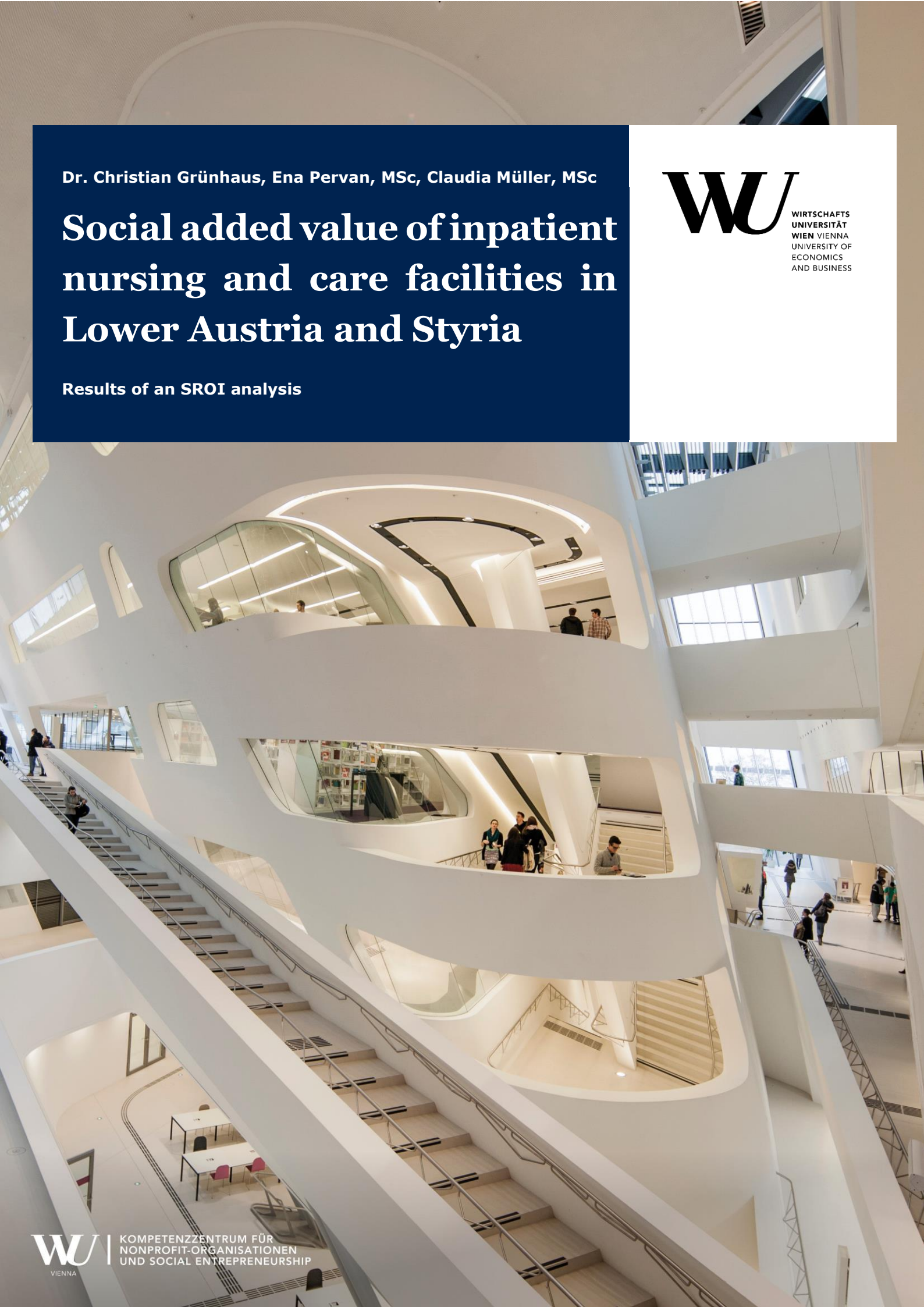
Dr. Christian Grünhaus, Ena Pervan, MSc, Claudia Müller, MSc

Social added value of inpatient nursing and care facilities in Lower Austria and Styria

Results of an SROI analysis

WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS



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KOMPETENZZENTRUM FÜR
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PRELIMINARY REMARK

The present study was carried out the Competence Center for Nonprofit Organisations and Social Entrepreneurship of the Vienna University of Economics and Business (WU) on behalf of the Federal Association of Retirement and Nursing Homes in Austria. The study uses the method of Social Return on Investment (SROI) analysis.

The results are based on data obtained through interviews and quantitative data collection. In this context, we would like to thank all those who contributed to this project, especially the residents of the retirement and nursing homes, with whom we had very extensive discussions in the course of the semi-structured qualitative interviews and who gave us an exciting insight into their everyday lives.

To all representatives of the sounding board, including, in alphabetical order, Mr. Bernreiter, Mr. Dirnberger, Mr. Glaser, Dr Hartinger, Mr. Hauk, Mr.Kabas, MBA, Mr. Kahr, Ms. Kühlmayer-Trittner, Mr. Mattersberger, MMSc, MBA, Mr. Pavlecka, Ms. Schmid, Mr. Schwarz, Mr. Stockinger, Mrs. Strempfl, BA MA, Mr. Wallner, Mr. Wieczorek, Mrs. Winkler, BA MA MSc and Mr. Winkler, MBA: we would like to thank you all for the always productive cooperation in a pleasant atmosphere.

Mrs. Reinisch-Gratzer, Mrs. Ambrosch and Mrs. Millner-Kurzbauer also helped us with comprehensive data and information. Special thanks are due to Mr. Hauk from the social welfare department of the Province of Lower Austria for the provision of very comprehensive and complex data analyses. Dr. Huber has also supported us in this study, for which we would like to thank him.

Last but not least, thanks are due to all the interviewed employees, relatives, suppliers, representatives of mobile services and the public sector for the informative interviews.

Without the contribution of all these people, this study would be of significantly poorer quality.

On the part of the authors it was an exciting and insightful project. It is always a pleasure to carry out projects in the field of long-term care and support. Once again, the diversity of data and data sources was a challenge for the authors, which sometimes showed inconsistencies on closer analysis. However, mastering these challenges also enriched everyday work.

The present English version of the study report is based on the German version published in May 2014 and is essentially a translation of the study at that time. Slight adaptations and adjustments were made as well as an update of the literature in some cases. Christian Grünhaus, former co-author of the German study and report under his former name Schober is now responsible for the English report. In this context special thanks to Julia Sorko for her extensive support with the translation.

Vienna, 19 March 2021 / March 2014

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

AMS	Austria's Employment Office
RNH	Retirement and nursing home/s
DGKP/S	Abbreviation for the German term for certified, trained nurse (f/m)
HH	home help
N/A	not available
CH	care helper PHP maintenance helper
SROI	Social Return on Investment
PT	part time
FTE	full-time equivalent

EXECUTIVE SUMMARY

The NPO & SE Competence Centre of the Vienna University of Economics and Business (WU Vienna) was commissioned by the Federal Association of Retirement and Nursing Homes in Austria to analyse the social and economic impacts of inpatient nursing and care facilities in Lower Austria and Styria. The observation period refers to the year 2013. In this English report, the results for Styria are presented in an abbreviated way in the summaries. The methodological approach was identical to Lower Austria.

The study was carried out by means of a Social Return on Investment (SROI) analysis, the aim of which is to record and assess the social added value created by the inpatient nursing and care facilities as comprehensively as possible. The method aims to measure not only the financial, but explicitly also the social impacts of the project. The present analysis is based on the German "Praxishandbuch Social Return on Investment" published by Schober/Then (2015). An updated English version is available since 2017 with the title "Social Return on Investment Analysis. Measuring the Impact of Social Investment", by Then/Schober/Rauscher/Kehl.

A key point is the identification of important stakeholders at the beginning. For each stakeholder group, the invested input is related to the achieved output, outcome and impact in an impact value chain. These hypothetically identified impacts are verified, quantified and finally, where possible and meaningful, monetised. In this way, the monetary value of the aggregated impacts can be compared to the total input available in monetary units. The resulting top indicator is the SROI value, which is a ratio indicator that shows how the monetised impacts are proportional to the money invested. A value of 1:2 signals twice as valuable social impacts as investments.

The following research questions were asked and answered within the framework of this study:

Research question 1: *"What impacts do the inpatient nursing and care facilities in Lower Austria and Styria have on the stakeholder groups?*

Research question 2: *"Can the impacts achieved in the context of inpatient nursing and care facilities be meaningfully and validly measured and monetised?*

Research question 3: *"What is the total monetised benefit of one euro invested in the Lower Austrian or Styrian inpatient nursing and care facilities?*

As an **alternative scenario**, it is assumed that there are no inpatient nursing and care facilities in Lower Austria or Styria. Residents would have to be accommodated in other care settings, if capacities are available. These would be mobile nursing and care services, assisted living, 24-hour care, nursing homes in neighbouring provinces, hospitals or the purchase of services on the market. Since not all residents could be accommodated elsewhere, relatives providing care would also have to take on increased care and support and/or the residents would be neglected or die earlier.

The study shows the wide range of tasks and activities performed by inpatient nursing and care institutions in Lower Austria and Styria. Furthermore, it identifies above all impacts for different groups that are in contact with the inpatient care and support facilities, so-called stakeholders. The following groups were identified as stakeholders: Residents, relatives, employees, volunteers, hospitals, the federal government, the province of Lower Austria and Styria, other provinces in Austria, social insurance institutions, the Austrian Employment Office "AMS", suppliers, general practitioners, owners, emergency services, trainees, landlords, trustees and the general population.

In the course of the study, it became clear relatively quickly that, based on the data for inpatient nursing and care facilities and available secondary data, it is in many cases possible to quantify and monetise the impacts in a meaningful way.

On the basis of the surveys and calculations carried out here, the total **monetised impact** for the year 2013 amount to **around 1.190 million euros for Lower Austria and 1.354 million euros for Styria**. This compares to **investments of around 406 million euro for Lower Austria and 459 million euro for Styria**. Comparing the total investments from 2013 with the sum of the monetised impacts, the **SROI value for Lower Austria is 2.93 while the SROI value for Styria is 2.95 euros. This means that each euro invested creates impact with a monetised equivalent value of 2.93 euros for Lower Austria and 2.95 euros for Styria.** The investments are thus returned around threefold as positive impacts on society as a whole

The most significant positive impact effects the **residents**, followed by the **hospitals. Both stakeholders account in sum for around 50% of the total impact.**

In summary, it is clear that inpatient nursing and care facilities have a very high impact in both federal states. The monetised impact of the organisations, related to the year 2013, were for Lower Austria and for Styria about 2.9 times as high as the financial investments made.

