Health Policy and Planning, 33, 2018, 1018–1025
doi: 10.1093/heapol/czy083
Advance Access Publication Date: 26 October 2018
Original Article

Long-term care systems as social security: the case of Chile

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Accepted on 18 September 2018

Abstract

Similar to many other countries, Chile is facing the challenges of rapid ageing and the increase in long-term care (LTC) needs for this population. Implementation of LTC systems has been the response to these challenges in other countries, however, Chile still lacks a strategy for addressing LTC needs. This article advocates for the implementation of a LTC system in Chile, demonstrating that this could be an effective and efficient response to cope with the current and future challenges faced by the country. The rationale for implementing a LTC system is based on the principles of the country's social security system and on the fact that not having a LTC in place is not costless.

Keywords: Chile, ageing, care, costs, demographic transition, elderly, framework, public policy, reform

Key Messages

- Chile and other countries are facing the challenges of the demographic transition, particularly the increase in elderly population and dependency.
- Long-term care systems are a suitable and efficient response to deal with the increase in long-term care needs.
- Traditionally, long-term care systems have been ignored as public policy response based on their excessive cost; this article highlights the existence of cost associated with the lack of long-term care system that needs to considered when assessing the design and implementation of a long-term care system.

Introduction

Similar to many other countries before it, Chile is experiencing the effects of demographic change. Unlike in other countries, this shift—particularly population ageing—will take place at a rate never seen before. For example, it took 70 years for France to double its percentage of elderly population (those older than 65 years), from 11.4% in 1950 to 20.7% in 2020; while in Chile the same change will occur in 25 years (from 10.4% in 2015 to 20.7% in 2040) (United Nations, 2017).

These changes pose enormous challenges to countries, particularly in terms of their social security systems: people are living longer and their needs are changing. While adjustments to the pension and health system are frequently discussed in Chile and elsewhere, another dimension of the social security has been ignored. Long-term care (LTC) systems that include health and social components have been adopted by several countries as a coordinated response to deal with the increase in the elderly population and dependency, defined as the state in which a person's functional ability has decreased to a point where he/she is no longer able to perform basic tasks necessary for day-to-day life without assistance (World Health Organization, 2015). Following the works of Norton and Newhouse (1994) and Colombo *et al.* (2011), in this article, a LTC system is an institution that contains, defines and coordinates four components: beneficiaries (who uses LTC services), benefit package (what services are provided), providers (who provides LTC) and financing (who pays for LTC, in what setting and at what cost).

A systemic approach has several advantages over fragmented responses. Some advantages include coordination (increasing coverage and avoiding overlapping between several LTC-related initiatives), specialization (designing customized solutions for particular

problems) and comprehensiveness (looking at the continuum of care and promoting prevention and rehabilitation strategies) (Ejem *et al.*, 2015; World Health Organization, 2015, 2017). These advantages are clear in the case of Chile where the current supply of LTC services is fragmented (>50 programmes in five ministries) and accessibility is low: elderly dependents living in nursing homes represent about 5% of the total, and the largest public programme providing home-based LTC services covers just 14% of this population (Ministerio de Desarrollo Social, 2017a,b; Villalobos Dintrans, 2018).

This article advocates for the design and implementation of LTC systems as a response to the challenges of population ageing; it takes the case of a Chile—a country currently dealing with these issues—and the conclusions can be applied to many other countries, particularly low- and middle-income countries that will have to face these challenges in the future. Finally, the article also proposes a framework to understand the role of LTC in the Chilean social security system.

Rationale for implementing LTC systems: international experiences

Although there are multiple justifications for the implementation of a LTC system—political (Campbell *et al.*, 2009), ethical (World Health Organization, 2002), economic (Bloom *et al.*, 2015) or legal—its economic impact is usually the most relevant from a public policy perspective—as implementation requires potentially controversial increases in public spending. This emphasis on controlling and decreasing spending, mainly on health, together with a focus on the provision of specialized medical services and the fact that LTC has historically been carried out within families, has contributed to the slow introduction of LTC systems in the world (Brodsky and Clarfield, 2008; European Union, 2016).

