



Social Protection

Innovative Investment
in Long-Term Care

DEVELOPMENT OF AN IMPACT MAP OF SOCIAL INVESTMENT IN LONG- TERM CARE

Prof Bent Greve (Ed.), University of Roskilde

www.sprint-project.eu



The SPRINT Project has received funding
from the European Union's Horizon 2020
research and innovation programme under
grant agreement No 94995.

Executive Summary

Social investment (SI) in long-term care (LTC) can play an important role in managing demographic changes in European societies. In order to make the best decisions, it is important to understand the impact of various types of SI within the LTC sector.

It is necessary to know what to include in an impact analysis, then try to measure (as far as possible) the outcomes of a SI. Measuring impact involves both monetary and non-monetary impacts of the specific SI.

An important aspect in considering overall impact is how key stakeholders - such as service users, civil society, employees, states and interest organizations - perceive and value the impact of the SI.

This report aims to raise awareness among different stakeholders of what is important to include in an analysis and the different steps to take accounting for both qualitative and quantitative economic aspects of SI within the field.

This report points to a variety of types of outcomes and impacts from SI. It further suggests that existing studies can be informative about how various initiatives can have different economic and social impact. A short depiction of a number of evaluations that have been carried out in relation to different types of SI within LTC for those over the age of 65 is available online¹.

The focus of this report has especially been on SI where it has been possible to evaluate the outcome of an investment in a systematic way and obtain some indication of the impact - mainly in relation to rehabilitation, re-enablement and welfare technology. This not to deny that, for example, support to those providing voluntary LTC can also have an important impact on the life of older people and on the public sector; Richards *et al.* (2018) explore this further. Outcomes and the impact of initiatives in these areas are difficult to estimate sine they will vary according to the perspective of the various stakeholders and the context within which the investment is made, as well as because it is difficult to establish the counterfactual situation.

This report acknowledges that the impact of SI, in general, might be difficult to measure. Results might not always be transferable from one country to another country, suggesting that each country may need to measure SI within the specific conditions of their own context. Furthermore, attempting to monetize impact on quality of life can be difficult, although theoretically possible. Even without attaching a monetary value it is important to try to understand other quantitative and qualitative impacts of a SI in LTC. It is necessary to be transparent, and therefore it is important to show the sensitivity of the estimates. This report does not argue that there is only one way of measuring impact; it indicates central issues to be aware of in order to understand the impact of SI within the field of LTC seen from different perspectives.

An impact map is a means for trying to find out what information is needed to conduct the analysis of how an investment will influence society as well as those in need of LTC, including understanding both monetary as well as non-monetary aspects.

¹ <http://www.lse.ac.uk/pssru/assets/documents/SPRINTD5.3EvaluationsOverview.pdf>

Finally, the report indicates that knowledge of impact in the field of SI in LTC for those above 65 is currently limited. This is partly because measurement of impact is difficult given the many possible intervening factors, making it challenging to identify causality from the investment to the impact measured.

Key Messages

- Social investment impact can be measured – albeit with difficulty and dependent on context.
- Using an impact map can help to clarify what information is needed in order to understand the social impacts of an investment.
- There is a difference in the impacts of different specific social investments.
- It is useful to try to systematize knowledge on impact for every investment covering both monetary and non-monetary aspects.
- Investment in prevention, re-enablement and welfare technology can be considered win-win – e.g. both for the elderly and for society’s economic development.
- There are good examples of impact and positive outcomes for certain social investment in long-term care.
- Evaluations of pilot schemes can be used to help in establishing evidence that can be used to develop projects on a larger scale.

Table of Contents

Executive Summary	2
Key Messages	3
Acronyms and Abbreviations	5
1 Introduction	6
2 Aims and Objectives	7
3 Methodological Considerations	8
4 Evaluation and Measurement	10
5 Pitfalls and Dilemmas	14
6 Illustrative Examples of Evaluations of Social Investments	18
6.1 Rehabilitation/Re-enablement	18
6.2 Welfare Technology – Why?	19
7 Conclusions	22
8 References	23
Acknowledgments	25

Acronyms and Abbreviations

EU	European Union
LTC	Long-term care
SI	Social investment

1 Introduction

The aim of this element of the SPRINT project was set out as:

An important component of the SPRINT toolbox will be an Impact Map analysis in the long-term care, which will be refined and made available to public authorities, social insurance funds, voluntary and community organizations, commercial investors through the SPRINT website. The design of the impact map of LTC will be based on the application of principles developed in [Richards 2018]. The Impact Map of LTC will provide a format for developing a metric of the expected and actual social impacts of long-term care programs. It will assist policymakers to decide which programs and initiatives constitute effective social investments and so could be eligible for funding from the public budget and/or able to attract finance from alternative sources including the private sector. In other words, this task will document how the results of guidance on application of SROI framework could lead to any changes in the layout and contents of the impacts of existing long-term care policies.

The approach taken here has been to produce this report addressing the core issues related in understanding an impact map - including the need for robust data and research designs, how to identify strengths and weaknesses of analyses, and recognition of the challenges of policy transfers between different countries. Alongside this report, a toolkit has been produced - attached at the end of this report – which works through a range of issues related to understanding and measuring impacts of SI in the field of LTC.

This report builds on earlier SPRINT research, and outlines how to understand issues involved in measurement in relation to an impact map and points to existing relevant evaluations, including the types of parameters used and how results are derived. This has been done in collaboration with SPRINT partners who provided information on existing evaluations undertaken in different settings and countries. This report aims to inform stakeholders and decision makers of what to be aware of in evaluations and at the same time draw attention to the types of SI that have already made in the LTC area. Given that SI in LTC is relatively new and SPRINT's focus is on those over the age of 65, there are, however, only a limited number of studies available².

² <http://www.lse.ac.uk/pssru/assets/documents/SPRINTD5.3EvaluationsOverview.pdf>

2 Aims and Objectives

The aim of this report is to develop an impact map of SI in LTC for those above the age of 65, where different stakeholders might use different parameters to measure outcomes and impacts, and also acknowledging the variety of LTC models within Europe. The objective is therefore to translate academic knowledge into a practical presentation of what to be aware of, while at the same time to provide information regarding knowledge in this the field, with all the related pitfalls and dilemmas.

This report is intended for policy makers and actors within the LTC field and is therefore not written as a formal research paper, but rather so as to be accessible for a wider audience. This approach also applies in the case of the format of the impact map, presenting in a simplified way how to analyse SI, how to understand the possible types of impact for different stakeholders and where possible, how to estimate the outcome and impact when undertaking an analysis of existing or potential new investment within LTC. There is, therefore, no clear hypothesis to analyze. Instead the aim is to build a framework to focus attention on what is needed in order to analyse SI in LTC and enable stakeholders to be aware of what to look for in evaluations of policies in relation to LTC for the elderly before making recommendations or decisions. Finally, the report aims to make clear, that there are both monetary and non-monetary values that can be attached to SI within the field of LTC.

The document can be read in conjunction with the other SPRINT report and there is, therefore, no discussion of ‘assessment scales’ (see Fernandez *et al.* 2018) and no detailed description of SROI (see Richards 2018, Richards *et al.* 2018), although the principles will be outlined in the next section. It also builds on Richards *et al.* (2018) which defines and measures outcomes related to a variety of issues including informal care, and also discusses issues related to monetizing.

This report uses existing evaluations as an input for interpretation of the possible impacts of SI. Further, the fact that evaluations can be carried out in different countries within the EU which have different types of LTC systems (Greve 2017a) suggests that variations in context for investment needs to be integrated into an analysis of the possible impact, and also therefore that a single model to estimate impact is not possible. It is thus important to take into consideration the differences in welfare systems, the differences in actors involved, and the overall balance between state, market and civil society (Greve 2018).

There are always limitations to a report of this kind. For example, the question of how to finance SI is not addressed, nor how different ways of financing influences other objectives of welfare states development – in the sense that money spent in one area can’t be used in another, the so-called opportunity cost. The purpose has been to show what to be aware of when trying to evaluate outcome of SI within LTC for the elderly, and, how one in a robust way to conduct analysis that can influence the understanding of how SI might have an impact. Therefore, the form of delivery of the intervention is also not in focus in the report, as this is seen more as an institutional issue than an issue influencing the results of the evaluation of the impact on an investment.

3 Methodological Considerations

As set out above, this report is not written as a traditional academic article. However, it is necessary to describe briefly how this report has been produced. There has been a search using google scholar on SI and LTC, also since February 2017 weekly information on new articles on SI and LTC. They have been screened for whether they included concrete evaluation, or simply mention it. Alongside this search for information, all SPRINT partners, as experts within the field, were asked to search for national evaluations and fill in a form to identify existing analysis of different types of SI within LTC around in Europe³. By combining a search for international literature and national literatures, the aim was to ensure that key evaluations of existing interventions were identified. This approach is likely to have widened the scope of information in this report, as the use of search engines alone may miss some of the national literature. The result is an overview of 37 studies, with information on:

- Instrument/intervention used
- Methodology used in study
- Impact on
- Cost of intervention
- Estimated benefit of intervention
- Strength/weakness of the study.

Thus, besides the developed toolkit (attached to the end of this report), this report also gives information on studies related to SI in LTC, which can form part of national or regional approaches to understanding the impact of SI within LTC (see examples below).