The following tables Table 0-01 and Table 0-03 present an overall view of the investments and profits (monetised impact) of inpatient care and nursing facilities in Lower Austria and Styria for the year 2013:

Table 0-012: Investments and monetised impact of inpatient care and nursing facilities - overall view of Lower Austria

Stakeholders	Investments		Monetised impact		Share of impact
Residents	Contributions to costs	€196.789.352	e.g. no risk of neglect, improved physical well-being, longer life expectancy, limited privacy	€ 336.100.966	28,2%
Hospitals	Referrals to RNH	-	e.g. fewer procuratio cases, less administrative work	€ 323.637.247	27,2%
Employees	Time, skills, acquired knowledge	-	e.g. employment and income, positive feeling (doing something good)	€ 100.644.842	8,5%
General population	Other income, donations	€ 15.266.505	Feeling of security	€ 100.152.340	8,4%
Relatives	-		e.g. improved relationship with relatives, less psychological and physical stress	€ 83.574.128	7,0%
AMS	-		Saving unemployment benefit	€ 59.201.970	5,0%
Social insurance institutions	Incontinence products and drugs		additional contributions, cost savings in the health sector	€ 55.461.330	4,7%

Federal Republic of Austria	Subsidies	€ 7.903.689	additional tax and duty revenues, saving on self-insurance premiums and subsidies for 24-hour care	€ 40.823.629	3,4%
Suppliers	Products / Services	-	Additional orders	€ 38.967.092	3,3%
Landlords	Provision of buildings for RNH	-	Rental income, rent increases, neglect of the property is prevented	€ 30.863.502	2,6%
Federal State of Lower Austria	Subsidies and payments for service agreements	€ 173.741.443	additional tax and duty revenues, savings on funding for mobile care services and 24-hour care	€ 6.028.532	0,5%
Volunteers	Time, skills, acquired knowledge		e.g. positive feeling, appreciation	€ 5.248.516	0,4%
trainees	Time, skills, acquired knowledge	-	e.g. know-how, greater awareness of the topic of ageing	€ 4.865.663	0,4%
Emergency organisations	-		Fewer missions	€ 3.641.105	0,3%
Trustees	management activities	-	Time saving	€ 678.549	0,1%
General practitioners	-	-	fewer house calls	€ 438.434	0,0%
Other federal states	Revenue from other welfare departments	€ 787.453	-	-	0,0%
Owners	-		financial loss; increase/decrease of reserves	-€ 89.753	-
SROI		**€ 406.143.623**		**€ 1.190.238.091**	**2,93**

Table 0-034: Investment and monetised impact of inpatient nursing and care facilities - overall view of Styria

Stakeholders	Investments		Monetised impact		Share of impact
Residents	Contributions to costs	€ 222.534.871	e.g. no risk of neglect, improved physical well-being, longer life expectancy, limited privacy	€ 475.302.303	35,1%
Hospitals	referrals to RNH	-	e.g. fewer procuratio cases, less administrative work	€ 252.914.605	18,7%
Employees	Time, skills, acquired knowledge	-	e.g. employment and income, positive feeling (doing something good)	€ 155.302.692	11,5%
Relatives	Revenue from persons liable for maintenance, heirs and third-party debtors	€ 19.656.384	e.g. improved relationship with relatives, less psychological and physical stress	€ 115.225.886	8,5%
AMS	-	-	Saving unemployment benefit	€ 74.378.913	5,5%
General population	Other income, donations	€ 389.401	Feeling of security	€ 73.042.234	5,4%
Social insurance institutions	Incontinence products and drugs	€ 21.566.255	additional contributions, cost savings in the health sector	€ 66.912.495	4,9%
Suppliers	Products / Services	-	Additional orders	€ 47.888.113	3,5%
Federal Republic of Austria	Subsidies	€ 4.384.141	additional tax and duty revenues, saving on self-insurance premiums and subsidies for 24-hour care	€ 46.483.176	3,4%
Landlords	Provision of buildings for RNH	-	Rental income, rent increases, neglect of the property is prevented	€ 25.109.492	1,9%
Province of Styria	Subsidies and payments for service agreements	€ 184.325.723	additional tax and duty revenues, savings on funding for mobile care services and 24-hour care	€ 6.806.454	0,5%

Trainees	Time, skills, acquired knowledge	-	e.g. know-how, greater awareness of the topic of ageing	€ 5.494.587	0,4%
Response organisations	-		Fewer missions	€ 5.192.305	0,4%
Owners	-		financial loss; release of reserves	€ 2.100.150	0,2%
Trustees	organisational activities	-	Time saving	€ 940.996	0,1%
General practitioners	-	-	fewer house calls	€ 625.218	0,0%
Other federal states	Revenue from other welfare departments	€ 5.715.568	-	-	0,0%
SROI		**€ 458.572.343**		**€ 1.353.719.617**	**2,95**

1 INTRODUCTION

1.1 INITIAL SITUATION

The NPO & SE Competence Center of the Vienna University of Economics and Business (WU Wien) was commissioned by the Federal Association of Retirement and Nursing Homes in Austria to analyse the social and economic impacts of inpatient nursing and care facilities in Lower Austria and Styria. Dr. Hartinger from the Geriatric Health Centres of the City of Graz as project initiator approached the NPO & SE Competence Center of WU Vienna with the request to calculate the social added value generated by the retirement and nursing homes in the two provinces.

In order to be able to measure, analyse and present the impact of the services offered in the desired breadth, it was decided to conduct a Social Return on Investment (SROI) analysis. The analysis was calculated based on data of the year 2013 with two SROI values as top indicators as main result. This key figure is based on a thoroughly complex survey and analysis of the impacts on the individual stakeholders.

In business administration, the calculation of KPIs to determine values is a common procedure. In order to be able to depict the entire field of activity as well as the generated social impacts of non-profit organisations, models have been developed which take into account social benefits in addition to economic ones. In recent years, SROI analysis has been increasingly used for this purpose, which attempts to make the social benefits of investments in organisations and projects quite comprehensively tangible and to monetise them to a large extent. The social return of projects and companies, or conversely, the social benefits of the stakeholders can thus be compared with the financial investments in an aggregated way.

In preparing the present report, the greatest importance was placed on thorough and extensive research and on taking into account the information available via scientific and grey literature as accurately as possible. However, due to the complexity of the field and the associated impacts, there is always the possibility that relevant aspects may have been overlooked. Therefore, if our esteemed readers are aware of relevant analyses, studies or data that have not been taken into account, the authors would be pleased to receive them or to be informed about them. In this way, future analyses can be refined.

1.2 INPATIENT NURSING AND CARE FACILITIES

Western societies already changed considerably in recent years regarding their age structure. Demographic forecasts clearly show that there will be a further increase in the number of old and very old people within the next 25 years. The increasing ageing of society is also accompanied by a rise in the number of people in need of care. The growing number of people in need of care is accompanied by a drastic increase in the demand for the provision of formal care systems.

The issue of care and nursing for the elderly is thus a central element of social policy, closely related to many other fields. These include the labour market participation of relatives of those in need of care. At present, about 80 percent of care and nursing services in Austria are still provided at home (Weicht 2013), among others by close relatives, with about 68 percent of these services being provided by women (Austrian Report on Long-term Care Provision 2013). It is also clear that the premise "mobile before inpatient" currently prevails. However, retirement and nursing homes fulfil an essential and irreplaceable function in the care of people in need of care. If care at home can no longer be provided due to a lack of a social network or

a lack of needs-based equipment, moving to a retirement and nursing home is often indispensable.

The quality of life of the person in need of long-term care depends strongly on the general conditions (equipment, residents, staff, etc.) in the respective institution (Horner 2011). Accordingly, an analysis of inpatient nursing and care facilities taking these framework conditions into account is important in order to make the overall social role of retirement homes and nursing homes visible.

Another important development that also brings about significant changes and developments for retirement and nursing homes is the significant increase in the number of residents with dementia. According to the current Austrian Dementia Report, the development in this respect is clear: in the upcoming years, Austrian society will have to prepare for an increasing number of people with dementia who will depend on care and nursing. It also shows that the majority of the dementia patients concerned are older than 80 years and are female (Höfler et al. 2014).

It is also predicted that caregiving by relatives will decline significantly in the coming years. This is mainly related to social developments: Due to demographic developments, the generation that sees itself as caring relatives will be numerically outnumbered in relation to those in need of care, which are mostly older people. In addition, the number of children per family has fallen sharply compared to previous generations. Moreover, the employment rate of women will continue to rise and those of men remain high, which will make it much more difficult to reconcile possible informal care and gainful employment. Increasing mobility also contributes to the fact that children and parents or other family members often no longer live in the same place, which makes the care of relatives in need of care significantly more difficult or impossible above a certain care level (Höfler et al. 2014).

Currently, the care landscape in Austria is very diverse. Depending on the need for care, there are different services and forms of housing. On the one hand, in-patient nursing and care facilities include long-term care, this is for people who need intensive care and support over an indefinite period of time. On the other hand, temporary stays are also offered, such as short-term care, which serves to relieve the caring relatives or to bridge the gap when informal carers are prevented by illness. Some people also use short-term care as a "trial stay" to familiarise themselves with everyday life at the nursing home. The duration of the short-term care stay is one to a maximum of six weeks and can only be used once a year. Another offer is transitional care which is used for a limited period of time with rehabilitation as the goal of care. This offer is intended to promote recovery after a surgery or serious illness in order to be able to live independently at home again afterwards. In addition, many retirement and nursing homes also offer so-called day care on an inpatient basis for people in need of help who are still living at home. Day visitors spend the night at home. This offer considerably relieves the burden on relatives providing care. The different offers of Austrian retirement and nursing homes, in combination with the semi-stationary and mobile services of care and nursing, offer the possibility for the persons concerned to find a suitable support for the respective situation.

In **Lower Austria**, **12.016 people** lived in retirement and nursing homes there in **2013**. However, about 500 persons (474 FTEs) with a psychosocial focus were excluded from the analysis. If the billing days performed in the course of 2013 are allocated to FTEs, this results in about **8.535 consistently occupied places** excluding psychosocial cases. In this federal state, the majority of residents are female (76%) and almost half of them, around 47%, are 85 years old and older.

In **Styria,** **13.273 people** were looked after and cared for in retirement and nursing homes in **2013**. If the number of billing days in 2013 is allocated from 4.344,220 to FTEs, this results in around **11.902 continuously occupied places** for 2013, with the majority, around 71%, of the residents being female and almost half of the residents (49%) being 85 years old or older.

1.3 AIM OF THE STUDY

The aim of the study outlined here is to present the social and economic impacts of the inpatient nursing and care facilities sector. A monetary assessment of the impacts is carried out. The monetised impacts are compared with the investments in the area of inpatient care and support in the sense of a **Social Return on Investment Analysis** (SROI analysis). The year 2013 is taken as the analysis period.

Research question 1: "What impacts do the inpatient care and nursing facilities in Lower Austria and Styria have on the stakeholder groups?

Research question 2: "Can the impacts achieved in the context of inpatient nursing and care facilities be meaningfully and validly measured and monetised?

Research question 3: "What is the total monetised benefit of one euro invested in inpatient care and support facilities?

Impacts that cannot be meaningfully monetised are listed as additional impacts. This leads to an underestimation of the impacts expressed in monetary terms. On the basis of the existing knowledge on the topic and the situation of people with care and support needs, it was already foreseeable at the beginning of the study that a large part of the impacts could be monetised, which was confirmed in the course of the study.

As an **alternative scenario**, it is assumed that the sector of inpatient nursing and care facilities, ceteris paribus, does not exist. The residents would have to be accommodated in other care settings, if capacities are available. These would include living alone and coping with this situation, living with relatives, buying care services privately, using other inpatient care and support facilities, getting an assisted living place, using 24-hour care, being accommodated in a hospital or in a nursing home in a neighbouring federal state. All those residents for whom none of the above alternatives are possible would subsequently fall into neglect or die earlier.

1.4 STRUCTURE OF THE REPORT

The introduction in Chapter 1 contains the initial situation, the description of the inpatient nursing and care facilities in Lower Austria and Styria and the objectives of the present study. Chapter 2 describes the methodological approach and explains the Social Return on Investment (SROI) analysis. Chapter 3 presents the scope of the analysis, the data collection and the stakeholders considered. The calculations are presented in separate chapters for each federal state. Chapter 4 contains the calculations for Lower Austria and Chapter 5 for Styria. However, the findings for Styria are presented only in short in the English version. These chapters form the core of the analysis and contain the analysis of the income and expenditure of the inpatient care and support facilities as well as the calculations of the impacts per stakeholder as required for a SROI analysis. For each stakeholder, the objectives or benefits, the impact chains and the calculations of monetised impacts are presented. Finally, the SROI value and a scenario calculation for both provinces are presented and a summary is provided. The summary of the entire study is finally drawn in Chapter 6. A list of sources and an appendix complete the study.