In general, the macro-level economic impact of a LTC system has two main components:

(1) effects on labour markets: increased labour participation and employment by allowing informal caregivers to opt for paid jobs in the formal market and by creating a new sector in the economy, and (2) effects on public expenditure: increased efficiency in the allocation and use of resources by offering cost-effective alternatives to respond to population needs (Rodrigues *et al.*, 2013; Bloom *et al.*, 2015; Rhee *et al.*, 2015; World Health Organization, 2015; Norton, 2016). Both these components will be explored in further detail below.

Effects on labour markets

Regarding labour markets, three potential impacts of LTC system implementation have been identified: an increase in labour participation, an increase in productivity and the creation of new jobs. First, the existence of a LTC system based on informal care means that the entire burden of LTC needs falls on a group of caregivers who have no available alternative care. Assessing a LTC system's economic impact from a labour supply perspective requires estimations of the number of informal caregivers in the economy as well as their economic value in the labour market. There are two approaches to measuring this impact: (1) opportunity costs and (2) replacement costs. The first approach measures the loss of income generated to caregivers resulting from their care responsibilities (i.e. the salary they could earn by working in a paid job). The second approach measures the cost of replacing informal caregivers with formal caregivers, based on the market wage for care services.

Estimations from the US show that the contribution of the informal sector is far larger than the value of the formal sector. For example, Arno *et al.* (1999) used the replacement cost approach to calculate the economic value of informal care services in the USA. The authors find that the size of the informal care sector in 1997 was US$196 billion (for about 26 million caregivers), larger than the size of the formal sector (US$115 billion), representing about 18% of the country's health expenditures. Updates show that the value of informal care increased to US$450 billion in 2009, reaching US$470 billion in 2013, considering the existence of 40 million caregivers in the country (Reinhard *et al.*, 2015). A recent report on care in the USA indicates that the number of informal caregivers who do not receive remuneration would be 43.5 million (American Association of Retired Persons, 2015), about 650 times the estimated number of paid caregivers [roughly 67 000 according to the Centers for Disease Control and Prevention (2016)].

This illustrates how a significant problem is rendered invisible: the lack of information on the topic, including an underestimation of the number of dependents in the country, creates the feeling that the probability of becoming a dependent and its costs are negligible which, in turn, explains the low coverage of LTC services and the low level of population demand for a better system (De Donder and Leroux, 2013).

In addition to reducing employment, informal care can also impact productivity. This means that informal caregivers who also work in the formal sector end up receiving lower wages than those who do not have care responsibilities (Rodrigues *et al.*, 2013), which can be explained by a lower accumulation of human capital such as less education, fewer years of work experience and worse health conditions. Informal caregivers, especially women, may have also greater difficulty finding a job and a higher probability of early retirement. This affects not only their current salaries, but also their future income and social protection coverage, especially in systems where coverage is linked to contributions or working conditions (Lilly *et al.*, 2007; Norton, 2016).

Finally, a LTC system also creates new markets and jobs. Given that the system requires professionals and firms to provide the LTC services, its implementation increases the demand for workers who perform these activities in the formal labour market. For example, in the Republic of Korea, a marked proliferation in job demand for LTC workers was observed after the implementation of its LTC system—the number of workers in health services increased from 37 684 in 2008 to almost 252 000 in 2013 (Choi, 2015) and demand has continued to grow (Jeon and Kwon, 2017).

Effects on public expenditure

When looking at the relationship between increased public expenditures and absence of a LTC system, various arguments are found in the literature. First, there is a direct impact of greater expenditures made by the social security system when the LTC system is absent (substitution). In particular, patients requiring LTC services receive social subsidies, and health resources are used to provide them with non-medical services (European Union, 2016).

An example of this first type of allocative distortion is found in Germany, where the pressure put by elderly dependents on the social benefits system was used as the main argument for the implementation of a LTC system in the mid-1990s (Schneider, 1999). In addition, one of the clearest cases for substitution in health resources as the rationale for a LTC system is found in Japan (Rhee *et al.*, 2015), where population ageing led to an increase in health sector expenditures. Between 1963 and 1993, the number of elderly persons hospitalized increased by 10-fold, with elders using half of the hospital beds, and one third of them ended up living in a hospital for

more than a year. All expenses were financed by health insurance, even when the patients did not require medical supervision. Thus, a LTC system was seen as an opportunity to contain this expenditure growth (Campbell and Ikegami, 2000). Similar justifications can be found in the USA with the financing of nursing homes for impoverished elderly (Norton, 2016) and in the implementation of the LTC system in South Korea (Choi, 2015; Kim and Lim, 2015; Kwon *et al.*, 2015).