Due to the variety of evaluations, it is not possible to argue that one specific way of constructing an impact map will be the correct one in all cases, all countries, for all stakeholders and for all types of SI. Decision makers and administrators will have to – in a transparent way – make decisions regarding their choice of process and data and its implications on the actual calculations, including which parameters to take into consideration. Stakeholders such as service users, interest organizations, trade-unions and others can then use this information to form a better understanding of the analysis and the situation, and how they would argue that investment might be made and what social impact it may have. This can also be included in the sensitivity analysis assessing the robustness of the results with respect to possible underlying assumptions. Furthermore, it is not possible to argue that there is just one way of understanding an impact map within the field of study, so the one presented here is an attempt to have the most central aspects included. For the same reason, the impact map does not include any concrete data, rather indicating what those estimating the impact of SI should be aware of (see below).

The toolkit produced to accompany this report has been made in such a way that it should be accessible for a broader group of stakeholders within the field. This should make enable them also

³ <http://www.lse.ac.uk/pssru/assets/documents/SPRINTD5.3EvaluationsOverview.pdf>

to get an idea about what to be aware of when looking at other estimates of the possible impact of an investment. As experts and those doing the actual evaluations and calculations already know about many of the technical issues related to this type of analysis, these aspects need not to be included in this report. Small-scale national interventions might be a further way of collecting evidence and data that can be used in national estimations of the possible impact of different types of SI.

Given the search has been for evaluations within LTC there is the risk that studies on healthcare, which in some countries can be seen as equivalent to LTC, are not included. Lack of investment in LTC might have an impact on spending on healthcare, by for example, leading to hospital bed-blocking by elderly, e.g. in situations where there no longer are medical reasons for staying at the hospital (Gaughan *et al.* 2015). They also point to that based upon a specific study 10% more care home beds (equal to 250 per local authority in England) would reduce delayed discharge of elderly people by 6-9 %. This is an indication of just one of the many complex and interrelated issues within SI in LTC having an impact outside the LTC sector.

This report does further not discuss issues about how in fact to measure the outcome of LTC, by using ASCOT or other health-related measures such as EQ5D, see instead Forder and Caiels (2011) (who argue that ASCOT has better validity). For systematic reviews arguing that there might be promising well-being instruments to use in economic evaluations, see Makai *et al.* 2014, Bulamu *et al.* 2015. A reason for not including a discussion on these issues is that there is no ideal instrument, although it is important to know the possible impact of using different instruments to measure quality even if there is no single metric for measuring the quality of the outcome (see also Richards *et al.* 2018 who discuss these issues).

Another issue is how to treat and measure costs and benefits of the informal care. The problem here is that informal care, while important in all countries, is difficult to quantify in monetary terms, and in reality, there is no evidence of cost-effectiveness of supporting informal-care. It has been argued that “the existing body of empirical studies is still insufficient because of methodological deficiencies, limited geographical coverage and several blind spots in data collection” (Schneider *et al.* 2015, p238). Therefore, including impact of informal care in monetary terms is still difficult - although there can be consequences for informal carers well-being and labour market participation and reduction on labour market participation might be measured (see Richards *et al.* 2018).

Another aspect related to informal care is the question of how to finance transferring it to state care. Societal consequences of different ways of finance welfare states are outside the scope of this report. Therefore, focus has been on whether there is an impact on informal carer’s quality of life, and on especially labour market participation as the possible substitution between one type and another type of job here is more obvious. This element might be described as qualitative improvement of well-being as a consequence of SI.

A further methodological problem is when care is provided out of reciprocity - and often this is the case for people who has been living together for many years - and when it negatively influences well-being of the individuals providing the informal care. When provided as gift-giving, setting a price might change the social norm of the importance of a gift-relationship. Still, an open and

transparent discussion on the impact also on quality of life for both the carers and those in need of care is important to consider.

In order to describe some more detailed examples of measuring the impact of SI, Section 6 gives some concrete examples of evaluation of issues that can be labeled SI –within two fields where there has been good examples, rehabilitation and welfare-technology (Greve 2017a).

4 Evaluation and Measurement

Looking into SI in LTC implies a need to be aware of policy instruments that can be used within the field, also with reference to the long-term fiscal sustainability of the welfare systems. This is also pointing to policy tools at both the supply and demand side of the coin, including available workforce, institutions, and formal and informal care on the supply side, and on the demand side the level of coverage, possible private financing, prevention, supporting family carers and utilization across also the health care system. In order to be able to get the best use of the economic resources available it is necessary to monitor, evaluate and benchmark to ensure value for money (European Commission 2016). As argued in relation to cost-benefit analysis for a long time, it “is difficult, because many outcomes, especially in social welfare, are hard to value in monetary terms” (Sefton 2002, p16). This does not preclude in the presentation of SI initiatives discussion of the possible impact on informal carers.

Furthermore, there is an increasing focus on the evaluation of welfare state activities and interventions. This is to ensure that spending is done in the most effective way given the scarcity of resources. Thus, increasingly welfare states do evaluation of a variety of social policies, and they each have many issues to be aware of (Greve 2017). In this section, some of the more specific issues related to the evaluation of the impact of investment in LTC will be discussed.

In order to look into the impacts, it is necessary to have an understanding of the social value chain. This focuses on:

- Input
- Activity
- Output
- Outcome
- Impact (Liket 2017).

To give an example, input can be to buy robot cleaners, but this does not guarantee any impact. The activity will then be to distribute them to users deemed in need. The output will be the number of robot-cleaners distributed. However, even if distributed this do not guarantee that they are used by those who they are delivered to. It will be necessary to show how many are used in order to have an idea about the outcome. We then need to know in using the robot-cleaners what the impact is

on the level of cleanliness in households. For different investment the chain can be the same, but the data and parameters involved might vary. When doing the overall calculation a further issue is how to monetize inputs as well as outcomes and impacts. Finally, there might be diminishing impact of buying more robot cleaners if this, for example, implies that they will not all be used.

A central issue is to identify the financial issues of social protection for LTC. Several dimensions can be pointed to:

- a) People who need formal care can't afford it
- b) Reducing financial impact of paying for formal LTC
- c) Compensating for opportunity cost of providing informal care (Muir 2017, p16).

Assuming first there is a situation implying a need for LTC (without here discussing measurement of need for care), then a decision is needed on possible public action to help or reduce the individual cost of care or to consider the possibility of compensating the opportunity cost of informal care. Finally, it is necessary to find a way to analyze whether the public action implies that the risk or cost is removed or at least diminished for a defined time-spell. The last issue is of central importance when entering into evaluation and measurement of an intervention as this can inform the need for knowledge, including the type of data needed in order to do the calculation. For example, over what duration might an investment have an impact, and what can change the length of impact within LTC, such as needs increase despite interventions or reduced due to other reasons, such as that the person dies. Thus, the counterfactual situation may be difficult to know.

There are several issues to be aware of when conducting an evaluation. Without going into details, it is possible, for example, to use cost-benefit analysis to assess costs and benefits of investment in LTC (for example to invest in a specific welfare technology). This will require the following nine steps:

1. Specify the policy alternatives.
2. Decide whose benefits and costs count.
3. Identify the impact categories, catalogue them and select measurement indicators.
4. Predict (estimate) the impacts quantitatively over the life of the policy.
5. Monetize (attach monetary values) to all impacts.
6. Discount the benefits and costs at the social discount rate to obtain present values.
7. Compute the net present value (NPV) of each alternative or the incremental NPV relative to the status quo.
8. Perform sensitivity analysis and/or Monte Carlo analysis.
9. Make a recommendation (Boardman and Vining 2017).

These steps point to a need for knowing who can be expected to benefit from an investment and also the possible cost of the investment. Naturally, there are many issues and problems involved in doing such an analysis, which will not be touched upon here in detail, see instead Boardman and Vining (2017), or the huge literature on cost-benefit analysis. Some of the issues (especially how to monetize see Richards *et al* 2018. and how to estimate the net present value) will be returned to in section 5 on what is important within LTC. Furthermore, Fernandez *et al.* (2018) refers to assessment scales.

Many of the same elements are also included in the social return of investment approach.

SROI methodology (Richards 2018. Richards *et al.* 2018), adheres to the following main principles:

- Involving stakeholders is central.
- A theory of change, mainly represented by an impact map, can be useful to understand how organizations create change through their actions (link between resources input on one side, and outputs to be achieved and the social results of output, i.e., outcomes on the other side).
- Allowances must be made for the attribution of outcomes to other organizations as well as for deadweights and displacement to account for what would happen anyway.
- Evaluation is only for things that count according to the impact map and an exogenous scale of values.
- Evaluation is only for material impacts.
- Financial proxies are generally used for the monetization of impacts.
- A general attitude of never over-claiming is needed with respect to the expected realistic effects of the actions.
- The methodology has to be transparent.
- The results of the analysis must be verifiable (Costa 2017).

Overall, this points to the need for understanding of why an intervention would work (theory), and to present the calculations in a transparent way so that others can repeat the same calculations and change some of the parameters used in the calculations to present alternative results (if in disagreement). Things that count can be different for some stakeholders, and therefore choice of parameter shall be an important issue to be aware of. In the next section, some of the issues related to how to integrate stakeholders' views and how to monetize impact will be discussed. A critique of the above is that qualitative impact is not necessarily directly integrated in the analysis, including, for example, the quality of life for elderly in need of care.

It also points towards the risk of supporting something which would have happened anyway, i.e. the deadweight loss.

Today those evaluating SI typically rely on descriptive (qualitative as well as quantitative) data and analysis with an awareness that "new social enterprises would be subject to less rigorous measurement approaches, while more established programs would need to demonstrate more evidence of impact" (Vo *et al.* 2016, p482). This might also be a point to be aware of when conducting evaluation of new initiatives within LTC. For new approaches the focus could be less rigorous as data might still be limited, whereas more and detailed information is needed in order to determine whether there is a positive direct measurable economic return of an investment. Using data from small scale interventions might be better than not having any data at all.