2 METHODOLOGICAL APPROACH

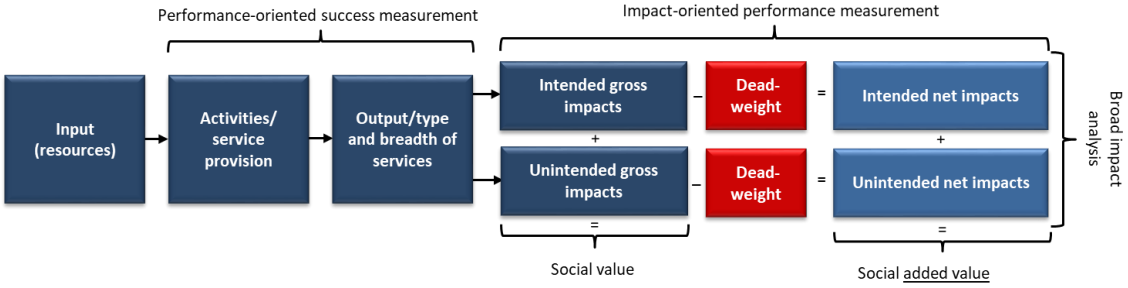
2.1 IMPACT ANALYSIS

Impacts, impact analysis, impact measurement and social impact are trending topics. As Schober/Rauscher (2014a) show, the topic of impacts and impact analysis is discussed in evaluation research, in the field of accounting, environmental and social impact assessment, NPO research, in connection with social entrepreneurship and with regard to the topic of Corporate Social Responsibility (CSR) or ethics in companies.

However, there are a number of analytical methods that claim to identify and/or measure and/or evaluate impact. Some of these methods come from completely different traditions or subject areas and therefore have different focuses in terms of content and concept. Grünhaus/Rauscher (2021: 64-70) provide an overview of selected methods.

Many methods and also the SROI analysis applied here are based on thinking in impact chains. One such chain of impacts is shown in the Figure 2-21below.

Figure 2-212: Impact chain



Source: Grünhaus/Rauscher 2021: 11

In order to achieve the mission, the resources (**input**) invested in the organisation will be used to regularly implement activities that produce **services** of various kinds. As a rule, services are not created as an end in themselves, but serve to achieve results that lead to benefits for different groups in society. These results can be intended and/or unintended outcome or impact. Impact thus unfolds from the provision of services. Services are upstream of impacts. The **output** represents the extent of the services provided. If the service is a counselling service for family carers, the output is the number of counselling hours.

In contrast, **outcome** is defined as those positive and/or negative changes that can be observed in beneficiaries or affected persons after the activity or service has been performed or consumed (e.g. people, groups, society) or in the environment. If the focus is on outcome, the situation becomes even more complex. Outcome can be intended or unintended. If outcomes are intended, i.e. essential for the desired success, they are planned, based on goal-oriented actions. If they are unintended, they may nevertheless be significant and have a positive or negative contribution on the overall impact of the activities or services carried out. This is of central relevance with regard to the type and breadth of any impact analysis. If the focus is only on intended outcome/impact, the approach is goal-based. This inevitably has a narrower focus and can only make statements on individual impact dimensions. Moreover, (impact) goals are usually established along desirable categories and negative impacts are consciously or unconsciously ignored.

Deadweight refers to those outcomes that would have occurred anyway, even without the concrete activities. In this context, evaluation literature also refers to the programme effect (Rossi et al. 2004: 207) or counterfactual evaluation. Consequently, effects that would have

happened anyway must be subtracted from the outcome in order to obtain the impact that is generated exclusively by the organisation or project. **Impact** means accordingly the added value created by the activities of the intervention.

Only if unintended and also negative outcome and deadweight are included in the analysis, a comprehensive assessment in the sense of an overall impact assessment can be assumed. A broad impact analysis therefore always includes an examination of intended and unintended impact. The SROI analysis is such a broad form of impact analysis.

The outlined impact value chain is established for each stakeholder of the analysed project, programme or organisation. This logical chain shows what a stakeholder invests in the organisation or project (input), what activities are carried out with these resources, what output is produced with them what outcome is realized and what impact is ultimately achieved for the stakeholder. The aggregated stakeholder impact value chains represent the impact model of the analysed organisation or project.

Impacts unfold as consequences of actions or services in many different ways. As a rule, they are not one-dimensional. For example, curing the illness of a particular person has consequences not only for the physical health of the person concerned but also economic and social consequences. There will be for example more or less follow-up costs in the health care system and the social contacts of the cured person will increase.

Impacts can thus be found in different analytical dimensions. At an aggregated level, these can be the following six dimensions (Grünhaus/Rauscher 2021: 25, Rauscher et al. 2015: 48):

- cultural
- political
- social
- economic
- ecological
- psychological and physiological

The identified impacts of NPOs or other organisations, companies or individuals can therefore be located in one or more of these content-related dimensions. The temporal and structural dimensions also play a role.

Social relevance is achieved when, as described in the previous chapter, the impacts either affect many individuals and thus become relevant by virtue of their breadth, or satisfy collective needs. In turn, core social impacts are likely to be achieved if they have a direct positive impact on widely accepted values or generally accepted norms (Grünhaus/Rauscher 2021: 16ff).

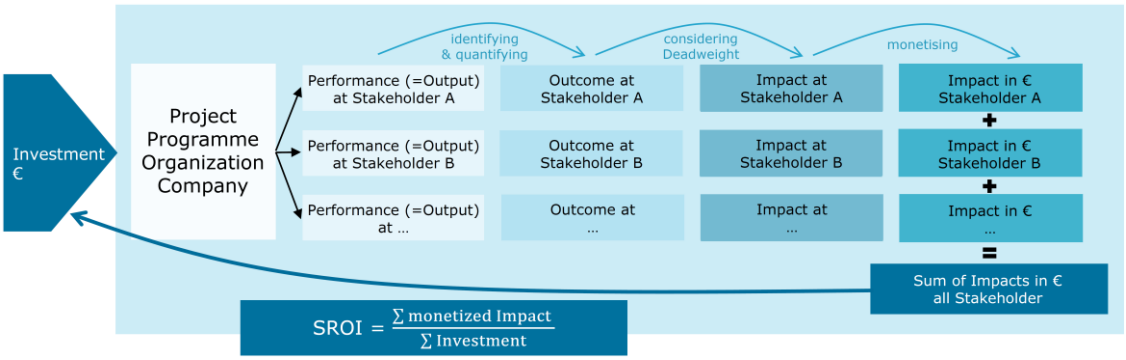
2.2 SOCIAL RETURN ON INVESTMENT ANALYSIS

The SROI analysis is currently the most widely used form of conducting a comprehensive impact analysis.

In the course of an SROI analysis, the impact model, i.e. the sum of the identified impact chains with causal relationships, is drawn up for a specific project, programme or organisation. In the specific case in question are the retirement and nursing homes in the federal provinces of Lower Austria and Styria. The identified impacts in the individual impact chains are quantified and, where possible, monetised. The SROI analysis essentially follows the approach of comparing the impacts expressed in monetary units with the capital invested there, where possible. The result is presented in the form of a highly aggregated indicator, the SROI value.

Here the focus is strongly on the stakeholders who receive a specific service or product which in turn triggers impacts. The following figure illustrates this basic relationship.

Figure 2-23: SROI analysis at a glance



Source: Then/Schober/Rauscher/Kehl: 15; Grünhaus/Rauscher 2021: 68

Specifically, a certain amount of money flows into a certain analysed organisation, here the retirement and nursing homes. These investments are used to provide services for different stakeholders, for example the residents or their relatives. However, the services provided are not an end in themselves, but make a difference. For example, the residents' health status improved and they have more social contacts. These outcomes must first be identified and are then quantified in the SROI analysis. It is therefore important to consider how many clients actually have a better health status.

The quantified outcomes are then evaluated in monetary units in an SROI analysis using a variety of methods. Schober (2015) and Then/Schober/Rauscher/Kehl (2017:229) provide an overview of common procedures. The model thus explicitly tries to include non-pecuniary benefits, such as the improved living situation due to the lower social exclusion of residents and the higher level of psychological well-being.

In principle, when identifying, quantifying and monetarising the outcome, it is always important to consider whether, in the event of the non-existence of the observed intervention, alternative options might not have existed that would have produced the same or similar benefits and outcomes. So if the retirement and nursing homes did not exist, would all residents really not have any of the identified outcome? Presumably, some residents would have been able to make use of alternative services. These people should thus not be included in the impact of the assessed nursing homes. On an aggregated societal level there was no added social value generated by the services of the nursing homes for these beneficiaries. By thoroughly considering this deadweight the SROI analysis focuses on impact and not just on outcome.

At the end of the analysis, once the impacts of all stakeholders have been identified, measured and monetised, they are added and compared with the resources invested, which are usually financial ones. Relating the sum of monetised impacts to the sum of financial investment results in the SROI value, which indicates the social return in form of added value for society.

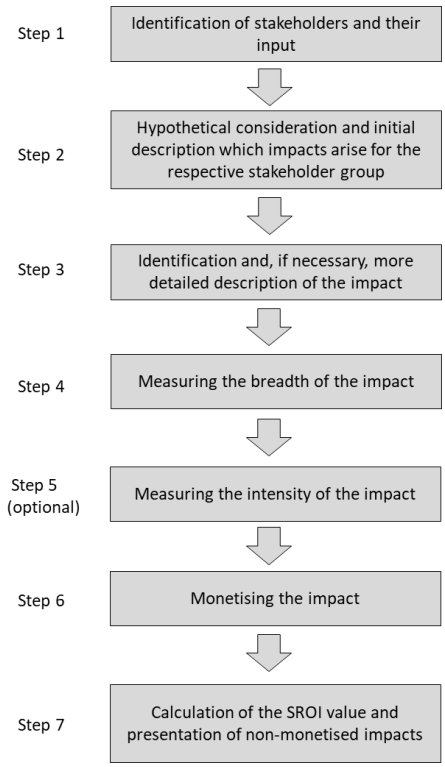
The approach of SROI analysis is similar to conventional cost-benefit analyses, which in some forms also represent benefits in monetary units (cost-benefit analyses, CBA). However, the SROI analysis is much broader and takes explicit account of the social impacts of a number of stakeholders, whereas CBA focuses primarily on individual impact dimensions and stakeholders. Usually it is the state and its savings or additional expenditure, which is in focus.

In summary, at the end of the SROI analysis there is a monetary value which indicates the sum of social value created. Related to the financial input the SROI

value shows as a ratio how much social return is generated by one euro invested in the inpatient nursing and care facilities.

The analysis proposed here is based on the following approach proposed by Then/Schober/Rauscher/Kehl 2017: 387; Then/Schober (2015: 221). This model focuses on the stakeholders and the impacts generated for them by the project. This entails the following:

Figure 2-45: Basic steps of the SROI analysis



Source: Then/Schober/Rauscher/Kehl: 2017:387

The SROI analysis is a strongly stakeholder-focused approach. Therefore the relevant stakeholders of the analysed project, organisation or company, here the retirement and nursing homes, are identified (see chapter 3.2) in a first step. Then, their input is determined. Next, hypothetically and on the basis of previous knowledge and existing literature, it is considered which positive and negative impacts could occur among the stakeholders. Qualitative surveys, often conducted by means of semi-structured qualitative interviews, are used to determine whether the presumed effects actually occur and what other impacts may exist in addition. In further steps, the outcomes and impacts are quantified and monetised. In order to measure and monetise, meaningful indicators are assigned to the outcome/impact and data is collected. In this step, verbally described impacts are "translated" into various indicators. So-called "proxy indicators or proxies" are frequently used, which attempt to quantify or monetise the outcome in an approximate way. Proxies are auxiliary constructions that measure and/or monetise the outcome or impact indirectly and as accurately as possible.

The type of quantification and monetisation used here is described in the relevant sub-chapter for the respective stakeholder. A large number of outcomes are quantified by the distribution of residents for alternative care solutions. The calculation of this distribution and its results is described in Chapter 4.2 for Lower Austria and Chapter 5.2 for Styria.

At the end of the SROI analysis, the monetised impacts are aggregated and compared to the input to show the SROI value. Non-monetised impacts are listed separately. The calculation of

the SROI value of the Lower Austrian nursing and retirement homes can be found in sub-chapter 4.20 and for Styria in sub-chapter 5.19.

A SROI analysis can be carried out as forecast or retrospectively as an evaluation. Since the observation period was set to 2013, an ex-post analysis in the sense of an evaluation was carried out. With regard to the data collection for the monetary assessment and calculation of the SROI value, data from this period (2013) were collected, wherever available. The decision for 2013 was made for reasons of timeliness and availability of data. The ascertained total monetised impacts of the stakeholders refer to this year only. If impacts are attributed to more than one stakeholder, as is the case here, for example, with improved social contacts with relatives, the impacts (outcomes) are attributed or shared with only one stakeholder in order to avoid inadmissible double counting.

