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Social Impact Bond Feasibility Study of 'Mais Proximidade, Melhor Vida'

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Abstract

Loneliness and Social Isolation in older people, a growing social problem with strong economic impact, should be tackled in a preventative way through interventions in individuals considered lonely or being at higher risk of becoming lonely. 'Mais Proximidade, Melhor Vida' is a good example of such an intervention that was validated by AMPMV in Lisbon and is intended to replicate in Oporto. The aim of this thesis is to explore whether a Social Impact Bond (SIB), a new social innovative financing mechanism, is a suitable way of financing the growth of the intervention of AMPMV and to model a SIB proposal.

Key words: Loneliness and social Isolation; Social impact bond; Feasibility study; 'Mais proximidade, Melhor Vida.

Resumo

Solidão e o isolamento nos idosos, um problema social cada vez mais grave com forte impacto económico, deve ser abordado de forma preventiva através de intervenções preventivas em pessoas consideradas solitárias ou com maior risco de se tornarem solitárias 'Mais Proximidade, Melhor Vida' é um bom exemlo deste tipo de intervenções, tendo sido validado pela AMPMV em Lisboa e com proposta de replicação no Porto. O objectivo desta tese é explorar se um Título de Impacto Social, um novo e inovador mecanismo para financiar intervenções na área social, é adequado para financiar o crescimento da intervenção da AMPMV e modelar a proposta de TIS.

Palavras-chave: Solidão e Isolamento, título de impacto social, estudo de viabilidade; 'Mais proximidade, Melhor Vida.

Table of Contents

List of table, figure and Appendices

Table and figures

Appendices

Introduction

Portugal is facing times of increasing social challenges, which require effective and multidisciplinary solutions. The intersection between private, public and social sector has been tough and requires a lot of time, but through the new entrepreneurship generation environment, social innovators have risen, delivering creative and effective models and solutions.

Low birth rates and increasing life expectancy are 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 the ageing index (number of elderly for every 100 young people) will rise from 138 to 307, between 2014 and 2060. In 2011, 20% of the Portuguese population were old people (INE Portugal, 2011). Moreover, the number of people living alone raised from 12% in 1960 to 20% in 2011 (INE Portugal, 2011). On one hand, these factors frequently lead to a rise in loneliness and social isolation, mostly in the older population. On the other hand, the elderly typically have other problems that limit their social contact, such as physical and health constraints. Therefore, the importance of preventing or addressing this social problem is increasing.

Loneliness and social isolation are a serious, persistent and growing social problem that most elderlies are vulnerable to (Savikko, et al. 2005). Traditional public responses have not been sufficient to tackle the problem, and innovation is needed (Social Sector, Mckinsey). Countries, including Portugal, are facing large gaps between demand for social services and what governments can afford. Recent figures indicate that Institutions of Social Solidarity (IPSS[1]) and other type of social organizations have a financing gap of around €570 million per year. The Gross Value Added (GVA) of social economy represents 2,8% of Portugal national GVA (CASES, 2013) and 5,5% of employment (GTPIS, 2015). Governments, businesses and communities are seeking new solutions as well as effective ways to finance and deliver them at scale.

Despite of the capacity of social organizations to build new and innovative ways to solve social issues, these organizations frequently have fundraising difficulties. Social Impact Bond is a specific mechanism, launched in 2010 in United Kingdom, in which there is an outcome contract for a specific intervention between a social organization, a set of investors and the government, generally with a neutral authority that helps to settle the contact conditions and is an independent evaluator. Even though it is a new social financing mechanism that has not yet

[1] In portuguese "Instituição Privada de Solariedade Social"

matured, it has been observed a great social performance in the major projects launched. SIBs are a promising mechanism for financing social organizations that aim to create and/or scale innovative projects in which the governments cannot take the financial risk and investors are paid for successful outcomes by governments.

The study will specifically assess whether a SIB is a suitable mechanism to finance a replication of the intervention of Association "Mais proximidade, Melhor Vida" (AMPMV) from Lisbon to Oporto. AMPMV is an association which works with 120 elderly people in centre of Lisbon (Santa Maria Maior neighbourhood). Their intervention is based on a regular relationship with their beneficiaries in order to reduce the impact of loneliness and social isolation, mainly through regular home visits and phone calls.

Methodology

The thesis follows a Social Impact Bond Feasibility Study methodology under the "SIB Research Programme" of the Social Investment Lab[2]. It is a 4-month social investment-training programme, which started in September 2016. The methodology adopted follows a usual SIB feasibility methodology: (1) a literature review, including what is a social impact bond and overview of the social problem; (2) an analysis of a strong innovative model, in this case AMPMV; and finally (3) determining whether a SIB is an appropriate tool to fund the intervention and an analysis on how this tool could be designed to the innovative model.

Also working in the program are two students from Nova, School of Business and Economics, and another colleague from Católica Lisbon School. The program included three training sessions of Excel modelling and PowerPoint presentation, and monthly advisory call with the director of Social Investment Lab, professor António Miguel. Furthermore, my dissertation was written under the supervision of Professor Filipe Santos, who is Full Professor and Chair of Social Entrepreneurship at Católica, that involved four meeting sessions during the 4-months training programme.

In addition, throughout a constant and valuable relationship with AMPMV's technical director, Mafalda Ferreira, and with all workers, I benefited from five formal meetings with Mafalda and other informal meetings, while working in their office. Thus, I received access to the necessary data from AMPMV and developed a qualitative perception of their work. It also attended to two training sessions for new volunteers, which provided an excellent overview of their social intervention.

[2]It is a social finance intermediary operating in Portugal.

1. What is a Social Impact Bond?

A social impact bond (SIB), also known by Pay for Success Bonds in US, is a financial mechanism in which there is an outcome contract for a specific intervention between a social organization, a set of investors and the government, generally with a neutral authority that helps to negotiate the contract conditions and engages an independent evaluator. Often, government programs fund remediation rather than prevention, so SIBs is an innovative new mix that integrates philanthropy, venture capitalism, performance management, and social finance (Warner, 2013). The investors will intervene in a certain social issue that is also of interest for the government. Outcome metrics are defined to measure if the social organization was able or not to tackle the social problem. If the outcomes are reached, investors will receive back their initial investment plus a return for the financial risk they took. In general, the more successful the intervention, the greater the return to investors, up to some cap previously established. On the other hand, if outcomes are not achieved, investors will lose their investment. At the centre of these arrangements, there is usually a neutral authority, which coordinates among the investors the service providers and the outcomes funders, and puts together a deal to fit all their needs. The main goal is to find investors who want to use their resources (including their money, skills and expertise) to make a social impact.

It is a win-win situation for all the parties involved. The government that faces financial burdens with a certain social problem, if solved, will no longer have these costs and can allocate part of these initial costs to investors. Moreover, the government is able to reduce the costs to the taxpayer by transferring the financial risk to the private sector (Warner, 2013).

Additionally, the type of investors that invest in SIBs are typically impact-driven; they want to make a difference in society while having some return. This concern on meeting the criteria and focusing on specific results will make the whole process much more efficient. Investors will have a higher incentive in solving the social problem, they will keep closer attention, get more involved, try to innovate and improve the service in order to achieve the proposed social impact (Gustafsson-Wright et al., 2015).

According to Liebman (2011) SIBs only work for projects with (1) high net benefits and short-term pay outs, (2) excellent performance measures (investors cannot support what cannot be measured), (3) clearly defined treatment population to avoid cream skimming and encourage integrated programs that meet multiple needs, and (4) credible impact assessment – before/after studies with a neutral authority to measure outcomes and resolve disputes between investors and government (randomized/quasi experimental).

Lastly, and very importantly, with this type of financing there is a fixed and certain monetary cash flow for the social cause. With guaranteed financing, individuals and investors involved on the social cause can be 100% focused on solving it. Therefore, they no longer worry about getting the financing, which, in many cases, diverts the attention from the social cause itself. Nowadays, 60 SIBs projects have been launched in 15 countries of which 22 have already reported performance data. Out of these, 12 have made outcome payments and four of them were already fully repaid to investors (Dear et al., 2016). More than 200 million dollars were raised and around 90.000 lives were touched by impact interventions attempting to solve highly contentious and complicated areas of social policy, such as providing high-quality preschool education, reducing prison recidivism, avoiding foster care placement, increasing youth employment, and reducing loneliness and social isolation (Dear et al., 2016).

1.1. How does a SIB works?

1. The public sector stablishes a contract with a SIB entity, based on a specific outcome.
2. Social investors fund a service that tackles a social issue.
3. The SIB entity delivers the service to the population in need.
4. An independent organization evaluates if the outcomes are achieved.
5. If these social outcomes are achieved, the public sector pays the investors back: their investment plus a financial return adjusted to the risk and the level of social outcomes achieved.

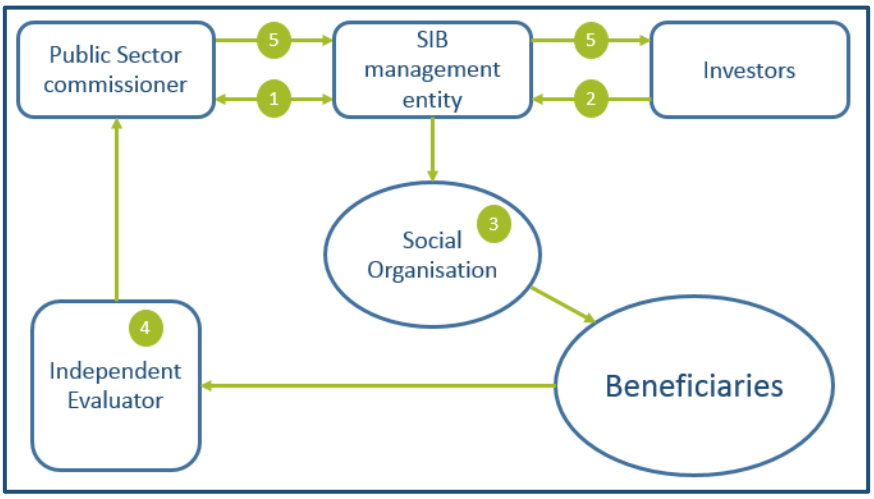

Figure 1: How does a SIB works?

1.2. 'Reconnections Service': First SIB to tackle loneliness

Worcestershire, a city in the centre of the United Kingdom, is estimated to have more than 10.000 older people (+65 years old) in a serious situation of loneliness. This SIB aims to develop a structure to support lonely older people into getting more involved in their communities and, eventually, progress to help others[3]. 'Reconnections Service' was the first Social Impact Bond that focused on loneliness, and represents an important opportunity to understand the best practices in tackling loneliness and social isolation (Social Finance UK, 2015).

