

A Work Project, presented as part of the requirements for the Award of a Master Degree in  
Management from the NOVA – School of Business and Economics

## **Shared Lives**

### **Social Impact Bond Feasibility study**

Is the social impact bond model a suitable mechanism to finance a replication of a Shared  
Lives intervention that provides foster care placements for elderly in Portugal?

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## **Abstract**

Loneliness and isolation among the elderly is an enormous problem in Portugal. Interventions to tackle loneliness worldwide have had limited success, and new approaches are needed.

Shared Lives is an adult foster placement service in the UK that shows significant promise in tackling both loneliness, isolation and other societal challenges linked with ageing. This feasibility study suggests that replicating a Shared Lives service in Portugal, using a Social Impact Bond (SIB), is viable and likely to create both social and financial value for all stakeholders involved. This study provides recommendations for how a Shared Lives SIB could be designed and implemented.

**Keywords:** Loneliness and isolation, Shared Lives, Social impact bond, Feasibility study

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## Introduction

At no previous point in history has there ever been an age structure in which the older age groups are larger than the younger ones. Increasing life expectancy and historically low birth rates is causing a significant change in the balance between the number of older and younger people in Europe (European Commission 2012). In Portugal it is estimated that between 2012 and 2060 the number of elderly for every 100 young people will increase from 131 to 307 (INE 2014). This demographic shift poses a wide range of social and economic challenges. The ageing population will put additional pressure on already pressured areas, including health and healthcare systems, pensions, home care and nursing homes. Health and social problems that are linked to ageing are likely to increase profoundly in scale. The capacity to care for the ageing population in an economically sustainable way will depend on the public, private and social sectors ability to find new and smart solutions.

Loneliness and social isolation is a serious and persistent social problem that the older population is vulnerable to. Traditional public solutions have not been sufficient to prevent or address the problem, and innovation is needed. Social sector organizations try to fill the gaps in service deliveries where governments have been either neglectful or unsuccessful.

Although the social sector can produce innovative and cost-effective interventions, social organizations are often faced with limited and unstable funding options. Scarce financial resources can inhibit social organizations from realizing their potential impact and drive their focus away from mission-related activities and capacity building and onto fundraising activities to secure survival. Social investment, which seeks to generate both social and financial returns, has emerged as a new way to address some of these challenges by providing social organizations with access to suitable financing. Social Impact Bonds (SIBs)<sup>1</sup>, a specific mechanism within the social investment market, has gained significant momentum since the

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<sup>1</sup> A Social Impact Bond (SIB) is a financial contract between social organizations, private investors and governments, where private investors finance a social intervention, and are repaid by governments if a predefined outcome is achieved.

first SIB was launched in 2010 in the UK. Portugal implemented its first SIB in February 2015. Portugal Inovação Social, a newly created catalyst social investment institution, recently announced a 15 million EUR SIB Outcome Fund, where capital will be allocated to pay for outcomes achieved by interventions funded through SIBs (Taskforce 2015). The objective of this feasibility study is to inform a future application to the Portugal Inovação Social SIB Outcome Fund. The study will specifically assess whether a SIB is a suitable mechanism to finance a replication of “Shared Lives” in Portugal. Shared Lives is an alternative form of adult and elderly care and support in the UK. Shared Lives believes that “the only way the UK can effectively tackle large problems like social isolation and falling social care budgets, is through harnessing the resources and skills of ordinary families and communities” (Shared Lives 2013). Shared Lives may represent the kind of imaginative services that are needed in Portugal to meet the future demand for elderly care, and to tackle persistent social problems associated with older age, such as loneliness.

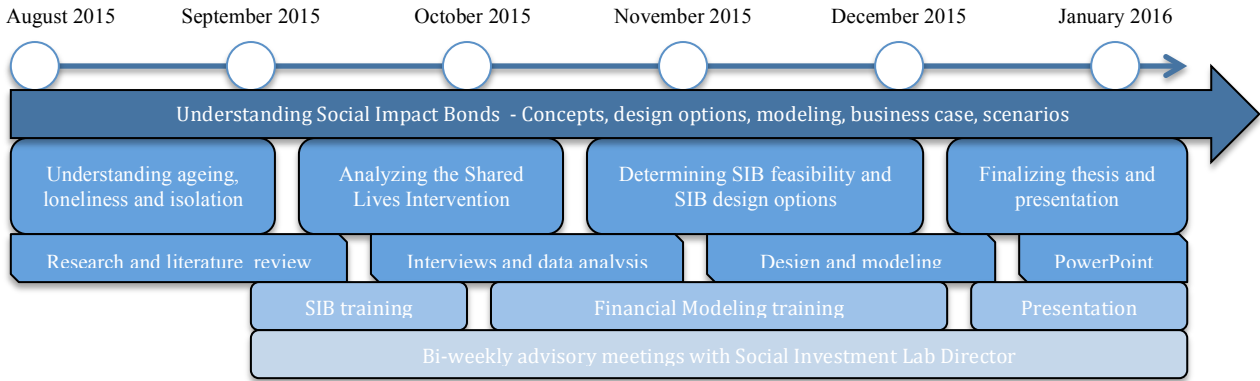
## Methodology

This thesis follows a social impact bond feasibility study methodology under the Social Investment Lab<sup>2</sup> SIB research program. The methodology involves three main parts: (1) understanding the social challenge; (2) identifying a strong intervention model that addresses the social challenge; (3) determining whether a SIB is an appropriate mechanism to fund the intervention and analyze ways in which such a mechanism could be designed. The research program under which the study was developed included a structured training plan, covering the topics of SIBs, financial modeling of SIBs and PowerPoint presentations. The program included delivery of blog posts, a finalized financial model and the complete feasibility study. The research program also included bi-weekly advisory meetings with the Social Investment Lab director. To understand and analyze the intervention model, Shared Lives UK was

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<sup>2</sup> Social Investment Lab is a social finance intermediary operating in Portugal. The Social Impact Bond research program is 6-month social investment analyst training program.

consulted, and the organization contributed with valuable information and documentation. Santa Casa Da Misericórdia and Associação Portuguesa de Famílias Numerosas (APFN) in Portugal were consulted to understand the Portuguese experience with adult foster placement. This study was developed in the following process and timeline:



