de tesis doctoral, se han incluido citas en artículos académicos, en materiales de estudio en universidades, en una tesis doctoral reciente, en ejemplos de literatura gris publicados por grupos de interés, y en trabajos y publicaciones gubernamentales, incluyendo informes del Parlamento Británico, y organismos descentralizados. Por ejemplo, en base a la estimación del costo de cubrir las necesidades insatisfechas incluida en el segundo capítulo de esta tesis, el Instituto Nacional para la Excelencia en la Salud y la Asistencia (National Institute for Health and Care Excellence) ha recomendado la utilización por parte del gobierno nacional de los costos de referencia de cuidado social.

## Datos

Las herramientas metodológicas utilizadas en esta tesis doctoral consisten en análisis estadísticos de microdatos de encuestas representativas de la población mayor en Inglaterra combinados con datos secundarios agregados. En cuanto a sus fuentes, los datos se pueden clasificar en aquellos que provienen de encuestas longitudinales y de registros administrativos.

En el segundo y tercer capítulo, se utilizaron datos provenientes de la English Longitudinal Study of Ageing (ELSA). Se trata de una encuesta representativa de la población no institucionalizada de 50 años o más residente en Inglaterra. Esta encuesta comenzó a relevarse en 2002. Desde entonces se lleva a cabo cada dos años. El panel se actualiza con muestreo con reemplazo. ELSA se administra a través de entrevistas cara a cara asistidas por ordenador y complementadas por medio de un cuestionario autoadministrado. La información la mayoría de los tópicos se recaba en cada onda, mientras que otros módulos siguen un diseño rotatorio y solamente se incluyen en ondas determinadas. ELSA contiene una gran cantidad de variables e información no utilizadas en esta tesis, como una base de marcadores biológicos, historias de vida recogidas en la onda tres, y evaluaciones y pruebas clínicas realizadas por enfermeros diplomados -esto último refleja el origen de esta encuesta: ELSA empezó y sigue siendo una submuestra de la Encuesta de Salud para Inglaterra (Health Survey for England). Estos dos capítulos combinan microdatos de ELSA con datos agregados para los 150 ayuntamientos (de un total de 152) en el país que tienen asignadas responsabilidades de suministro de servicios de cuidado social a adultos mayores. En cuanto a estos servicios, los mismos provienen de distintas fuentes. Se han incorporado en los modelos estadísticos las siguientes variables: el nivel de pobreza de adultos mayores en la localidad de residencia, el gasto público en cuidado social por adulto mayor residente, el tipo y grado de ruralidad del ayuntamiento. Las unidades de observación en los capítulos dos y tres son entre 1,530 y 1,762 adultos de 65 años o más, según la ola, que tenían responsabilidades informales de atención o cuidado social de adultos mayores entre los años 2004-05 y 2012-13.

La principal fuente de datos para el análisis del capítulo cuatro es la encuesta longitudinal conocida como Understanding Society (USoc). A diferencia de la encuesta ELSA, la encuesta USoc se realiza anualmente, cubre todo el Reino Unido y es representativa de la población de 15 años o más. USoc se origina en la encuesta británica de panel de hogares (British Household Panel Survey, BHPS) que se relevó entre 1991 y 2009. La encuesta BHPS cubría 10,000 hogares; en su primera onda, USoc incluyó 8,000 de esos hogares pero se encuestaron un total de 40,000. Al igual que ELSA, algunos tópicos en USoc son recabados en cada onda mientras que otros aparecen en intervalos. Sin embargo, a diferencia de ELSA, USoc también incorpora módulos ad-hoc que solamente aparecen en ondas particulares. Hay otras dos diferencias metodológicas entre ambas encuestas que cabe mencionar. En primer lugar, la USoc incluye una muestra ampliada de minorías étnicas obtenida por factores de expansión sobre los valores muestrales proporcionales al tamaño de la población minoritaria, para evitar la subestimación muestral de estas poblaciones. En segundo lugar, la USoc se implementa en paralelo a una encuesta de “innovación” de tamaño menor a la encuesta oficial, donde se ponen en práctica diferentes preguntas para estimar los efectos de cambios en la terminología o contenido del cuestionario o nuevos tópicos que pueden llegar a incluirse en el futuro, etc.