A specific issue is also how to include the impacts on carers, or in a broader sense informal care. There is no doubt that being a carer might have consequences for the carer's social connections, and "carer's family identities might also be changed as they are confronted with rethinking their roles of spouse, child or sibling" (Keating and Eales 2017, p166). While many presumably will prefer to support their spouse/partner and continue with tasks they have been doing over many years,

personal care may be another issue. One way to measure this could be the opportunity cost, meaning the income a person could have earned through a job on the labour market instead of being a carer (Muir 2017). However, it is an open question whether this approach can also be used for people who have left the labour market, which is a large proportion of those providing informal care for persons above the age of 65. However, when trying to assess both the societal and private consequences of SI it is necessary to decide how to include these in the evaluation. This must of course be done in a transparent way, by presenting calculations with and without the consequence on carers and thus enabling policy makers to decide on the importance of this aspect when prioritising scarce resources.

A core problem is that the valuation is difficult in relation to revenue forgone for informal carers by not working (which can, as argued above, be a more limited group). For those receiving care it could be by using contingent valuations, such as willingness to pay, but this might “produce absurd results” (Layard 2016, p4). Furthermore, “whether people are able to fully imagine hypothetical described lives, or whether they hold stable preferences towards different aspects of wellbeing” (p6) is an open question. In addition “An obvious question is how QALY’s convert into life-satisfaction. There is no satisfactory answer to this question” (p10). Thus, transforming change in quality of life into a monetary value, albeit theoretically possible, is difficult and there are few studies within LTC. Findings from health care cannot simply be transferred to LTC as people value change where they are cured more highly than other interventions, and also there are many intervening factors making estimations extremely vulnerable to assumptions. Still, even if not attaching a monetary value it is important to try to understand qualitative impacts of a SI in LTC. This can, for example, be done through qualitative interview with users or informal carers, and, this information can then enter the decision process and be integrated as an aspect of the impact of a SI.

Furthermore, there is a question of the transaction cost of ensuring the availability of the necessary data in order to know whether the expected outcome of the investment has been achieved. Limited collection of data on certain aspects of a SI might reduce the apparent overall benefit of the investment, and so that there will need to be a balance between the effort of data collection and ability to measure every possible change due to a SI.

There can be information, for example, in relation to assistive technologies or welfare technologies which can influence key aspects of the life of older people, such as dependent or independent living, fall risk, chronic disease, dementia, social isolation, depression, poor-well-being and so on.

However, there are many and varied assistive technologies, such as: general ICT, robotics, telemedicine, sensor technology, medication management and videogames.

They might possibly be able to influence key issues for elderly (Khosravi and Ghapanchi 2016), such as well-being, dependent living, social isolation etc. However, the studies “suffer from small sample size” (p24), and furthermore there is no monetization of values related to the use of the technologies. It is also argued that some technologies can reduce cost within the health care system. They might also improve quality of life, and, here again small-scale studies even with qualitative data can contribute to knowledge of best practice.

There might also be other welfare technologies than those mentioned above - such as helping in movement, cleaning (robot-cleaners) etc, see also illustrative examples in Section 6 - which can have an impact. Even if it is not feasible to monetize possible impacts, it can be important to highlight how they might be part of the case for SI within LTC.

Thus, there is a need for not only small-scale studies, but in the longer run also larger scale studies including the possible economic output and impact of the interventions and with discussion and more precise analysis of how to measure the various benefits of the intervention⁴. They need further to be done in different institutional contexts; see also Richards *et al.* (2018) and the next section.

In doing the analysis, information on the sensitivity of using different parameters can also be important. This can include variations in discount rate, but also estimates of the change in the number of working hours, cost of the investment, for how long it can be estimated to last and so on.

Although investment in social protection overall seems to contribute to subjective well-being on a macro-level (OECD 2016), it is more difficult to find the direct link for impact on the micro-level. There might be change in the individual's quality of life, but the monetary value thereof might (so far) be only theoretically possible to estimate, as studies within healthcare cannot necessarily be transferred into the field of LTC. Furthermore, analyses of investment in social protection only rarely look into LTC for the elderly specifically. However, gaining some knowledge of these qualitative aspects of an individual's life circumstances can be a parameter when making decisions.

5 Pitfalls and Dilemmas

Access to robust data can be a problem when trying to estimate the impact of a SI in LTC. Data might be sketchy for a variety of reasons. It may be the case that there are only very few observations, no clear information on what would have happened if the intervention did not take place (no control group). It can be a situation where the impact is due to the fact that it is new initiative and with people very interested in doing this specific activity, raising the question whether in other circumstances the same activity would have the same impact. It may also be the case that what is possible in one geographical area might not be possible in another geographical area.

In the evaluation of LTC, as in other social policy fields, there are several risks related to measuring outcome, including "attribution, adaptation, reflecting the relative importance of the diverse aspects of quality of life and mental capacity and communication difficulties" (Netten 2011, piii). It might be difficult to estimate what would have happened without the intervention. Furthermore, in the area of LTC, it may be the case that people's situation may deteriorate after the intervention, even it has been effective, due to changes for other reasons - e.g. change in health of the one cared

⁴ This project has not have had the aim to collect primary data besides interview with stakeholders.

for or change in the situation of the informal carer. The counterfactual is thus difficult to determine - i.e. how their situation would have been without the intervention - as a possible change for the worse might not have anything to do with the actual intervention.

Evaluations give mainly a snapshot of the impact, and in LTC it might be difficult anyhow to estimate the long-term dynamic impact due to the effects of ageing of the person (see for example, Kjellberg and Ibsen 2016 and several of the studies included in this report's evidence review). This may mean that impacts are over- or underestimated if the impact is expected to last longer than the average life expectancy for the group in consideration, and underestimated if the evaluation of the impact is influenced by a higher mortality rate than would normally be expected. Thus, for example, even if rehabilitation makes it possible for an elderly person to take care of him/herself to a greater degree than before, then the issue is for how long this can be expected to be case, what is the impact of the intervention and what outcome would have occurred anyway (for example a heart infarct, cancer etc.). Still, knowledge about the impact at least some time after the intervention can be important information when trying to estimate the overall impact and useful data when measuring the impact of a SI.

The impact on quality of life is a very specific issue in LTC, which has no single definition, although physical, psychological and social dimensions are regarded as central (Rodrigues 2017). This further reflects another issue when making these evaluations, which is that there can be subjective as well as objective issues involved. The well-being of individuals are subjective. Nevertheless, this can be used in the analysis if it is done in an open and transparent way. It could theoretically be done with variation in the scale of the evaluation in order to test the sensitivity of the calculations. This may still leave the decision makers with a choice as to whether or not they should implement a given policy if, for example, the positive outcome of an intervention is highly dependent on subjective indicators, but also how investment in LTC for those above the age of 65 compares to investment in other policy areas or in choosing between different types of SI. It opens a space for decision makers to assign a value to, for example, improvement in well-being, and, if possible basing this on different stakeholders' valuations.

A central issue is also the size of the rate of return to be used in the analysis in order to enable both expenditures and savings to be calculated in present day prices as this will influence whether the benefits are higher than the cost. This rate of return might not be the same in all countries and can vary due to difference in the national economic situation. Therefore, there will here be no recommendation of a specific rate as this will be a national matter⁵. The central issue is that it is an open question what rate has been used and how the results are influenced by the choice of discount factor. A high discount rate reduces the economic value of benefits accrued in the future compared to a low discount rate.

Furthermore, a problem here is that the point in time when an intervention can be expected to have an impact might often not be very precisely defined or difficult to specify. This may be a reason why discounting has been applied to a limited extend in the analysis of what can be considered SI.

⁵ Dependent on the size of country this might also be a regional/local issue.

The variation in and use of both objective and subjective measures also raises a possible problem related to how to monetize the outcome and impact, whereas the cost often will be more directly measurable from other studies, including pilot-studies. Change in subjective quality of life due to investment is a critical issue and the key point is that this should be clearly defined and open to discussion about chosen parameters, as well considering the consequence of a higher or lower value to a subjective measure in relation to the size of expected return on the investment. A way of dealing with this is to have quantifiable objective indicators having a direct or indirect impact, and then add possible subjective well-being gains, as illustrated in Table 1, also distinguishing between monetary and non-monetary impact.

Table 1. Direct and indirect impact of SI in LTC – monetary – non-monetary value – with examples

	Monetary	Non-Monetary
Direct impact:		
cost	Such as manpower, buying new technology	Pressure on staff, recipients of care
benefits	Reduction in need for care (manpower), less health care cost	Independent living etc. – see also below on quality of life
Indirect impact:		
Cost	Running repair cost, benefits to informal carers	
Benefit	Increased labour supply informal carers, reduction in labour cost after the investment	
Quality of life for:		
Those in need of care		Well-being, reduced loneliness
Informal carers	Increased earning	Reduction in pressure
Staff	Reduction in risk of sickness (heavy lifts for example)	Better working conditions

The table should be seen as an attempt to identify issues to be aware of when trying to make an estimation of the impact of an investment. Only concrete research can be informative on the more specific values for different types of SI, see a few examples in Section 6. Direct costs will often be simpler to estimate, although, for example, the reduction in need for care requires information on the causality between the investment and reduction in need, and the possible situation after the intervention. Again, showing the possible variation in values attached to the different elements can

highlight the sensitivity of the value of an investment. Quality of life might be more difficult to measure and transform into a monetary value.