**1. The social challenge – Loneliness and isolation among the elderly**

**1.1. Introduction to loneliness and isolation**

Although the terms social isolation and loneliness are often used interchangeably, research suggests that the two concepts should be differentiated. Loneliness can be defined as the subjectively felt negative difference between desired and actual social relationships while social isolation refers to a low objective number of relationships or contact (Masi et al, 2011). Older people are more vulnerable to chronic loneliness and social isolation than any other age group. The transition to retirement, loss of friends and family, living alone, loss of mobility and sensory impairment are some of the factors contributing to the problem. The negative impact loneliness has on mental and physical health is thoroughly researched and well documented. For example, loneliness has been found to have a higher impact on mortality than obesity, and about the same impact as smoking 15 cigarettes per day (Holt-Lunstad, Smith and Layton 2010). Between 5-20% of Europeans over 60 years reported feeling lonely “often”, in the last Eurobarometer survey of 12 member states examining adult loneliness in

1992. In a summary of findings from 40 surveys in Europe, 40-50% of those aged 80 and over say they are “often” lonely (Dykstra 2009). The negative health impact of loneliness, the rapidly ageing populations of Europe and the correlation between age and loneliness indicates that loneliness and isolation may be one of the biggest challenges facing European societies.

## 1.2. Causes and consequences

Understanding the causes and consequences of loneliness<sup>3</sup> is fundamental to an evaluation of interventions tackling the problem, as well as to understand the implications for individuals and society. A selection of relevant and robust studies on the causes and consequences of loneliness, and a summary of findings are presented below.

Causes	Findings	Sources
<b>1. Social isolation:</b> Few social contacts Living alone Widowhood	17% of older people are in contact with family, friends and neighbours less than once a week, and 11% of them less than once per month. Few social contacts/relationships predict loneliness.	Victor C et al (2003)
	People living alone are five times as likely to say they are “often” lonely, than people in a household with two or more people. People living alone are also about twice as likely to say they are lonely “some of the time”.	(Beaumont 2013) (Victor, Scambler, et al. 2000)
<b>2. Poor health</b>	Older adults with health problems are more prone to loneliness.	(Savikko, et al. 2005)
	Elderly with illnesses that limit daily activity were more than twice as likely to report being “often” lonely. Reduced mobility and vision, hearing or cognitive impairment are all considered risk factors for loneliness	(Beaumont 2013), (Victor, Scambler, et al. 2005)
<b>3. Low income</b>	Low socio-economic status has been associated with older adult loneliness in several studies, including a Meta-analysis.	Pinquart and Sorensen (2001).
Consequences	Findings	Sources
<b>1. Physical health effects</b>	A six year study, with 1604 participants (mean age of 71) found that lonely subjects were about twice as likely to experience decline in abilities to perform daily activities, and the increased risk of death was 22.8% for the lonely subjects compared to 14.2% for the not lonely.	(Perissinotto, Cenzler and Covinsky 2012)
	Lonely people have higher cortisol levels, which can have a negative effect for the immune system, energy levels and more.	
	Loneliness has been found to predict increased blood pressure, and increased risk of heart disease	(Hawkey, Thisted and Masi, et al. 2010)
<b>2. Mental health effects</b>	Risk of Alzheimer disease was found to be more than double for lonely people	(Wilson, et al. 2007)
	Loneliness predicts depression	(Cacioppo, et al. 2006)
	Socially active adults experience less cognitive decline	(James, et al. 2011)
<b>3. Other effects</b>	Several studies have associated both loneliness and social isolation with reduced physical activity. In a 9 year study of 4025 adults, social isolation predicted reduction in physical activity	(Hawkey, Thisted and Cacioppo 2009)
	In a study of 3000 elderly Americans, those who were lonely were 3.25 times more likely to enter nursing homes in a 4-year period	(Russel, et al. 1997)

<sup>3</sup> The research base for loneliness is stronger than for social isolation, which is why the focus is placed on loneliness. However, the cause-effect relationship between these two issues is well established. It is clear from the research review that social isolation is one of the primary causes of loneliness, especially for older adults.

### 1.3. The Portuguese context

Loneliness among the elderly is more prevalent in the south of Europe than in the north. In the previously mentioned Eurobarometer survey, only 5-9% of the Danish, Dutch, UK and German people over 60 years said they “often” felt lonely. In Portugal on the other hand, 19% reported feeling loneliness often<sup>4</sup>. Family household size and dynamics have changed in Portugal over the last decades. The number of elderly living with their grown children in Portugal is decreasing. The average size of households has decreased from 3.8 persons per household in 1960 to 2.6 persons in 2011. In 2014 there were 443 300 elderly people over the age of 65 living alone in Portugal. This number has increased by 29% the last 10 years (INE 2014; 2013). Naturally, living alone does not always predict loneliness, but research has found that the elderly living alone are much more likely to say they are lonely and that controlled for other factors, household composition is the most important determinant of loneliness (Gierveld and Tillburg 1999). Although loneliness and social isolation clearly is a highly present and serious problem in Portugal, there is unfortunately a lack of research specifically on the Portuguese context.

### 1.4. Cost estimate for loneliness

In 2013, the Campaign to end loneliness, a UK project funded by the Calouste Gulbenkian Foundation, released a report on the costs of loneliness and isolation. Unfortunately, the report found that not much work has been done in this area to date, and that there is a lack of data and analysis. The report does however point towards Social Finance UKs work as promising. A Social Finance UK (2015) discussion paper called “Investing to tackle loneliness” presents a model for calculating the costs of loneliness to the health and social care system. They ascertain the direct impact of loneliness on health service usage including

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<sup>4</sup> There are several possible explanations for the north and south divide in loneliness. The percentage of elderly living alone is much lower in Portugal than in countries such as UK, Germany and Norway, but Jylha and Jokela (1990) found that older adults living alone in countries where living alone is more rare have higher levels of loneliness. This could be explained by a natural tendency to compare our situation to those around us.

general practitioner (GP) visits, hospital admissions and emergency room visits, using international studies. In addition to the short-term direct impacts on service usage, Social Finance considers increased likelihood of nursing home admission, depression, dementia and physical inactivity. The total of all cost factors results in a cost per person of 12.000 GBP, or approximately 16.700 EUR, with 40% of these costs occurring in five years. In summary, they estimate that the value of a successful program tackling loneliness could be in the range of 770-2.040 GBP per individual (Social Finance 2015).<sup>5</sup> Unfortunately, no cost estimates have been made specifically for the Portuguese context. For more information on how the cost of loneliness was estimated by Social Finance, see appendix 4.