Entre las variables utilizadas, la intensidad en la provisión de servicios de cuidado informal requiere un comentario aparte debido a las distintas operacionalizaciones existentes en la literatura. Se han utilizado dos definiciones alternativas. En primer lugar, se ha recurrido a la construcción de una variable dicotómica de intensidad/no intensidad tomando el nivel de 10 horas por semana como el valor de umbral -nivel que, si bien no unánimemente, está siendo cada vez más aplicado en estudios cuantitativos. Por el otro, se construyó una variable categórica ordinal basada en los rangos de horas incluidos en la pregunta respectiva en la encuesta USoc. El capítulo cuarto estudia la participación laboral en hogares con al menos un miembro de 65 años o más y al menos un hijo o hija o pareja entre el período 2010-2016.

El quinto capítulo utiliza datos de los mismos 150 ayuntamientos sobre el gasto público en atención social de adultos y la cantidad de servicios prestados a personas de 65 años o más entre los ejercicios 2013/14 a 2018/19. A diferencia de los capítulos anteriores no incluye microdatos sino exclusivamente datos agregados. Así, las unidades de observación en este capítulo son los ayuntamientos con responsabilidades de suministro de cuidados sociales. La fuente de datos de la variable de interés es el Centro de Información de Salud y Asistencia Social (Health and Social Care Information Centre) -recientemente denominado NHS Digital. HSCIC/NHS Digital es el proveedor oficial a nivel nacional de información, datos y sistemas informáticos para comisionarios, analistas y personal médico dentro de los sistemas de salud y cuidado social. Es un organismo público descentralizado (no departamental) financiado por el ministerio de salud y cuidado social (Department of Health and Social Care) de Inglaterra. Se trata de datos mensuales agregados en valores anuales entre abril y marzo del ejercicio siguiente. Además de variables relacionadas con el gasto público por adulto mayor y un indicador de pobreza entre la población adulta mayor ya incluidas en capítulos previos, los modelos del quinto capítulo incluyen un indicador del nivel de demanda de servicios de cuidado social.

El anexo presenta datos sobre la intensidad en los flujos migratorios internos de personas mayores de 65 años de edad comparados con la población en general para toda Gran Bretaña entre 2011/12 y 2017/18. La fuente de datos es una base compilada por la Oficina Nacional de Estadísticas (Office for National Statistics) a partir de un registro que lleva la agencia de estadísticas de educación superior (Higher Education Statistics Agency) sobre datos de registros en escuelas y con médicos de cabecera (cada residente en el Reino Unido tiene obligación de registrarse con un médico de

cabecera en la localidad donde reside). Este anexo tiene un carácter descriptivo y busca mostrar si el grado de movilidad geográfica residencial de las personas mayores en el periodo indicado se diferencia del promedio general de la población.

#### Métodos cuantitativos

En cuanto a los métodos estadísticos utilizados para analizar los datos, la elección se ha basado en el tipo de conjuntos de datos, el tipo de variables dependientes en estudio y los objetivos planteados en cada capítulo.

La investigación presentada en el segundo capítulo se basa en un modelo multivariado longitudinal jerárquico (o anidado) con tres niveles y clasificación cruzada. La variable dependiente en este capítulo es la presencia o ausencia de necesidades de atención social insatisfechas entre las personas mayores que viven en la comunidad. Se trata de una variable binaria o dicotómica construida a partir de una definición operativa de necesidades insatisfechas: una persona se clasifica como que tiene una necesidad de atención social insatisfecha si informa tener una necesidad y no recibe ningún servicio de atención social o, si lo hace, informan que los servicios que reciben no satisfacen sus necesidades de atención todo el tiempo. El modelo distingue entre tres niveles de análisis, de ahí su naturaleza anidada o jerárquica: los niveles individual, familiar y municipal (es decir, municipal). En consecuencia, las especificaciones estadísticas incorporan variables explicativas correspondientes a cada uno de estos niveles. Las principales variables independientes por nivel son:

- Nivel individual: la edad cronológica y el sexo de cada persona mayor de la muestra, y su nivel de discapacidad (medido por el número de actividades de la vida diaria que reportan tener dificultad para realizar).
- Nivel del hogar: el tamaño del hogar e indicadores de ingresos netos y riqueza del hogar.
- Nivel municipal: el nivel del índice de privación de las personas mayores, el tipo de ayuntamiento y el nivel de gasto público en servicios de atención social para adultos por habitante mayor.