Through this project, older people have access to health services, voluntary and community sector groups, housing associations and other local services (Social Finance UK, 2016). The project is measured by a recurrent used survey – the Revised University of California Loneliness Scale (R-UCLA) –, which includes four questions ranged from 4 to 12 points (scale explanation in 'Measuring loneliness' chapter).

In the *Reconnections Evaluation Interim Report* (June 2016), they conclude that public savings using Reconnection Service are mainly due to avoidance of unplanned hospital admissions (59%)and avoidance of excess GP consultations (16%), resulting in a lower need for social and residential care services.

Launch date	July 2015
Target Population	3.000 over 65 years
Capital Raised	£850.000
Duration	4,5 years
Investors	3
Max. outcome payment	£2.0M
Financial return	12%

Table 1: SIB financial inputs of 'Reconnections Service'

2. Loneliness and social isolation

Social isolation and loneliness are health risks, especially in the elderly. Researchers pointed out that loneliness and social isolation are two different concepts that need to be distinguished. However, often in everyday language, they are used as the same concept. Social isolation is when a person does not have enough people to interact with (objective / quantitative) and loneliness is when a person does not have enough social relationships or does have not enough contact with people (subjective / qualitative) (Menec, 2016).

[3]http://www.socialfinance.org.uk/database/?project_id=26

Some factors are the root of the most common aspects of loneliness, such as loss of life partner that consequently leads to living alone, loss of friends and family, loss of mobility, retirement and disability (Masi et al, 2011). According to some experts, loneliness has a higher impact on mortality than obesity, which has the equivalent impact of smoking 15 cigarettes a day (Holt-Lunstad, Smith and Layton 2010). Social isolation and loneliness are highly connected with depression, anxiety, declining mobility, high blood pressure and mortality, which immediately leads to a poor quality of life (Social Finance UK, 2015). Additionally, a scientific study says, "*loneliness is one of the three main factors of depression*" (Green, et al. 1992). Thus, the correlation between loneliness and age suggests that loneliness is likely to be a growing concern, as the baby-boomer generation was decades ago and these "babies" are getting older and the number of births are decreasing.

2.1. Loneliness overview

Being lonely is not something that people tend to admit (Menec, 2016). People are not supposed to be lonely, but many people are and, with nowadays' lifestyle, the situation is getting worse every day. Today´s values are centred on an individualistic point of view, that values personal goals such as "climbing the career ladder" over collective goals - for example, creating a family. Likewise, more people are leading longer lives, and consequently often living alone with longer disabilities (Global Burden of Disease Study, 2013). Moreover, every year the number of single-person households has been increasing significantly over the developed world (OECD, 2011). For example, it is projected an increase of single-person households of 60% in England and 75% in France until 2025-30, that will represent 39% and 46% of total households, respectively. Additionally, the aging index in EU has grown from 30% in 1960 to 119,8% in 2014 (Eurostat).

According to the Pearl A. Dyktra's paper (2009), between 40% and 50% of European people over 80 years old say that they "often" feel lonely, and between 2015 and 2050 the proportion of the world's population over 60 years old will nearly double from 12% to 22% (WHO, 2015).

The loneliness health risks, the individualistic lifestyles and the correlation between age and loneliness shows that the two social problems discussed above are one of the biggest challenges to develop countries.

2.2. Portugal and Lisbon loneliness overview

Over the last 50 years, Portugal has been facing several changes similar to other European countries. Families are smaller, people are living longer and, subsequently, more people are living alone. The number of people living alone has grown to historical numbers from 12% in 1960 to 20% in 2011 (INE Portugal, 2011), and the aging index increased from 27% (1960) to 138.6% (2014), meaning that the elderly population is nowadays higher than the youth population.

Portugal is the fourth European country with the highest percentage of elderly, after Italy, Germany and Greece. Since 1960, the number of people with more than 65 years old has grown from 700 thousand to more than two million, equivalent to 20.1% of Portugal population in 2014. This percentage is higher in Lisbon municipality: 27.6% in 2014, according to INE.

Territory	**Total**			**65+**		
Years	**1981**	**2001**	**2011**	**1981**	**2001**	**2011**
Portugal	379.245	631.762	866.827	196.978	321.054	406.942
AML	121.148	209.899	293.220	45.328	86.875	117.839
Lisbon	67.067	71.622	85.244	25.985	33.770	**36.521**

Table 2: Single-person households: total e with more than 65 years old [4]

Since 1960, the number of single-person households in Lisbon has been increasing substantially (table 2) reaching record numbers. Nowadays, Portugal has 866.827 people living alone; half of them are elderly. Furthermore, according to census INE (2011), there were 36.521 people living alone in Lisbon municipality.

Looking at the *Investing to tackle loneliness* report (Social Finance UK, 2015), the cost for the public sector to the chronically lonely people in the United Kingdom is, on average, £12.000 per person, or approximately 14.000€, with 40% of these costs occurring in five years. According to estimates of the pilot project implemented in Worcestershire, initially aiming to support 3.000 older people, a successful programme could be between £770 and £2.040 per person (Social Finance UK, 2015). Unfortunately, there are no estimate costs for Portugal.

Smaller families, people living longer, more living alone, especially in Lisbon, and highly public costs shows that loneliness and social isolation problems are among the biggest challenges to Portugal in the next generation. Social impact bond could offer new solutions to finance interventions that tackle these problems.

[4] *Sources:"INE - XII, XIV e XV Recenseamentos Gerais da População"*

2.3. Loneliness and social isolation: AMPMV vision

As shown above, loneliness and social isolation are two different concepts. In parallel, to reduce loneliness and mitigate isolation are the two main objectives of AMPMV. They concluded that separating the two concepts could be a source of duplication: on one hand, having more interpersonal relationships and more access to network of support affects the perception of the beneficiaries' well-being. On the other hand, being more cherished leads to feeling more accepted, relying more and being open to new relationships, which reduces the feeling of loneliness (AMPMV, 2015).

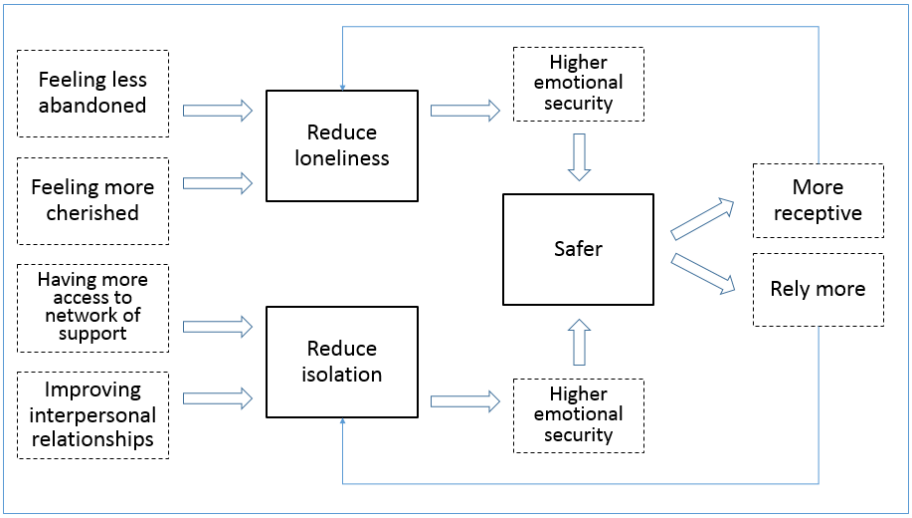

Figure 2: SROI: Relation between loneliness, social isolation and security.

To conclude, there is compelling evidence that people with cognitively stimulating occupations, with network support and involved in social activities maintain higher cognitive functioning with aging (Williams, Kemper. 2010).

2.4. Measuring loneliness

There is not a perfect scale to measure loneliness. All scales have strengths and weaknesses. The three most common scales are De Jong Gierveld 6-item scale, single-item scales and the revised 4-item UCLA[5] scale (R-UCLA)[6]. R-UCLA scale is recommended for this feasibility

[5]The original scale is 20-item scale (1978). From this scale, several shortened scales were developed, including the 4-item scale, selected for the 'Reconnections service' SIB project (Social Finance UK, 2015). Although the most common is the shortened 3-item scale.

[6]**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. **Single-item scale:** Advantages: Short. Most commonly used in academics. Age friendly. Disadvantages: Not tested for validity or reliability. Single questions make it impossible to measure gradations. **R-UCLA scale**: Widely used across the world. Simple. Accurate both when part of self-completed questionnaire and when interviewer asks questions over phone. Disadvantages: Uses only "negative wording". It may be difficult to ask negatively worded questions and it may be difficult to answer.

study on AMPMV because its simplicity and is a common scale used to measure loneliness of older people. As shown in the table below, R-UCLA scale asks three questions with three possible answers to each question. The total score ranges from four to twelve. If someone is between 4 and 8, they are "not lonely"; between 9 and 12, they are "lonely" (Social Finance UK, 2015).

Question	Hardly ever	Some of the time	Often
How often do you feel that you lack of companionship?	1	2	3
How often do you feel left out?	1	2	3
How often do you feel isolated from others?	1	2	3
How often do you feel in tune with the people around you?	3	2	1

Table 3: The revised 4-item UCLA.

In terms of measuring the effect on loneliness, a "*meta-analysis of 302 social and behavioural intervention meta-analyses"* (reviewed in Lipsey & Wilson, 2001) have showed that, on average, interventions reflect a mean effect of 0.50-point reduction on 3-item UCLA scale (Masi, et al., 2011). Social Finance UK (2013) found that a 0.78-point (baseline 8.64) reduction in 4-item R-UCLA could be considered an outcome target.

3. 'Mais Proximidade, Melhor Vida' Association

The feasibility study focused on one association that works to mitigate loneliness and social isolation that has an innovative intervention to fight this social problem.

The Association 'Mais Proximidade, Melhor Vida' (AMPMV), meaning "More Proximity, Better Life", is an association that supports the older residents in Santa Maria Maior (centre of Lisbon). Their mission is to reduce the impact of loneliness and social isolation of the elderly and contribute to improve their quality of life. The service provided is free for those who are in it.

Their strategy action base is focused on relationships with individuals rather than with groups: they try to establish close relationships, in order to offer a customized and adapted support to each person's needs. Nowadays, AMPMV has the capacity to support 120 old people. Furthermore, they believe that their work is successful because they remain small with close and specialized control of the project. Each Case Manager, all of them social workers, is

responsible for 30 people, which is the maximum capacity to deliver an exceptional service (SROI[7], 2015).