### 1.5 Measuring loneliness

The three most common scales to measure loneliness are: single-item scales, De Jong Gierveld 6-item scale and the UCLA scale. There are strengths and weaknesses with each scale<sup>6</sup>. The revised 3-item UCLA scale is recommended for the purpose of a Shared Lives SIB, as it is simple, commonly used and validated for older people. The revised 3-item UCLA scale asks three questions with three possible answers to each question. The score from each question is added together for a total score range of 3-9. Some researchers have grouped scores of 3-5 as “not lonely” and scores of 6-9 as “lonely” (Stephens, et al. 2013).

Question	Hardly ever	Some of the time	Often
How often do you feel that you lack companionship?	1	2	3
How often do you feel left out?	1	2	3
How often do you feel isolated from other?	1	2	3

<sup>5</sup> “Investing to tackle loneliness” is a discussion paper that has not been peer reviewed. The methodology has weaknesses such as using research that is more than 10 years old and with relatively small samples. However, the work is unprecedented and an important first step towards a more complete picture of the costs of loneliness.

<sup>6</sup> **Single-item scale:** Advantages: Short. Most commonly used in academics. Age friendly. Disadvantages: Not tested for validity or reliability. Single questions makes it impossible to measure gradations.

**De Jong Gierveld scale:** Advantages: Mixes positive and negative wording. Was designed for older people. Extensively used. Disadvantages: Developed for researchers, not service providers. Length.

**UCLA scale:** Widely used across the world. Simple. Accurate both when part of self-completed questionnaire and when interviewer asks questions over phone. Can be benchmarked against large studies (e.g. ELSA). Disadvantages: Uses only “negative wording”. Some staff or volunteers may find it difficult to ask negatively worded questions and respondents may find it difficult to answer.

## **1.6. Loneliness interventions literature review**

Existing interventions to tackle loneliness and isolation can be categorized in three groups. The first category of interventions aims at improving existing relationships, for example by making technology or transportation more accessible to the elderly. The second category aims at establishing new connections through groups or one-to-one activities. The third category aims at changing the way one thinks about social connections through psychological support (Campaign to end loneliness 2014). Since 1984, seven Meta studies have reviewed the results of interventions to tackle loneliness and social isolation. Although six of them found that loneliness can be reduced with specific interventions, many reductions were modest. In general, none of the reviews found a “magic bullet”. There were mixed results across categories of interventions and all of the studies argue a need for further research. Several of the reviews comment on challenges with poor design, small samples, few randomized control trials and low experimental rigor. In terms of measured loneliness effect, out of six randomized studies in one of the Meta-analysis, the mean effect could be translated to an approximate 0.5 points reduction on the 3-item UCLA scale (Masi, et al. 2011). Social Finance UK, in a review on loneliness intervention studies, found that a 0.78-point reduction could be considered an outcome target (Social Finance 2015). Please see appendix 3 for a review of interventions and their effect.

## **1.7. Secondary problem: A note on traditional care**

Traditional care for the elderly is under pressure of rising demand in most countries, including Portugal. There are about 10 000 elderly on waiting lists for admission to the around 1800 nursing homes in Portugal, which have a capacity of around 70.000 (Solidariedade 2013). Many families are resorting to unlicensed and illegal care services, as a result of waiting lists, but also because illegal nursing homes typically offer lower prices. There is an estimated 1000 illegal nursing homes in Portugal, some of which offer “inhumane conditions” (Publico

2011)<sup>7</sup>. To fill the gaps of formal care services, informal care (unpaid care provided by relatives, friends or neighbours) is also very high in Portugal. Intensive, co-resident informal care provided by children is more prevalent in Portugal than any other EU country, except Greece. Although informal care is an important and cost-effective source of care, the informal carers forgone employment represents a substantial indirect cost to society (Hoffman and Rodrigues 2010). In addition to challenges with meeting demand, traditional nursing homes have seemingly failed to provide a service that effectively addresses loneliness and isolation. If anything, the prevalence of loneliness is higher among the elderly living in institutions (Bernard 2013). This should motivate experimentation with alternative models of care, such as Shared Lives, to compliment existing practices, to mitigate the indirect costs of informal care and to address loneliness and social isolation.

## **2. The intervention model – Shared Lives**

### **2.1. Introduction to Shared Lives**

Shared Lives, formerly Adult Placements, is a UK social service and social organization that matches adults or elderly who need support with an approved Shared Lives carer. Shared Lives carers are ordinary people or families. The adult or elderly in need moves in with or regularly visits the Shared Lives carer, and together they share family, social networks and community life. About 12 000 people were using Shared Lives in 2014, with a growth of 14% from 2013. 52% of the users are living in long-term Shared Lives arrangements, 28% use Shared Lives for short overnight breaks, and 20% are receiving daytime support. The people using shared lives have learning disabilities (69%), non dementia support needs associated with old age (12%), mental health issues (8%), physical impairment (4%) or dementia (2%).

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<sup>7</sup> A survey found several negative consequences of being on the waiting list, not just for the elderly, but also for their families. 8% of respondents had to resign or take leave from work to care for an elderly relative on the waiting list. While waiting, about 30% of respondents hired a person or private services to take care of the elder (Tvi24 2013).

For the purpose of this study and SIB feasibility, the focus will be limited to Shared Lives work with “Non-dementia support needs associated with old age” and long-term placements<sup>8</sup>. There were about 8000 Shared Lives carers in 2014. Carers are recruited, trained, matched and carefully monitored by local Shared Lives schemes. There are no formal education or experience requirements to become a carer, but applicants go through a rigorous approval process where personal qualities, motivation, commitment and values are assessed. Even though it is not a requirement, at least one third of carers have some background in health and social care. Shared Lives emphasizes that being a carer is a lifestyle more than a job, and that carers are self-employed using their homes as a base. Carers are paid a modest salary to cover some of their time, rent and costs of running the household. The matching process is considered key to Shared Lives success. Matches are made based on a variety of factors such as compatible interests, personalities, experiences, skills, and a suitable home environment (Shared Lives 2015). Shared Lives Plus, a registered charity, is the representative body for all local Shared Lives schemes across the UK. Shared Lives Plus provides support, co-ordination, guidance, training materials and a collective voice towards politicians and decision makers. Local Shared Lives schemes are operated either by local government (80%), by charities or social enterprises (20%).