This is, for example, the case related to impact for informal carers. Those providing informal care might reduce their number of hours working in the labour market, and thus there is an opportunity cost, which can be calculated as the revenue forgone for the individual by providing informal care instead of participating in the labour market. At the same time, it might be more difficult to include the possible impact on well-being. This despite analysis showing that “caregivers, especially female and intensive caregivers, reported lower mental well-being than non-caregivers” (Verbakel *et al.* 2017, p90)⁶. Lower well-being of carers might imply a pressure on health care cost, often not taken into consideration in the calculation of the impact of lack of care. To put it another way, it may be that SI in LTC might reduce part of the pressure on the health care system, and if it does this should be reflected in the calculation.

Support to a care recipient –whether in cash or in kind – might thus, besides the possible direct impact on the recipient, also have an indirect impact on the carer (Riedel and Kraus 2016). These authors also point to the fact that there is in most EU-countries “at least some monetary benefits that can be used to help finance informal care” (p7), although this is not necessarily through “monetary benefits that individuals needing care can use to finance informal care” (p. 9), as this is only the case in seven out of 21 countries⁷.

There is also the issue of how investment in welfare technology, rehabilitation etc. influences the lives of older people. Thus, there will be challenges not directly related to the economic impact using welfare technology. This revolves around: alienation, conflicting goals, confidentiality and privacy, guaranteeing equal access (Hofmann 2013), while also suggesting that welfare technology “can rehabilitate and enhance people’s autonomy” (p397). How to measure and include this in calculations can be important. Overall, knowledge on the impact on quality of life is mixed (Damant *et al.* 2016), based on a scoping review with 129 unique references ending with 91 key articles. It was also argued here that “evidence suggests that using computers and the internet gives older people a greater sense of independence and control over their daily lives” (p4).

The question of impact on loneliness can also be an issue for investigation.

Social investment in preventing need for care can be difficult to estimate (although see for example Kronborg (2006) and Siren *et al.* (2006). Whereas it might be possible to estimate the impact of interventions reducing fall-accidents among elderly people (by small changes in private homes), it can be difficult to estimate long-term investment in increasing people’s health, such as focusing on factors relating to preventative approaches (such as cost, smoking, alcohol and exercises). Supporting people to live a healthier life might have an impact 20-30 years later, and although this can be considered a SI with implications for LTC, it might be difficult to estimate the impact. Thus, certain types of intervention can it be difficult to estimate the impact of, and, there might also be

⁶ The data in the article is not only for long-term care for the elderly, but still, it is an issue to be aware of.

⁷ They do not specifically focus on elderly, so this includes all in need of long-term care not only older people.

an issue in who will finance them as the cost of the intervention can fall in one sector of society but the gain in another.

Finally, there might also be an impact on employees' working conditions, for example reducing the risk of sickness by establishing ceiling hoist systems as this can reduce the burden of lifting older people in need of care.

6 Illustrative Examples of Evaluations of Social Investments

First, the choice has been made to use re-habilitation as an example, as this has been studied in a variety of settings – see the studies mentioned in this report's evidence review. Furthermore, it has been one of the principal areas for investment chosen in several countries in order to ensure better LTC for older people (Greve 2017a). This is because it can be viewed as a win-win situation. The elderly can remain longer in their own home or living arrangements and at the same time welfare state spending in the area can be reduced relative to what it would have been without the SI in rehabilitation. Studies of one city in Denmark will be used, where this was first centrally integrated and is now the standard model in Denmark – the Frederica-model. This section also draws upon several other studies to indicate the impact of rehabilitation.

Secondly, investment in welfare technology is considered, as this is both an area where there is a detailed study and also one expected to gain in importance in the years to come.

For both re-habilitation and welfare technology there are good indicators of impact, and thus also how to see the possible impact map working, for example when enabling an elderly person to take more care of him/herself and thus reducing the need for state intervention, informal care or other types of support. Naturally, there might sometimes be an overlap between various types of intervention, so that, for example, rehabilitation might work better if combined with changes in the private home through the support of welfare technology. However, in order to analyze a specific intervention it is important to try to ensure that the focus really is only on a single intervention and also that causal effects (and their size) are well known.

6.1 Rehabilitation/Re-enablement

Rehabilitation/re-enablement has come on to the agenda in many countries for several reasons, see Langeland *et al.* (2016) for Norway. One reason is that this will enable elderly people to stay longer in their own home or existing living arrangements and will reduce pressure on public-sector spending, not only in LTC but also within the health care sector. Rehabilitation can also be seen in the light of prevention in terms of physical, social and psychological factors (Siren *et al.* 2016).

The argument for a SI perspective is that if an elderly person, due to a fall for example, is not able to do the cooking, shopping and/or cleaning for themselves then there will be a care need. If training through rehabilitation enables the individual able to do this for him/herself again then the person will be independent, which in itself can be seen as an improvement in the quality of life (see Greve *et al.* (2017) on criteria for SI). There are now several studies of rehabilitation; here is, however, no specific common strategy, except to achieve the goal of making the elderly more independent.

Thus, what is needed is to calculate:

- 1) The cost of the rehabilitation (training – often measured as cost per hour for different types of staff)
- 2) Reduction in the need of home and/or institutional care as a consequence of the rehabilitation, which can be measured through the impact on hours spent on formal care
- 3) Possible reduction in time spent at hospital or avoidance of institutionalization should also be included in the calculation
- 4) Possible impact on quality of life of carers with reduced pressure on informal care and on labour supply of carers.

This is a straightforward way of looking into the issues that need to be addressed in order to measure the possible impact, considering cost of training compared with the saved costs of care and possible reduction in health care cost and institutionalization. In addition intangible issues can be included - such as gain in quality of life both for the person cared for any informal carer as well (see Richards *et al.* 2018 on monetization).

The main challenge in this kind of measurement is knowing the duration of the effectiveness of the rehabilitation or when a new problem arises for the elderly person that means further support is needed. The existing evaluations often only look at the situation for up to six months after the intervention, see annex 1. Using an impact map can enable transparent analysis to indicate the possible variation in valuation based upon different stakeholders' perspectives.

Apart from the possible economic impact, qualitative impact can be identified in terms of better life-quality and options for more independent living for the elderly. How to value this, however, depends on the perspective of stakeholders.

So far studies suggest a positive outcome for rehabilitation and in Denmark, for example, it is now obligatory for municipalities to use rehabilitation as an intervention before delivering permanent support in private homes.

6.2 Welfare Technology – Why?

Welfare technology in different forms and types has been a growing issue in many countries – not only due to the demographic ageing and increased economic pressure on LTC systems, but also as a consequence of the growing impact of new technology on most people's everyday lives. What

exactly is welfare technology in the context of LTC, and what part can it play in private homes? One example is the use of Skype and similar communication forms becoming more widely used. These technologies were not designed for the purpose of supporting and improving old age care but may help in reducing loneliness among older people. In the way that, for example, washing machines provided a new technology making life easier for the wider population, many of the new forms of technology will be of general benefit but for older people can enable them to live more independently. This, for example, is the case with robot-cleaners, which in relation to elderly people living in their own home can be labeled as assistive technologies seem to have a positive impact (Khosravi and Ghapanchi 2016). When a consumption good moves from being a specific support to elderly towards a daily item in most households is not clear. Therefore, the focus here will mainly be on welfare technology in homes for elderly.

In general, welfare technology includes different types of solutions to *prevent* need for external care and to *support* people with various types of need. This includes robots, sensors, GPS and information's and communications technologies. There are constantly new options and innovations.

A specific technology evaluation (Andersen *et al.* 2016) will be used below as an example of welfare technology in institutional care for the elderly. This report is used as it includes economic evaluation of the implementation of the technology, but the perspectives of the life of citizens and employees. It is based upon an analysis of eleven homes for elderly in the Municipality of Århus, which is the second largest municipality in Denmark.

The study uses an investment horizon, which is set to 8 years, except in the case of robot-vacuum cleaners (5 years). The discount-rate (in order to know the economic outcome in today's prices) is 2.5 %. Average wage cost, replacement cost etc. are also estimated based upon knowledge of ongoing wage rates. The conclusion in the study is based on the price at the time of the study and if technology becomes cheaper then the return of investment will be higher. This occurs under the condition that the new technology is cheaper and more effective than the previous one.

Thus, to put it in a simple way the study used the following information:

- 1) Cost of investment in the specific welfare technology
- 2) Yearly cost to keep the technology up-to date
- 3) Wage cost for the different kind of staff involved in care
- 4) Implementation cost – including project management cost
- 5) Reduction in wages cost due to reduction in time needed to support individuals

Implementation, for an example, is estimated to take 45 minutes for the introduction of each new technology, and that in each older person's home there should be a person supporting the use of new technology for an estimated to 30 minutes per week per technology (Andersen 2016).

Door-automation will enable more citizens to get in and out of their residential home without support from staff.

Table 2 below shows the data for calculation of implementation of hoists in ceilings.

Table 2. Expected cost and benefits by investing in hoist in ceilings in Danish Kroner

	Pr. Housing unit		
	Total	Year 0	Year 1-7 (per year)
Project cost:			
Wages project management	206	206	
Cost of hoist ceiling and installation	33,650	33,650	
Wages cost to introduction	312	312	
Total Project Cost	34,168	34,168	
Running cost			
Repair and maintenance	5,089	636	636
Wages cost to continuous training	1,143	143	143
Running Cost total	6,232	779	779
Benefits in terms of reduced wage costs	244,854	30,607	30,607
Cash-flow	204,454	-4,341	29,828

Source: Andersen 2016, p155

The calculation in the table involves estimating how many times a day someone in a home for the elderly needs to have help to be lifted (estimated to be around 10) which on each occasion takes 5 minutes. The reduced cost is a consequence of reduction in time and thus an increase number of elderly that can be helped by one person. Wage costs were based on information from the municipality on the annual gross income in 2015 for different groups. The project was estimated to have a payback time of only 2 years (Andersen 2016). Installing hoists in ceilings is also an investment which improves work-quality since risk of sickness for employees is reduced – though this was not included in the calculations.