3 SCOPE OF THE ANALYSIS

3.1 CONCEPTUALISATION

The present SROI analysis refers exclusively to the inpatient nursing and care facilities in Styria and Lower Austria. Whereby in this study the term "in-patient nursing and care facilities" is used synonymously with the term "retirement and nursing homes" (RNH). In Lower Austria, all those nursing homes that have their focus on psychosocial care were excluded from the analysis, as these residents benefit from different impacts than the "typical" residents of retirement homes and nursing homes.

The analysis period covers the year 2013, i.e. the total profit of the stakeholders determined only refers to this year. As far as the data collection for the monetary valuation and calculation of the SROI value is concerned, data from this period (2013) were collected.

If two or more stakeholders pursue at least partially the same objectives or are affected by the same impacts, the impacts were only be attributed to one stakeholder in order to avoid double counting.

Table 3-31: Extent of the SROI analysis

Subject of analysis	"Inpatient nursing and care facilities in Lower Austria and Styria".
Project Sponsor	Federal Association of Retirement and Nursing Homes in Austria
Duration of the analysis	8 months
Calculation period	1 year (2013)

3.2 IDENTIFICATION OF STAKEHOLDERS

As outlined in chapter 2.2stakeholder perspective is central to the SROI analysis, which is why the first step was to identify the key stakeholders for the analysis. This refers to all those groups that particularly benefit from the services and associated impacts of inpatient nursing and care facilities. The objectives of the stakeholders ultimately determine the success criteria for the SROI analysis.

After a review of the existing secondary material on the inpatient nursing and care facilities in Lower Austria and Styria, the relevant stakeholders were identified together with a working group of experts. In the course of the analysis, key stakeholders to be specifically included in the analysis were identified. These are shown in Figure 3-1 below.

Figure 3-31: Key stakeholders for the analysis

The reasons for the inclusion of the individual stakeholder groups are presented in condensed form in the following table. Chapters 4 and 5 describe the individual stakeholders in more detail.

Table 3-32: Included stakeholders

Stakeholders	Main reasons for inclusion (benefits)
Residents	Profit from professional care and support.
Relatives	Benefit from a reduction in the amount of nursing and/or care, as well as accommodation for their relatives.
Employees	Benefit from employment, income, and the knowledge of "doing something good".
Volunteers	Profit from the knowledge of "doing something good".
Hospitals	Benefit from a reduction in procuratio cases.
Federal Republic of Austria	Benefits from additional tax and duty revenues.
Federal State of Lower Austria/Styria	Profit from the fulfilment of the supply mandate.
Other federal states	Only considered on the input side.
Social insurance institutions	Profit from additional social insurance contributions.
AMS	Benefits from savings on unemployment benefits.
Suppliers	Profit from (additional) orders.
Doctors	Benefit from less treatment and organisational effort and fewer home visits.
Owners	Earn a profit or have to bear losses
Response organisations (Red Cross etc.)	Benefit from lower amount of emergency calls.
Trainees	Profit from know-how gain and the provision of an traineeship place.
Landlords and real estate investors	Profit from rental income, a possible rent adjustment and the prevention of properties becoming neglected.
Trustees	Benefit from less time needed.
General population	Benefit from a feeling of security with regard to your own provision in old age.

The benefits actually determined on the basis of the empirical surveys, quantification and monetisation are presented in detail in Chapter 4 for Lower Austria and Chapter 5 for Styria.

In general, in an SROI analysis, groups are also excluded from the analysis if the survey effort is too extensive in relation to the presumed benefit. This can be the case if conducting empirical surveys would be too difficult and time consuming or if it turns out in the course of the analysis that no significant benefit exist.

In the present case, only a few stakeholders were excluded, who are only marginally concerned with inpatient nursing and care facilities. Table 3-3 below lists these groups and the reasons

for their exclusion. All in all, the present analysis can be seen as very comprehensive with regard to the stakeholder groups and impacts considered.

Table 3-33: Excluded stakeholders

Excluded Stakeholders	Reasons for exclusion
Psychosocial care centres (Lower Austria)	They cannot be treated in the same way as old people's and nursing homes regarding their impact.
Day care centres	Exceeds the scope of the analysis.
Assisted living	Exceeds the scope of the analysis.
External food recipients	Exceeds the scope of the analysis. Benefit does not play a decisive role in the analysis.
Civilian servants	In an alternative scenario, all of them would get another work place during their civilian service and have similar benefits from that.

In some **Lower Austria's** retirement and nursing homes **psychosocial care wards** are available. These were excluded from the analysis, as they are not "typical" for the retirement and nursing homes, but mainly care for younger people with mental illnesses. For these residents other impacts would arise that were not in the focus of the study.

For the **day care centres** and **assisted living** facilities, synergies with the inpatient care and nursing facilities arise when these are directly linked to a retirement and nursing home. This can be decisive for the operation of the day care centre or assisted living facility, such as a common food supply, common energy supply, provision of specialist staff, reduction of fears of entering a facility, customer loyalty, relief for caring relatives, who can already establish a good relationship with the facility at this stage, which considerably facilitates future work with relatives, to name but a few. However, these two stakeholder groups had to be excluded from the analysis, as insufficient data was available and an inclusion would have led to too many assumptions .

The **external meal purchasers** also benefit from the retirement and nursing homes as they can obtain food at lower prices. However, this stakeholder group also had to be excluded, as the data material available was insufficient and an additional analysis would have exceeded the scope of the analysis.

Civilian service persons were excluded from the analysis, as they would have to do their civilian service even without retirement and nursing homes and thus a deadweight of almost 100 percent would have to be deducted.

Mobile services, sheltered housing facilities, 24-hour care services and private providers of care and assistance services do not primarily have a direct impact through the inpatient care and nursing facilities. However, these stakeholders are relevant for the alternative scenario. In the alternative scenario it is assumed that residents who are now accommodated in the inpatient care and care facilities would be accommodated in these alternatives if the latter did not exist. The distribution of residents in the event of non-existence of the inpatient nursing and care facilities is described in Chapter 4.2. for Lower Austria and Chapter 5.2. for Styria.

3.3 DATA COLLECTION

The following engagement plan outlines the respective method of data collection and the number of respondents per stakeholder group. Due to the specific subject, in addition to **researching secondary material**, **personal and telephone interviews** were conducted with the representatives of the stakeholder groups.

A total of 25 guideline interviews and discussions with representatives of the respective stakeholder group were conducted. In more detail, 22 interviews were held in person, while three were done via phone. The respective number of interviews per stakeholder group resulted, following a qualitative research paradigm, from the necessary number until a theoretical saturation with information occurred (Flick 2002) which means that any additional interview would not bring up any relevant and/or new information. The selection of interview partners was based on typical cases.

The interviews, as well as the majority of the other stakeholder interviews, were recorded, transcribed, partly coded, and the impacts and benefits of inpatient nursing and care facilities were derived from them.

Another important data source for the present analysis was the nursing services statistics of Statistik Austria (2014c). However, it should be noted that not all existing data were conclusive. There were many inconsistencies, mainly due to the fact that the data entry of the individual retirement and nursing homes is not uniform. As the nursing services statistics have only been carried out since 2011, they still show problems which, according to one expert, will decrease in the future. A comparability of the data between the province of Lower Austria and the province of Styria is therefore not always possible. Some data entry was not mandatory and thus some individual nursing and care institutions skipped it which led to incomplete data. For example, the number of self-payers and their cost contributions are underestimated in the care service statistics. In the Styrian data, on the other hand, the number of self-payers is already included, whereas it should be recorded separately. The data on nursing and care staff are also often included in the total number of long-term care staff in the categories of short-term and transitional care, as most nursing homes do not have a separate record of this.

All inconsistencies were agreed upon with the help of representatives of the countries and additional data was collected. In addition to the data of the nursing service statistics, comprehensive data of a full survey of retirement and nursing homes were made available by the Styrian retirement and nursing homes. In addition to data on the residents, these contained the income and expenditure of the organisations. The province of Lower Austria also provided complex evaluations of the residents' data as well as inputs and outputs from the controlling of the social welfare department for the Lower Austrian provincial nursing homes. The balance sheets of the individual institutions were also used by the Lower Austrian private retirement and nursing homes.

In addition, **business records and internal documents** of the inpatient nursing and care facilities were consulted and intensive **research** was carried out. This included literature and internet research, specific telephone and personal conversations as well as e-mails to gather information.

Table 3-34: Engagement Plan

Stakeholders	Method of information gathering	Number of respondents per group
Residents	Personal interviews, document analysis, research	9 residents
Relatives	Personal interviews, document analysis	6 relatives
Employees	Personal interviews Document analysis, Research	6 employees
Volunteers	Document Analysis	
Hospitals	Document analysis, personal interview	Schober et al. 2013
Federal state of Austria	Document analysis, research	-
Province	Document analysis, research	-
Social insurance institutions	Document analysis, research	-
AMS (Austria's Employment Office)	Document analysis, research	-
Suppliers	Telephone interview, document analysis	1 supplier
General practitioners	Personal interview Document analysis, research	1 doctor
Owners of long-term care facilities	Document Analysis	-
Trainees	Document Analysis	-
Landlords and property owners	Telephone interview, document analysis, research	1 representative of landlords
Trustees	Telephone interview, document analysis, research	Schober et al. 2013
General population	Personal interview, document analysis	Schober et al. 2013
Mobile services	Telephone interview, own surveys, Research	1 representative of mobile services

4 LOWER AUSTRIA

4.1 ANALYSIS OF REVENUE AND EXPENDITURE

In order to be able to calculate the social return on investment, it is necessary to collect all financial resources spent to operate the inpatient nursing and care facilities. It is also necessary to identify the expenses that are directly related to the impacts. For this purpose, data on income and expenses from the retirement and nursing homes have been made available.

The data required for the calculation of expenses were transmitted in an Excel file directly from the inpatient nursing and care institutions. Since not all nursing and care homes provided the data, extrapolations were made.

In total, the inpatient nursing and care facilities in Lower Austria generated 406.143.623 euros in revenues in 2013 and incurred 426.199.423 euros in expenses. The difference between income and expenses results from the different data available and the projections made.

Table 4-1 below shows the relevant sub-categories of revenue. Table 4-2 gives a breakdown of total expenses.

Table 4- 1: Revenue

Type of income	Level of income	Share of income in %
Income of residents (incl. federal care allowance)	€ 168.268.505	41,4%
Revenue from grants from the province of Lower Austria	€ 161.076.812	39,7%
Income from self-payers [1]	€ 28.520.847	7,0%
Other revenue	€ 15.266.505	3,8%
Revenue from subsidies granted by the province of Lower Austria for the construction	€ 12.664.631	3,1%
Revenue from social security institutions	€ 11.655.181	2,9%
Income from federal subsidies	€ 7.903.689	1,9%
Revenue from other social assistance agencies [2]	€ 787.453	0,2%
Total income	**€ 406.143.623**	**100%**

Source: Basis: Care services statistics 2013 (Statistik Austria 2014c), own calculations

The revenues of social security institutions, the revenues for construction costs and the revenues from the Federal Grants Act are extrapolated data.

It is clearly visible that the inpatient nursing and care facilities are largely financed by the federal care allowance of the residents and the province of Lower Austria. In terms of expenses, it is mainly staff costs that are particularly significant, accounting for 66.1% of all expenses.

Table 4- 2: Expenditure

[1] The income of the self-payers is estimated as only limited data are available. It was extrapolated using the average cost of 120 euros per person and day.
[2] Only a fraction of the income of other social assistance providers could be deducted, the rest is included in the income of the residents.

Nature of expenses [3]	Amount of expenses	Share of expenses in %
Staff costs	€ 268.164.538	66,1%
Other expenses	€ 95.100.826	23,4%
Rental expenses	€ 28.611.849	7,1%
Amortisation	€ 7.441.730	1,8%
Material expenses for maintenance and care	€ 6.059.501	1,5%
Taxes / charges	€ 293.409	0,1%
Total expenditure	**€ 405.671.852**	**100%**

Source: Survey of inpatient nursing and care institutions, projections

4.2 DISTRIBUTION OF RESIDENTS

As already described in Chapter 2.1, the present SROI analysis always calculates impacts on the basis of an alternative scenario. In the present case, this alternative scenario is the complete absence of inpatient nursing and care facilities without replacement services, with all other care settings remaining the same. The current residents of the inpatient nursing and care facilities would have to be cared for in other, already existing care settings. Here, particular attention should be paid to their availability (capacities). In addition, the residents should be distributed according to their need for care and support.