The three main criteria to benefit from AMPMV intervention:

1. More than 65 years old
2. Living in Santa Maria Maior neighbourhood
3. In situation of loneliness and/or social isolation

Most of the beneficiaries are female (83%) with average age of 83 years old; 52% are living alone; 60% are living in the 3th floor or more and 93% has limited access to the stairs (AMPMV, 2016). Fifty-nine percent of the beneficiaries consider that loneliness is their main problem, intensified by three main factors: (1) difficulty in leaving home because of limited access to the stairs, (2) health problems, which affect physical and psychological capacities (destroying the desire to leave home and have interpersonal relationships), and (3) lack of network support.

After a formal evaluation of AMPMV in 2015, they concluded that their work has a significant impact: 57% of the beneficiaries classify AMPMV intervention as being "very good"; 83% recognize a change in their lives; and just 2% considered that the association had a negative change.

Currently, there is a full-time team composed by six women with an average age of 35 years: four Case Managers, one Technical Assistant and one Communication Manager. The association has 33 volunteers working in different areas. There are four types of volunteers: visit volunteers, phone calls volunteers, technic volunteers and communication volunteers.

3.1. Intervention Areas

Through SROI analyses, AMPMV has outlined three Intervention Lines (IL): (1) to reduce the impact of loneliness and social isolation, (2) health promotion and wellness, and (3) to increase the quality of life at home. Table 4 summarizes the number of activities in each intervention line in 2015 and 2016's first semester.

[7] SROI – *Social Return on Investment* is a process of understanding, measuring and reporting the social, environmental and economic value generated by the organization intervention.

	2015	1st Sem. 2016
1. Reduce the impact of Loneliness and social isolation		
Home visits	1789	871
Phone Calls	4654	2117
Walks	114	18
Birthdays' marks	81	46
Meeting groups sections	18	11
2. Health promotion and Wellness		
Scheduling consultations and medical exams	112	62
Follow-up to consultations	182	111
Other health activities	208	102
Psychological support	49	20
Purchase health goods	89	89
3. Increase the quality of life at home		
Purchase goods	234	89
Ambulance transports	57	30
Small construction and repairs	35	26
Contacts with family	558	188
Urgency situations	58	5

Table 4: Number of activities made in 2015 and first semester of 2016[8].

Despite of the fact that the first intervention line has a higher impact in the elderly population and is their principal intervention, AMPMV's intervention combines all three intervention lines. Therefore, I will consider all interventions lines, for the proposal of Social Impact Bond Feasibility study. The three intervention lines are described below.

3.1.1. Reduce the impact of Loneliness and social isolation

In the first Intervention Line, AMPMV focuses on self-esteem promotion and personal development of the elderly, by establishing and maintaining a trusting relationship between Case Managers and their beneficiaries. The activities are home visits, regular phone calls, birthdays' marks, walks and cultural activities and meeting group sections (AMPMV, 2016). The association also has projects for personal development and for making small dreams come true. As it is written above, each Case Manager is responsible for 30 beneficiaries. In other words, they are responsible for the overall AMPMV intervention for each beneficiary and, subsequently, responsible for counting all the activities made in each month, in order to measure the impact efficiently.

Interviewing Mafalda Ferreira, team coordinator and Case Manager at AMPMV, it became clear that home visits and phone calls are the two core activities of AMPMV (SROI, 2015).

[8] Data from AMPMV, 2015 and AMPMV, 2016.

Home visits, on average 1h15 each, are an individualized and personalized work with elderlies at home, which consists mainly on talking and being present. Both Case Managers and volunteers try to do activities that boost the creativity and interests of each person, because usually they think they are no longer valuable for society. A successful example is "Lisboa à Mesa" [9], where some beneficiaries explain how to do a traditional dish they know well. Moreover, through home visits, AMPMV works to enhance self-care by the beneficiary, detects needs, and measures the degree of disability. When needed, they also help with bureaucratic needs. In parallel, Case Managers and volunteers make phone calls, on average 30 minutes each. The aim is to complement the home visits, where it is possible to maintain a daily or weekly contact. In 2015, the technical team accomplished 1789 home visits and 4654 phone calls. 'Fundação PT' volunteers[10] complemented this intervention: 312 home visits and 95 phone calls.

Flagging important dates, such as birthday marks, is part of the association's strategy. Since 2015, 'Padaria Portuguesa' is joining this mission to bring happiness for the beneficiaries by offering pastery. During this year, 81 birthday marks and more 96 important dates (Christmas, Easter and others) were carried out.

Finally, they believe that stimulating walks is an essential concern, in order to motivate the beneficiaries to leave their houses and be more active. It is a significant prevention phase of loneliness and social loneliness.

3.1.2. Health promotion and wellness

Secondly, the association works to facilitate the access to different health services, medications and other health goods, in order to relief the physical and emotional burnout of the beneficiaries and their families. The activities are (1) scheduling consultations and medical exams, (2) purchase health goods, (3) follow-up consultations, (4) physic rehabilitation and (5) psychological support in beneficiaries' households. The first activities are not regular, they depend on what beneficiaries need on each week or day, i.e., there are times in which beneficiaries ask often for health support and times in which there are lack of demand. On the other and, the last two activities are regular, usually bi-weekly and are provided by volunteers that work in these health areas. However, a large number of beneficiaries have other institutional support, so in the first semester of 2016 just two persons benefit for it.

[9] "Lisbon at the table". Source: http://lisboamesa.mpmv.pt/

[10] Workers of PT that offer one hour of their work to talk with AMPMV beneficiaries.

Interviewing the representatives of São Nicolau Health Centre[11], it became clear that this health centre benefits from AMPMV intervention, since elderly people in Santa Maria Maior resort less to psychological support. As a result, the tendency to dementia and depression decreased in elderly population, which has a direct impact on SNS[12] support costs (SROI, 2015).

3.1.3. Increase the quality of life at home

A great number of AMPMV beneficiaries are not able to leave their houses and are not able to do basic activities, such as going shopping or visiting a close friend in the same neighbourhood. Additionally, their apartments often need small constructions and repairs, because most beneficiaries are living in old building in the old town.

In a response to these necessities, the association set the third intervention line in which the objective is to (1) improve elderly living conditions with partnership for small constructions and repairs, (2) partnership for ambulance transport, (3) purchase of goods and (4) contact familiars by phone. Similar to the second intervention line, these activities are not regular and depend on the beneficiaries needs. The first activity is supported by "Ferro de Soldar"[13] that entirely pays for the service. There were made 33 small repairs and 2 large constructions in AMPMV beneficiaries' homes in 2015. Secondly, in order to mitigate the walking limitations that most participants have, AMPMV has a partnership with "Círculo Divinal Ambulâncias" that provided 57 transports in 2015 and already 30 in the first semester of 2016, mostly transports to health services. In parallel to the previous activity, the third activity was created because most beneficiaries have physical limitations, so both Case Managers and volunteers help them on purchasing goods or donation, also through partnerships with municipality services, "Entreajuda", "Associação Auxílio e Amizade", among others small companies in the neighbourhood. Finally, it is extremely important to maintain contact with beneficiaries' families. By this reason, Case Managers made 234 calls in 2015 to families, in order to report some important situations and integrate them.

[11] São Nicolau Health Centre is located in Santa Maria Maior neighborhood and belong to SNS.

[12] "Serviço Nacional de Saúde" meaning National Health Service in English.

13"welding Iron" - A project created by "Fundação São João de Deus" (municipality foundation) that has the mission to improve living conditions in Lisbon

3.2. Beneficiary's Categorization

The level of intervention for each beneficiary comes from a Categorization, according to a series of criteria that evaluate, among other indicators, the pathologies and needs of each person, the level of mobility, household size and network support. There are two big categorization criteria: *person context* and *resources used by AMPMV*. Within these main criteria, there are seven and nine topics, respectively (Appendix 1 – Beneficiaries Categorization Framework). Each topic is scored from 1 (independent) to 4 (highly dependent). After summing all points, AMPMV has divided the intervention into four levels: **Green** (from 15 to 23 points)**, Yellow** (from 24 to 33 points)**, Orange** (from 34 to 43 points) and **Red** (more than 44 points). There is also a stage called "In diagnostic" in which the Case Manager is measuring the intervention.

Interval (points)	Level	2012	Dec 2015	Oct 2016
15 to 23	Green	10	38	31
24 to 33	Yellow	16	37	38
34 to 43	Orange	30	31	23
44 +	Red	24	25	21
	In diagnostic	0	16	4
		80	147	117

Table 5: Intervention levels and beneficiaries' numbers

Table 5 shows a large number of new beneficiaries in 2015 that were *in diagnostic* and, from 2015 to October 2016, twenty-four beneficiaries left AMPMV intervention. The main cause was deaths of Orange and Red people.

Furthermore, this table reflects a reduction of beneficiaries in the Orange and Red levels, contrasting with approximately constant numbers in green and yellow levels, from 2015 to 2016. This intervention reflects the focus on beneficiaries with a relative degree of autonomy, throughout, for example, stimulating walks and cultural activities.

3.2.1. AMPMV beneficiaries' analysis

Every month the number of people slightly varies because some beneficiaries are leaving and new people are welcomed. People leave the intervention mostly because they died (65% of the cases), moved to another neighbourhood (19%) or went to nursing homes (6%).

In total, the association had already 201 beneficiaries since 2009. Currently they have 117; however, I excluded persons "In Diagnostic" for this analysis. Thus, 113 people will be analysed from a static point in time, October 2015, which is close to the usual number of

beneficiaries in the intervention, around 120 (Appendix 2). In the introduction to AMPMV, the intervention is explained. In this chapter, the data on the intervention will be examined more deeply according to the categorization, which is a very important element of codification of AMPMV's intervention.