Time spent on introduction of the new technology and possible reduction in time needed for care due to the greater independence in self-care must be estimated for each new technology, which might sometimes be difficult. The possibility of positive outcomes for some SI also depends on the existing man-power costs. It will also depend on the length of time the technology is estimated to last. In this example it has been 8 years, except for vacuum-cleaners (5 years). The length of time over which the technology works will influence the economic outcome of the investment. The choice of discount factor also has an impact.

In addition to the estimation of the economic impact, this study also considered the more qualitative aspect for users and employees. This can be an important supplementary aspect in deciding among

different SI. For example, two projects might have the same economic outcome, but one is deemed better than the other by users and employees and this can be a factor to include when making the investment decision. As illustrated in Table 1, it is feasible to estimate the objective cost of an investment and supplement the quantitative data with qualitative information to inform the investment decision.

If the expected impact of an investment is saving in man-power time, then robust estimates of the size and the possible variation in this are needed, including whether it will be the same in all institutions, geographical locations and so on. Further, it is necessary to take into account any differences among those getting the support and ability to live an independent life without or with reduced public care (and if possible to estimate impact on the size of informal care). This combined with knowledge of the size of investment and the time it is expected to last will be central parameters for estimating the economic outcome. Combining this with qualitative aspect should enable decision makers to make an informed decision. It should be noted that small-scale initiatives and learning from other countries can be an important considerations when deciding on SI in LTC.

One way to cope with the uncertainty of the size of impact is to make estimates based on alternative assumptions. To put it another way, sensitivity of the calculations to changes in parameters should be included in the analysis to avoid the risk of being either too optimistic or pessimistic.

7 Conclusions

Overall, it can be concluded that it is possible to make evaluations and calculations of the impact of SI in LTC. However, it is not possible to have detailed information of the possible economic impact of an investment for all types of initiatives, which makes it even more important to provide detailed information on what has been done in the analysis of the impact.

Impact can be measured and analysed in respect of both monetary and non-monetary elements, and as shown above this often includes a need for small scale initiatives in order to get good information on what data to use when making the estimation of the impact. This is important as different actors will be looking into the outcomes of an investment and can have different perspectives on what the impact of an investment will be. Thus, by taking this into account the impact of an investment can be discussed in a more transparent way when taking decisions on the use of available scarce resources.

Further studies dealing with impact of SI within LTC for the elderly are needed in order to know the effects.

These should take into account the fact that financing of LTC is different among European countries, while at the same time recognising that all countries need to be aware of how to get best value from their investments in LTC.

8 References

- Andersen D, Markwardt K, Larsen LB, Svendsen MA (2016) *Velfærdsteknologi i Plejeboliger. Borger, Medarbejder og Økonomisk Perspektiv* (Welfare Technology in homes for the elderly. Citizens, employees and economic perspectives), SFI, København.
- Boardman AE, Vining A (2017) There are many (well, more than one) paths to Nirvana: The economic evaluation of social policies, in Greve B (ed) *Handbook of Social Policy Evaluation*, Edward Elgar, Cheltenham.
- Bulamu NB, Kaambwa B, Ratcliffe J (2015) A systematic review of instruments for measuring outcomes in economic evaluation within aged care, *Health and Quality of Life Outcomes*, 13, 1, 179.
- Costa M (2017) Social return on investment (SROI), including elements on cost–benefit analysis, in Greve B (ed) *Handbook of Social Policy Evaluation*, Edward Elgar, Cheltenham.
- Damant J, Knapp M, Freddolino P, Lombard D (2017) Effects of digital engagement on the quality of life of older people, *Health and Social Care in the Community*, 25, 6, 1679-1703.
- European Commission (2016) *Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability*, European Commission, Brussels.
- Fernandez JL, Marczak J, Knapp M (2018) *Towards an Assessment Scale for Informing State-investments in Long Term Care*, SPRINT Working Paper D5.2, SPRINT, Brussels.
- Forder J, Caiels J (2011) Measuring the outcomes of long-term care, *Social Science and Medicine*, 73, 12, 1766-1774.
- Gaughan J, Gravelle H, Siciliani L (2015) Testing the bed-blocking hypothesis: does nursing and care home supply reduce delayed hospital discharges? *Health Economics*, 24, 32-44.
- Greve B (ed) (2017) *Handbook of Social Policy Evaluation*, Edward Elgar, Cheltenham.
- Greve B (ed) (2017a) *Long-term Care for the Elderly in Europe. Development and Prospects*, Routledge, Oxon.
- Greve B (ed) (2018) *Handbook of the Welfare State, 2nd edition*, Routledge, Oxon.
- Keating N, Eales J (2017) Social consequences of family care adults: a scoping review, *International Journal of Care and Caring*, 1, 2, 153-173.
- Khosravi P, Ghapanchi AH (2016) Investigating the effectiveness of technologies applied to assist seniors: A systematic literature review, *International Journal of Medical Informatics*, 85, 1, 17-26.
- Kjellberg J, Ibsen R (2016) *Rehabiliterende hjemmepleje efter Roskilde-modellen. En analyse af de økonomiske konsekvenser af Roskilde Modellen for rehabilitering* (Rehabilitative home-care after the Roskilde model), Kora, København.
- Kronborg C, Vass M, Lauridsen J, Avlund K (2006) Cost effectiveness of preventive home visits to the elderly, *European Journal of Health Economics*, 7, 4, 238-246.

- Langeland E, Førland O, Aas E, Birkeland A, Folkestad B, Kjekken I, et al (2016) *Modeller for hverdagsrehabilitering – en følgeevaluering i norske kommuner* (Models for everyday rehabilitation - a follow up evaluation in Norwegian municipalities), Senter for Omsorgsforskning, rapportserie nr. 6
- Layard R (2016) *Using Subjective Wellbeing. Measuring Wellbeing and Cost-effectiveness Analysis*, Discussion Paper 1, What Works Wellbeing Centre, London.
- Liket K (2017) Challenges for policy-makers: Accountability and cost-effectiveness, in Greve B (ed) *Handbook of Social Policy Evaluation*, Edward Elgar, Cheltenham.
- Makai P, Brouwer WB, Koopmanschap MA, Stolk EA, Nieboer AP (2014) Quality of life instruments for economic evaluations in health and social care for older people: a systematic review, *Social Science and Medicine*, 102, 83-93.
- Muir T (2017) *Measuring Social Protection for Long-term Care*, OECD Health working paper 93, OECD, Paris.
- Netten A (2011) *Overview of Outcome Measurement for Adults Using Social Care Services and Support*, Methods Review 6, NIHR School for Social Care Research, London.
- OECD (2016) *Can Investment in social protection contribute to subjective well-being? A Cross country analysis*, OECD Development Centre, working paper 332, OECD, Paris.
- Richards A (2018) *Social Return on Investment Framework Application Guide to Long-term Care*, SPRINT Working Paper D4.2, SPRINT, Brussels.
- Richards A, Linnosmaa I, Jokimäki H, Haula T (2018) *Feasibility Framework Tool for Social Investment*, SPRINT Working Paper D5.1, SPRINT, Brussels.
- Riedel M, Kraus M (2016) Differences and similarities in monetary benefits for informal care in old and new EU member states, *International Journal of Social Welfare*, 25, 1, 7-17.
- Rodrigues R (2017) Evaluating long-term care policies: Challenges and advancement, in Greve B (ed) *Handbook of Social Policy Evaluation*, Edward Elgar, Cheltenham.
- Schneider U, Sundström G, Johannson L, Tortosa MA (2015) Policies to support informal care, in Gori C, Fernandez JL (eds) *Long-term Care Reforms in OECD Countries*, Policy Press, Bristol.
- Siren A, Bjerre M, Nørregård HB, Niss NK, Lauritzen HH (2016) Forebyggelse på Ældreområdet (Prevention in the field of old age), 16, 30, SFI, København.
- Sefton T, Byford S, McDaid D, Hills J (2002) *Making the Most of it. Economic Evaluation in the Social Welfare Field*, York Publishing Services Ltd, York.
- Verbakel E, Tamblagsrønning S, Winstone L, Fjær EL, Eikemo TA (2017) Informal care in Europe: findings from the European Social Survey (2014) special module on the social determinants of health, *The European Journal of Public Health*, 27, suppl_1, 90-95.
- Vo AT, Christie CA, Rohanna K (2016) Understanding evaluation practice within the context of social investment, *Evaluation*, 22, 4, 470-488.

Acknowledgments

The author thanks SPRINT partners for their support in finding existing studies and for comments to the first draft of the deliverable.



The SPRINT Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 649565

Where to
invest



TOOLKIT

sprint

Social Protection Innovative Investment
in Long-Term Care

SOCIAL INVESTMENT IN LONG-TERM CARE: A GUIDE TO ASSESSING IMPACT

ABOUT THE PROJECT

The Social Protection Innovative Investment in Long-term Care (SPRINT) project involves 12 European countries and has been funded by the European Commission. It investigated how long-term care for older, dependent people can be improved through new ways of funding and service development known as 'social investment'. Further information and useful publications are available at <http://sprint-project.eu>.

ACKNOWLEDGEMENT

The SPRINT project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 649565.