## **2.2. Outcomes and social Impact**

There are three main categories of outcomes from Shared Lives work. Each of these will be described in the following, while discussing the evidence available to support the claims.

Additionally, please see Shared Lives theory of change in appendix 5.

**1. Effectively tackling social isolation and loneliness:** “Impact investing in ageing” (2014) uses Shared Lives as a successful example of a social organization tackling this issue, by

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<sup>8</sup> The SIB feasibility focus is limited to a single target group (lonely and isolated elderly) and a single form of service (long term placements). Multiple target groups (e.g. learning disabilities, mental health issues) and multiple service forms (daytime visits, short term placements) would make it very challenging to design a single SIB with regards to outcome goals, outcome measurement, outcome prices and other SIB design features.

among other helping seniors grow their social networks. An independent study, using focus groups of service users, staff and carers found that the Shared Lives program achieved outcomes such as; an on-going relationship between the person and the carer, wider social networks, increase in self-esteem, integration in community and living the life the person wants (IRISS 2011). In a 2015 survey of 200 Shared Lives carers, 87% of respondents said that Shared Lives had a positive effect on the mental health of the person/s they support. Other surveys have found that almost all of the people supported have been able to make new friends after entering Shared Lives, and over a third have made five or more new friends (Shared Lives 2015). Although there are many promising indicators that Shared Lives effectively tackles loneliness, there is no academically robust evidence to support it. Shared Lives has not measured loneliness<sup>9</sup> among their beneficiaries.

**2. A higher quality alternative to traditional care:** All Shared Lives schemes are regulated and evaluated by social care inspectors from the Care Quality Commission (CQC) UK. The latest CQC report for 2013/2014 suggests that Shared Lives is the best performing care alternative in England. The factors evaluated by the CQC are: respect and dignity, care and welfare, suitability of staffing, safeguarding and safety and monitoring quality (Shared Lives 2015). Survey evidence also suggests elderly beneficiaries report feeling socially included, having consistency of people and places, allowed continued use of life skills and integration into community (Brookes and Callaghan 2013).

**3. Avoiding or delaying nursing home admissions:** Participating in Shared Lives allows older people to avoid or delay their admission to nursing homes, by moving in with a Shared Lives carer on a long-term basis. Shared Lives long-term support costs on average approximately 10% less than traditional older age residential care in the UK. Unit costs for Shared Lives varies depending on the local scheme and their ability to be cost-effective in

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<sup>9</sup> Social isolation, by definition, is reduced as soon as a beneficiary is matched, as their objective number of social contacts will increase by at least the person/s they are matched with.

terms of staff-carer ratios. The most effective schemes have costs savings of 198 GBP (43%) per week compared to old age residential care (IRISS 2011).

From the analysis of the social challenges and the outcomes achieved by Shared Lives, we may conclude that there are several factors that make Shared Lives suitable in Portugal.

Key factors that make Shared Lives a suitable intervention in Portugal
1. Addresses one of the main causes of loneliness, namely social isolation, by integrating elderly living alone into households. Around 400.000 elderly are living alone in Portugal, and around 20% of elderly in Portugal are lonely
2. Offers a high quality alternative to public provision of elderly care, which suffers from significant waiting lists and less than optimal performance. It also offers an alternative to the illegal nursing homes in Portugal that may offer poor conditions
3. Shared Lives is a cost-effective alternative to traditional care and can contribute to relieve the strained public care budgets
4. Offers a new opportunity of employment for the high number of unemployed and informal carers in Portugal

### 2.3. Operations and financials

There are about 150 Shared Lives schemes in the UK, run independently, but organized under the umbrella of Shared Lives Plus. These schemes vary considerably in terms of operational size (see fact box) and financial costs. Based on answers from 3 schemes, Shared Lives staff spends just over

Shared Life scheme sizes
# Service users Min: 20 Max: 272 Median: 108
# Staff per scheme Min: 2 Max: 13 Median: 5
#Staff-client ratio min: 5 Max: 95 Median: 20 (Brookes and Callaghan 2013)

1/4 of their time (10 hours) each week on the matching process and about 1/3 (12.5 hours) of their time was spent supporting new or on-going placements (Brookes and Callaghan 2013).

**The main financial costs of operation** for a scheme are salaries to managers, staff and carers. Other costs include staff expenses, office rent, office equipment, carer training and advertisement expenses. The total cost of operation, including carer salary, is covered approximately 30% from service user and 70% from government (NAAPS/IESE 2009). Please see appendix 7 for more information about the Shared Lives UK financing model.

### 2.5. Adult placements in Portugal

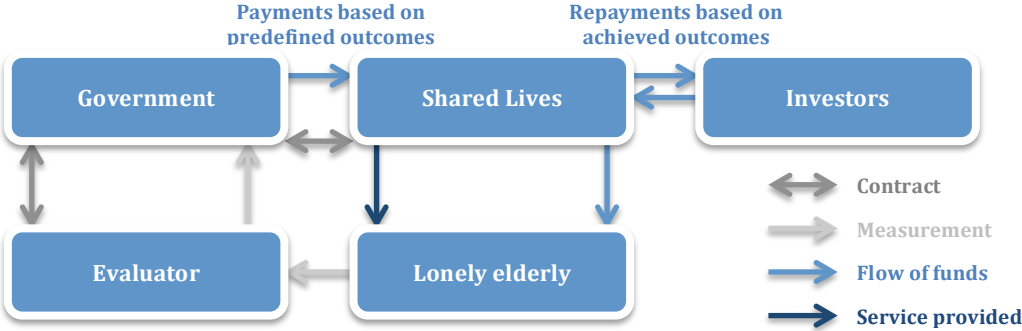
Santa Casa Da Misericórdia introduced adult foster placements in 2011 in Portugal. However, the program was discontinued shortly after its introduction. The program lacked sufficient resources and dedicated personnel, and was perceived as complicated and time consuming,

with regards to monitoring, inspection and avoiding abuse. Associação Portuguesa de Famílias Numerosas (APFN) was briefly used by Santa Casa as a potential source of recruiting carers to the program. From a meeting with APFN it was clear that although the program was discontinued, many of their members had shown interest in becoming carers, which can provide an indication of interest with regards to a potential pipeline of carers.