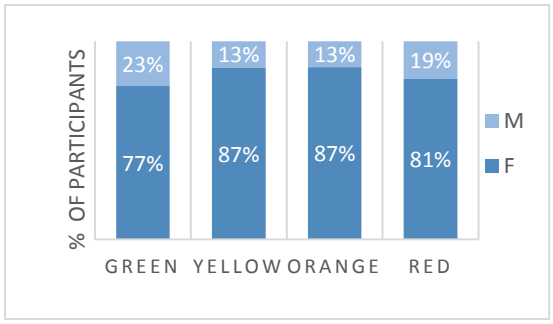

Exhibit 1: Percentage of beneficiaries gender by colour

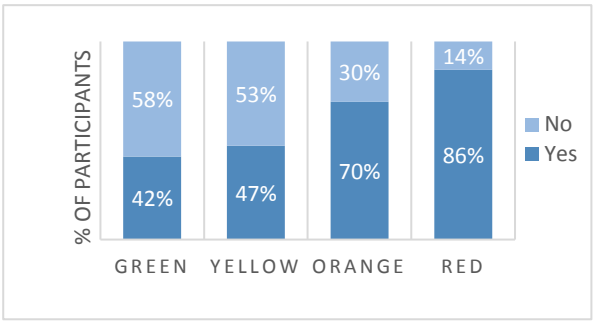

Exhibit 2: Percentage of beneficiaries with other institutional support by colour

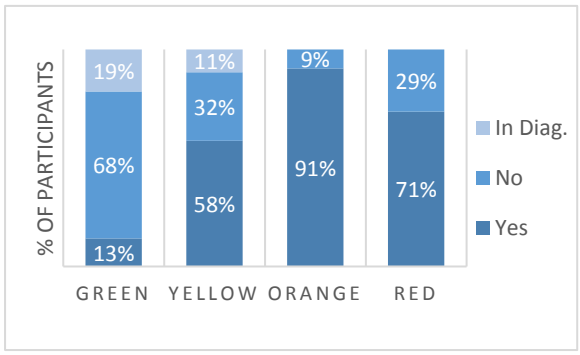

Exhibit 3: "Is loneliness the main problem?" in percentage by colour

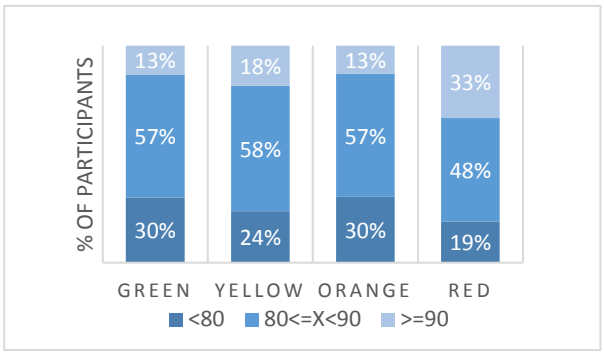

Exhibit 4: Percentage of beneficiaries age by colour

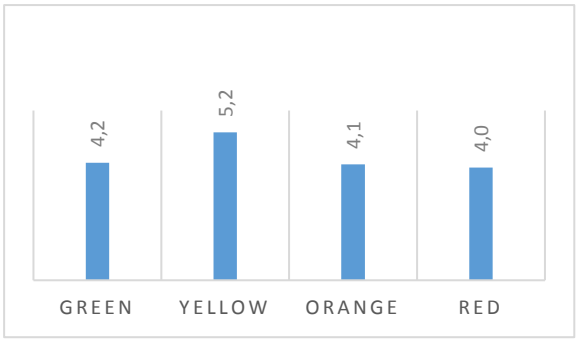

Exhibit 5: Average time on AMPMV

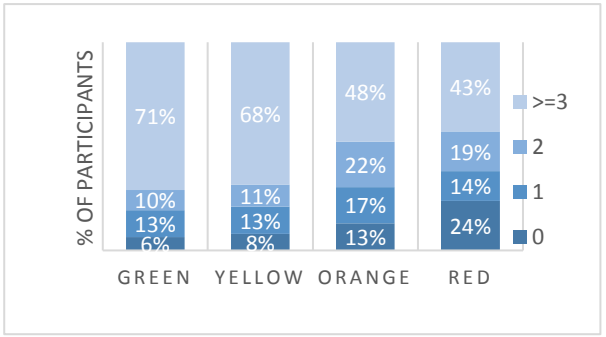

Exhibit 6: Percentage of beneficiaries residence floor by colour

The Orange and Red categorization require more time than Green and Yellow stages. If all beneficiaries were Red, it would not be possible to have just four Case Managers or the actual

number of beneficiaries. These people need more attention. Red people have home visits at least once a week, are contacted everyday by their Case Manager (not counting visits and phone calls from volunteers), and most of the time need more help in follow-up consultation or purchase goods, among others. Consequently, to deliver an exceptional service, the Red category should not represent more than 20% of total beneficiaries, which is the current number, because it represents 50% of Case Managers working time.

AMPMV fights loneliness in the elderly, but it is not a medical association or institution. Eighty four percent of Red people have other institutional support, a number twice higher than Green and Yellow people. Orange and Red have a higher percentage of people whose main problem is loneliness (91% and 71% respectively).

Nonetheless, Red and Orange are not the only categories that worry the Case Managers. Even though Green and Yellow do not require that much time, they have a higher risk of moving to poor situations, to poor physical conditions or to less access to family and friends support. Respectively, 45% and 58% of them are living alone; 71% and 68% are living in the third floor or higher; 90% and 82% just have access to their houses through stairs; 63% and 76% are 80 years old or more; and 13% and 58% say that their main problem is loneliness. The detailed beneficiaries' analysis can be found in Appendix 2 at the end of the present document.

As said above, the intervention mean in AMPMV is 4.3 years. Green, Orange and Red have a mean of approximately four years; however, Yellow has 5.1 years. This is explained by the fact that people in Orange and Red have already entered in these stages, so their intervention time is shorter. Moreover, people in Green have started after the intervention, meaning less time in AMPMV. In conclusion, people who are now in Yellow started the intervention in Green, which leads to remain much more time in AMPMV (5.1 years) so, through their intervention, loneliness is mitigated and elderly live longer and healthier.

3.3. Lisbon Intervention Costs

Nowadays, AMPMV has six full time jobs, with capacity to help 120 elderly people in Santa Maria Maior. Their main costs are personnel expenses and respective taxes that represents 86% of total cost (around 80 000€ annually). The first intervention line is responsible for 65% of the association annual budget (60 000€), which involves a large number of stakeholders and a vast number of direct beneficiaries. Moreover, "*AMPMV intervention has a ratio of 3.7:1 which means that for every 1€ invested in "reduce the impact of loneliness and social isolation" in 2012, approximately 4€ of social value was generated*" (SROI, 2015).

Social Return on Investment (SROI) is a cost-benefit analysis of the social value generated by an organization's intervention. This analysis was made to AMPMV between 2012 and 2014. It shows a great impact generated by their intervention, mostly through home visits and phone calls (first intervention Line).

	2016 Annual Budget	2017 Annual Budget
Supplies and external services	8.645 €	11.202 €
Personnel Expenses	62.839 €	72.287 €
Financial Expenses	4.081 €	3.633 €
Taxes	16.557 €	18.798 €
Costs	92.122 €	105.920 €
Maecenas	72.666 €	73.446 €
Sales and fundraising activities	2.647 €	20.722 €
Subsidies	6.757 €	- €
Revenues	82.070 €	94.168 €
Detour	- 10.052 €	- 11.752 €

Table 6: AMPMV 2016 annual costs

Revenues are generally the hard part for a social project, because they seldom sell products or services. In 2015, the money come mostly from regular Maecenas: Santa Maria Maior neighbourhood (20.000€), Montepio Geral (12.000€), Jerónimo Martins (17.500€), GALP (5.500€) and through government subsidies for new employees[14] that next year will not be possible to obtain these subsidies (detailed information can be analysed in Appendix 3 – Annual AMPMV Costs). As it can be observed, the revenues have not been sustainable and too much time has been spent in fundraising the association each year, which leads to less time centred on the beneficiaries.

3.4. Comparison to Control Group

Unfortunately, AMPMV has not been comparing the participants' performance with a control group, which could provide a more realistic indication of their impact - no control group limits the total interpretation of the present analysis. On the other hand, using a control group would involve higher costs, complexity and ethical considerations. Given that, AMPMV has a strong and consolidated intervention with evidence of strong impact that can be observed through the association data, I considered there is not necessary a control group to efficiently measure the impact of AMPMV.

[14] **IEFP** – "Instituto do Emprego e Formação Profissional" (Institute of Employment and Training): government incentives for the first year of work.

4. How can a SIB be applied to AMPMV?

Usually Social Impact Bonds have two types of applicability: (1) test a new implementation model and (2) scale or replicate an innovative model. As it can be observed, AMPMV has already a well-implemented model and, at the same time, they believe that the project is successful because of remaining small in each deployment. For this reason, the most suitable SIB application is to replicate the model in another area in Portugal.

In 2014, one Case Manager of AMPMV left the association because she had to move to Oporto. She always wanted to start the project in Oporto and she has the essential knowhow to start. However, neither this Case Manager nor AMPMV found an investor that could support the replicability of the project.

To this feasibility study for AMPMV, I considered both Oporto and Lisbon interventions to be financed by a SIB model because, as revenues sources of AMPMV in Lisbon shows, they are not being sustainable and, for this reason, time has been spent in fundraising the association. The next session is an overview of Oporto municipality. Lisbon municipality analysis was already described in the previous chapters.

4.1. Oporto overview

Nowadays, given the demographic scenario of Oporto municipality, which is aging and has a large numbers of people over 65 years old, living either alone or with someone of the same age or older, I consider that there is a need to create a response to prevent loneliness and social isolation situations.

It is intended to replicate AMPMV model in Oporto city centre because, as it happens in Lisbon centre, it was detected that these people are living in old buildings on the top floors, have limited access to stairs and are living on steep streets. These urban characteristics make it difficult for people with reduced mobility to walk on the street and, consequently, fosters loneliness and social isolation.

Total			**65+**		
2001	**2011**	**2015**	**2001**	**2011**	**2015**
262.013	237.591	216.405	50.978	55.074	58.347
100%	100%	100%	20%	23%	27%

Table 7: Population of Oporto municipality – total and 65+ (INE, 2011)

In 2011, more than a fourth of the population (27%) had more than 65 years old. 33.418 people over 65 years old are living alone in Oporto municipality and, from 2001 to 2011, the dependency index of the elderly has grown 15.4%, reaching 44% (INE, 2011).

4.1.1. Vitória: Oporto intervention area

Through consultation with AMPMV it was considered that it is important to focus on one neighbourhood in Oporto's old town, similarly to AMPMV's strategy in Lisbon. Therefore, this study proposes implementing a project in Victória neighbourhood where, in 2011, there were 511 people with AMPMV characteristics to benefit from the intervention. It is located in Oporto centre city, where a large number of buildings are unoccupied or occupied for business purpose. Nonetheless, as in Lisbon centre, in these neighbourhoods there are a lot of old people living in poor conditions, with no access to stairs and with large problems of loneliness and social isolation.