A different line of argument refers to the justification for government intervention based on the existence of market failures. As in the case of health (Arrow, 1963), LTC has a series of characteristics that make it an imperfect market, which requires an enhanced role of government in its design and implementation (Norton, 2016). LTC services are not only affected by adverse selection and moral hazard, but they also present other problems that include care required for longer periods of time increases uncertainty, crowding-out exists between public and private insurance, and the inability of people to determine their risk of dependency generates under-provision of private services in these markets (Brown and Finkelstein, 2007; Coe *et al.*, 2015; Norton, 2016).

Finally, while many examples show that incorporating the economic dimension into the debate regarding LTC systems is important, the decision whether to implement a LTC system is not based exclusively on a cost–benefit analysis. Countries have introduced LTC into their social security systems by not only changing laws, but also devoting resources (Brodsky *et al.*, 2000). Despite the discussion on cost containment and efficiency, LTC systems have been introduced because they are considered a necessary component of social security, protecting citizens from a burden that cannot be borne by families or solved by the private sector (Geraedts *et al.*, 2000; Mot, 2010). This fact raises the need to consider the approach taken by other countries that have made progress in the topic: LTC systems are an integral part of the social security system and should be considered from an entitlement approach. The discussion regarding the cost containment in the system is important but has to be part of the debate on the system's design, not as the sole argument to start the conversation.

Materials and methods

Drawing from examples shared above, a framework for understanding the response of the Chilean social security system to LTC needs is presented. This framework is then applied to the Chilean social security system to assess the impact of not having a LTC system, particularly from the perspective of their health system.

The Chilean social security system is composed of four components (Superintendencia de Previsión Social, 2017): (1) pension system; (2) health system; (3) insurance for work accidents and occupational diseases and (4) unemployment insurance.

These components aim to provide protection against different contingencies related to the generation and availability of income and health status. On the one hand, the goal of the pension system and unemployment insurance, as well as other social benefits, is to ensure an income that allows families to exercise their rights. On the other hand, the health system aims to deliver services to the population in the face of health contingencies. Finally, the occupational safety system combines both goals, aiming to prevent and protect workers from accidents and occupational diseases, caring for both health and income. In this scheme, a LTC system is also located at the intersection of the social/labour and health system.

Figure 1 presents a framework to assess the impact of a LTC system in the Chilean social security system. Although built based on the Chilean context, this framework can be applied, *mutatis mutandis*, in different contexts. The scheme starts with the existence of LTC needs; the black box on the left contains the estimation of LTC needs, which is expected to grow in the coming years. With a LTC system in place, these need could be addressed by the system (arrow A). However, in the absence of this option, LTC needs are distributed in a variety of ways.

First, some are absorbed by the social security system. On the one hand, the social and labour protection systems use their apparatuses to respond to these demands, e.g. by giving subsidies and financing LTC facilities (arrow B). Similarly, the health system receives people with LTC needs that do not require specific healthcare services (social patients). As in the case of the social protection system, the health system uses its already installed capacity to respond to these demands (arrow C).

However, most of these needs move outside the social security system, ending up in the private realm (Colombo *et al.*, 2011), that is a large portion is assumed by informal caregivers (arrow D), while some demands are met by private providers outside the social security system (arrow E). The fact that social security in Chile does not include a LTC component means that part of the problem does not enter directly into the system, apparently reducing the burden for the government. However, as shown by the blue arrows in Figure 1, these initial savings are likely to re-enter the system in different ways because provision of LTC services is carried out by informal caregivers, they bear its costs in terms of time, physical, psychological and emotional health (Rogero-García, 2010; Adelman *et al.*, 2014). This translates into a decrease in labour supply and income-generating capacity, increasing the risk of poverty (arrow G) and a greater burden of disease in caregivers (arrow F) (Rodrigues *et al.*, 2003; Colombo *et al.*, 2011; Norton, 2016). This implies that the social security system receives, indirectly, the burden generated by the demand for LTC services. Because the private market for LTC services is unregulated, extra resources are also needed to solve situations generated by the provision of low-quality services (arrow H) (Matus-López and Cid, 2015; World Health Organization, 2017).