### 3. Determining the feasibility of a Shared Lives SIB

#### 3.1. How would a SIB be applied to Shared Lives in Portugal?

Shared Lives shows significant promise in achieving outcomes in the domains of health, social inclusion and housing. A SIB may be an appropriate mechanism both to fund the financial costs of replication, but also as a means of gathering evidence of achieving these outcomes. Given the mixed evidence and modest success of other loneliness reduction programs worldwide, commissioners would benefit from a transfer of risk to investors. A SIB (see appendix 1) is a contract in which a commissioner commits to pay for improved and predefined social outcomes. In a SIB contract, investors provide upfront capital to fund a specific intervention. If the predefined social outcomes are achieved, the commissioner will repay investors the initial investment and in some cases a financial return. The contract is usually facilitated by an intermediary organization, which in many cases also provides valuable performance management of the social organization. An independent evaluator, such as a university, will typically determine if outcomes are reached. (Social Finance UK 2013).



Social Impact Bonds offer several potential benefits for each of the stakeholders involved<sup>10</sup>.

To organization(s) replicating Shared Lives in Portugal, a SIB would provide access to stable and reliable financing over a given period, allowing the organization/s involved to focus on their social mission, beneficiaries and business development.

### 3.2. SIB feasibility criteria

According to a July 2015 report, which reviews lessons from the first five years of SIB experience worldwide, there are four basic criteria that should be met for a SIB to be feasible (Wright, Gardiner and Putcha 2015). Additional criteria are presented in Appendix 2.

**1. Meaningful and measurable outcomes:** Reducing loneliness and avoiding nursing home admission are both outcomes that can be measured. These outcomes also represent potential fiscal savings and can be linked to several other outcomes and externalities which

commissioners are likely to find attractive, such as reduced GP visits. **2. Reasonable time**

**horizon to achieve outcomes:** From the loneliness interventions literature review several interventions had a time horizon or showed results within periods of 6-18 months. **3.**

**Evidence of success in achieving outcomes:** Although there is little academic research on elderly foster care placements, several of the outcomes achieved by Shared Lives are similar to the ones other interventions seek to achieve through their service. Examples include

making new friends, integration into community and increasing self-esteem. Several interventions from the Meta studies previously reviewed were successful at reducing

loneliness by achieving such outcomes. **4. Appropriate legal and political conditions:** The government has earmarked funds to pay for outcomes through SIBs.

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<sup>10</sup> **For public entities:** (1) Value for money – public money only spent on successful outcomes. (2) Promotes evidence-based interventions, which can later be scaled regionally or nationally. (3) Shifts risks to private capital (4) Can generate costs savings or avoidance

**For social organizations:** (1) Secures upfront, reliable and stable funding. (2) Allows focus on mission, innovation and internal development of organization (3) Scale evidence based intervention, or gather evidence for promising intervention. (4) Learning from other stakeholders and performance management of SIB.

**For investors:** (1) Possibility of social and financial return. (2) Diversification of investment portfolio. (3) Can transfer skills to social organizations (4) Positive brand effect from social contribution

## 4. Modelling of Shared Lives Social Impact Bond

From a set of broad and experience-based criteria, a Shared Lives SIB is feasible. From this conclusion we can move forward to evaluate different ways in which this particular SIB can be designed. A dynamic financial model was developed to structure these evaluations and to simulate a Shared Lives SIB in Portugal. The model is based on a set of inputs, which will be presented and discussed individually and in detail below. From these inputs, potential design and performance scenarios will be presented and the SIB business case will be developed.

### 4.1. SIB scope

**Target population and eligibility:** 150 participants were considered a reasonable input based on investor requirement, sample size to establish evidence and practical operational size. An appropriate recruitment, screening and selection of these participants will be fundamental to the success of the SIB and to the benefits for service users. Please see appendix 9 for a description of the client journey. From the review of research, the target population, Shared Lives model and the situation in Portugal, the following eligibility criteria are suggested:

Eligibility criteria	Comment	Population Size
<b>Aged 70+</b>		1.506.375
<b>Living alone or in isolation</b>		400.000+
<b>UCLA score of minimum 6 points</b>	And/or top 70% of test takers in screening	80.000+
<b>In a physical and mental condition appropriate to the Shared Lives service</b>	Shared Lives users can have high support needs, but an assessment must be made case-by-case	Unknown
<b>Individual is lonely due to social isolation, not due to other psychological factors<sup>11</sup></b>	Individual screening conversations should evaluate reason for loneliness <sup>6</sup> .	Unknown
<b>On waiting list for nursing home care (to serve as a target, not an eligibility criteria)</b>	The more than 10.000 elderly Portuguese on waiting lists for nursing homes could be targeted	10.000+

**Cohort design:** It is recommended that participants are enrolled through 3 yearly cohorts.

This will allow for experience and learning to be used from one cohort to the next. This design is also more suitable with the Shared Lives operational model, where staff will spend their time both monitoring existing placements and recruit participants for new placements.

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<sup>11</sup> If an individual experiences chronic loneliness due to reasons other than limited social connectedness they will likely not benefit fully from the program. Referrals to other services (e.g. therapy, social skills training) should be made for those individuals suffering from loneliness but are not suited for the program.

**Program exits:** One of the challenges encountered with the design of a Shared Lives SIB was to arrange for a program exit for participants who have achieved loneliness reduction. There is no natural exit point for participants as placements last indefinitely. With a Shared Lives replication in Portugal, there is the additional challenge of not having an already established operation to receive those who would exit from the SIB financed programme. With no exits from the program, program costs will be significantly higher<sup>12</sup>. *All estimates and design recommendations in this section are based on not having exit arrangements from the SIB. This topic will be revisited in the scenario section.*

**SIB contract duration:** Both a 3-year and a 5-year duration were modelled and can be considered appropriate durations for a Shared Lives SIB. After 3 years, it should be possible to make some conclusions about the intervention's ability to achieve outcomes relative to costs. A 5-year duration on the other hand will entail higher program costs and thereby a higher investor requirement.