The distribution of residents in the alternative scenario is of great importance for many downstream impacts and can therefore be considered central to the present analysis. Specifically, on the basis of different data and by making some assumptions, it was determined what would happen to the 8,535[4] residents in 2013 without the inpatient nursing and care facilities.

The starting point for the considerations and calculations are the basically available variants of alternative care and support. Here, the following variants appear plausible for Lower Austria in 2013:

- Residents can cope on their own
- Residents get along with help from relatives
- Residents get along with the help of mobile services
- Residents would have/could buy private care and support
- Residents would have/could buy 24-hour care
- Residents come to the hospital and become procuratio case
- Residents are accommodated in nursing homes in neighbouring federal states
- Residents fall into neglect
- Residents will die sooner

In the present project, the number of persons cared for per care allowance level[5] (0-7) was available for estimating the intensity of care and assistance. The relevant data were used by the Austrian statistics on long-term care services.

[3] The difference between revenue and expenditure is due to the different data available and the extrapolations made.
[4] FTE residents were assumed. This means that the number of food days was divided by 365.
[5] Austrian residents can apply for care allowance to (partly) cover the expenses for their care. The level 0-7 is established after a doctor determines the care needs of a person, whereas level 7 means the highest level of care is needed.

For the concrete distribution of residents in the alternative scenario, assumptions were made on the basis of the existing long-term care allowance level. This was done under consideration of an economic restriction (alternative setting not affordable) and under consideration of the capacity impact (residents are only accommodated in the best possible setting for them if there is enough capacity).

Since some of the residents in lower care allowance levels are still **able to cope on their own**, this was taken into account in the assumptions. However, this is only possible for those who receive a long-term care allowance level 1 or 2 and are not affected by dementia.

Otherwise, the residents would try to stay with or receive care from **relatives**, if any. However, it was assumed that only relatives with whom there was no conflict would provide care. However, as the need for care increases, it becomes more and more difficult for relatives to take over the care of their loved ones without additional support. It was assumed that all those residents up to and including care allowance level 5 could be cared for by their relatives without the need for additional services. This assumption was derived from the data of the Quality Survey of Caregiving Relatives (BMASK 2014b) and a distribution was made in this way.

Another alternative for those with low levels of care allowance is to use mobile services or buy care and support services on the market. 24-hour care is not yet considered in this low category, as it would be disproportionately expensive compared to the intensity of care required.

Mobile care and support services are also only eligible up to care allowance level 5. In addition, capacity restrictions had to be taken into account here. After telephone calls with representatives of mobile services, an assessment was made of how many residents could be additionally cared for with the existing capacities in 2013. In Lower Austria this would be around 557 people. All those persons from long-term care allowance levels 1 and 2 who cannot cope on their own or for whom no relatives are available would be cared for by mobile services in the alternative scenario. The remaining free capacities of the mobile services were allocated to people from care allowance level 3.

Private acquisition is only an alternative for a few, as most residents have to take into account economic constraints. For this purpose the income of the residents was taken into account and it was assumed that 222,25 euros in consumption expenditure are needed for food (Statistik Austria 2011a). This amount refers to the average consumption expenditure of a pensioner household. In addition, an average rent expenditure of 418,90 euros was added for Lower Austria (Statistik Austria 2014b). In the calculation, income is made up of three components: Income from care allowance, average monthly net income or average pension and income from assets. The average net income of residents was explicitly surveyed and at 1.159,15 euros is far below the Lower Austrian average of 2.056 euros (Statistik Austria 2013a). For the calculation of income from assets, 200 euros per month were used, which is the median of the net assets of an Austrian (financial assets minus pro-rata financial debts) (ÖNB 2012, Statistik Austria 2012c). It can also be assumed that private care and support can be purchased through intra-family support and that no additional expenses for rent and living costs are needed.

Some residents could not finance the purchase under the conditions described above, but could afford **24-hour care** due to continued support. These residents are thus placed in the category of 24-hour care. However, there are also people who, due to their income situation, cannot afford 24-hour care or do not have an additional bedroom available for a 24-hour care worker. It is assumed that all those residents who live in the city are less likely to be able to provide a room than those who live in the countryside in a detached house.

This leaves people who would not be able to buy the necessary amount of services on the market or 24-hour care. These people would primarily try to get a place in an inpatient care facility in one of the neighbouring federal provinces, or to find accommodation in a hospital.

However, this distribution would only take place if there were no capacity restrictions on purchasing on the market and 24-hour care.

In order to be able to estimate the capacities, the study "Social and economic benefits of mobile care and support services in Vienna by means of an SROI analysis" (Schober et al. 2013) asked 6 private providers of 24-hour-care for estimates of free capacities in telephone interviews in September 2012. Within a very short time (one to a few days), a 24-hour care provider would be able to start the care for additional 30 people. In a slightly longer period (up to one month), the average was about 120 additional customers. However, the delay is primarily due to the high administrative effort involved and less to the lack of services. In principle, according to the private 24-hour care providers, there would be almost unlimited capacity, almost immediately, since according to the providers, there would be a large number of skilled workers available. In addition, there are many providers who provide 24-hour care on the market. Many of these agencies also provide staff on an hourly basis and the surveys show that there is no capacity problem here either. In the present study it is therefore assumed that the services demanded on the market either on an hourly basis or in the form of 24-hour care could be fully met. Accordingly, there are no capacity constraints in these two alternative settings.

The situation is somewhat different for the nursing homes and hospitals in towns of neighbouring provinces. Here, there are indeed capacity limitations in 2013.

In the **hospitals,** free capacities in departments other than specialist departments were also added where it seemed halfway realistic that these places would be occupied by nursing cases, so free capacities of 1.513 beds (Statistik Austria 2014a) would be available in total.

In 2013 there were a total of 163 free places in **retirement and nursing homes in the neighbouring provinces** of Vienna, Burgenland and Upper Austria (Firgo et al. 2014). Only half of the free capacities in Burgenland and Upper Austria were taken into account, as these provinces are also bordering with Styria and, according to assumptions, half of the places in the alternative scenario would be occupied by Styrian nursing home residents.

This means that 1.676 of the residents who cannot afford hourly additional purchases or 24-hour care can be accommodated in an inpatient setting (hospital or nursing home in a neighbouring province). The remaining persons would be neglected and some would die an earlier death.

In summary, the variants shown in the **Fehler! Verweisquelle konnte nicht gefunden werden.** are differentiated and the resulting number of residents is allocated according to the assumptions outlined:

- **Residents can manage on their own:** Those who have relatively little need for care due to a low level of long-term care allowance can manage on their own.
- **Residents get by with the help of relatives:** Relatives help those who have relatively little need for care due to a low level of long-term care allowance and where relatives are available who can take over care tasks.
- **Residents purchase mobile services:** With the help of mobile services, all those for whom the need for care is not so high (in hours) can get by, as long as free capacity is available.
- **Residents would have to/could purchase private care and support:** Private care and support is purchased by those who do not have such a high need for care and who are not subject to economic restrictions.
- **Residents would have/could buy 24-hour care:** 24-hour care is purchased if the necessary intensity of care (in hours) is so high that it is cheaper than buying individual hours from the market and additional room can be made available for a 24-hour caregiver.

- **Residents are placed in nursing homes in neighbouring federal states:** All those persons who have a high care intensity and cannot afford individual 24-hour care for intensive care cases with their income/assets and have a very high care need.
- **Residents stay in a hospital and become procuratio cases[6] :** Procuratio are those cases which have a high care intensity and cannot afford individual 24-hour care for intensive care cases with their income/assets and for which no places are available in a nursing home.
- **Residents are neglected:** These are the cases that would "fall through the net" and where no care situation can be guaranteed.
- **Residents suffer an earlier death:** It is assumed that in the first year of the farther life expectancy of 2,2 years on average (own survey in selected nursing homes), 50% of those residents from care allowance levels 3 and 4 who would be at risk of neglect would suffer an earlier death after half a year. According to experts, all those residents from long-term care allowance levels 5 and 6 would die within a few days if they were neglected. For the sake of simplicity, the following table shows that half of the residents would die sooner and half would die of neglect.

The distributed total number of 8.535 residents serves as a basis for further calculations of the impacts on the stakeholders affected by this in the following chapters.

[6] If the need for hospitalisation ceases, but the patient can no longer be discharged into home care and assistance due to chronic need of care, the responsible social insurance institution will not cover the costs of the hospital stay (WPPA 2010). Patients who are no longer in need of institutional care are then retained as persons in need of care and declared a so-called procuratio case (WPPA 2010).

Table 4- 34: Resident distribution for alternative care solutions in Lower Austria

	Total	CAL[7] 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7
Number of residents in 2013	**8.535**	**66**	**333**	**751**	**2.503**	**2.757**	**1.187**	**938**
Manage on their own	158	24	134	-	-	-	-	-
Relatives	1.375	24	113	236	602	400	-	-
Mobile services	557	18	86	325	128	-	-	-
Private purchase	29	-	-	-	11	18	-	-
24-hour care	1.180	-	-	-	292	478	410	-
Hospitals	1.513	-	-	-	-	-	575	938
Nursing homes in other provinces	163	-	-	-	-	-	163	-
Neglect	830	-	-	95	735	-	-	-
Earlier death	2.730	-	-	95	735	1.861	39	-

[7] CAL – care allowance level

4.3 RESIDENTS

The most important stakeholder group of inpatient nursing and care institutions are the residents of retirement homes and nursing homes (short RNH) in Lower Austria.

In 2013, **12.016 people** lived in Lower Austria's retirement and nursing homes. However, about 500 persons (474 FTE) with a psychosocial focus were excluded from the analysis. If the number of billing days in 2013 is converted to FTEs, this results in around **8.535 consistently occupied places** for 2013. In Lower Austria, there is the special case of nursing homes with a psychosocial focus. All psychosocial cases were excluded from the calculations. The number of self-payers was estimated in the Lower Austrian data.

The majority of the inhabitants are female (76%). Almost half (47%) of the residents are 85 years old and older.

In order to be able to assess the impacts on the residents, nine personal interviews were conducted with residents. These took place in different retirement and nursing homes in Lower Austria and Styria in November 2014. In order to analyse the impacts, the interviews were recorded and transcribed. From these interviews it was possible to derive essential benefit dimensions. In addition, documents and data from the inpatient nursing and care facilities were used to clarify and analyse the impacts for the residents. In discussions with other stakeholder representatives the emphasis was on the evaluation of impacts on the basis of the residents' views. Two studies already carried out on the social and economic benefits of mobile care and support services in Vienna (Schober et al. 2013) and an SROI analysis conducted in the area of assisted living (Pervan-Al Soqauer et al. 2013) also helped to assess the main impacts for the residents of the inpatient care and support facilities.

The feeling of security is probably the most important impact for the residents, which increases significantly when they enter a retirement and nursing home. The increase in physical impairments among residents often means that they no longer feel safe in their own homes, which is associated with the desire for safety on the part of the nursing staff. *"At night, when you are alone at home, what if something happens?"* (Interview 12) says one of the residents interviewed in this respect. This is consistently confirmed in all interviews: *"That is reassuring (...) the doctor always comes when you need him"* (Interview 2). The feeling of security in the retirement and nursing homes is therefore rated very high by all the residents surveyed: *"We are safe here"* (Interview 7).