Neighbourhood	Population over 65 years old		Household in which everyone has over 65 years old		
	Total	**Living alone**	**Total**	**With 1 person**	**With 2 or more**
Cedofeita	5.976	3.829	2.639	1.494	1.145
Miragaia	543	351	266	184	82
Santo Ildefonso	2.461	1.582	1.148	733	415
São Nicolau	483	268	196	127	69
Sé	913	505	366	232	134
Vitória	**572**	**322**	**229**	**140**	**89**

Table 8: Population of old town neighbourhoods over 65 years old in Oporto (INE, 2011)

"Fundação da Juventude" [15] (Youth Foundation) supports the association with a space in Victoria station neighbourhood, where AMPMV will locate the Oporto headquarters. It is extremely important to have the headquarters close to the beneficiaries, because the staff need to be close to their beneficiaries and their daily problems, in order to deliver an exceptional social service.

In conclusion, Victoria neighbourhood has the right characteristics for AMPMV to intervene: (1) significant number of people with more than 65 years old; (2) beneficiaries living in the neighbourhood they intervene (headquarters' location); and (3) in situation of loneliness and/or social isolation. In addition, Victoria is a neighbourhood with similar characteristics as Santa Maria Maior (Lisbon).

[15] "Fundação Juventude is a private institution of public interest, non-profit organization and focused on training and entrepreneurship to support youth employability.

4.2. Intervention Scope

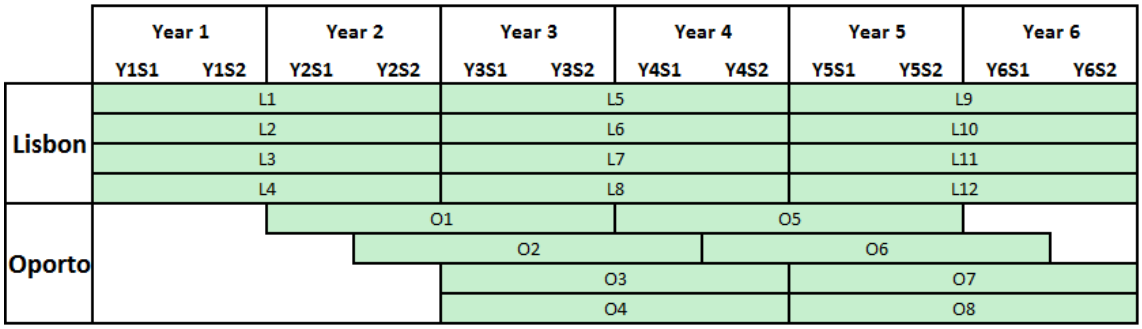

Figure 3: Starting cohort intervention

Target population | Figure 3 is a scheme of the starting cohort interventions. Each cohort has 30 beneficiaries and is represented with a green horizontal bar and with a distinguishable serial number (Lisbon starts with an "L" and Oporto with an "O").

In total, there are 600 participants, which is considered a realistic goal based on the capacity of Lisbon operations: 120 elderlies at the same time in each location, as it can be observed in figure 3.

Because the project is already in development in Lisbon, it was assumed that the intervention is fully going to start from year 1. On the other hand, the first phase of Oporto intervention is intended to have a one-year period. During this period, it will be possible to do a diagnostic of the older population who lives in Victória. On the second semester (Y1S2), a small team of one Coordinator and one Case Manager will start working. They will develop the necessary actions to start the intervention on the next year (Y2S1), such as acquiring at least 30 participants for the first cohort. After this period, the first cohort in Oporto is expected to start. Nonetheless, the project only will be 100% operational in the third year (Y3S1), as shown in the figure above.

Cohort design | It is recommended to have 30 participants in each cohort with a duration of two years' intervention. Although, on average, beneficiaries are 4.3 years at AMPMV, there are always people entering and leaving the intervention. As a result, it would be difficult to have a static moment in time to measure impact in a robust way if the SIB had 4-year intervention per cohort.

It is easier to start and finish the intervention analyses, since each Case Manager has the capacity to take care of 30 beneficiaries. Moreover, each city has a maximum intervention of 120 elderlies, which means a maximum of four editions per city simultaneously. Considering a SIB with a duration of 6 years, it would be possible to finance 12 editions in Lisbon and 8 in Oporto, totalling 20 cohorts of 30 people each.

4.3. Intervention Costs

In order to better estimate the intervention costs of SIB in Lisbon and Oporto, it is vital to consider the Lisbon intervention scope and respective intervention costs. The budget below (table 9) was used to calculate the financial profile of the SIB. Such costs best represent the costs of the SIB and therefore represent the best basis for the feasibility study.

According to AMPMV, currently the intervention costs around €100,000 per year with 120 participants, consequently each edition costs 50.000€ (2 years' intervention with 30 beneficiaries each). Taking in consideration table 9 and also some start-up costs in Oporto, it is expected that each edition will cost 57.317€, resulting in a total cost of 1.147.426€ for the 20 editions during 6 years. Hence, each participant will cost 1.912€ per edition, excluding taxes, and 2.295€ including taxes. Out of the 1.15 million euros, 91,8% of total costs are staff costs. The detailed costs can be found in Appendix 4 at the end of the present document.

Item	Total cost per item
Coordenator	168.498 €
Case Manager	572.030 €
Communication manager	135.637 €
Technical assistance	142.096 €
Staff related expenses	35.280 €
Office rent Lisbon	18.000 €
Office rent Lisbon Oporto	11.550 €
Office general expenses	55.350 €
Material, communication and computing	6.060 €
Volunteers insurance	2.925 €
Total Intervention Cost	**1.147.426 €**
Cost per year	191.238 €
Cost per participant per edition (600)	1.912 €
Cost per participant including taxes	2.295€
Cost per edition	57.371 €

Table 9: Total Cost for SIB Intervention for AMPMV (20 editions in 6 years)

4.4. Outcome metrics and payments mechanism

The selection of adequate outcomes is an essential phase in order to efficiently evaluate the impact of a Social Impact Bond (Social Finance, 2015). The outcomes should be objective and easily available or accessible. Revised 4-item UCLA, previously described, is the most suitable mechanism, and widely used, including in a SIB tackling social isolation of the elderly in the UK. All participants should have eight points or more to be eligible for the

project, because they are classified as "lonely" according to the R-UCLA scale. This study proposes that at the beginning of each cohort the participants complete the R-UCLA questionnaire. After 12 and 24 months, the participants are evaluated again using the same questionnaires. It is intended to evaluate the impact of the intervention on those periods. A neutral authority makes these questionnaires to have real results and a neutral view of the project.

In table 10, it can be observed the four outcome metrics that were considered the most suitable and objective metrics, and then the outcome results for each different success (modest success, success and overachievement success). Each outcome is linked to one cohort (30 beneficiaries).

		Unit of analysis	Outcome	Modest success	Success	Overachievement
1st	Average reduction in R-UCLA per cohort after 12 months (Oporto first four editions)	Performance	**0,78**	70%	100%	110%
	Average reduction in R-UCLA per cohort after 12 months (Oporto after 4th edition and Lisbon)	Performance	**0,4**			
2nd	Average reduction in R-UCLA per cohort after 24 months (both locations)	Performance	**0,2**			
3rd	Percentage of maintenance in R-UCLA per cohort after 24 months	Participants	**70%**	60%	70%	80%
4th	Percentage of avoided nursing home admission per cohort after 24 months	Participants	**94%**	90%	94%	98%

Table 10: The four outcome metrics to SIB feasibility study[16]

Reduction in R-UCLA per individual after 12 months | Considering that in Oporto's first four editions, 100% of the participant never had AMPMV intervention, I expect to register 0.78-point reduction per cohort after one year, based on the loneliness intervention literature review (Social Finance UK, 2015) and the potential of AMPMV intervention. Since the project is already developed in Lisbon and after the fourth edition in Oporto the project will be also developed, it is predictable that just 30% of the participants will be new and the other 70% will come from previous editions. Therefore, I recommend that the average reduction per person should be 0.4-points. I considered a modest success if 80% of this outcome is achieved.

Reduction in R-UCLA per individual after 24 months | Bearing in mind that the intervention has higher results in the first year, I recommend that the outcome should be, on average, 0.2-

[16]These are merely assumptions. After finish the first edition, these metrics should be reviewed and potentially adjusted.

points reduction in R-UCLA on the second year, and I suggest a modest success, if 80% of this outcome is achieved, similar to the first outcome.

Maintenance in R-UCLA per individual after 24 months | Despite of the 0.2-points reduction expected in the second year, I also project that 70% will maintain their initial reduction after 24 months[17] (successful outcome). If 50% maintain their initial reduction, it is considered a modest success.

Avoided nursing home admission after 24 months | After AMPMV analysis in Lisbon (as shown above), it was observed that just 6% of people that left the intervention went to nursing homes. By this reason, I suggest that a successful outcome would be 94% avoidance after 24 months (successful outcome).

After 12 and 24 months, once each outcome per cohort is achieved, the cash flow from the government will be paid. For this reason, the questionnaire is made on months 13 and 25. However, it is important to consider that the service provider will be paid on the beginning of the project, i.e. receive the necessary cash to run the first editions with working capital contingency: 413.613€.

4.5. Outcome pricing

To better analyse the work developed by AMPMV, four outcomes have been defined. Since all outcomes come from the success of the same intervention, the best way is to set percentages from the outcome price per participant. This outcome price was initially set from the price per participant per edition (2.295€). Since a successful outcome is not that all participants have to achieve the outcomes, it is not possible to have an outcome from the price per participant. The outcome pricing was calculated taking into account a modest success (table 10) including taxes, in which the first two outcomes have 80% of success, the third has 60% and the fourth has 90% of success. Therefore, I propose a total outcome price of 3.300€ based on the outcome efficiency rate, i.e. the cost of achieving an outcome taking into account the baseline performance rates.

Secondly, percentages from this outcome price were defined, as shown in table 11. More weight is allocated in the "after 24 months" 's outcomes because (1) these outcomes are much more valuable in order to tackle loneliness and social isolation and (2) it is from the last outcome that public sector can save more money through sustained outcomes. Finally, it is believed that the most valuable outcome is the third outcome because, at one hand, prevent

[17]It is also an investor protection. It is possible that the previous outcome does not achieved success because it is considered the hardest target.

loneliness and social isolation situations and, on the other hand, it is the outcome that better prevent people from nursing home admissions where the biggest cost to the public sector lies. In table 11, the outcome prices are presented.