In summary, in a context where there are LTC needs but no LTC system, the social security system ends up adapting the problem to the solution. In terms of the described 'direct impact' (arrows B and C), this means that the system takes those problems and tries to solve them with its available tools. In the case of Chile, this is done through a set of public programmes with LTC components, as well as subsidies for elderly and disabled people (in the case of social programmes) and healthcare services (in the case of the health system). In terms of the 'indirect impact' (arrows F and G), the system 'translates' these demands for which it has no answer, in a problem that it can solve with its capacities and experience (subsidies, healthcare services). The existence of a LTC system fills some gaps in the social security system but also helps coordinating sectors (such as social and labour policies, and health). This is an important point that needs to be carefully designed to avoid fragmentation between the different sub-systems within the social security system. As illustrated international experiences, this lack of integration is crucial for the quality and efficiency of the services delivered and the LTC system can play a role in integrating and coordinating these initiatives (Brodsky and Clarfield, 2008; Pot *et al.*, 2017).

The proposed framework is useful to structure the debate about the effects of a LTC system. As stressed by the World Health Organization (2017),

> . . .few regional or national frameworks exist to guide more specific action. Focused debate has been largely absent, reflecting

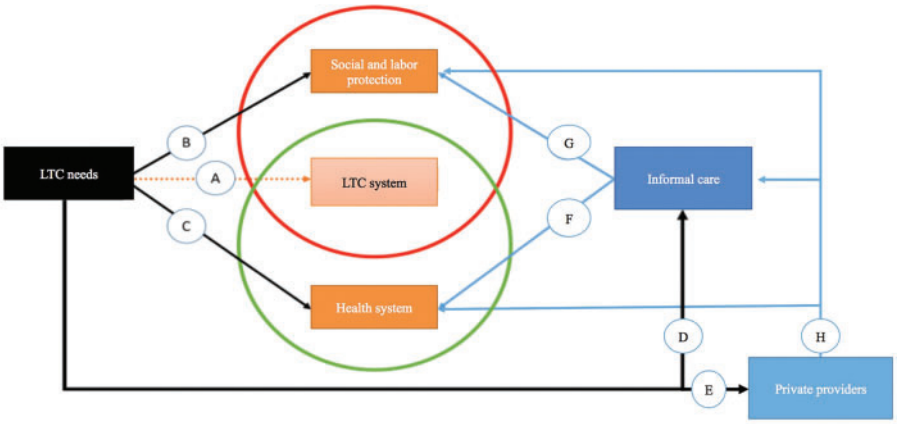

Figure 1. A scheme to assess the impact of LTC from a social security perspective

Source: Author's elaboration

the low policy and political priority accorded to long-term care, combined with a belief that the issue has little impact on economic development.

In this sense, this framework can be used to identify different costs and benefits of a LTC system, helping stakeholders to advocate for LTC policies in Chile and other countries.

Results

This section uses the framework presented in above to identify some of the costs of not having a LTC system in Chile. This analysis is focused on the health system and is divided into direct and indirect costs: those that are currently assumed by the social security system (arrow C) and those that reenter into system via informal care (arrow F).

Direct costs

As discussed previously, one of the main arguments used by countries when deciding on the convenience of having a LTC system relates to the potential savings for the healthcare sector. These saving are based on the existence of 'social patients' (i.e. patients that cannot be discharged from hospitals because they lack family/friends who can care for them). In addition, savings also arise because LTC services are cheaper than hospital care.

'Social patients' has been identified as relevant in Chile. In 2015, the Ministry of Health (MINSAL) launched the program *Camas Sociosanitarias* ('Social sanitary beds'), a program in which these patients are identified and provided with case management by an interdisciplinary team, with the goal of reducing hospital stay duration and encouraging the use of home-based care. The program estimates that 36% of long-stay cases (longer than a month) of elderly in hospitals are 'social patients'. In 2017, the program had a budget of US$1.2 million (Ministerio de Desarrollo Social, 2016).

Using data from hospital discharges for the period 2005–2015, it is found that although the number of discharges has remained stable over the past 10 years, the duration of stay has increased in the Chilean hospital system, driven by increases in the length of stay of long-stay patients. Using estimations for the daily cost of a bed in a hospital (both public and private) and definitions for long-stay patients, the cost differential between hospital and LTC services ranges between US$689 million and 19.6 billion per year, depending on the definitions used (see Supplementary Data).