The increase in social contacts also plays an important role for residents in retirement and nursing homes, from which they benefit considerably. *"At home I would be alone in my flat, here I have the people after all"* (Interview 8), emphasises one of the residents interviewed. "*I've never been bored here*" (Interview 11), says one of the residents and stresses the wide range of leisure activities that can be done in the retirement and nursing homes: *"We are constantly celebrating and doing handicrafts"* (Interview 11). Apart from handicrafts, the residents interviewed often mentioned singing groups, excursions and card games as their favourite leisure activities. In addition, the interviews often referred to the sense of community that arises from contact with other residents and carers, which is further emphasised by the statement *"There is a very family-like feeling of security here"* (Interview 11). However, the interviews also show that some residents find it quite difficult to make new friends or contacts in retirement and nursing homes, as they no longer have the desire or energy to build new relationships in old age.

Apart from an increase in social contacts in retirement and nursing homes, the interviews with residents also indicate an improvement in the relationship with relatives. In most cases, the family members come to visit frequently, as they are able to use the now available time with

their relatives as quality time because of the relief provided by the care in the retirement and nursing homes. The following statement makes it clear that the decision for a retirement and nursing homes does not necessarily mean a break in the relationship with the relatives, quite the contrary: *"My benefit? I have food, I have it warm and my children look after me"* (Interview 18).

During the discussions, limited privacy due to double rooms was also discussed and the advantage of a single room was highlighted. For example, one of the residents emphasised in the interview that there is no place of retreat because of the double room: *"You get used to it over time, you have no other choice"* (Interview 12). The advantage of a single room is that the residents perceive their room as a place of retreat and can come to rest there: *"I live alone, but I am not alone"* (Interview 7) and *"You are left alone when you want to"* (Interview 7). However, it became clear that the majority of the residents interviewed would like to have a single room, but it is difficult to get one.

In this context, the surveys often mentioned the difficulty with residents suffering from dementia, which is usually perceived as strenuous by non-affected residents. Particularly with regard to the living situations in double rooms, difficulties were mentioned: *"People who have dementia are often very angry. This is unpleasant"* (Interview 11). In addition, the lack of common ground or a common basis for discussion with the room occupants was emphasised: *"There is a lack of people to talk to"* (Interview 18).

In summary, this results in an impact chain for the residents as described in the following section.

4.3.1 Impact chain "Residents"

The input the residents bring to retirement and nursing homes is their contribution to costs. The retirement and nursing homes in turn provide barrier-free retirement and nursing homes and qualified nursing staff to look after the residents, which results in a certain number of billing days as a service. The impacts achieved are shown in the following impact chain and are described and calculated in more detail in Chapter 4.3.2.

Table 4- 5: Impact chain "Residents"

Input	Company activity	Output	Impact/Outcome	Deadweight
Contributions to costs	Care and support	Number of billing days	No danger of neglect Increased sense of security Limited individuality Limited privacy (double room) No possibility to remain in the own home until death Changed psychological well-being Improved general physical condition Higher risk of infection than at home Longer life expectancy Balanced and regular diet	Number of residents who would have achieved the same impact even without RNH (cf. inhabitant distribution alternative scenario)

			Higher/lower costs compared to the alternative scenario Less organisational effort More social contacts Adequate leisure activities Improved housing situation through barrier-free accessibility Ensuring a clean environment Improving relations with relatives	

The effects attributable to the activities of inpatient nursing and care facilities are of particular relevance for the SROI analysis. The outcome is the basis for calculating the stakeholder-specific monetised impact and is described in the following section. The calculation of deadweight required for this is based on the distribution of residents for alternative care solutions, as described in the previous chapter, in the case of non-existence of inpatient nursing and care facilities. The deadweight was therefore already included in the following calculations and not deducted again.

4.3.2 Calculation of stakeholder-specific monetised impacts

The **monetised impacts** of residents reached by in-patient care and nursing facilities in Lower Austria amount to a total of **€ 336.100.966** and are distributed as shown in the table below.

Table 4- 6: Monetised impacts of residents

Residents	
No danger of neglect Hourly wage of a private house care person multiplied by time spent on hygiene multiplied by 365 for the whole year multiplied by the number of residents who would otherwise be neglected	**€ 6.501.749**
Increased sense of security Cost ratio in the supplementary health insurance sector of a private insurance company multiplied by the number of residents who benefit from an increased sense of security	**€ 3.323.821**
Restriction of self-determination through paternalism School fees for private primary school for 10 months multiplied by the number of residents who feel patronised	**-€ 8.579.661**
Limited privacy Costs of additional insurance for a single room per year multiplied by 365 for the whole year multiplied by the percentage of residents who would be in a single room in the alternative scenario	**-€ 73.492.372**

No possibility to stay in the own flat Severance payment for the waiver of main rental rights multiplied by the number of residents who could remain in their own homes in the alternative scenario	**-€ 1.306.552**
Changed psychological well-being average costs for psychotherapy (short therapy) multiplied by the number of residents whose mental well-being has improved or deteriorated	**€ 4.604.472**
Improved general physical condition Follow-up costs of a femoral neck fracture Follow-up costs of a urinary tract infection Follow-up costs of gastroenteritis Follow-up costs of malnutrition Follow-up costs of drug mix-ups Follow-up costs of decubital ulcers multiplied by the number of residents who would be affected by the above-mentioned nursing risks in the alternative scenario	**€ 135.797.382**
Higher risk of infection than at home Follow-up costs of treatment of a hospital infection multiplied by the number of residents who would otherwise be at home multiplied by the probability of infection in the hospital or RNH	**-€ 1.953.458**
Longer life expectancy Value of a healthy life year (QALY) multiplied by the utility value of the quality of life multiplied by the average future life expectancy of a resident multiplied by the number of residents who suffer an early death without RNH	**€ 108.404.935**
Balanced and regular diet Cost of meals on wheels per year multiplied by the number of residents who benefit from a balanced and regular diet	**€ 14.766.701**
Dissatisfaction with the food Market price difference between a canteen meal and á-la-carte-menus multiplied by the number of residents who are dissatisfied with the food	**-€ 2.704.230**
Higher/lower costs compared to the alternative scenario Difference in cost contributions in the case of existing RNH compared to the alternative scenario (alone, with relatives, MD, purchase of private care, 24-hour care, assisted living facilities, nursing home, hospital)	**-€ 31.554.654**
Less organisational effort Use of time for organisational matters Multiplied by the cost of personal assistance multiplied by the number of residents who benefit from a lower organisational effort	**€ 37.314.200**
More social contacts Time used for social contacts multiplied by the gross hourly wage of an Austrian multiplied by the number of residents who would otherwise be alone or with extremely few visits from relatives	**€ 42.993.118**

Adequate leisure activities Costs for two hours of senior citizens' entertainment per week for one year multiplied by the number of residents who would not be able to take advantage of adequate leisure time facilities in the alternative scenario Minus deadweight (residents not participating in activities)	**€ 37.711.887**
Improving the housing situation through accessibility Costs for a residential assistance for one year, 1 hour daily multiplied by the number of residents who benefit from an improved housing situation	**€ 57.829.689**
Ensuring a clean environment Hourly wage of a private house operator multiplied by time spent on hygiene multiplied by 365 for the whole year multiplied by the number of residents who would otherwise be alone	€ 6.065.913
Improved relationships with relatives Duration of systemic family therapy multiplied by the hourly rate of a family therapy session multiplied by the number of residents who have improved social contacts with relatives	**€ 378.026**
Overall profit of the residents	**€ 336.100.966**

The existence of in-patient care and assistance facilities makes a significant contribution to preventing neglect among older people in need of care and assistance. This applies in particular to those persons who would otherwise have no social network. These benefit the most from the inpatient care and support facilities. Thus there is **no danger of neglect**. Only the number of residents who would otherwise be neglected is used to calculate the profit. The annual time spent on hygiene and housekeeping was used as a proxy for monetisation. This includes: personal hygiene, washing dishes, kitchen work, tidying up, cleaning the flat, waste disposal, washing clothes, ironing clothes, sorting and searching in the household amounting to 626 hours and 35 minutes according to the Time Use Survey 2008/09 (Statistik Austria 2010a). Furthermore, the hourly rate of 12.50 euros for privately purchased cleaning staff was used (interview with two private housekeepers).

The need for security is one of the most elementary basic needs of people in need of care. The loss of control is a considerable strain on mental and physical well-being. An increasing risk of falling in one's own home or limited mobility and the growing need for safety are frequent reasons for many residents of retirement and nursing homes to move there in the first place. The administrative costs for a nursing care insurance were used as a proxy for the **increased feeling of safety.** In principle, people aged 35 and over start a nursing care insurance. For a 40-year-old woman, the monthly premium to be paid is 100 euros, with a monthly payment of 1.056 euros in case of need of care (Schober et. al 2013). The administrative costs are 4.175% per year. The remaining amount was not attributed to the feeling of security, as this is based on the assumption that a benefit will also be received later. The focus is on the cost of insurance, as this is the value needed to build and maintain the benefits and thus the sense of security.

For most people, moving to an inpatient care and nursing facility is the last alternative. Only when all other alternatives have been exhausted, a nursing home is considered by those affected, as this is often associated with the loss of independence and self-determination. The residents become aware that it is their last home. Many people are afraid of being separated from their familiar surroundings and have the feeling of being "deported" to an inpatient facility

by their relatives. This negative impact is summarised under the **restriction of self-determination through paternalism**. Monetarisation was based on the costs that one would incur in order to avoid state paternalism (e.g. compulsory schooling or compulsory education). This again is an auxiliary indicator. In Austria, there is a legally regulated possibility of fulfilling the child's compulsory schooling throughout its school time by means of so-called "home schooling" (Erziehung 2013). This benefit is calculated by multiplying the school fees for a public school of EUR 1.460 for 10 months (Albertus Magnus Volksschule 2013) by the number of residents who would not be affected by paternalism in the alternative scenario.

For all those residents who are not accommodated in a single room, the negative impact of **restricted privacy** is also created. In retirement and nursing homes, intimacy and privacy can hardly be guaranteed if residents have to share a room. In a double room, however, there is hardly any possibility of retreat. According to experts, the trend is clearly towards single rooms. There are hardly any people who volunteer to stay in a double room, the exception being couples or people who choose to stay in a double room for security reasons because they are afraid of being alone. This impact has been calculated with the cost of additional insurance for a single room for all those residents who would have been accommodated in a single room in the alternative scenario. (Statistik Austria 2014a, Wiener Staedtische Insurance2014). The costs for a single room per year per person amount to 19.524,60 euros.

The negative impact of **no possibility of remaining in one's own home** when being placed in a retirement and nursing home was also identified. It is particularly difficult for older people to adapt to a new environment. Living in one's own home is strongly related to an increased sense of well-being. In order to monetise this impact, the severance payment was used to waive the main tenancy rights. For this purpose, average relocation costs (own survey), the market price difference for one year (Statistik Austria 2011b, Statistik Austria 2014b, ÖHGB 2014) and three months' rent for the average brokerage fees were calculated (Statistik Austria 2011b). This value was multiplied by the share of all those residents who could remain in their own flat in the alternative scenario.

According to studies, **mental well-being** improves for a proportion of residents in retirement and nursing homes because their care is guaranteed and they communicate regularly with staff and other residents. However, there are also people whose mental state deteriorates after moving into a nursing home, as they often have no prospects. The costs for psychotherapy were used as a proxy and multiplied by the number of residents who otherwise would be alone or would have had extremely few visits to their homes. Based on a short therapy (25 sessions per year) at 110 euros per session, the outcome is 4.604.472 euros (Psyonline 2013, Ellviva 2013).

Nursing and care in a facility can also increase the **risk of contracting an infection**. The follow-up costs of treating a hospital infection amounting to 18.636,36 euros (Die Presse 10.01.2011, Oe24 2009) were used as a proxy. This was extrapolated to the number of residents who would not be accommodated in an inpatient facility in the alternative scenario and adjusted for the probability of contracting an infection in a hospital or retirement home (= 2.1%) (Oe24 2009).

By providing barrier-free homes, the retirement and care facilities make an important contribution to **improving the general physical condition** of the residents. One factor contributing to this is, for example, the elimination of risks of falling or tripping which leads to fewer falls overall. In addition, a lack of fluids (fewer exsiccosis) and food poisoning is prevented. The high professional qualifications of nursing staff in retirement and nursing homes also prevent malnutrition. As the nursing staff prescribe the medication to the residents, any mix-up of medication, which often occurs in people with dementia or impaired vision, is also ruled out. A further nursing risk, which represents serious health problems, is the occurrence of pressure sores. These lead to extended periods of hospitalisation, increased nursing effort and reduced quality of life (cf. Medical University of Graz 2011). For the factors,

different proxies were used for the calculations and a professional assessment of the probability of occurrence of these medical problems was obtained from two nursing services.