		Success	Value per year	Total outcome price	Weight	Price per outcome
1st	Average reduction in R-UCLA per cohort after 12 months	0,78 or 0,4	668€	3.300€	20%	**660€**
2nd	Average reduction in R-UCLA per cohort after 24 months	0,2	668€		25%	**825€**
3rd	Percentage of maintenance in R-UCLA per cohort after 24 months	70%	Unknown		30%	**990€**
4th	Percentage of avoided nursing home admission after 24 months	94%	11.256€		25%	**825€**

Table 11: Outcome price per outcome per cohort

4.6. Public Sector Benefits

The public sector can benefit from this project in different forms: cashable benefits and non-cashable benefits. For this analysis, cashable benefits were mostly considered. There are two important assumptions to better estimate the costs for the government under status quo and with SIB intervention: (1) All participants (600) are "lonely" and, through AMPMV, at least 40% will move from "lonely" to "not lonely"; and (2) under *status quo*, 15% of participants will need nursing home, instead of only 6% with AMPMV intervention. AMPMV has 20% of the beneficiaries in Red level so it was assumed that most of Red beneficiaries would go to nursing homes if they were not in intervention, which represents 15% of total participants or 90 persons in absolute value.

In the United Kingdom, the lifetime cost of loneliness per person was estimated in 16.700€, in which 40% of lifetime costs will occur in the next 5 years, 6.680€. As a result, the cost per lonely per year is 1.336€ (Social Finance UK, 2015). According to Numbeo (2016), the average monthly disposable salary in Portugal is 800€ and in the UK is 1.857€, which in Portugal represents 43% of the UK salaries. As a result, through extrapolation, it was assumed that in Portugal this cost should be around 668€, which is 50% of the UK costs.

The cost of a nursing home per resident per year is 11.256€, according to the Ministry of solidarity and social security (2014). Moreover, through AMPMV intervention, the cost per year will be 191.238€ (see Appendix 5 – Public Sector Savings Analysis).

In *status quo* scenario, government will spend 1.353.720€ per year and with AMPMV intervention government will spend 836.934€ per year (Public sector costs under SIB plus

Cost of Intervention). Therefore, after this financial analysis, it is possible to conclude that, using SIB project, the government is saving around 3.5 million euros in 6 years which corroborates that the outcome pricing methodology used in this study is conservative and cautious.

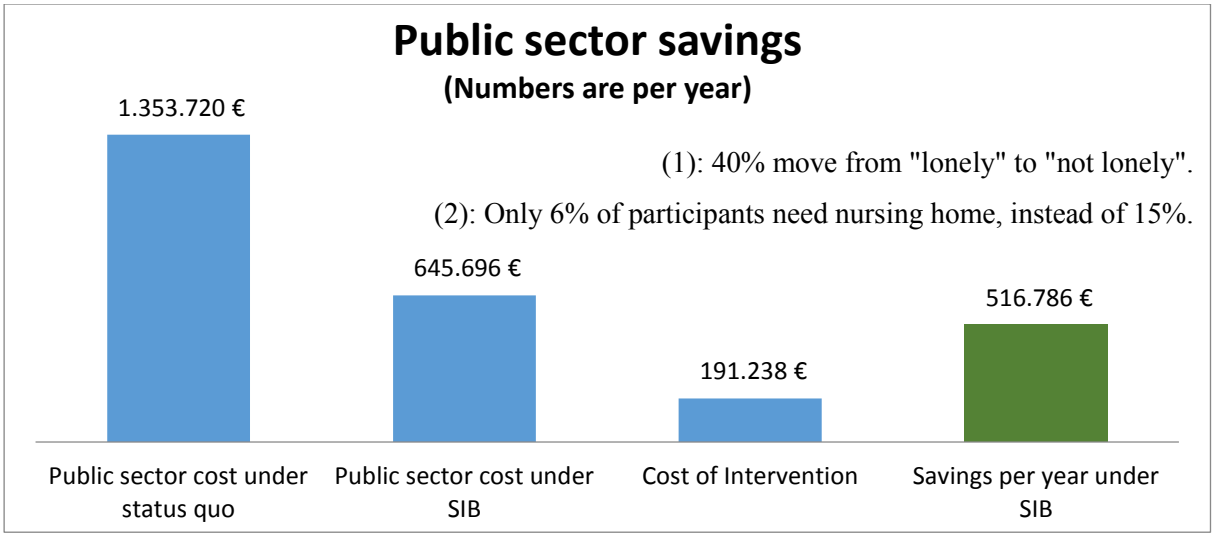

Figure 4: Public sector savings

Even though AMPMV brings accountable savings to the public sector, it is also true that they bring innovation to the sector and, at the same time, relieve effort to the governments and municipalities. Finally, the risk of the project is transferred to investors that usually have more oversight on performance than governments.

4.7. Investment Structure

The overall total upfront investment required is 413.613€, which would be drawn from private investors on an "All upfront" investment. The investment required is divided into two categories: total capital needed and working capital contingency. The total capital needed to fund the services delivered by the SIB extents to 317.994€. Secondly, the working capital contingency will be 6 months of service, 95.619€, that will work as capital buffer to be returned at the end of the project. Finally, the SIB model will assume that investors receive outcome payments 2 months after the evaluation period, if the association successfully achieves the outcomes.

Finance Inputs	
Cash-flow Delay	2 months
Working Capital Contingency (months)	6 months
Working Capital Contingency (euros)	95.619€
Investor Requirement (incl. WC cont.)	413.613€
Investment structure	All upfront

Table 12: SIB's financial inputs

4.8. SIB Business Case

Taking in consideration all factors described above in a success case, this represents an investors surplus of 328.360€ and an Internal Rate of Return (IRR) of 15.6% to investors (this scenario is analysed in Appendix 6).

5. Sensitivity Analysis

The following chapter will analyse the different "what if" scenarios, to understand the influence of changing the outcome results on this project. The model was run in excel to demonstrate the dynamics involved in the social impact bonds project and its financial results. With a large number of outcomes (4), there are many possible scenarios. In this chapter four scenarios will be analysed: breakeven scenario, modest scenario, success scenario and overachievement scenario.

Breakeven scenario | This scenario was computed to see from where the project starts to have negative results. In order to have IRR close to zero, the participants have to achieve, on average, 0,55-points reduction (0,78-point times 70%) or 0,28-points reduction in the first outcome, and 0,14-points reduction in the second outcome. Moreover, 50% of participants have to maintain their initial reduction and just three participants per cohort can go to nursing house (90% of avoiding nursing home admissions). In this scenario, investors will have a surplus of just 1.264€.

Modest success scenario | If this scenario occur, investors will have a surplus of 120.856€ and an IRR of 4.7% after the six years project. Participants will achieve, on average, 0.6-points and 0.3-points (80%) reduction in the first outcome; 0.16-points (80%) reduction is expected in the second; 60% will maintain their initial reduction; and 90% will avoid nursing home admissions.

Success scenario | Success scenario was analysed in the previous chapter.

Overachievement scenario | Finally, the last scenario analysed is an overachievement, in which participants will register a higher reduction in R-UCLA than expected. Investors will have a surplus of 463.792 € and an IRR of 20.5%. This scenario has the lowest investor requirement.

		Unit of analysis	Breakeven	Modest success	Success	Overachievement
Outcomes	1st	Performance	70%	80%	100%	110%
	2nd	Performance				
	3rd	Participants	50%	60%	70%	80%
	4th	Participants	90%	90%	94%	98%
Project results	Maximum Contract Value		1.366.200 €	1.514.700 €	1.772.100 €	1.940.400 €
	Project costs		1.147.426 €			
	Investor Requirement		503.812 €	465.202 €	413.613 €	412.821 €
	Investors Surplus		1.264 €	120.856 €	328.360 €	463.792 €
	IRR		0,1%	4,7%	15,6%	20,5%

Table 13: four possible scenarios for AMPMV under SIB project.

6. Implementation: next steps

With a clear return on investment, the feasibility study's next step is to build an operational model to implement the SIB project to AMPMV. This chapter pretends to put in practice the theoretical chapter called *How does a SIB works?*.

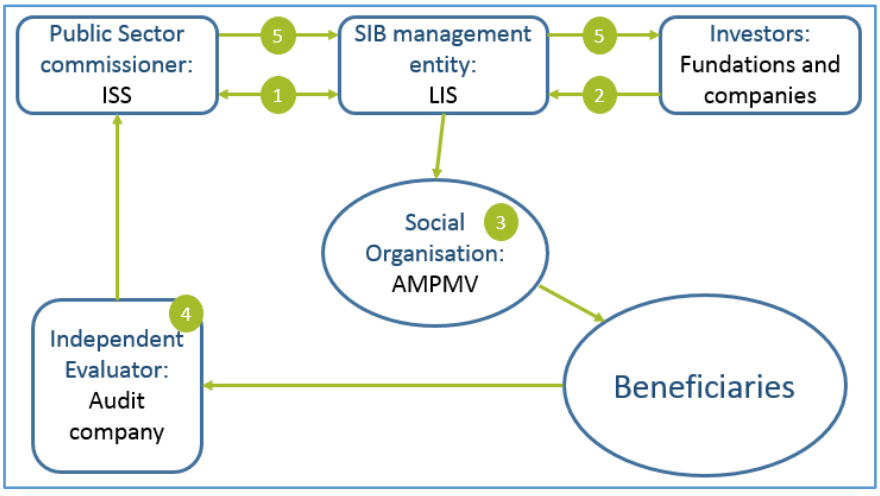

Table 14:"how does a SIB works?" in practice

There are five entities that will come into the SIB proposal, in order to well implement the project: the social organisation, a SIB management entity, a public sector commissioner, an independent evaluator and an investor(s).

The social organisation is obviously AMPMV and the SIB management entity can be an intermediary entity such as the Social Investment Lab[18] that is supporting this feasibility study. I assume that the public sector commissioner in Portugal will be "Instituto da Segurança Social" (Social Security), because it is the Portuguese entity responsible for analysis and finance of both public and private social projects. Moreover, I recommend that the independent evaluator should be an Audit company operating in Portugal, since it is in their core business to provide this type of services, so they have experience and a "critical eye" of the project.