Although this analysis has several limitations, it provides evidence of the high cost of 'social patients' for the Chilean health system, which constitutes only one portion of the resources depicted by arrow C in Figure 1. Cost estimations are high when compared, e.g. with the current public expenditure in LTC programmes. For example, the total budget of the National Elderly Office (SENAMA) was US$29 million in 2016. This highlights the relevance of considering LTC as an alternative to providing better services to people with LTC needs and as a strategy for cost reduction in the health system.

Indirect costs

As depicted in Figure 1, a large impact of lacking a LTC system comes from arrows F and G, the effects on health, labour participation and income of informal caregivers.

In Chile, caregivers exhibit a similar profile to those found in other countries (Colombo *et al.*, 2011; Mayston *et al.*, 2014; World Health Organization, 2017). They are typically women, have some kinship relationship with the dependent, and are older than 45 years. In addition, they use a large part of their day on tasks related to care, and most of them have been in this role for several years (Albala *et al.*, 2007; Riquelme *et al.*, 2007; Jofré and Sanhueza, 2010; Servicio Nacional del Adulto Mayor, 2010; Arechabala *et al.*, 2011; Espinoza and Jofré, 2012; Flores *et al.*, 2012; Benavides *et al.*, 2013; Rosson *et al.*, 2013; Slachevsky *et al.*, 2013; Aporto, 2014; Orta *et al.*, 2016; Ministerio de Desarrollo Social, 2017b). Caregivers differ from people with LTC needs, both in terms of demographic profile and their needs and demands, reinforcing the idea that the social security system 'transforms' one problem into another, adapting to solve it with its current institutions and capacities.

From a health perspective, the indirect effect of lacking a LTC system in Chile comes from the growth in the demand for healthcare services from caregivers and people with LTC needs.

In general, it is possible to argue for the existence of positive and negative effects of informal care (Rogero-García, 2010; Adelman *et al.*, 2014). On the one hand, families often choose home-based care, which may have positive emotional and psychological effects. However, this decision may also entail negative effects on health related to the workload borne by caregivers. These problems are generated by several factors: caregivers neglecting their own health and social life, family deterioration as a result of the relationship

between the caregiver and the patient, and frustration due to lack of preparation and technical knowledge of caregivers (Breinbauer *et al.*, 2009; Chacón and Rojas, 2016).

Several studies for Chile show the effects of the care tasks on the caregiver's health (Albala *et al.*, 2007; Riquelme *et al.*, 2007; Jofré and Sanhueza, 2010; Servicio Nacional del Adulto Mayor, 2010; Arechabala *et al.*, 2011; Espinoza and Jofré, 2012; Flores *et al.*, 2012; Benavides *et al.*, 2013; Rosson *et al.*, 2013; Slachevsky *et al.*, 2013; Aporto, 2014; Orta *et al.*, 2016; Ministerio de Desarrollo Social, 2017b). Although the evidence differs according to the type of patient and care provided, all caregivers report significant levels of overload, as well as negative effects on health, including physical problems and depression. These are similar to findings in other countries (Colombo *et al.*, 2011; Rodrigues *et al.*, 2013). Regarding protective and risk factors for caregivers, results for Chile are also similar to those found in other contexts, with home-based care and age of patients showing the greatest negative effects, and income and the existence of a support system appearing as protective factors in all cases (Tamiya *et al.*, 2011; Rodrigues *et al.*, 2013; Umegaki *et al.*, 2014).

Finally, indirect costs can also be identified in terms of income. Studies in Chile have also assessed the economic impact of informal caregiving in Chilean families (Fondo Nacional de la Discapacidad, 2004; Ministerio de Salud, 2006; Albala *et al.*, 2007; Riquelme *et al.*, 2007; Arechabala *et al.*, 2011; Bravo and Puentes, 2012; Aporto, 2014; Hojman *et al.*, 2017). Results show that opting out of the labour market is not a choice for caregivers, which represents not only a restriction on labour participation but also a broader restriction on their opportunities (Sen, 1985).

Because of this lower participation in the job market, households with LTC needs also report not being covered by the social security system, adding an additional factor to their precarious economic situation and exposing them to financial risk related to health status, a risk that is greater in homes with elderly (Cid and Prieto, 2012). This risk is particularly important for this population, as they also face higher direct costs related to LTC needs, which is usually paid out-of-pocket in Chile (Scheil-Adlung, 2015).