Copyright: Roskilde Universitet, Denmark

Citation: Greve B, Pike L and the SPRINT Project (2018) *Social Investment in Long-term Care: A Guide to Assessing Impact*, SPRINT, Brussels

1. ABOUT THIS RESOURCE

This resource is an output of the SPRINT (Social Protection Innovative Investment in Long-term Care) project. It outlines the factors to consider when assessing the potential of social investment in long-term care and describes the principles and process of developing an impact map for stakeholders in the long-term care sector. Readers can use the resource to:

1. inform their decision making by examining the steps involved in assessing the case for different social investments in the long-term care sector
2. develop their understanding about the types of data they will need to collect or access to measure the impact of social investments
3. understand the challenges and complexities of evaluating whether different social investments in long-term care are a good investment.

WHO IS THIS RESOURCE FOR?

This resource is aimed at decision makers across European countries interested in taking a broad, social investment approach to long-term care resource allocation. The primary target group of the tool are policy makers, but its key messages should also be useful for service commissioners, providers, employers and the voluntary sector.

INTRODUCTION TO SOCIAL INVESTMENT IN LONG-TERM CARE

Across Europe there is an increasing focus on the evaluation of welfare state activities and interventions to ensure that resources are used in the most effective way. The social investment approach contributes to this evaluation effort by providing a framework which takes into account the full set of outcomes and costs across society associated with long-term care investment decisions.

Social investment refers to an analytical and decision making process that results in the provision of resources to activities which strengthen people's current and future capacities, and in doing so reflect the full set of impacts that such investments might have across society. It aims to generate individual or social (public) benefits, and as an approach it can contribute to addressing the challenges of Europe's aging population. It is also referred to as 'socially responsible investing', 'social impact investment' or 'impact investing'.

Long-term care refers to 'the organisation and delivery of a broad range of services and support to people with a reduced degree of functional capacity, physical or cognitive, and who are consequently dependent for an extended period of time on help with basic activities of daily living'. Here the focus is on those above the age of 65.

Using a social investment approach in long-term care can have many benefits. It can help ensure that workforce and labour resources are used efficiently, while ‘enhancing and maintaining capacities and independent living of older people and simultaneously guaranteeing equity, well-being and quality of life’.

In the long-term care area, the social investment approach assesses welfare expenditure and policies in terms of a broad set of outcomes generated including whether they:

- generate equitable access to care to meet the needs of ageing populations
- reduce current and future costs of care
- improve quality of care and quality of life
- increase capacities to participate in society and the economy
- promote sustainable and efficient resource allocation.

Long-term care examples of social investment includes activities that promote active aging, prevent need for care, and maximise the efficiency of use of care resources. Such activities might include rehabilitation, re-enablement, and ‘welfare’ or ‘assistive’ technology, which encompasses interventions such as robots, sensors, GPS and communication technology.

OUTLINE OF CONTENTS

This document outlines a seven-step process for assessing social investments in long-term care supported by the development of an ‘impact map’ (see Section 2). We begin by outlining the process in full, and then expand on each step in later pages.

Throughout the tool, we include reflective points for readers to review how the information presented relates to their own context. Answering these questions might require group discussions with relevant stakeholders. Many of the judgements required do not have right or wrong answers, and depend on the perspective of the ‘social investor’. We have signposted to other useful resources to help you manage this decision-making process.

WHAT IS NOT INCLUDED IN THIS RESOURCE

This resource does not recommend specific investments in long-term care. This is because of:

- the limited evidence about the impact of social investments within long-term care
- the difficulty in generalising findings across countries, interventions and contexts
- the subjective nature of the judgements about the importance of different outcomes, which depend on the perspective of the 'social investor'.

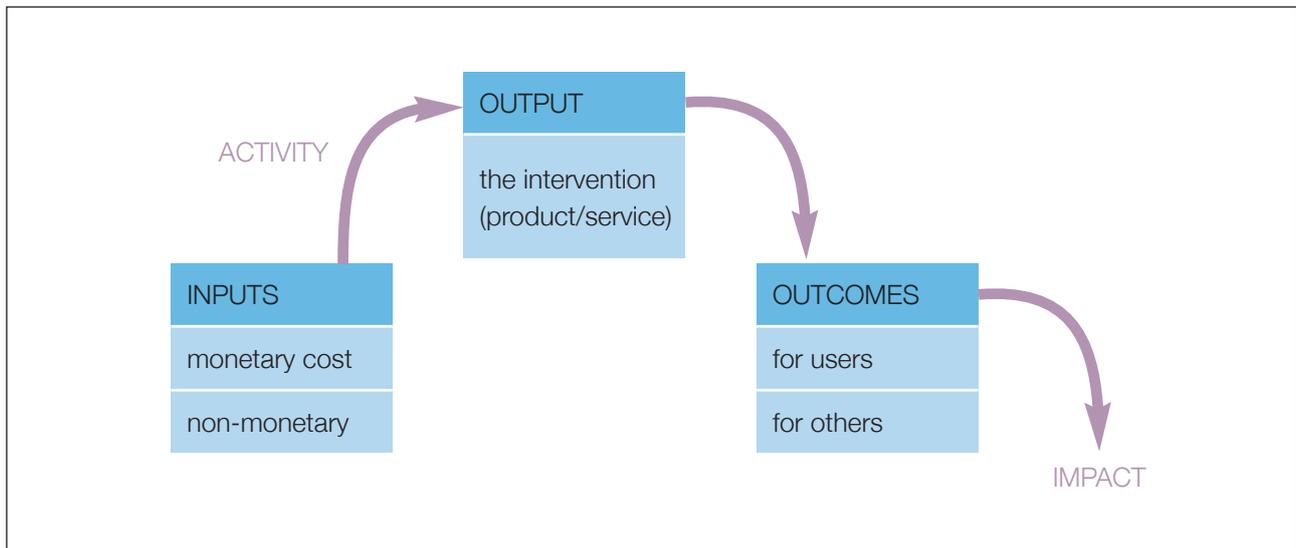
Social investments usually involve interventions based in complex systems which are organised differently across nations, regions or even localities. The social, political, environmental and other contexts in which they are implemented will influence the effectiveness and value attached to different long-term care investments, as will the individual circumstances of the people targeted by the intervention. For this reason, we outline in this tool guidance about the process for decision makers to conduct calculations relevant to their own context, rather than attempting to provide overall judgments about the cost-effectiveness of different interventions from a social investment perspective. We do, however, cite research studies that have provided relevant evidence for addressing long-term care interventions.

Please see the SPRINT website for other resources that look at these issues in more detail (<http://sprint-project.eu>).

2. WHAT IS AN IMPACT MAP?

An impact map aims to describe how a social investment in an intervention leads to an impact, by outlining the expected chain of events. Developing an impact map helps us to understand what to measure, by outlining the categories of data that an evaluator will need to collect to measure the impact of a social investment.

Below, we outline the key relationships that need to be reflected when developing an impact map.



An impact map details the following components:

Inputs: the resources that provide a basis for an investment. This can include monetary as well as non-monetary resources, such as professional expertise and close and empathetic relationships between staff and cared-for persons.

Output: 'The goods or services produced by agencies' or 'the tangible and intangible results that result from project activities' such as a reablement session, or a residential care bed. Combinations of inputs are therefore put together to produce a certain volume of outputs.

Outcome: The changes of value in their own right resulting from outputs such as improvements in the quality of life of the person cared-for, their carers, improvements in equity and efficiency in the care system, economic growth etc. These outcomes can be intended (expected), unintended (unexpected), and be positive or negative.

3. SOCIAL INVESTMENT IN PRACTICE

When making decisions about social investments, the following questions should be considered:

IMPACT MAP



1

WHAT IS THE
NEED FOR LONG-
TERM CARE?

REFLECTIVE POINT

Are the needs of your population mapped in national/local surveys?

Do you have information about key areas of unmet needs?

REFLECTIVE POINT

Could you collect information about needs from older people and their families or informal carers?

Needs relate to situations in which the negative consequences of mental or physical dependency or the risk of developing such a dependency might be addressed through long-term care investment.

Ideally, needs should be defined at the individual (micro) level, but might be aggregated to the population level for planning purposes. You will need to consider who your target population is.

The need for long-term care will vary across and within countries, due to differences in the role played by the state in meeting care needs, and due to the prevalence of physical and mental health problems linked to the need for long-term care support.

Need is also subjective; people can have different perceptions of what they need and what they can do themselves. People who may need care and support, informal carers and policy makers might have different perceptions of the size and urgency of the need, and this should be included in activities to scope need.

Needs may include issues such as:

- managing chronic illness
- fall prevention
- improving social participation
- improving wellbeing
- living well with dementia
- supporting individuals with higher dependency
- supporting individuals with depression
- improving management of medication
- supporting those with physical dependency.

CARRYING OUT A NEEDS ASSESSMENT

You may wish to carry out a thorough needs assessment to identify needs within your own contexts. To do this, you could look at:

- Socioeconomic and demographic indicators collected at the local, national or European level that might be relevant for you. You will need to consider their relevance and coverage for your particular needs assessment
- Organisation/service data gathered by service delivery organisations. You will need to consider the population covered, the types of data collected and the quality of the available data for your particular needs assessment
- Surveys and censuses could contain some useful data but it is likely to be limited
- Key stakeholder surveys or interviews could provide a means of collecting data on needs. You will need to assess the quality of each stakeholder's knowledge and any balance for any bias' they may have in the outcome of your assessment. This could provide access to data from stakeholder organisations to strengthen your needs assessment.

It will be important to use sufficient data sources to allow for a robust needs assessment. This will be dependent on what existing data is available to you and the resources you have available to carry out any further data collection.

Source: <http://innosi.eu/wp-content/uploads/2017/09/WP4-Case-Study-guidance.pdf>

2

HOW CAN THE
NEED BE MET?