Finally, Montepio and Jerónimo Martins are the most probable investors, since they are currently financing the association and therefore they believe and understand AMPMV value, needs and strategy. In addition,among the most important Portuguese Foundations that could finance the SIB, Gulbenkian Foundation has experience on financing SIB projects in Portugal, EDP Foundation (2016) has a track record of investing in social innovation projects, and "Manuel António da Mota" Foundation[19] is supporting social projects in Oporto, which could support the replication to Oporto old town. Other investors could support this SIB project, but I considered that these five companies and foundations are more likely to finance and support AMPMV because, on one side, they know well AMPMV and, on the other side, they have expertise on social innovation financing..

Nonetheless, it is important to refer that, in order to meet all the necessary requirements of both investors and public entity, the current financial model will possibly need some adaptations, which have to be carefully designed. AMPMV and the Social Investment Lab should be aware to guarantee the necessary requirements and adjustments to the programme.

7. Limitations and Conclusion

Limitations | The main limitation of this feasibility study is the lack of data analysis. When SROI analysis of AMPMV was made, all the necessary data was collected but, since 2014 (SROI), there are no completed data. Furthermore, 'Beneficiaries framework' (appendix 1) was finished in August 2015, so just at that time the framework started to be used, meaning that the data is not comparable with the previous SROI data analysis.

Secondly, in this feasibility study we are analysing the full AMPMV intervention, which has three intervention lines. This makes it impossible to measure each intervention and the impact

[18] In Portuguese, Laboratório de Investimento Social (LIS).

[19] MAM Foundation invest in social (MAM Foundation, 2017) and has an Award that distinguish social organisation

that each activity has in the chosen outcome. On the other hand, all intervention lines positively influence the R-UCLA scale, so it would be wrong to select just one intervention. Furthermore, in defining the outcomes, the outcome proposal outlined is based on a series of assumptions, so after finishing the first edition of the SIB, these metrics should be reviewed and adjusted based on the most recent learning

Lastly, AMPMV does not have a control group to compare the performance of participants, which could provide a more realistic indication of their impact - no control group limits the total interpretation of the present analysis. In contrast, using a control group would involve higher costs and ethical considerations. I considered that it is not required to have a control group to efficiently measure the impact, since AMPMV has validated intervention with a strong evidence of impact. Alternatively, it could be interesting to compare AMPMV impact results with other association or institution that works in Lisbon and Oporto tackling loneliness and social isolation, such as the impact of a specific nursing home.

Conclusion | This dissertation gave me the chance to get a better knowledge about the social sector in Portugal and about an innovative and new way of financing social interventions.

The current SIB proposal aims to tackle loneliness and social isolation, one of the most important social problems in Portugal, through 'Mais Proximidade, Melhor Vida' intervention in Lisbon and Oporto. To the target population, AMPMV will deliver positive outcomes in the areas of social inclusion, health and elderly house conditions.

This proposal will be the first SIB on tackling loneliness and elderly isolation in Portugal, which in the future may help the financing of other organisations in this domain and may promote the engagement of a higher number of stakeholders collaborating to tackle social problems.

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Appendices

Appendix 1 – Beneficiaries Categorization Framework

Categorization Criteria		RED (4 points)	ORANGE (3 points)	YELLOW (2 points)	GREEN (1 point)
Person's context	1. Household	Lives alone and dependent (needs another person to make he/she personal activities)	Lives with other persons and dependent	Lives alone and independent	Lives with other persons and independent
	2. Mobility (capacity to leave home, down stairs and walk outside)	Cannot leave home independently	Leaves home with some help	Leaves house with difficulty, for example once a day because it's too tiresome	Leaves home independently
	3. Mobility at home	Cannot walk at home	Walks with great difficulty	Walks with some difficulty	Walks without difficulty
	4. Network support (formal or informal)	Does not have, except for basic necessities (hygiene and food)	Does not have enough network support	Has an enough network support	Does not need
	5. Level of informal caregiver overloading	Has a caregiver overload	Has a caregiver in moderate overload	Has a caregiver in light overload	Does not need or does not have a caregiver in overload
	6. Pathologies (life activities: housekeeping, washing clothes, preparing meals, shopping, use the phone, manage medication, managing money - paying bills, count money, etc)	Several pathologies (physical and/or cognitive) that seriously interfere with the performance of life activities.	Several pathologies (physical and/or cognitive) that interfere with the performance of life activities.	Several pathologies (physical and/or cognitive) that slightly interfere with the performance of life activities.	No pathologies (physical and/or cognitive) that interfere with the performance of life activities
	7. Person's needs	Needs very often support for issues related to health (consultations, medication, physiotherapy, diagnostic tests); mobility, looking for general information, blood pressure measurement, etc.	Needs sometimes support for issues related to health (consultations, medication, physiotherapy, diagnostic tests) mobility, looking for general information, blood pressure measurement, etc.	Needs infrequently support for issues related to health (consultations, medication, physiotherapy, diagnostic tests); mobility, looking for general information, blood pressure measurement, etc.	Does not need support
Utilization of AMPMV resources	1. Visits	Require weekly visits to monitoring the situation	Require biweekly visits to monitoring the situation.	Require monthly visits to monitoring the situation	Occasional visits
	2. Articulation with camunity resources (SCML; Centro de Saúde; Hospitais; Junta de freguesia; Centro Paroquial, Clínicas de	Very often	Frequent	Infrequent	Not necessary

	saúde)				
	3. Medication acquisition	Very often	Frequent	Infrequent	Not necessary
	4. Schedule and/or follow-up consultations, diagnostic tests or physical rehabilitation sessions	Very often	Frequent	Infrequent	Rarely or not necessary
	5. Other health support activities (for example the delivery person's credentials for the examinations, physiatrist treatment, prescriptions).	Very often	Frequent	Infrequent	Rarely or not necessary
	6. Purchase goods	Very often	Frequent	Infrequent	Rarely or not necessary
	7. Ambulance transport	Needs to leave home	- -	- -	Does not need
	8. Case manager sensitivity	Red	Orange	Yellow	Green
	9. Suspicion of domestic violence	Automatically red			

Appendix 2 – Beneficiaries' data analysis

	Absolute values					%				
Number of participants	**Green**	**Yellow**	**Orange**	**Red**	**Total**	**Green**	**Yellow**	**Orange**	**Red**	**Total**
Oct-16	**31**	**38**	**23**	**21**	**113**	27%	34%	20%	19%	100%
Jun-16	31	43	15	25	**114**	27%	38%	13%	22%	100%
Mar-16	45	37	19	21	**122**	37%	30%	16%	17%	100%
Dec-15	38	37	32	25	**132**	29%	28%	24%	19%	100%
Nov-15	36	30	32	26	**124**	29%	24%	26%	21%	100%
Aug-15	31	44	19	26	**120**	26%	37%	16%	22%	100%
May-15	48	30	22	23	**123**	39%	24%	18%	19%	100%
Jul-05	10	16	30	24	**80**	13%	20%	38%	30%	100%
Gender	**Green**	**Yellow**	**Orange**	**Red**	**Total**	**Green**	**Yellow**	**Orange**	**Red**	**Total**
F	24	33	20	17	94	77%	87%	87%	81%	83%
M	7	5	3	4	19	23%	13%	13%	19%	17%
Total	**31**	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**
Civil Status	**Green**	**Yellow**	**Orange**	**Red**	**Total**	**Green**	**Yellow**	**Orange**	**Red**	**Total**
Married	12	14	7	8	41	39%	37%	30%	38%	36%
Widow	14	20	10	10	54	45%	53%	43%	48%	48%
Divorced	3	1	0	1	5	10%	3%	0%	5%	4%
Not married	2	3	6	2	13	6%	8%	26%	10%	12%
Total	**31**	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Age	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
<80	9	9	7	4	29	30%	24%	30%	19%	26%
80<=X<90	17	22	13	10	62	57%	58%	57%	48%	55%
>=90	4	7	3	7	21	13%	18%	13%	33%	19%
Total	**30**	**38**	**23**	**21**	**112**	**100%**	**100%**	**100%**	**100%**	**100%**

Household size	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
1	14	22	14	9	59	45%	58%	61%	43%	52%
2	13	13	6	9	41	42%	34%	26%	43%	36%
3	2	1	3	3	9	6%	3%	13%	14%	8%
4	0	1	0	0	1	0%	3%	0%	0%	1%
5	1	0	0	0	1	3%	0%	0%	0%	1%
Nursing home	1	1	0	0	2	3%	3%	0%	0%	2%
Total	**31**	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Risidence floor	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
0	2	3	3	5	13	6%	8%	13%	24%	12%
1	4	5	4	3	16	13%	13%	17%	14%	14%
2	3	4	5	4	16	10%	11%	22%	19%	14%
>=3	22	26	11	9	68	71%	68%	48%	43%	60%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Home access	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
N.A.	1	3	0	4	8	3%	8%	0%	19%	7%
Stairs	28	31	20	16	95	90%	82%	87%	76%	84%
Elevator	1	3	2	0	6	3%	8%	9%	0%	5%
Elevator and stairs	1	1	1	1	4	3%	3%	4%	5%	4%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Other institutional support?	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
Yes	13	18	16	18	65	42%	47%	70%	86%	58%
No	18	20	7	3	48	58%	53%	30%	14%	42%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Average time on AMPMV	Green	Yellow	Orange	Red	Total
	4,2	5,2	4,1	4,0	4,4

Is lonelineless the main problem?	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
yes	4	22	21	15	62	13%	58%	91%	71%	55%
No	21	12	2	6	41	68%	32%	9%	29%	36%
In Diagnostic	6	4	0	0	10	19%	11%	0%	0%	9%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Number of children	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
0	8	11	10	4	33	26%	29%	43%	19%	29%
1	13	16	9	5	43	42%	42%	39%	24%	38%
2	9	8	3	8	28	29%	21%	13%	38%	25%
>=3	1	3	1	4	9	3%	8%	4%	19%	8%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Neighbourhood	Green	Yellow	Orange	Red	Total	Green	Yellow	Orange	Red	Total
Santa Maria Maior	27	35	22	20	104	87%	92%	96%	95%	92%
Others	4	3	1	1	9	13%	8%	4%	5%	8%
	31	**38**	**23**	**21**	**113**	**100%**	**100%**	**100%**	**100%**	**100%**