Using data from the 2015 National Socioeconomic Characterization Survey (CASEN), it is found that nearly all caregivers in the country (93%) are unpaid, with most of them being relatives or friends of the person requiring care. Regarding labour participation, primary caregivers are less likely to participate in the formal labour market. It is important to note that, compared with people who do not perform care tasks, caregivers also differ in their willingness to work. While 80% of caregivers indicated that they would be willing to work if a job were offered, this figure only reaches 35% of those who are not caregivers, reinforcing the idea that caregivers' absence from the labour market is, to some extent, forced. When inquiring into the reasons for staying out of the labour market, both groups—caregivers and others—express that the main reason is related to having another activity or income (Figure 2). However, while caregivers are mostly retired people and homeowners, non-caregivers are mainly students. This shows the need to be careful when interpreting these results, as the relationship between caregiver status and workforce participation is not necessarily causal. A higher prevalence of unemployment among caregivers can also suggest that people who decide not to participate in the labour market are more likely to provide care services (Rodrigues *et al.*, 2013). In any case, these data show that family issues are particularly important for caregivers, with 'not having another person to care for the elderly' declared as the main reason for staying out of the labour market.

Finally, it is necessary to highlight the gender inequities generated by the features of the caregiving and the Chilean labour market. Informal caregivers are mostly women while, at the same time, wages and labour participation are lower for this group, with 25% reporting opting out the labour force due to family issues. This phenomenon is exacerbated as individual income decreases (Instituto Nacional de Estadísticas, 2015, 2018). Considering the evidence presented above, the absence of a LTC system contribute in perpetuating this two-tier inequity: on the one hand, it promotes a lower female participation in the formal labour market and reinforces gender roles already present in the society (Vaquiro and Stiepovich, 2010; Colombo *et al.*, 2011) while, on the other hand, it denies