REFLECTIVE POINT

Choose one need that is prevalent in your area. What are the possible social investments that could be used to meet that need?

Creating an impact map can help you to evaluate the relative cost-effectiveness of different approaches. Engagement with key stakeholders will be useful when considering possible approaches.

For example, needs around loneliness could be met by:

- improving access to transport
- providing robot pets
- encouraging employers to provide flexible working opportunities for informal carers
- providing improved access to information technology
- funding a scheme to signpost people to appropriate community support and networks.

The approaches will have varying costs and benefits for different stakeholders, and these will need to be balanced against each other to decide on which option to take. The decision will also be dependent on the available financial resources.

Scoping the options for meeting the need will help you decide what the new investment should be compared with (for example, an existing service). Scoping should also include how the need is currently being met. The costs of informal care, public care or equipment / machines already providing support to the person, as well as alternative social investments, should all be considered.

When you have decided on which interventions you would like to consider, note these as individual 'outputs' on your impact map.

Steps 3 to 6 should be repeated for each option, before decisions about future investments can be made. You will also find it useful to revisit Step 2 after Step 3 as your research may identify additional interventions or approaches that could help to meet your identified need.

3

WHAT EVIDENCE IS AVAILABLE?

REFLECTIVE POINT

How do you currently access up-to-date research findings?

What resources are available for you to use?

Impact is dependent on context and will vary across countries and over time. Research and organisational audit evidence of impact of interventions can be used to help predict the outcomes of investments.

Find out the best place to access evidence in your context, and review it to find out whether there is a known effect of the intervention (and what factors make it likely to succeed).

Randomised controlled trial studies can provide robust evidence, but if they are not available, look for studies in a context as close to your own as possible. Small scale studies to test an intervention can provide valuable information. You may be able to contact researchers in your area, and request that they signpost you to the most relevant information.

Questions to ask could include:

- Will the intervention reduce or delay the need for informal or public care?
- Is it likely to improve the person's quality of life?
- How long is it likely to provide a benefit for?
- What is the impact on care workers?
- Might costs be reduced over time?
- What are the running costs?
- Has the cost/benefit been demonstrated?

FURTHER READING

The SPRINT study has produced a summary of 37 research papers related to social investments in long-term care
www.lse.ac.uk/pssru/assets/documents/SPRINTD5.3EvaluationsOverview.pdf

EXAMPLE RESOURCES:

European Commission website on Long-term Care:
<http://ec.europa.eu/social/main.jsp?langId=en&catId=792>

OECD:
www.oecd.org/els/health-systems/long-term-care.htm

International Long-Term Care Policy Network:
www.ilpnetwork.org

4

WHAT ARE THE COSTS OF MEETING THE NEED?

REFLECTIVE POINT

Are there any additional costs to those listed that you would need to account for when costing a specific social intervention in your area?

REFLECTIVE POINT

What non-monetary costs would you need to account for when costing the inputs for a specific social intervention in your area?

In developing your impact map, you will need to think about inputs. These include the monetary cost of the potential interventions you are considering and the non-monetary resources you will need to provide to deliver these interventions.

MONETARY COSTS OF THE INTERVENTION

All relevant cost data of a social investment should be included. In principle, only additional costs to what would be spent in the absence of the intervention should be included.

Cost estimates should be as up-to-date as possible. Technology tends to become cheaper over time, and other costs fluctuate; using the most up-to-date cost estimates will make your impact map more accurate. Part of this calculation might require applying a discount rate (an interest rate used to convert a future income stream to its present value). This accounts for changes in the value of currency over time. See Section 5 for a worked example.

The data you chose to include should be clearly described, including a description of any uncertainty surrounding it. For example, the cost of an annual service might depend on the supplier; and so you may want to use costs at the higher end of the spectrum to allow for a more conservative assessment of its benefit.

Examples of the kinds of costs you should consider include:

- Setting-up costs
- Operating costs for maintaining the intervention
- Personnel (direct).

NON-MONETARY RESOURCES

Non-monetary resources refer to resources that have no direct cost to the welfare state. This may include, for example, support and time from informal carers, or voluntary support from NGOs or charities where there is neither a private nor a public payment.

Non-monetary resources and impacts could be recorded using qualitative data, for example, using feedback from older people, informal carers, or care workers.

When you have your cost data, add this to the inputs section of your impact map.

5

WHAT ARE THE OUTCOMES OF MEETING THE NEED?

Your impact map should include evidence about the effect on the targeted group of your intervention. These outcomes might be expressed in monetary or non-monetary terms.

For monetary outcomes, you will need to base the analysis on clear assumptions about the monetary value of outcomes and may wish to use a combination of conservative and optimistic assumptions.

Outcomes can theoretically be monetised (such as quality of life for older people or their carers, or independence), however so far no solid data for doing this is available, and there is a need for further research. These may need to be described in words, rather than expressed with numbers. A good understanding of the measures used in the research (Step 3) will help you decide on what measures to use in your own impact map.

STAKEHOLDER PRIORITIES

Different outcomes will be prioritised by different stakeholders. People who receive an intervention are more likely to focus on the impact on their wellbeing, quality of life, ability to live independently and/or how they manage their care needs; funders may focus on the economic return from an investment and so might also focus on outcomes such as the impact the cost of supporting people with care needs; informal carers are likely to prioritise the impact on personal connections, employment and wellbeing. The SPRINT project identified the following possible outcome criteria for social investment in long-term care through stakeholder workshops:

Economic return:

- Value for money
- Increased participation in the labour market
- Reduction in poverty
- Reduction in public sector spending
- Profit for a private investor

Wellbeing-related impacts:

- Improvements in physical, psychological and cognitive health, or avoiding further deterioration
- Improved quality of life
- Meeting care needs
- Ability to live independently
- Improvements in subjective wellbeing, such as feeling: in control, appreciated, connected to others and happy.

You should identify the priorities for your impact map and collect outcomes data specific to these.

FURTHER READING

Greve B, et al. (2018) *Social Investment Criteria in the Field of Long-term Care*, SPRINT Project, Brussels.

REFLECTIVE QUESTIONS

List the stakeholders who are likely to have a view on the value of your social investment.

What measure of impact is each stakeholder likely to prioritise?

How will you decide how much weight to give the opinion of each stakeholder?

SOCIETAL IMPACTS

Societal outcomes refer to macro/strategic goals such as improving fairness in the allocation of support or productivity and economic growth. They can include things such as:

Increased labour supply: supporting unpaid carers to return to work could increase economic productivity, and this in turn can generate benefits across society.

Equity and efficiency: it is important to ensure that resources are being used in the most fair and efficient way. Social investments should promote equity of access to support. Care could be taken that measurements of impact include the demographics of people who benefit, to understand how benefits are distributed throughout the target population.

COLLECTING YOUR OUTCOMES DATA

In order to complete this step of the impact process, you may need to collect your own data for the specific outcomes you identify. In the first instance you should revisit Steps 2 and 3 to identify studies, existing evidence and data you can use to populate your impact map focusing on the specific target population and intervention(s) you are exploring. The evidence you use should include baseline information (i.e. before the intervention took place) and comparison with post-intervention data to show the impact of your chosen interventions.

When you have your outcomes data, add this to the Outcomes section of your impact map.

6

DO THE BENEFITS OUTWEIGH COSTS

REFLECTIVE POINT

The values given to different types of metrics need to be considered. For example, what level of financial return on investment would be acceptable for a small improvement in quality of life?

FURTHER READING

Further information and a comparison of approaches and instruments is set out in Richards A et al. (2018) *Feasibility Framework Tool for Social Investment*, SPRINT Project, Brussels.

The next stage in your impact map is to value your inputs and outcomes to determine the impact of your intervention.

By giving a monetary value to the 'inputs' and 'outcomes', we can find out whether an investment was cost-effective. However, there are challenges in giving monetary values to many important outcomes, and different stakeholders will value things differently; for example, commissioners may place a higher value on cost effectiveness, while carers and older people may place a higher value on the impact on wellbeing.

It can be useful to place a monetary value on inputs and outcomes to provide a common unit of measurement which allows us to assess whether benefits outweigh costs. There are some approaches available to monetise outcomes, but doing this can be very challenging as there is no universally accepted method at this point.

An example is the cost of informal care, which is very difficult to quantify in monetary terms. One way to measure the cost of informal care support is to estimate its *opportunity cost* – how much someone would have earned in the labour market had they not been caring? As a decision maker, you will need to decide whether to apply this calculation to all informal carers, as a significant proportion might have left the labour market. Another approach is to value informal care inputs in terms of their *replacement costs*, the cost of substituting the informal care provided using formal care workers.

Another important outcome evidence for the analysis will be quality of life outcomes data. Quality of life, also termed wellbeing, usually includes three broad domains: physical, psychological and social. Subjective data on quality of life in long-term care can be completed by the older person themselves where possible, or carers, relatives or other proxies where the person does not have capacity to respond.

Quality of life is difficult to measure in monetary terms. Qualitative studies on quality of life can be important sources of information to include in an analysis to gather your own data, you could for example undertake interviews with older people who have used a social investment to find out if it has made a difference to their life.

Being transparent about what is or is not included in calculations, and the assumptions you have used for your calculations, is important.

7

**COMPARE
DIFFERENT OPTIONS**

The final step in the impact process is to compare (where relevant) information about the different options available. Where a choice has to be made between different approaches, a framework should be developed to score different approaches. It is likely that different options will not be equally effective at producing the different outcomes considered. Unless all outcomes can be expressed in the same unit (for example, money) in such cases it will be necessary to develop a process for comparing the value of different outcomes. This might involve consultations with relevant stakeholders. Having an explicit way of comparing outcomes will be important in terms of:

- transparency
- accountability
- good decision making.