The costs were extrapolated to the number of residents who would have to cope on their own or be cared for by relatives in the alternative scenario. In addition, it was assumed that a share of all those persons (50%) who would have to use mobile services, private nursing staff or 24-hour care in the alternative scenario would also be more frequently affected by these nursing risks. In contrast to that there is a permanent presence and accessibility of an interdisciplinary and highly qualified team in retirement and nursing homes. The training standards in care facilities guarantee high-quality care. In addition, laws regulate and ensure the nursing home equipment and the training of staff.

The monetised impacts of 135.797.381,99 euros are calculated from the sum of the following partial profits for the follow-up costs of the respective nursing or medical problems:

- **Fewer falls:** Through fall prevention, an estimated 65% of falls and thus a significant number of fractures can be avoided. Especially since fractures are largely responsible for the costs of falls (Heinrich/König 2010, Hoffmann 2010), the medical follow-up costs of a femoral neck fracture were estimated at 11.250 euros for monetisation as a proxy (Huhn 2010, Osteoporosis 2013). This value was adjusted for the frequency of falls without retirement and nursing homes and the probability that a fall requires medical care (= 80%) (Huhn 2010). This results in a partial profit of 34.958.369,65 euros.

- **Fewer exsiccosis/urinary tract infections:** With increasing age, the feeling of thirst decreases, which can lead to a lack of fluids and consequently to serious health problems (Medizininfo 2013) The risk of urinary tract infections increases if the kidneys, ureter, bladder and urethra are not "flushed" regularly and can be a consequence of desiccation (drying out) (Medizininfo 2013, Reiche 2011). According to the assessment of a nursing service manager, 90% of cases of exsiccosis and thus a considerable proportion of urinary tract infections can be avoided through the high quality of care in retirement and nursing homes. The follow-up costs of a urinary tract infection of 425 euros per case were used as a proxy for this (Thiesmann 2005). These costs were extrapolated to the number of residents and adjusted for the frequency of exsiccosis cases without retirement and nursing homes. The partial profit for this amounts to 2.286.073 euros.

- **Fewer food poisoning/gastro-enteritis cases:** As all residents benefit from a balanced and regular diet in the inpatient nursing and care facilities, food poisoning and gastro-enteritis are prevented. With increasing age, the ability to see, taste and smell changes (Ernaehrungesund 2003), which can lead to older people also eating spoiled food and contracting gastroenteritis. For monetisation, the follow-up costs of gastro-enteritis per case were estimated at 77 euros (Van Den Brandhof et al. 2003). These costs were extrapolated to the number of residents and adjusted for the frequency of gastroenteritis without retirement and nursing homes estimated by a nursing service provider (= 80%). This results in a partial profit of 368.108,64 euros.

- **Fewer malnutrition cases**: Malnutrition occurs mainly among older people and is often not recognised. In many cases, older people are not adequately fed. Data from clinical trials show that nutritional status has an important influence on individual mortality (Frei 2006). European prevalence rates of patients range up to 84% in older people (cf. Medical University of Graz 2011). For monetisation, the follow-up costs of malnutrition amounting to 3.146,61 euros (Frei 2006) were used and extrapolated to the number of residents and adjusted to the estimated frequency of malnutrition without retirement and nursing homes (60%). The partial profit for this amounts to 11.282.072,19 euros.

- **Preventing mix-ups of medicines:** Another risk of care that affects people with dementia and vision problems is mix-ups of medicines. This is ruled out in retirement and nursing homes, as the medication is administered to the residents by the nursing staff. Taking age-appropriate medication not only significantly decreases the risk of hospitalisation but also the risk of death. For this purpose, the follow-up costs of medication mix-ups amounting to 4.545,45 euros (Grandt et al. 2005) were extrapolated to the number of residents who would be affected by this in the alternative scenario (60%). This yields a partial profit of 16.297.608,23 euros.

- **Fewer decubital ulcers**: Decubital ulcers are a common nursing problem, especially for elderly, care-dependent and immobile people, which causes great suffering among those affected on the one hand and high costs for our society on the other. The occurrence of decubital ulcers can be avoided as far as possible by early risk assessment of the nursing staff in retirement and nursing homes and effective preventive measures. For calculating this impact, the average follow-up costs of decubitus ulcers per person of 19.692 euros (Eibel 2012) were extrapolated to the number of residents who would be affected (60%) in the alternative scenario. The partial profit for this amounts to 70.605.150,27 euros.

The nursing risks assessed here represent only a fraction of the nursing problems affecting persons in need of care. Only the main nursing risks could be addressed in this study. In addition, it must be noted that, due to the high level of medical and nursing care in retirement and nursing homes, disease patterns such as cardiovascular diseases, diseases of the musculoskeletal system, digestive tract, kidneys, nutritional and metabolic diseases, diabetes mellitus, diseases of the nervous system, respiratory tract, cancer, mental illnesses, strokes, to name but a few, are treated and the monetised benefit for an improved physical health status is underestimated here.

Another impact is **higher life expectancy**. This was only calculated for those residents who would not receive an alternative care solution if the inpatient nursing and care facilities did not exist and would suffer an early death within the first year. For the evaluation of a healthy life-year in relation to health, the quality-adjusted life-year (QALY) indicator from health economics (Phillips 2009, Dolan et al. 2004) amounting to 36.937,50 euros (Nice 2010) was used. The value of a healthy life year is then multiplied by the utility value of the quality of life/state of health (= 0.5) (Phillips 2009) and the average future life expectancy according to the length of stay of residents in retirement and nursing homes (= 2.2 years, own surveys) and extrapolated to the number of residents who would otherwise suffer an early death.

Furthermore, the residents benefit from a **balanced and regular diet** in the retirement and nursing homes. The cost of regular nutrition was monetised with the cost of meals on wheels per year. As the residents in the retirement and nursing homes benefit from a meal three times a day (breakfast, lunch and dinner) and the meals on wheels only include lunch, the value was multiplied by 2 and thus amounts to 75,80 euros per week (Samariterbund 2014).

A proportion of the residents of the retirement and nursing homes are **dissatisfied with their food**. In order to monetise this negative impact, the market price difference between a canteen meal (Eurest 2014) and an à-la-carte-menu (Das Campus 2014) was used and multiplied by the number of residents who are dissatisfied with the food (NÖ Heime 2010). However, this was only assumed for all those residents who would be satisfied with the food in the alternative scenario.

The monetary impact of the **higher/lower costs compared to the alternative scenario** is calculated from the difference between the cost contributions that the residents make to the retirement and nursing homes and the financial contribution they would make to the alternative care solution. It was assumed that people for whom no relatives are available and

who would **have to manage on their own** monthly costs of 641.15 euros would incur. These costs are composed of the average rent in Lower Austria including operating costs of 418,90 Euros (Statistik Austria 2014b) and the average cost of living for a pensioner of 222,25 Euros (Statistik Austria 2011a) per month. In addition, all those persons who in the alternative scenario would not be cared for in an inpatient facility have to reckon with average costs for care products and medication of 2.174,39 euros per year (own survey of nursing homes). For all those residents who have **relatives** available who would provide care services, the assumption was made that the person in need of care would be accommodated with a relative, thus saving the average rental costs. For the calculation of the costs of the **mobile services,** the average cost contributions per client (cf. Schober et al 2013) plus the average rental costs, the average living costs as well as for care products and medication were used. Again, for all those residents who would live with relatives but receive additional support from mobile services, the average rent was deducted. The same method of calculation was used for all those who would have to buy additional **private care and assistance** on an hourly basis. Here the average cost per hour is 23,50 euros (Pflegedienst24 2014). The average cost of a **24-hour caregiver** is 74,47 euros per day (Schober et. al 2013), plus the average rent if the resident lives alone, the average cost of living for the resident and the 24-hour caregivers as well as the cost of medication and care products. If the person in need of care is declared to be a **procuratio case**, then in principle s/he has to bear the costs of care and stay from that point on (WPPA 2010). If care allowance, income and usable assets, such as savings and real estate, are not sufficient, the person in need of care only has to pay a partial amount (cf. ibid.). This is made up of 80 percent of the net income including the pro rata long-term care allowance. 20 percent of the net income, the 13th and 14th month's salary[8] and 10 percent of long-term care allowance level 3 remain with the person concerned (cf. ibid.). For all those residents who would be accommodated in a home in a neighbouring federal state in the alternative scenario, the average costs per resident in a nursing home were used. For all those residents who would be neglected without retirement and nursing homes, the costs for average rent and average living costs were used.

The residents of the retirement and nursing homes also benefit from a **lower organisational effort**. This was monetised with the time spent on organisational matters, including: personal medical care; travel times - personal; cooking, preparing meals; baking, preserving food; shopping; dealing with authorities; banking, postal services; visits to doctors and therapists; budget planning and organisation; travel times- housework; travel times- shopping (Statistik Austria 2010a) and the cost of personal assistance per hour of 22 euros (WAG 2014).

In order to evaluate the **improvement of social contacts,** the time spent on social contacts was assessed: family conversations; phone calls; writing e-mails, reading, chatting; writing letters, reading; conversations outside the family; visits to/from friends/relatives; going out to pubs, private parties; formal volunteering; informal help, volunteering; participation in religious, political, etc. events; ways - social contacts; ways - voluntary work (Statistik Austria 2010a) multiplied by the gross hourly wage of an Austrian of 12,79 euros (Statistik Austria 2010b). This was only assumed for all those residents who would be at home alone or with extremely few visits by relatives in the alternative scenario.

Adequate leisure activities were attributed as a profit to all those persons who participated in the activities offered in the retirement and nursing homes. Persons who would also have this impact if the care facilities did not exist were excluded from the calculation. These are residents who would live in a facility in another province. The impact of seniors' animation was

[8] In Austria, most salaries and all pension payments are made 14 times a year. The additional monthly payments are usually done in June ("vacation payment") and in November ("Christmas payment").

evaluated with the costs for a care worker of 50 euros for two hours of seniors' animation per week over a period of one year (own survey).

The monetised impact for the **improvement of the housing situation through barrier-free access** is for residents who are physically no longer able to live in a non-accessible environment. Persons who would also live barrier-free in the alternative setting were excluded from the evaluation. A proxy was used to monetise the impact and calculate the monetised impact. Personal assistance or housing assistance serves as a quasi substitute service for accessibility in the context of people with disabilities. Housing assistance is thus used in this study as a proxy indicator for the monetary value of accessibility. It is not assumed that residents of in-patient care and assistance facilities would actually make use of residential assistance if it did not exist. The calculations were based on the costs of one hour of residential assistance per day for one year (SDE 2013).

The residents of retirement and nursing homes also benefit from the **guarantee of a clean environment**. For the calculation of the monetised impacts, only the number of residents who would/have to live alone otherwise is taken into account. As a proxy for the monetisation, the annual time spent on hygiene and housekeeping (personal hygiene; washing dishes, kitchen work; cleaning up, cleaning the flat; waste disposal; washing clothes; ironing clothes; sorting, searching in the household) of 626 hours and 35 minutes from the time use survey 2008/09 (Statistik Austria 2010a) as well as the hourly rate of 12,50 euros for privately purchased cleaning staff were used.

Furthermore, by relieving the relatives of the burden of care and support, the inpatient nursing and care facilities **improve the relationship with the relatives** with regard to the responsibility behind it and reduce the potential for conflict, so that the existing good relationship with the **relatives** is not jeopardised. As a proxy, the use of the costs for systemic family therapy is obvious here. A duration of six sessions per year is set for this (Stangl-Taller 2013, Hainz 2013). As this impact can be attributed equally to the relatives, it is set at half for both stakeholders, especially as family therapy is geared to couples or larger groups of people.

4.4 RELATIVES

Family members are a key stakeholder group. Two thirds of the relatives providing care are women. Half of the family carers are between 55 and 72 years old (Schneider et al. 2009)[9]. Around 33.900 (43%) people were in employment at the same time (Jung/Trukeschitz et al. 2007).