Appendix 3 – Annual AMPMV Costs

	2016 Budget	2017 Budget
Supplies and external services	8.645 €	11.202 €
Rent	3.004 €	3.004 €
Phones	1.800 €	1.808 €
Payment to suppliers	1.000 €	1.250 €
Printer	- €	1.914 €
Accountant	1.279 €	984 €
Electricity and water	894 €	1.097 €
elderly insurance for walks	57 €	
Volunteers insurance	408 €	408 €
Activities material	- €	300 €
Comunication material	123 €	178 €
"Guia da Baixa" book	- €	178 €
website domain	45 €	45 €
"REDE DLBC"	35 €	35 €
Personnel Expenses	62.839 €	72.287 €
Salaries	60.568 €	69.025 €
Colaborators transports	1.435 €	2.065 €
Work Accident Insurance (8 people)	787 €	787 €
Space cleaning	- €	360 €
Training sessions	50 €	50 €
Financial Expenses	4.080 €	3.633 €
Payments to Montepio	127 €	133 €
Payments to Maria de Lourdes (director)	2.000 €	3.500 €
Sérvulo	974 €	
Femmes d'europe	980 €	
Taxes	16.557 €	18.798 €
Government	16.557 €	18.798 €
Costs	**92.122 €**	**105.920 €**

	2015 Budget	2016 Budget
Maecenas	72.666 €	73.446 €
Development plan of Santa Maria Maior	20.000,00 €	20.000 €
Montepio Geral	12.068,83 €	19.200 €
Jerónimo Martins	17.500,00 €	17.500 €
Fundação PT	3.306,84 €	5.876 €
Pena e Arnaut	3.000,00 €	3.000 €
Indivudual donations	832,25 €	785 €
GALP	5.500,00 €	6.000 €
Portuguese Confederation of Volunteers	375,00 €	1.085 €
Staples	498,10 €	
Others	500,00 €	
Lusitania	1.084,99 €	
Using loan	8.000,00 €	
Sales and fundraising activities	2.647 €	20.722 €
Injunctions	650,00 €	650 €
"PCGV" book	40,00 €	60 €
"Baixa Solidária"	191,45 €	191 €
Resgate (rescue)	1.223,50 €	1.449 €
Christmas Piggy Banks	541,99 €	542 €
Solidarity Concert		6.500 €
Ambassadors		2.700 €
"Lisboa à Mesa" - solidarity launch		5.000 €
"Lisboa à Mesa" book		2.250 €
Solidarity "Santos populares"		1.000 €
Tourist guide		380 €
Subsidies	6.757 €	- €
IEFP	6.757,22 €	
Revenues	**82.070,17 €**	**94.167,77 €**
Detour	**- 10.051,73 €**	**- 11.751,81 €**

Appendix 4 - SIB intervention costs for AMPMV

Cost of intervention per unit

Item	Unit cost of operation	
	Cost per month	Cost per Semestre
Coordenator	1.221 €	7.326,00 €
Case Manager*	1.177,02 €	7.062,10 €
Communication manager	1.076,48 €	6.458,90 €
Technical assistence	1.076,48 €	6.458,90 €
Staff related expenses**	40,00 €	240,00 €
Office rent Lisbon	250,00 €	1.500,00 €
Office rent Lisbon Oporto	175,00 €	1.050,00 €
Office general expenses***	450,00 €	2.700,00 €
Material, communication, computing	50,00 €	300,00 €
Volunteers insurance****	25,00 €	150,00 €

*1 AMPMV Case Manager can support 30 elderlies

**Based on 1 worker: Transports, insurance and training costs

***Bills: electricity, water, phones, printer, accountant, etc.

****Per location

Cost of intervention per semester

	Y1S1		Y1S2		Y2S1	
	Amount	Costs	Amount	Costs	Amount	Costs
Coordenator	1,00	7.326 €	2,00	14.652 €	2,00	14.652 €
Case Manager*	4,00	28.248 €	5,00	35.311 €	5,00	35.311 €
Communication manager	1,00	6.459 €	1,00	6.459 €	1,00	6.459 €
Technical assistence	1,00	6.459 €	1,00	6.459 €	2,00	12.918 €
Staff related expenses**	7,00	1.680 €	9,00	2.160 €	10,00	2.400 €
Office rent Lisbon	1,00	1.500 €	1,00	1.500 €	1,00	1.500 €
Office rent Lisbon Oporto	0,00	- €	1,00	1.050 €	1,00	1.050 €
Office general expenses***	1,00	2.700 €	1,30	3.510 €	1,30	3.510 €
Material, communication, computing	1,00	300 €	1,00	300 €	1,30	390 €
Volunteers insurance****	1,00	150 €	1,00	150 €	1,00	150 €
Total		**54.822 €**		**71.550 €**		**78.339 €**
Cost per month		9.137 €		11.925 €		13.057 €
Cost per participant		457 €		596 €		522 €

Y2S2		Y3S1		Y3S2		Y4S1		Y4S2	
Amount	Costs	Amount	Costs	Amount	Costs	Amount	Costs	Amount	Costs
2,00	14.652 €	2,00	14.652 €	2,00	14.652 €	2,00	14.652 €	2,00	14.652 €
6,00	42.373 €	8,00	56.497 €	8,00	56.497 €	8,00	56.497 €	8,00	56.497 €
2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €
2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €
12,00	2.880 €	14,00	3.360 €	14,00	3.360 €	14,00	3.360 €	14,00	3.360 €
1,00	1.500 €	1,00	1.500 €	1,00	1.500 €	1,00	1.500 €	1,00	1.500 €
1,00	1.050 €	1,00	1.050 €	1,00	1.050 €	1,00	1.050 €	1,00	1.050 €
1,50	4.050 €	2,00	5.400 €	2,00	5.400 €	2,00	5.400 €	2,00	5.400 €
1,50	450 €	2,00	600 €	2,00	600 €	2,00	600 €	2,00	600 €
1,30	195 €	1,80	270 €	2,00	300 €	2,00	300 €	2,00	300 €
	92.985 €		**109.164 €**		**109.194 €**		**109.194 €**		**109.194 €**
	15.498 €		18.194 €		18.199 €		18.199 €		18.199 €
	517 €		455 €		455 €		455 €		455 €

Y5S1		Y5S2		Y6S1		Y6S2		
Amount	Costs	Amount	Costs	Amount	Costs	Amount	Costs	Total Costs
2,00	14.652 €	2,00	14.652 €	2,00	14.652 €	2,00	14.652 €	168.498 €
8,00	56.497 €	8,00	56.497 €	7,00	49.435 €	6,00	42.373 €	572.030 €
2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	135.637 €
2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	2,00	12.918 €	142.096 €
14,00	3.360 €	14,00	3.360 €	13,00	3.120 €	12,00	2.880 €	35.280 €
1,00	1.500 €	1,00	1.500 €	1,00	1.500 €	1,00	1.500 €	18.000 €
1,00	1.050 €	1,00	1.050 €	1,00	1.050 €	1,00	1.050 €	11.550 €
2,00	5.400 €	2,00	5.400 €	1,80	4.860 €	1,60	4.320 €	55.350 €
2,00	600 €	2,00	600 €	1,80	540 €	1,60	480 €	6.060 €
2,00	300 €	2,00	300 €	1,80	270 €	1,60	240 €	2.925 €
	109.194 €		**109.194 €**		**101.262 €**		**93.330 €**	**1.147.426 €**
	18.199 €		18.199 €		16.877 €		15.555 €	191.238 €
	455 €		455 €		482 €		519 €	1.912 €

Appendix 5 – Public Sector Savings Analysis

Cost per year - Status quo

Assumption 1: all 600 participants are "lonely"
Assumption 2: 15% of participants need nursing home

Cost of loneliness status quo		Source	Comment
Number of lonely	510	Participants	Without the 90 nursing home
Lifetime cost of lonely	16.700 €	S. Finance UK	
Cost in next 5 years (40%)	6.680 €	S. Finance UK	40% will accrue in next 5 years
Cost per lonely per year	1.336 €	S. Finance UK	
Cost per lonely per year PT	668 €	50%	50% of UK cost
Total cost all lonely per year	**340.680 €**		Cost per year PT x 510 lonely

Cost of nursing homes status quo	
Number of nursing home admissions	90
Cost per year of nursing home	11.256 €
Total cost per year	**1.013.040 €**

Cost per year - with SIB

Assumption 1: 40% move from "lonely" to "not lonely"
Assumption 2: Only 5% of participants need nursing home

Savings from loneliness with SIB	
Number of lonely with SIB	360
Cost per lonely per year PT	668 €
Total cost per year	240.480 €
Difference from status quo per year	**- 100.200 €**

Savings from nursing homes with SIB	
Number of nursing home admissions	36
Cost per year nursing home	11.256 €
Total cost per year	405.216 €
Difference from status quo per year	**- 607.824 €**

Appendix 6 –Financial analysis of the four scenarios

For all scenarios

TARIFF	Bid	Maximum	Weight
OUTCOMES			
Reduced loneliness after 12 months per point	660 €	660 €	20,0%
Reduced loneliness after 24 months per point	825 €	825 €	25,0%
Maintained loneliness after 24 months per point	990 €	990 €	30,0%
Avoided nursing home admission after 24 months	825 €	825 €	25,0%
Total	**3.300 €**	**3.300 €**	**100%**
FINANCE INPUTS			
OPERATIONAL			
Program start date		01-01-2018	
Number of participants		600	
Lenght of project		72 Months	
Reserve level which begins cash return to investors	3 Months	47.809 €	
Tax		20%	
Cash flow Delay		2 Months	
Working Capital Contingency	6 Months	95.619 €	
Investment structure		All upfront	

Breakeven scenario

OUTPUTS	
Maximum Contract Value	1.366.200 €
Project costs	1.147.426 €
Investor Requirement	503.812 €
Project surplus	218.774 €
Investors surplus	1.264 €
IRR	**0,1%**
Outcome Value per Successful Participant	2.277 €
Outcomes Per Successful Participant	2,8

Modest success scenario

OUTPUTS	
Maximum Contract Value	1.514.700 €
Project costs	1.147.426 €
Investor Requirement	465.202 €
Project surplus	367.274 €
Investors surplus	120.856 €
IRR	**4,7%**
Outcome Value per Successful Participant	2.525 €
Outcomes Per Successful Participant	3,1

Success scenario

OUTPUTS	
Maximum Contract Value	1.772.100 €
Project costs	1.147.426 €
Investor Requirement	413.613 €
Project surplus	624.674 €
Investors surplus	328.360 €
IRR	**15,6%**
Outcome Value per Successful Participant	2.954 €
Outcomes Per Successful Participant	3,6

Overachievement scenario

OUTPUTS	
Maximum Contract Value	1.940.400 €
Project costs	1.147.426 €
Investor Requirement	412.821 €
Project surplus	792.974 €
Investors surplus	463.792 €
IRR	**20,5%**
Outcome Value per Successful Participant	3.234 €
Outcomes Per Successful Participant	4,0