#### 4.2. Intervention costs

The intervention costs are highly dependent on the scope and cohort design. The program cost is also dependent on how a Shared Lives financing model is implemented in Portugal and which costs investors in the SIB should cover. In the UK, service users generally cover about 30% of operations (including carer salary), while government covers the remaining.

Government, social investment and/or other sources of funding are used for scheme start-up costs. For the SIB model it was assumed that private investors would cover start-up costs, costs of operation (replacing the management fee) and 80% of carer salary. Leaving 20% of carer salary to be covered by service users (around 800 EUR per year per user), in addition to service users paying a reasonable contribution to rent, utilities and food in their placement

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<sup>12</sup> **Not having exit arrangements** implies that participant costs are covered by the program for the entire length of the SIB. With 3 cohorts of 50 participants starting each year, and no participants leaving, costs will accumulate (and nearly double from one year to the next).

**Having exit arrangements** implies that after each cohort has reached the post-measurement point, e.g. after 12 months, they are no longer part of the SIB funded program.

household. With 150 service users over 3 years the total program cost is estimated at EUR 1 248 398, not including the service user contribution<sup>13</sup>. EUR 1 248 398 includes a start up cost of EUR 52 413. Out of the EUR 1.2 million, 78% goes to carer salaries.

### 4.3. Outcome metrics and performance evaluation

An outcome metric should be the objective measure that determines whether the intended effect of the program has been achieved or not. Performance evaluation refers in this setting to the methodology used to determine the effect. **Reduced loneliness** as an outcome can be measured using the UCLA scale previously described. It is suggested that participants complete a UCLA questionnaire during the screening process, 12 months after their placement and 24 months after placement. This will ensure that the impact is attributable to the intervention, and that the effect is maintained or improved over time. A longitudinal baseline evaluation method is recommended, based on the following considerations:

**Table: Evaluation methodology for loneliness outcome (adapted from Social Finance UK)**

Methodology	Impact attribution	Costs of methodology	Availability of relevant data	Commissioner / investor satisfaction
<b>RCT</b>	High	High	Low	High
<b>Control group</b>	High	High	Low	High
<b>Historical baseline</b>	Low	Low	Not available	Low-Medium
<b>National baseline</b>	Low	Low	Not available	Low-Medium
<b>Longitudinal baseline</b>	Medium - High	Low	High	Medium - High

**Avoiding nursing home admission** was also considered as an outcome metric in the model.

The challenge with using this outcome is to develop a counterfactual. In other words, if a certain cohort of lonely elderly individuals were not in the SIB program, what would happen to them in terms of nursing home admission? Many factors will decide whether or not an elderly would have been admitted or not to a nursing home. It therefore becomes difficult to claim that nursing home admission was avoided due to the service provided. A matched control group or RCT could be considered, but this would involve high costs, complexity and

<sup>13</sup> To arrive at this estimate, various sources of Shared Lives UK costs were used and modified according to differences in wages, consumer prices and currency differences between UK and Portugal. A staff-to-client ratio of 1:25 was used, based on the average Shared Lives UK ratio and adjusted up, as the SIB in Portugal will only include long-term placements, which is less staff resource intensive. For further explanation, see appendix 7.

ethical considerations. For these reasons it is recommended (as listed under eligibility criteria) that the program targets lonely elderly who are on a waiting list for nursing home admission. If an individual is selected to the program from the waiting list, and remains in the program for a certain time period, it is reasonable to claim that nursing home admission was avoided.

#### 4.4. Payment mechanism

The payment mechanism determines in which ways payments for successful outcomes are made to investors from commissioners. **For the outcome of avoiding nursing home admission**, it is recommended that payments are made to investors every 12 months a participant recruited from the nursing home waiting lists has not been admitted<sup>14</sup>. There is no historical success rate to consider for this outcome. Considering the 10 000 on waiting list to be recruited and the high quality rating of Shared Lives in the UK, an avoided nursing home admission rate of 65% was set as expected base case performance. Meaning that in each of the 3 years and cohorts, 65% are expected to achieve the outcome.

**The payment mechanism for reduced loneliness** can be structured in several ways. One option would be to classify participants as lonely if they scored higher than 6 on the UCLA scale (3-9). A binary outcome measure (lonely, non lonely) could then be used to determine success. Payments could then be made if an individual went from “lonely” to “not lonely” after a certain time period. This could however create a perverse incentive, where the service provider is incentivized to “cherry-pick” and recruit, or work more closely with participants that have scores closer to 6. It is therefore recommended that payments instead be made on the basis of **average loneliness points reduced across the cohort**. Payments would then be made per UCLA point reduced in each cohort after 12 months. Another payment is suggested on the basis of either maintained reduction or further reduction after 24 months. Based on the loneliness intervention literature review, and the potential of Shared Lives, an average

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<sup>14</sup> In other words, the participant has found Shared Lives to be a satisfying alternative to a nursing home and they have lived in a Shared Lives arrangement for more than 12 months. For those participants who are not recruited from the waiting list, this outcome should be considered not achieved.

reduction of 1 loneliness point per person is set as base case performance after 12 months.

Average reduction after 24 months is set at 0.2 points per person, while 70% of participants are expected to maintain their initial reduction after 24 months<sup>15</sup>.

#### 4.5. Outcome pricing

Outcome prices may be determined through several approaches. A cost-plus pricing approach sets a price floor of an outcome equal to the cost of the intervention, or the cost of achieving outcomes. If several outcomes are considered, these can be weighted as a percentage of total costs. A percentage can also be added to the costs to provide a predetermined investor return. This approach, which may also be called “paying for innovation risk”, has the advantage of being simple to calculate and requiring minimal information. On the other hand, pricing based on “innovation risk” does not incorporate outcome value to government. A second approach is to calculate approximate cost savings (or avoided future cost) to government as a result of improvements in outcomes. If the necessary information is available, this approach is likely more attractive, at least to commissioners (Cabinet office UK 2015). A combination of cost-plus and cost savings to government methods were used to establish the recommended outcome prices.