Por otra parte, los modelos recurren a una especificación de clasificación cruzada relativamente inusual en la literatura. Especialmente al tratarse de un estudio de datos de panel con al menos un nivel consistente en los ayuntamientos de residencia, es importante tener en cuenta que las unidades de observación de los niveles más desagregados -los individuos en nuestro caso- pudieron haberse mudado de ayuntamiento durante el periodo bajo estudio. Esta movilidad geográfica llevaría a la introducción de un sesgo en los resultados obtenidos de los modelos estadísticos que la no tomaran en cuenta. La técnica de clasificación cruzada precisamente incorpora estos cambios. De todas maneras, dado que los modelos con clasificación cruzada introducen un grado de complejidad adicional comparados con las especificaciones anidadas puras que no dan cuenta de cambios en la pertenencia a niveles superiores de agregación de las unidades de observación, es menester comparar la bondad de ajuste de ambos tipos de modelos a fin de fundamentar estadísticamente la justificación de elegir una u otra clase de modelo. Por ello, el capítulo presenta los resultados obtenidos por la utilización de criterios de información habituales en la selección de modelos estadísticos (los criterios de Akaike y Bayesiano).

En el tercer capítulo se aplican modelos dinámicos, jerárquicos, logísticos y de efectos mixtos. Se ha recurrido a modelos dinámicos por cuanto se trata de un estudio de datos de panel cuyo objetivo es analizar cambios a lo largo del tiempo. Los modelos de regresión se han corrido sobre variables dependientes dicotómicas o binarias, de allí que se han utilizado modelos de regresión logística. Al

respecto, se incluyen la recepción o no de servicios de atención social para adultos financiados por las siguientes tres fuentes diferentes:

- servicios formales financiados por el consejo local
- servicios formales autofinanciados por la persona mayor beneficiaria de los servicios o su familia
- servicios de asistencia social informales y no remunerados

Los modelos de efectos mixtos son aquellos que no imponen ninguna restricción a priori sobre los coeficientes de regresión (ordenada al origen y pendientes), comparados con modelos de efectos fijos o de coeficientes aleatorios.

Una cuestión econométrica que fue menester tener en cuenta dado que se utilizaron modelos dinámicos es lo que se conoce como el problema de la condición inicial: de no incluirse valores iniciales aceptables, los coeficientes de los modelos de panel resultarían sesgados e inconsistentes. En nuestro caso, se incluyó como condición inicial si cada individuo en el panel recibió o no servicios de cuidado en la primera onda en la que se incorporó a la muestra dentro del periodo bajo estudio.

Por su parte, de la misma manera que en el capítulo dos, los modelos del capítulo tres también están estructurados en tres niveles. Nuevamente se corrieron modelos de clasificación cruzada y se ha comparado su bondad de ajuste relativa con las especificaciones menos complejas de los modelos anidados puros. Las principales variables independientes por nivel son:

- Nivel individual: la fuente del cuidado informal (pareja, hijo / s, hija / s), la edad y el sexo del beneficiario mayor y el nivel de necesidad, representado por el grado de discapacidad.
- Nivel del hogar: el tamaño del hogar e indicadores del hogar de ingresos netos y riqueza.
- Nivel municipal: el grado de ruralidad del hogar, el tipo de ayuntamiento y el nivel de gasto público en servicios de atención social de adultos por habitante mayor.

En el cuarto capítulo se presenta un análisis basado en dos clases de modelos estadísticos: modelos de regresión logística multivariante y modelos de regresión lineal multivariante, dadas las preguntas de investigación que se intentan responder en este capítulo. La variable de interés en la primera clase de modelos es la probabilidad de dejar un empleo remunerado a partir de la asunción de responsabilidades de brindar cuidado informal a un adulto mayor dentro del grupo familiar. Dicha variable se define para aquellos encuestados en la encuesta que tenían un empleo remunerado en una ola y no tenían un empleo remunerado en la siguiente ola. Se trata por lo tanto de una variable dicotómica o binaria que se ha construido combinando observaciones cada dos oleadas. En cuanto a los modelos de regresión lineal multivariante, se fijó como variable dependiente el cambio en el número de horas trabajadas. A tal efecto, se combinaron indicadores del número de horas de trabajo semanales habituales excluidas las horas extraordinarias en una semana laboral normal, tanto en el trabajo principal como, en casos aplicables, en un segundo trabajo. En el caso de estos modelos, se utilizó el estimador Sandwich de la varianza para obtener valores robustos de los errores estándar. Un regresor clave en este capítulo es la intensidad en el nivel de prestación de servicios de atención social informal, definida como diez horas o más por semana. Otras variables incluidas en los modelos son la actividad económica, el nivel educativo y el género, además de una tendencia temporal para capturar cualquier efecto cíclico macroeconómico.