WAYS TO COMPARE DIFFERENT OPTIONS

There are a number of methods that can be used to compare different options. As noted above, one option is to associate a monetary value to the different outcomes. Doing this has the advantage that it allows the value of outcomes to be compared against the intervention costs, and therefore to establish whether the intervention produces a net gain. The monetisation of outcomes, however, can be very challenging, and not always in practice possible for all outcomes.

The chosen method will vary in particular depending on the strategy used for getting an overall valuation of outcomes. It will be for you to assess the method that is most suitable for your context and the data you have available to you.

Social Return on Investment (SROI)

SROI proposes one of a number of possible frameworks for comparing the costs and benefits of different long-term care interventions. It is broadly based on economic evaluation methods, and embodies seven principles placing the experiences of stakeholders at the centre of the evaluation of the results of activities.

FURTHER READING

Further details of each type of analysis are provided in the SPRINT project Glossary (pages 7–9) at <http://sprint-project.eu/wp-content/uploads/2015/12/S-PRINT-Glossary-1-3.pdf>.

FURTHER READING

Further details of the SROI approach are provided in the SPRINT project Glossary (pages 18–19) at <http://sprint-project.eu/wp-content/uploads/2015/12/SPRINT-Glossary-1-3.pdf>, and are further illustrated in Richards A et al. (2018).

4. ISSUES TO CONSIDER

RESOURCE REQUIREMENTS TO PREPARE YOUR IMPACT MAP

It is important to consider that you will need to consider the resource requirement in preparing your impact map. This will include staff time to identify evidence, costs and outcome data. It may also include resources to engage with stakeholders for their inputs into the process, and to think about any resources where data might need to be generated.

DATA AVAILABILITY

Access to data and solid data can be a problem when trying to estimate the impact of a social investment in long-term care. Data might be sketchy for a variety of reasons. It can be that there are only very few observations, no clear information on what would have happened if the intervention did not take place (for example, no control group). There may be no data available because the initiative is new or has not been trialed before. It could also be the case that what is possible in one geographical area might not be possible in another geographical area, or even within the same country.

CAUSAL LINKS

It is useful to note that some social investments in long-term care will be difficult to recognise as such and even harder to measure. For example, campaigns to reduce smoking or alcohol consumption, or promote exercise earlier in life can reduce later spending on long-term care – but demonstrating a causal link is difficult. Interventions with a more immediate impact will be easier to evaluate. For example, some studies show that preventative home visits and re-enablement can have a positive impact on disability.

TIMEFRAME FOR IMPACT PROCESS

A key decision when assessing possible social investments in long-term care is the length of time that should be considered. The chosen timeframe should reflect:

- The useful life of the intervention. Aids and adaptations to people's homes, for instance, are likely to be useful over several years.
 - The availability and reliability of evidence about long-term effects. It might be difficult to establish the effect of interventions after a long time has elapsed, for instance because of the many other changes that might take place in the care system.
 - The policy time horizon. The value of gains in outcomes will reduce as they take longer to be realised. Policy considerations might even disregard significant outcome gains if these take place in the too distant future. This factor can be included explicitly in the analysis by applying a time discount factor which reduces the value of benefits and costs over time.
-

Choosing an appropriate time horizon for the analysis will be particularly important when examining preventative interventions, which typically are characterised by an initial investment (and associated cost) which it is hoped will improve future needs (or reduce the risk of deterioration in needs) and lower future costs. Selecting a sufficiently long time-frame is therefore essential to assessing the cost-effectiveness of prevention strategies.

5. WORKED EXAMPLE: THE CASE FOR INVESTING IN HOISTS

<p>1 What is the need for long-term care?</p>	<p>Rates of musculoskeletal problems are very significant among care workers. International epidemiological studies suggest that low-back problems have a point prevalence of 17%, an annual prevalence of 40–50% and a lifetime prevalence of 35–80%¹. Back pain is, after the common cold, the most frequent cause for sick leave among nurses². An important cause of these problems are injuries associated with heavy lifting, in particular when helping dependent people to transfer in and out of bed.</p>
<p>2 How can the need be met?</p>	<p>Reducing the risk of back injury to workers when assisting people transferring in and out of bed often requires more than one worker. Equipment such as hoists provide an alternative solution by helping to transfer somebody with limited mobility without putting undue strain on the carer or the person being moved. They can be fixed to the ceiling and operate along tracks (these are usually easier to operate, and particularly suitable for longer transfers) or can be portable (most suitable when a hoist is required for a short period of time). Using equipment such as hoists is potentially safer and more cost-effective in the long-run because they reduce the need for multiple workers to support the dependent person.</p>
<p>3 What evidence is available?</p>	<p>Ideally, systematic reviews would be identified, as they provide a summary of the evidence published in the area. With regards to the use of hoists, a number of reviews exist describing the effectiveness and cost-effectiveness of equipment for supporting dependent people transferring in and out of bed³. Generally, this evidence suggests that hoists decreased musculoskeletal injuries and physical stress for care-givers. Given the heterogeneity of the interventions and of the care systems explored in the literature, the review evidence could be complemented with a small-scale pilot study in a few institutions to test whether expected outcomes of hoists were replicated locally.</p> <p>The evidence identified would be used to carry out the analysis of costs and benefits in Steps 4 and 5.</p>

1. Hignett S (1996) Work-related back pain in nurses, *Journal of Advanced Nursing*, 23, 6, 1238–1246.

2. Siddharthan K, Nelson A, Tiesman H, Chen F (2005) *Cost Effectiveness of a Multifaceted Program for Safe Patient Handling, Advances in Patient Safety: From Research to Implementation (Volume 3: Implementation Issues)*, Agency for Healthcare Research and Quality, US. Available at: www.ncbi.nlm.nih.gov/pubmed/21250002

3. See for example: Alamgir H, Li OW, Gorman E, Fast C, Yu S, Kidd C (2009) Evaluation of ceiling lifts in health care settings: patient outcome and perceptions, *Aaohn J*, 57, 9, 374–380; Jung YM, Bridge C (2009) The effectiveness of ceiling hoists in transferring people with disabilities, *Evidence Based Research*; Nelson A, Baptiste AS (2006) Evidence-based practices for safe patient handling and movement, *Orthopedic Nursing*, 25, 6, 366–379.

4 What are the costs of meeting the need?

Possible costs involved in the provision of hoists include the cost of the hoist itself, maintenance costs (for example covering regular repairs and inspections), installation costs, any training costs for the care workers or carers using the hoist, and the cost of the time of the person operating the hoist. Some of these costs will be a one off, and some will be ongoing over time.

The table below summarises figures from an evaluation of ceiling hoists in Denmark⁴.

Expected cost and benefits by investing in a ceiling hoist (Danish Kroner)

Expected cost and benefits	Year 0	Years 1–7 (per year)	Total
Project costs			
Wages (project management)	206		206
Ceiling hoist and installation	33,650		33,650
Wages (introduction)	312		312
Total project cost	34,168		34,168
Running costs			
Repair and maintenance	636	636	5,089
Continuous training	143	143	1,143
Total running cost	779	779	6,232
Reduction in cost to wages	30,607	30,607	244,854
Cash flow	-4341	29,828	204,454

Source: Adapted from Andersen (2016), p. 155.

In this example, project costs are dominated by the cost of the equipment itself. Once the equipment is installed, Andersen found that labour costs of helping individuals transferring in and out of bed would be significantly reduced. The calculations assume a 7-year timeframe.

4. Andersen D (2016) 'Velfærdsteknologi i plejeboliger'. Available at: www.forskningsdatabasen.dk/en/catalog/2353728871

<p>5 What are the outcomes of meeting the need?</p>	<p>The following types effects associated with ceiling hoists:</p> <ul style="list-style-type: none"> • Physical stress of care-giver, including musculo-skeletal injuries • Improvement in care-givers' comfort and satisfaction • Absence from work and job satisfaction • Safety and comfort of the care-recipients • Dependency on care-giver (numbers of carers required) • Transfer time.
<p>6 Do the benefits outweigh the costs?</p>	<p>Once the costs and the benefits of hoists are established, we need to judge whether benefits are likely to outweigh costs. The results by Andersen (2016) in the table above suggest that the introduction of hoists would lead to significant reductions in labour costs, and in a net reduction in overall support costs.</p> <p>Whereas it is difficult to monetise the value of the changes in non-labour related benefits introduced by hoists, they are generally positive or not significant. Together with the net reduction in costs outlined above, the positive effects on outcomes of hoists therefore suggest that the introduction of hoists would generate a net positive social benefit and therefore represents a cost-effective social investment.</p>
<p>7 Compare different options</p>	<p>The analysis above has been simplified for the sake of clarity of exposition. In 'real life', for instance, different types of hoists would need to be considered and compared against each other.</p> <p>Such comparisons could highlight trade-offs between increases in costs and improvements in outcomes which would require subjective judgements to be made by the relevant decision-makers about society's willingness to pay for improvements in different outcomes.</p>

5. CONCLUSION

Social investments have the potential to prevent or delay need for long-term care. This is a priority policy area for many countries in Europe due to changing demographics. By developing our understanding of how to measure the impacts of social investments, we will be able to make better decisions about which products or resources to invest in. This should result in maximising both cost-effectiveness, and positive impact on wellbeing for older people, informal carers, and paid carers.

This guide has hopefully provided a starting point for many stakeholders in understanding the key things to consider when developing ways to measure the impact of your own social investments. This is a complex area, but further resources are available to help. Please see the SPRINT project website to find out more.