Outcome metric	Weight / Discount	Pricing Method	Value	Outcome price
Reduced loneliness per point after 12 months	10% (weight)	Innovation risk	EUR 750-1000	EUR 832
Reduced loneliness per point after 24 months	3% (weight)	Innovation risk	EUR 750-1000	EUR 1248
Maintained loneliness per point after 24 months	7% (weight)	Innovation risk	Unknown	EUR 728
Avoided nursing home admission per 12 months per person	50% (discount)	Savings to government	EUR 11.256	EUR 5628

Although three of the four outcomes were priced based on the cost of achieving outcomes<sup>16</sup>,

rather than savings to government, the prices were benchmarked against an outcome value

<sup>15</sup> There were no baseline performance or intervention reviews to use to establish an expected performance after 24 months. Since 0.2-point reduction, and 70% maintenance, is merely a reasonable assumption, these metrics should be reviewed and potentially adjusted after the first 24-month measurement.

<sup>16</sup>  $1.248.398 \text{ (cost of program)} / 150 \text{ (expected loneliness points reduced)} \times 10\% \text{ (weight)} = \text{EUR } 832$   
(Outcome price per loneliness point reduced)

from the UK. It can be assumed that due to economic differences between the UK and Portugal, the value of one loneliness point reduction is in the range of EUR 750-1000, as opposed to EUR 1463 in the UK. The three loneliness-based outcomes were weighted as a percentage of total costs to arrive at a reasonable outcome price relative to the estimated value. This effectively means that at least 20% of costs may be recuperated from achieving the loneliness outcomes. It also means that “avoiding nursing homes” represents at least 80% of cost recovery. This may indicate to stakeholder that avoiding nursing homes is the primary outcome, which may or may not be a desired signal. The outcome of avoiding nursing home admission is priced based on savings to government. The cost per resident per year of a nursing home in Portugal is EUR 11.256 (Ministry of solidarity and social security 2014). Using this method, a discount, in this case 50% may be offered to establish the outcome price.

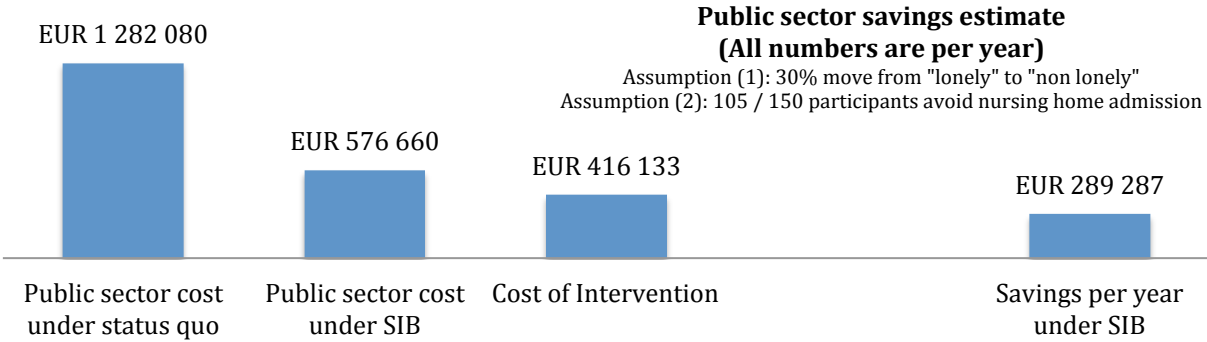
#### **4.6. Public sector value**

The public sector value of a certain SIB may take different forms. The value may be considered cashable or other non-cashable benefits. Cashable savings, or avoided future costs, infers that the value will directly affect government budgets<sup>17</sup>. With small changes in outcomes, such as when working with 150 people, fixed costs in public services will likely not change and avoided costs may therefore not be recovered, or cashed (Cabinet office UK 2015). However, a reduction in the future demand of nursing homes could allow government to meet the increasing demand for services more easily, or in a future scenario where Shared Lives is scaled, lowering the investment needed for additional capacity. The same applies for the estimated costs of loneliness, which considers public service usage. Although with reduced loneliness (and associated health outcomes) we may expect a higher level of cashable savings due to its effect on variable costs in various parts of the health system (e.g. hospital

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<sup>17</sup> For example, if Shared Lives reduced the need of nursing home admission in Portugal to the extent that some public nursing institutions were closed down (e.g. avoided 11.000 admission), this would create both fixed (sale of building) and variable (e.g. utilities, food) savings that are cashable. This will not occur, at least within the pilot SIB, but it demonstrates that large changes are usually necessary to create cashable savings.

admissions, tests and treatment). A proper calculation of cashable savings for loneliness reduction and avoided nursing home admission would be challenging, or impossible. However, an estimate where all costs are assumed to be variable may give a useful indication to commissioners. For a detailed explanation of the estimate, see appendix 8.



In addition to potential cost savings, a Shared Lives SIB would create many other non-cashable benefits to government. Innovation (and collecting evidence on interventions) to improve outcomes for lonely and isolated elderly is much needed. Therefore the value to the public of potential innovations may be considered much more than simply cost savings. Additionally, the public sector will benefit from the transfer of risk to investors, investor oversight on performance and a shift from input to outcome based commissioning.

**4.7. Investment structure**

Timing and conditions of cash flows should be structured to balance the needs of the different stakeholder in the contract. The following features are included in the investment structure to address this. **Recycling of capital:** Investors will only fund the cost of the programme until the point where commissioner payments are able to cover these costs. This effectively reduces the investor requirement by around 50%, assuming the outcome metrics and payment mechanism previously described. **Schedule of investor capital commitment:** The total investor requirement is collected from investors and paid out to the service provider upfront. **Working capital contingency:** A working capital contingency equal to three months of

intervention costs is included in the model to compensate for unexpected events. The amount is to be repaid at the end of the SIB contract. **Repayment:** Successfully achieving the predefined outcomes will trigger revenue payments from the commissioner to the model (special purpose vehicle). The revenue will be paid to investors if the minimum peak of operating cash flow has been reached, and if a predefined minimum reserve level is met.