El quinto capítulo presenta modelos econométricos de panel, tanto en niveles como en primeras diferencias. Estos modelos se ejecutan exclusivamente sobre datos a nivel de ayuntamiento, diferenciándose por lo tanto de las estrategias estadísticas de los capítulos anteriores. Se ejecutaron



modelos de datos de panel en niveles usando dos especificaciones: efectos fijos y aleatorios. La variable dependiente es el número de días de espera como resultado de transferencias demoradas desde el ámbito hospitalario debido a cuestiones relacionadas con el sistema de atención social de adultos. Por supuesto, los modelos con la variable dependiente en niveles investigan si cambios en las variables independientes durante el periodo bajo estudio están asociados con cambios en la cantidad de días de espera, mientras que los modelos en primeras diferencias buscan responder si los cambios en las variables independientes durante el periodo bajo estudio están asociados con cambios en la tasa de variación o crecimiento del número de días que personas mayores han esperado de ser transferidas de centros hospitalarios a pesar de haber sido dadas de alta por problemas al interior del sistema de cuidado social. El supuesto principal del modelo de efectos fijos es que la asociación entre cada predictor y la variable dependiente es la misma para cada ayuntamiento. Bajo el supuesto alternativo de efectos aleatorios, el modelo supone que las diferencias entre las autoridades locales no están correlacionadas con los predictores. Es decir, la heterogeneidad entre ayuntamientos es de naturaleza aleatoria, o al menos no se explica por ninguna de las variables dependientes del modelo. Se aplicó la prueba de Hausman para decidir entre cada especificación de modelo. Como ha sido mencionado, el quinto capítulo también presenta modelos en primeras diferencias. En estos modelos se incluye una intersección para tener en cuenta cualquier posible efecto de tendencia temporal. Por su parte, los regresores entran medidos en primeras diferencias (respecto al gasto público per cápita, después de haber sido transformado logarítmicamente). La variable dependiente es el número de días entre que un paciente de 65 años o más es dado de alta médicamente del hospital y finalmente es trasladado fuera del hospital por problemas relacionados con el sistema de atención social de adultos mayores. Las variables independientes consideradas son el nivel de gasto público en atención social de adultos por habitante de 65 años o más en cada ayuntamiento, la proporción de personas mayores con bajos ingresos, el nivel de demanda de servicios de atención social de adultos en el ayuntamiento y la demora en dar de alta (en días) por cualquier otra razón que no sea la existencia de problemas en el sistema de atención social de adultos mayores. Los indicadores de gasto público y de pobreza son idénticos a los utilizados en los capítulos anteriores. La demanda de servicios de cuidado consiste en la cantidad de solicitudes de apoyo realizadas por adultos mayores o sus representantes independientemente del resultado de la solicitud -es decir que se han incluido las solicitudes que fueron denegadas- e independientemente también de la ruta de acceso (la cual puede ser el adulto mayor o su entorno familiar, o bien un representante de los servicios de salud o de asistencia social). Esta variable ha sido incluida para controlar el efecto negativo que una mayor necesidad de servicios de cuidado social puede tener en la disponibilidad de recursos en una determinada área geográfica.

## Conclusión

La conclusión global de esta tesis es que los recortes presupuestarios en la atención social de adultos mayores y la retracción en la provisión y financiamiento estatal de los servicios de cuidado social han traído aparejados un incremento en la población adulta mayor con necesidades insatisfechas, cambios en la dinámica al interior de las familias en relación a la provisión de cuidados informales articulados con cuestiones de género y roles sociales, y un detrimento en la participación laboral de aquellos familiares que asumen las responsabilidades de suministrar la asistencia que los adultos mayores requieren. Todo ello, tendiendo asimismo a una acentuación en las desigualdades de ingreso, tanto intergeneracional como de género, con un acentuado efecto adverso entre las mujeres. Se ha encontrado, asimismo, una relación entre dicha retracción presupuestaria y la caída en el nivel de la eficiencia en el suministro de los servicios sanitarios reflejada en un aumento en las demoras en las transferencias de pacientes mayores dados de alta de hospitales a sus hogares o a residencias donde puedan recibir cuidados sociales (no médicos), tanto informales como formales.