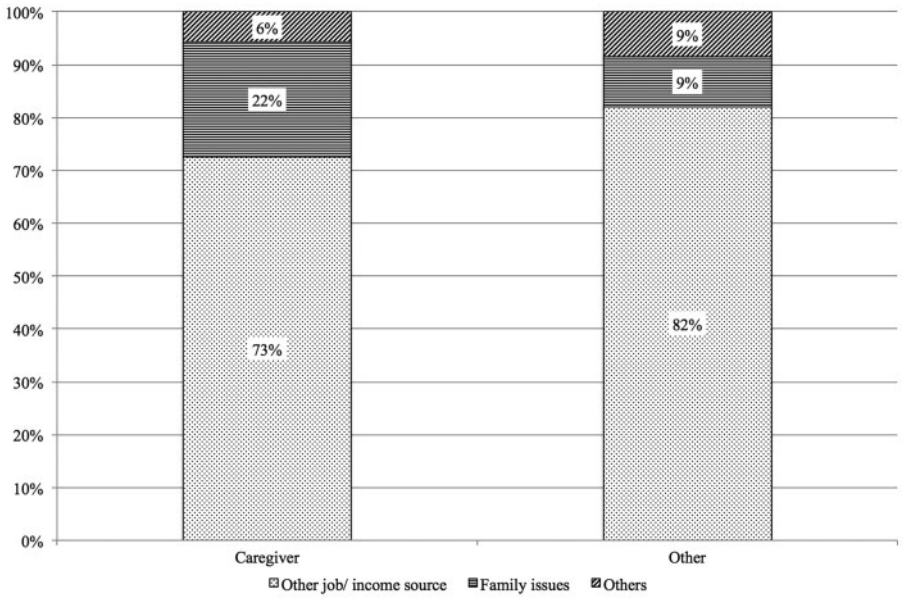

Figure 2. Reasons to not searching for a job in the last month, Chile

Source: Author's elaboration based on CASEN 2015

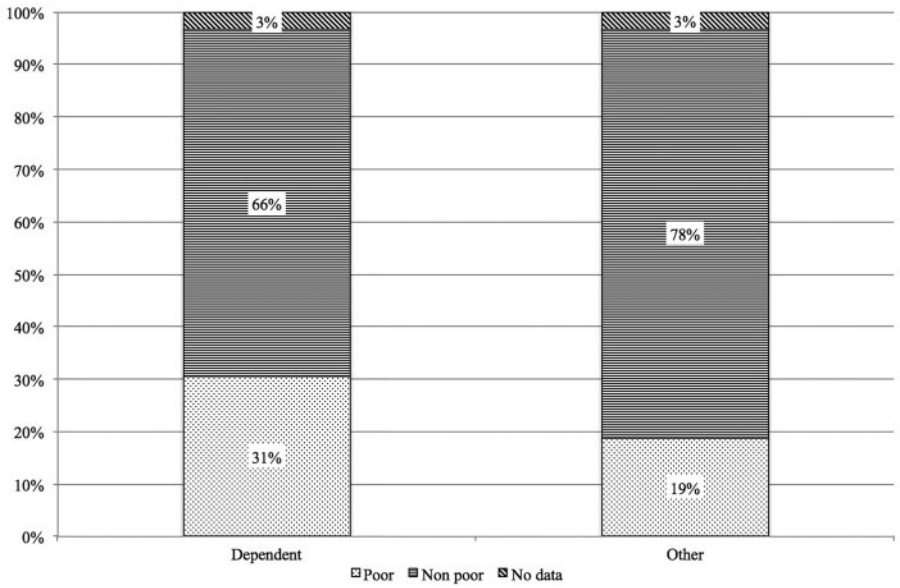

Figure 3. Poverty in households with and without dependents, Chile

Source: Author's elaboration based on CASEN 2015

opportunities to generate income to those with already fewer chances.

As expected, these results translate into higher levels of poverty in households with dependent persons. As shown in Figure 3, the percentage of households in poverty is almost twice as high for households with dependents vs households without dependents.

Discussion

This article presents a novel perspective to help understand and evaluate the value in implementing a LTC system in Chile. While acknowledging that the proposed system represents a significant financial effort for the country: estimations show that a home-based LTC system would cost approximately US$1.6 billions, roughly 0.45 of the country's GDP (Matus-López and Cid, 2014). This article establishes that a LTC system could be desirable on ethical grounds and also could be used as a strategy to reduce the government expenditure in social security.

It is important to note that this article advocates for the implementation of a LTC system but does not provide any guidelines on its particular features. As in the case of health systems, the debate about which is the best design for this system is unsolved (Colombo *et al.*, 2011; Swartz *et al.*, 2012; Carrera *et al.*, 2013; Swartz, 2013): there are as many LTC systems as countries that have implemented them (Brodsky and Clarfield, 2008; Weiner, 2011; Pot *et al.*, 2017; World Health Organization, 2017).

In Chile, the discussion on how to deal with ageing is nascent and the debate about LTC revolves around the question if a country should implement a LTC system or not. Following the example of several countries that have implemented LTC systems, this article intends to change the discussion from one focused on implementing or not implementing the system (the 'if' question) to one about the way to do it (the 'how' question). Experiences from other countries show that implementation of LTC systems are mainly grounded on the idea that paying for LTC services exceeds the payment capacity of the families, constituting a risk that should be covered by the social security system (Geraedts *et al.*, 2000; Mot, 2010).

Results shown here demonstrate that informal caregiving has important effects on health, labour participation and income generation in Chile. However, these impacts could be reduced through formal care systems (Rodrigues *et al.*, 2013) and policies that encourage participation of caregivers in the formal labour market.

The system must respond not only to short-term needs, but also consider its long-term impacts. For example, if the patient–caregiver dyad does not participate in the labour market, nor does it contribute to the social security system, and both members will become non-contributing beneficiaries (i.e. first pillar members in the pension system and indigents in the health system), placing extra financial pressure on these systems.

This article also promotes an active participation of the health sector in designing and implementing a LTC system in the country, in line with the call from the World Health Organization to establish LTC systems in every country (World Health Organization, 2016, 2017). Data show that the implementation of a LTC system could help in reducing health costs. The health sector should also take a preponderant role in identifying and measuring LTC needs in the country, as well as in the application of strategies to mitigate the problem such as actions to diminish the needs of LTC in the population and, consequently, the demand for LTC services.

The numbers presented here represent a fraction of the total costs of lacking of a LTC system in Chile. A better understanding and measurement of these costs would help in making the case for the implementation of a LTC system in Chile and other countries facing the challenges of demographic transition and increasing LTC needs.

Supplementary Data

Supplementary data are available at *Health Policy and Planning* online.

Conflict of interest statement. None declared.

Acknowledgements

The author thanks Tom Bossert, Katherine Swartz, Jesse Bump, Rachel Klabunde and Borna Bhuiya for their useful comments.

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