**5. Shared Lives SIB business case and potential scenarios**

The discussions, recommendations and estimates in the previous sections were based on not having exit arrangements from the program (scenario A). Not having exits after participants achieve outcomes leads to high program costs. This gave reason to include additional outcome metrics (avoided nursing home admission and reduced / maintained loneliness after 24 months) to justify outcome prices relative to their value. An alternative design scenario may also be considered (Scenario B), where exit arrangements are assumed, allowing variation from Scenario A throughout the SIB design.

	Scenario A	Scenario B
<b>Exit from SIB</b>	No exits	Exit arrangements after 12 months
<b>SIB focus area</b>	Avoiding nursing home admissions and reducing loneliness / isolation	Single focus on reducing loneliness and isolation
<b>Target population</b>	On waiting list for nursing homes, lonely and isolated	Lonely and isolated elderly
<b>Outcome pricing method</b>	Savings to government / Innovation risk	Innovation risk
<b>Outcome metric</b>	1. Reduced loneliness after 12 months (10%) 2. Reduced loneliness after 24 months (5%) 3. Maintained loneliness after 24 months (5%) 4. Avoided nursing home admission per 12 months (50 % discount of savings to government)	1. Reduced loneliness after 12 months (100%)

**Focus and incentives:** Scenario B allows a greater focus on a single outcome of reducing loneliness and isolation. In scenario B it is clear to all stakeholders that this is a program to tackle loneliness and isolation. In Scenario A, this is not as clear. The service provider’s performance in reducing loneliness is of very different importance to cost recovery in the two scenarios. In scenario A, only 20% of intervention costs may be recovered from loneliness reduction performance, compared to 100% in Scenario B. Since such a large percentage of

costs must be recovered from avoiding nursing home admissions in scenario A, this may create adverse effects, where service providers focus on achieving this outcome at the expense of reducing loneliness.

**With different design approaches, the overall business case is also different:**

	Scenario A	Scenario B
Intervention cost	EUR 1.2 mill	EUR 690.000
Investor requirement	EUR 775.000	EUR 375.000
IRR in base case performance	3.8% (floating)	4% (fixed)
Outcome prices	1. Reduced loneliness per point after 12 months: EUR 832 (10%) 2. Reduced loneliness per point after 24 months: EUR 1248 (3%) 3. Maintained loneliness per point after 24 months: EUR 728 (7%) 4. Avoided nursing home admission per 12 months: EUR 5628 (50% discount of savings)	1. Reduced loneliness per point after 12 months: EUR 4600 (100%)
Public sector savings per year	Estimated at EUR 289 000	Estimated at EUR -199.600

**Public sector savings estimates** are very different in the two scenarios. In scenario B, savings are based solely on reduced loneliness per year, and assumes that none of the participants avoided nursing home admission. The outcome price of EUR 4600 is also disproportionate to the estimated value of EUR 750-1000 described previously. However, while outcome prices are based on reducing loneliness per point (on average one point per person), public sector savings are based on reducing the number of “lonely” individuals in the target population by 30%. If lifetime savings are considered for each person moving from the “lonely” to “not lonely” group, the public sector savings in scenario B are EUR 145.000 instead EUR -199.600. If lifetime savings are considered, as opposed to savings per point, an outcome price of EUR 4600 becomes less unreasonable. Even when considering lifetime savings, scenario A is a much more attractive alternative if the primary motivation of commissioners is cost savings. **Intervention costs and investor requirement** in scenario B are about 50% lower than in scenario A. A lower cost and investor requirement may be attractive to both investors and commissioners. However, to include an exit strategy after

outcomes are achieved infers that other sources of financing are in place to serve the target population after 12 months in the program. Other sources of financing, such as government grants, service-users, charitable donations or other investments may not be so easily secured. Moving costs over to service-users, which is becoming more common for Shared Lives UK, would be a simple solution. However, the economic ability and situation of service users must be carefully considered in such a scenario. **IRR** for the base case performance in scenario B is *fixed* at 4%, which can be considered a reasonable return. Since the outcome price in scenario A is based on 100% of costs of achieving outcomes (cost-plus method), the base case performance return would originally be 0% if no return was added<sup>18</sup>. In Scenario A, no base case performance IRR was factored in. Instead, a reasonable IRR was targeted through changing the discount (50%) offered to government on the outcome of avoided nursing home admission. Please see appendix 11 for a complete IRR sensitivity analysis.

## 6. Conclusion and recommendations

A SIB financed replication of Shared Lives in Portugal is feasible and will provide benefits for each of the stakeholders involved. A shared Lives SIB presents a strong value for money case to government, including the benefit of transferring risk to investors. There is a sensible business case to be made to impact investors, with the potential for them to achieve both social and financial returns with reasonable level of risk. To the target population, Shared Lives would deliver positive outcomes in the domains of social inclusion, health, community engagement and elderly housing.

A Shared Lives SIB design may be approached in several ways. Two main design scenarios have been suggested in this report. If stakeholders favour a single outcome focus of reducing loneliness and isolation, scenario B should be considered. Scenario B however depends on

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<sup>18</sup> IF: 690.000 (cost of program) / 150 (expected loneliness points reduced) x 100% (weight) = EUR 4600 (Outcome price per loneliness point reduced)  
THEN: 4600 (outcome price) \*150 (base performance loneliness points reduced) = 690.000EUR = 0% IRR

additional Shared Lives financing outside the SIB. In scenario A, all necessary funding is provided within the SIB, but outcome payments for avoided nursing home admissions and reduced / maintained loneliness after 24 months are included to compensate for the costs. With a different focus, target population and outcomes, scenario A provides a stronger cost saving proposition to government. However, only a small part of repayments are based on loneliness reduction. The potential adverse effects created in scenario A could be mitigated by changing the payment mechanism. If all payments from avoided nursing home admissions were contingent on a certain level of loneliness reduction per cohort (e.g. 130 points), there would be a strong incentive to secure performance and focus in both outcome areas. As such, design scenario A may be considered the stronger overall option.

A successful SIB design should align interests, ensure proper incentives and provide benefits for all parties involved. Service provider(s), public sector entities and investors with an interest in an elderly foster placement SIB should take the issues and recommendations discussed in this report into consideration.

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