Las conclusiones específicas son las siguientes:

Con respecto a las necesidades insatisfechas de cuidado social:

- Las reducciones en la financiación pública de los servicios de atención social para adultos por parte de las autoridades de los ayuntamientos con responsabilidad de proveer estos servicios están estadísticamente asociadas de manera significativa con un aumento en la probabilidad de que una persona mayor con necesidades de atención social experimente necesidades no satisfechas.
- Este resultado es independiente de cuál de las dos definiciones operativas de concepto de necesidad de atención social incluidas en los modelos se utilice.
- Las necesidades insatisfechas están presentes entre las personas mayores que experimentan dificultades de discapacidad básica (medida por el índice de actividad de la vida diaria). A su vez, entre los adultos mayores que experimentan dificultades para realizar actividades instrumentales de la vida diaria, los servicios de atención que reciben parecen suficientes para satisfacer sus necesidades de atención.
- Se encontró una asociación estadística significativa entre los niveles de ingresos y riqueza y la probabilidad de tener necesidades de atención social insatisfechas: las personas mayores con menores recursos monetarios exhibirían una mayor probabilidad de no encontrar todas sus necesidades de atención social satisfechas con frecuencia o todo el tiempo, ni siquiera después de recurrir a su red social para los servicios de atención informal. Este efecto negativo agrava la conocida asociación inversa entre ingresos y riqueza, por un lado, y la probabilidad de desarrollar discapacidades que demandan necesidades de cuidados, por el otro. Así, con menores niveles de ingreso y/o riqueza no solamente aumentaría la probabilidad de requerir servicios de cuidado social sino la probabilidad de que esas necesidades no fueran a ser totalmente satisfechas en caso de requerir los servicios.
- Una reducción de cien libras esterlinas en la financiación del ayuntamiento de los servicios de atención social para adultos por residente mayor (lo que equivale a una caída del veintinueve por ciento) aumenta la probabilidad de que las personas mayores necesiten de esos servicios no pueden satisfacer plenamente sus necesidades de atención social entre un 6,1 y un 9,7 por ciento. Según las proyecciones demográficas para 2015, la estimación sugiere que una contracción de £ 100 en la financiación pública que las autoridades locales asignan a los servicios de atención social para adultos generaría entre 1.294.642 y 1.336.051 adultos mayores con alguna necesidad de atención social insatisfecha para 2020 en Inglaterra.

En cuanto a la relación dinámica entre la prestación de cuidados formales e informales y los cambios en los roles atribuidos a los diferentes miembros de un hogar en cuanto proveedores de cuidados informales a familiares ancianos se concluye:

- Existe un grado sustancial de sustitución entre los servicios de cuidado informal proporcionados por hijos e hijas adultos, lo cual es un indicio de una posible división de roles. No se ha encontrado ningún grado significativo de especialización en tareas por género (en el sentido de que los hijos adultos realizarían ciertas tareas mientras que las hijas adultas realizarían otras). Tampoco se ha podido encontrar ningún patrón que denote precedencia en el momento de la prestación de servicios por género; es decir, se rechaza la hipótesis de que las hijas adultas intervendrían primero en comparación con los hijos adultos cuando uno de sus padres ancianos desarrolla una dificultad que requiere la prestación de algún servicio de asistencia social. En contraste, sí se ha encontrado coherencia con la norma cultural que establece que es más probable que sean los hijos adultos los

que tienden a brindar servicios de cuidado a sus padres ancianos necesitados, y asimismo sean las hijas adultas quienes hagan lo propio si son las madres ancianas quienes requieren de los servicios de cuidado. En otras palabras, las díadas padre-hijo y madre-hija son más comunes que las díadas de relación padre-hija y madre-hijo.

- No se ha hallado ninguna evidencia significativa de que los servicios formales de atención social se relacionen con la intensidad o el tipo de tarea que requiere el servicio. Pero sí se ha observado que la demanda de servicios formales de atención social para adultos está asociada con el número de actividades de la vida diaria que los adultos mayores experimentan con dificultad para realizar: cuanto mayor es el número de actividades de la vida diaria con las cuales se tienen dificultades para desempeñar, mayor es la probabilidad de que utilicen los servicios formales de atención.
- La atención informal brindada por hijas adultas sustituye parcialmente a los servicios de atención formales, pero esto no se aplica a los servicios de atención informal brindados por hijos adultos. La división de género en la fuente de atención informal dentro de los hogares tendría, por tanto, un impacto en la demanda de atención social formal para adultos. Este hallazgo sugiere que las reducciones del presupuesto público que impactan en la provisión de servicios formales de atención para adultos afectarían a las hijas adultas de personas mayores que necesitan atención social (por ejemplo, en términos de su capacidad para permanecer en un empleo remunerado) en un grado mucho mayor que a los hijos adultos.
- A partir de este último hallazgo, se investigó una hipótesis adicional: si las políticas de empleo que apuntan a mantener el nivel de participación de las mujeres en el mercado laboral y a extender la duración de su vida laboral estarían creando una presión financiera y operativa adicional y elevando el nivel de estrés financiero en los ayuntamientos con responsabilidad de prestación de servicios de atención social para adultos. Se ha encontrado que no solamente es menos probable que las personas mayores con ingresos bajos o con una riqueza no relacionada con la vivienda relativamente menor demanden servicios de atención a largo plazo de proveedores privados, sino que una mayor proporción de estos adultos mayores viven en ayuntamientos que han reducido más, en términos relativos, la financiación de los servicios de asistencia social para adultos. Por lo tanto, es más probable que estas personas mayores se vean afectadas negativamente por una contracción en los servicios de cuidado formal financiados con fondos públicos y es menos probable que puedan sustituir estos servicios por servicios financiados con fondos privados. Estas son las personas mayores que más dependen de su propia familia y de la red social extendida para satisfacer sus necesidades de atención social y, para empeorar las cosas, son la subpoblación con mayor riesgo de desarrollar las discapacidades que conducen a esas necesidades.

Con respecto al impacto que tiene la aparición de responsabilidades para brindar servicios informales de atención social a familiares mayores sobre la situación del mercado laboral de los cuidadores informales:

- Entre las personas con empleo remunerado, la necesidad de brindar diez o más horas de servicios de cuidado por semana a un familiar anciano con dificultad para realizar una actividad de la vida diaria reduce la probabilidad de permanecer en un empleo remunerado en un sesenta y uno por ciento.
- El impacto negativo en el margen extensivo (es decir, en la decisión de continuar en el empleo remunerado o no) es mayor entre los hombres, independientemente de su mayor participación laboral frente a las mujeres, y entre los individuos (hombres o mujeres) con niveles de educación superior y edades más avanzadas.

- Otro resultado importante es que el efecto en el margen extensivo es independiente de si el trabajador ha asumido responsabilidades de cuidado informal en el pasado, pero sí está asociado con el inicio de dichas responsabilidades. Por lo tanto, es el inicio de las responsabilidades de proporcionar servicios de atención social informal a familiares mayores durante diez o más horas a la semana lo que impulsa la decisión de abandonar un empleo remunerado, no el hecho de que el cuidador haya prestado servicios de atención en períodos anteriores.
- En cuanto a los cuidadores informales que permanecen en un empleo remunerado después de asumir responsabilidades de cuidado informal, no se ha encontrado ningún efecto estadísticamente significativo en el número promedio de horas trabajadas de los niveles de intensidad en la prestación de los servicios de cuidado informal. Es decir, no se ha obtenido ningún efecto significativo en el margen intensivo en la oferta laboral de los cuidadores, pero sí un impacto en el margen extensivo: asumir responsabilidades informales de cuidado de adultos mayores conduciría a una salida del mercado laboral pero no a una reducción en el número de horas trabajadas entre los cuidadores informales que continúan trabajando. Dicho de otra manera, la asunción del rol de cuidador informal hace menos probable que un trabajador en un empleo remunerado permanezca participando en el mercado de trabajo, pero en caso de que decida continuar, las nuevas responsabilidades asumidas no afectan la cantidad de horas trabajadas y por ende la oferta individual de trabajo.
- Se estima que en 2018, entre 83,000 hombres y 135,000 mujeres de entre 16 y 64 años de edad han dejado de trabajar en empleos remunerados como consecuencia de haber asumido responsabilidades de suministro de cuidados informales a adultos mayores dentro de su grupo o entorno familiar.

Con respecto al impacto que las reducciones presupuestarias en los servicios de atención social para adultos han tenido sobre los traslados tardíos desde hospitales de pacientes ancianos dados de alta médicamente, se concluye:

- La financiación pública asignada a los servicios de atención social para adultos está inversamente relacionada con el número de días de retraso en el alta de los pacientes ancianos hospitalizados fuera del ámbito hospitalario debido a problemas dentro del sistema de atención social para adultos.
- Al mismo tiempo, los cambios anuales en la financiación pública de servicios destinados a la atención social de adultos están inversamente asociados a las variaciones anuales en el número de días de alta retrasada.
- Dados estos dos resultados y en base a las estimaciones del elevado costo fiscal impuesto por los retrasos en el alta hospitalaria de los pacientes ancianos hospitalizados, estos hallazgos sugieren que las reducciones presupuestarias del sector público generarían una economía "falsa" de dinero público.

#### Limitaciones

A lo largo de los capítulos se han indicado varias limitaciones y consideraciones. Algunas se deben al alcance de las investigaciones presentadas mientras que otras se relacionan con la información recabada en las bases de datos disponibles, lo cual ha llevado a incluir recomendaciones especialmente en torno a la calidad y extensión de dicha información.

Por empezar, toda la tesis se centra en adultos mayores residentes en la comunidad -es decir que excluye los adultos mayores institucionalizados, tanto en residencias de ancianos como en otros

establecimientos (carcelarios, por ejemplo -en Inglaterra, el grupo etario de prisioneros mayores de 60 años es el de mayor crecimiento desde el 2002)<sup>6</sup>.

En segundo lugar, los capítulos basados en la encuesta ELSA sufren de limitaciones derivadas de la periodicidad en la recolección de datos. Como se ha señalado, esta encuesta tiene lugar cada dos años, un plazo muy extenso para poder contrastar ciertas hipótesis. Por ejemplo, en el capítulo dos no pudo cotejarse la existencia de decisiones compensatorias o de comportamientos adaptativos a continuación de transiciones vitales tales como el inicio de una discapacidad o el agravamiento en los niveles de discapacidad así como tras cambios al interior de las configuraciones familiares. Los datos de ELSA no incluyen información acerca de los hijos e hijas adultos de las personas mayores incluidas en la muestra, con lo cual no se ha podido controlar los resultados por la edad cronológica de los cuidadores informales, ni por su estado civil, situación laboral, proximidad de residencia con respecto a los padres, etc.

Otra avenida de investigación que no se ha seguido y que el capítulo dos deja abierta es si el aumento en las necesidades insatisfechas derivadas de la contracción presupuestaria ha elevado la probabilidad de que los adultos mayores con necesidad de recibir servicios de cuidado social recurran a fuentes informales o a financiar de manera privada servicios formales de cuidado.

Una limitación propia de todas las encuestas de vivienda es el supuesto de equidad intrafamiliar, el cual no ha podido corroborarse o rechazarse ante la falta de datos. En el capítulo tres, una hipótesis que queda pendiente ante la ausencia de información es si las familias estarían recurriendo a transferencias de fondos inter-vivo para financiar la provisión de servicios formales privados en parte o en su totalidad ante el aumento en las necesidades insatisfechas derivado de la contracción presupuestaria en el financiamiento público de los servicios de cuidado.

En el capítulo cuatro no se ha podido incluir la presencia de la modalidad de trabajo flexible entre los empleadores de los hijos e hijas adultas que asumen responsabilidades de cuidado informal de sus padres. Se ha encontrado que la asunción de tales responsabilidades trae aparejada una mayor probabilidad de dejar el mercado de trabajo, pero entre aquellos que continúan participando en los mercados laborales, no se ha observado un detrimento en el número de horas trabajadas. Con datos más ricos en cuanto a la información de los ámbitos de trabajo de los individuos encuestados podría responderse si la disponibilidad de arreglos de flexibilidad laboral estaría mediando en estos resultados -una inquietud de gran importancia en el diseño de políticas laborales especialmente en el marco del envejecimiento poblacional.

Los datos estudiados en el capítulo quinto no distinguen, para el caso de que la fuente de los rezagos en las transferencias de centros hospitalarios de adultos mayores se origine en problemas al interior del sistema de cuidado social, si se trata de problemas dentro de los servicios brindados en la comunidad (domiciliarios) o en residencias. De allí que los resultados informados en este capítulo, si bien de importancia, no brindan todavía mayor conocimiento acerca de los vínculos y la dinámica entre los sectores de servicios de salud y de cuidado social.

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<sup>6</sup> *Ageing prison population. Fifth Report of Session 2019–21. Report, together with formal minutes relating to the report.* Justice Committee. House of Commons. Londres. 22 de Julio de 2020.