Six personal interviews were conducted with relatives of residents. The interviews confirmed the findings on relatives providing care in literature and practice (cf. e.g. Schneider et al. 2009, Pochobradsky et al. 2005, Hofstätter 2013, IG-Pflege 2013). In the course of this, burdens for relatives can be roughly divided into three areas:

- Social burdens: too little free time, too little time for hobbies and social contacts
- Physical stress: Back and neck pain, pain in the joints
- Mental stress: Overstrain, loneliness, depression

In general, relatives often feel guilty for having entrusted care to other people. The feelings of guilt are mainly related to the lack of knowledge about what to expect if the relatives are being cared for in a nursing home, which is also made clear by the statement of a relative: *"As long*

[9] However, these figures only refer to persons over 60 years of age in need of care who receive care allowance. Younger persons and persons without long-term care allowance were not included in this study.

as you are not confronted with it, you push it away from you" (Interview 3). In addition, in-patient care facilities are still associated with a negative public image, which puts additional pressure on the relatives: *"You also think you have to do it (...) in our small town everyone else says 'oh, into a nursing home!* (Interview 4). Another relative reports confrontations with outsiders who accuse her of *"What? You're putting your mum in a nursing home?* (Interview 19), replied, which certainly underlines the – still predominant – negative reputation of retirement and nursing homes.

Probably one of the most important impact for relatives is the psychological relief provided by the admission of relatives in need of care to a nursing home. *"If you have been through this, you know what it is worth"* (Interview 4), emphasises one of the relatives interviewed with regard to the importance of the retirement and nursing homes. This psychological relief goes hand in hand with, among other things, knowing that the relatives to be cared for are in good hands in the retirement and nursing homes: *"For me, it is a tremendous relief"* (Interview 19). Above all, the increase in time for one's own family (partner/children) is particularly relieving for the caring relatives: *"So it is a relief for the family, in any case"* (Interview 9). In the interviews it also becomes clear how much of a burden the caring relatives had to cope with before the decision was made to enter a retirement and nursing home: *"It was also already too much for me. I couldn't always take it"* (Interview 13). In addition, the interviews made it clear how much the care of one's own relatives was at stake*: "It really was like that, I was at my gums"* (Interview 4) and how much relief the provided in the course of this: *"I don't know what I would do (...) for me that would be an insane restriction, that would no longer be a quality of life"* (Interview 3).

A decisive criterion for placing relatives in need of care into the hands of a retirement and nursing home is the certainty that the relatives are in good hands there. This also emerges from the interviews: *"I know that if something happens, someone is there"* (Interview 9). *"They come in from time to time, she gets her medication on time (...) everything works"* (Interview 3) and *"Everything is taken care of here"* (Interview 19), the relatives also emphasise in our interviews. However, the lack of time of the nursing staff also becomes clear in the course of this, which was often mentioned in the interviews: *"They would have to increase the staff a bit (...) the only thing that would be nice if there were a bit more staff and they could take care of them a bit more personally, there is no time for that"* (Interview 9).

Above all, the relief regarding time was frequently discussed in the interviews and emphasised as a major advantage of retirement and nursing homes. For the relatives, accommodation in a retirement and nursing home offers the opportunity to build and live their own everyday life. *"My freedom would be limited. Then I wouldn't have any free time at all"* (Interview 19), emphasises one of the relatives with regard to the great time pressure if the possibility of accommodation in a retirement and nursing home were not available.

Another significant impact that manifested itself during the interviews is the changed relationship with the relatives to be cared for. In this context, some interviews showed that the relationship with the relatives has been relieved and has thus become more relaxed: *"At home we did everything, but no thanks came back, it is done anyway, but it was never enough (...) the others then said that you can go and visit them anyway and then you are the good one – and that is true"* (Interview 4).

In summary, this results in an impact chain for the relatives as described in the following chapter.

4.4.1 Impact chain "Relatives"

The relatives invest the willingness to accommodate their (elderly) relative(s) in a retirement and nursing home. The facility, in turn, provides care and support for the relatives and involves

them in the process. The output is the number of days of care taken by the retirement and nursing homes. The output that is particularly relevant for the calculation is described in the following chapter.

Table 4- 7: Impact chain for relatives

Input	Company activity	Output	Impact/Outcome	Deadweight
Willingness to accommodate the family member(s) in the RNH	Taking over the care and support Involving the relatives	Number of days of care taken by RNH	Less physical, psychological and social stress Knowing that family members are well cared for Possibility to pursue (unrestricted)gainful employment Feelings of guilt for having "deported" the relative(s) Possibility to go on holiday Time relief Changed relationship with the relative (unencumbered encounter) Changed relationship with the partner (relationship conflicts)	Number of relatives whose elderly relative would be otherwise dependent on others without RNH

4.4.2 Calculation of stakeholder-specific monetised impacts

As the **Fehler! Verweisquelle konnte nicht gefunden werden.** shows, the monetised impacts of the relatives lie in particular in the reduction of social, physical and psychological burdens, the possibility of (unrestricted) pursuit of gainful employment and in the improvement of the relationship with relatives in care and amount to a total of **83.574.128 euros.**

Table 4- 8: Monetised impacts of relatives

Relatives	
Less mental stress Follow-up costs burn-out multiplied by the number of relatives providing care who are mentally stressed minus deadweight (relatives whose dependents in need of care would otherwise be cared for by others without RNH)	**€ 27.661.807**
Reduced physical stress Follow-up costs of back problems (physiotherapy costs) multiplied by the number of relatives caring for them who are physically burdened minus deadweight (relatives whose dependents in need of care would otherwise be cared for by others without RNH)	**€ 2.598.181**

Improved social relations Use time for social contacts multiplied by the average gross hourly wage of an Austrian multiplied by the number of relatives providing care and who are socially burdened minus deadweight (relatives whose dependents in need of care would otherwise be cared for by others without RNH)	**€ 5.643.387**
Knowing that family members are well cared for Administrative costs of a nursing insurance per year multiplied by the number of relatives whose dependents in need of care would not be externally cared for without RNH	**€ 1.093.883**
Possibility of (unrestricted) gainful employment Average gross annual salary multiplied by the number of people of working age who are inactive due to caring responsibilities minus deadweight (relatives whose dependents in need of care would otherwise be cared for by others without RNH)	**€ 1.715.892**
Feelings of guilt for having "deported" the relatives Amount of the costs of monetary gifts from parents to their children multiplied by the number of relatives feeling guilty (assumption: 50%) Less deadweight (relatives who would also feel guilty in the alternative scenario)	**-€ 4.995.734**
Possibility to go on holiday Market price difference for a holiday in the high or low season multiplied by the number of relatives who, without RNH, would have to provide care multiplied by the number of holidaymakers aged 55 to 64 years in Austria multiplied by the average length of stay on holiday	**€ 279.578**
Time relief Average time spent by carers on care activities per year multiplied by the number of relatives who would have to provide care without RNH multiplied by the average gross hourly wage of an Austrian	**€ 48.934.233**
Improved relationship with relatives Duration of systemic family therapy multiplied by the hourly rate of a family therapy session multiplied by the number of residents who have improved social contacts with relatives	**€ 378.026**
Improved relationship with the partner Costs of a couple therapy multiplied by the number of relatives who would have to provide care without APH multiplied by the number of caring relatives with family problems	**€ 264.875**
Total profit of the relatives	**€ 83.574.128**

Mental stress comes in particular from the constant feeling of responsibility, the feeling of being overwhelmed and also depression caused by stress (Pochobradsky et al. 2005). The follow-up costs of a burnout (psychotherapy costs and sick leave days) were used as a proxy here and a mixed indicator was formed from the follow-up costs of a burnout at early detection, a delayed diagnosis and a late diagnosis amounting to 16.850 euros (Schneider 2013).

Physical stress particularly means back pain, pain in the shoulder and neck area and in the joints. As a result of relatives being cared for in a retirement and nursing home instead of a relative taking care at home, the burden on the relatives who used to provide care is reduced (Pochobradsky et al. 2005). The follow-up costs of back problems (physiotherapy costs) amounting to 2.303 euros (Göbel 2001) were here used as a proxy.

Caring relatives also complain about little time for themselves, their hobbies, little time, for social contacts and mention their isolation. As a result, through inpatient care and support facilities, relatives have a significant **improvement in social relations**. They benefit from more free time and thus have more time for hobbies and social contacts and are thus less isolated (IG-Pflege 2012, Hofstätter 2012, Schneider 2009, Pochobradsky et al. 2005). As a proxy for these benefits, the average time spent on social contacts was measured, including conversations within the family circle; phone calls; e-mailing, reading, chatting; writing letters; reading; conversations outside the family; visits to/from friends/relatives; going out to pubs; private parties; formal volunteering; informal help; volunteering; participation in religious, political, etc. events; ways - social contacts; ways - voluntary work (Statistik Austria 2010a) multiplied by an Austrian's gross hourly wage of 12,79 euros (Statistik Austria 2010b).

Furthermore, the relatives benefit from the **knowledge that their loved one is well looked after**. This impact was monetised with the administrative costs of a long-term care insurance. In principle, people aged 35 and over pay for long-term care insurance. For a 40-year-old woman, the monthly premium to be paid is 100 euros, with a monthly payout of 1.056 euros in the event of a need for care (Schober et. al 2013). The administrative costs are 4.175% per year. The remaining amount was not attributed to the feeling of security, as this is based on the assumption that a benefit will also be received later. The focus is on the cost of insurance, as this corresponds to the value it takes to build up and maintain the benefits and thus the feeling of security.

A further benefit is that the relatives have the **opportunity to pursue gainful employment, either fully or partially** through the existence of a retirement and nursing home. 17.4% of caregiving relatives are of working age but do not carry out any gainful employment. 17.9%, on the other hand, cite nursing as a reason for not working (Schneider et al. 2009). In relation to the average gross annual salary of an employee, both part-time (Statistik Austria 2010b) and full-time (Land Steiermark 2013a), this results in a net impact, so outcome, of **1.715.892 euros**. The division full-time/part-time is used analogously to the actual division for employed carers (Schneider et al. 2009). It should be noted, however, that all those caring relatives who are able to take up employment through retirement and nursing homes replace other people on the labour market. This was taken into account in the stakeholder "general population".

Another impact identified in the interviews with relatives and confirmed by literature is the **feeling of guilt** for having "deported" the relative to the nursing home. Feelings of guilt arise when little time is spent within the family. This also exists in another context for children and young people and is summarised under the phenomenon of "wealth neglect". It can be observed that parents give their children correspondingly high allowances and gifts of money as a substitute for the lack of (temporal) affection. Gabanyi et al. (2007) conclude that 5% of young people get everything they need from their parents. This corresponds to the number of young people who receive pocket money of more than 150 euros and the number of young people who receive large financial gifts. In order to "buy themselves free" from a feeling of guilt, 180 euros pocket money per month and 360 euros gifts in money per year were used

for the calculations of this study and extrapolated to the number of relatives who feel guilty (assumption: 50%) (cf. Gabanyi et al. 2007). This results in a negative impact of **4.995.734** euros for the relatives.

By placing the relatives in a retirement and nursing home, the relatives also have the **opportunity to go on holiday**. This impact was monetised with the market price difference for holidays in the main or low season (Statistik Austria 2013b, Urlaub 2014), as it was assumed that people are prepared to spend considerably more for an equivalent holiday in the main season if they cannot switch to the low season, for example due to children. This can be seen as the equivalent of making up for some financial constraints. This figure was multiplied by the number of relatives who would have to take over the care activities without a retirement and nursing home. Only those persons were taken into account who go on holiday between 55 and 64 years of age and multiplied by the average holiday duration of an Austrian person(Statistik Austria 2013b).

In addition, the relatives benefit from **time relief**, as they no longer have to take over the care activities. In order to assess this impact in monetary units, the average time spent per year by relatives providing care, amounting to 2.340 hours (Schneider et al. 2009), was multiplied by the average gross hourly wage of an Austrian.

Furthermore, by relieving the relatives from care and support, with regard to the responsibility and reduction of conflict potential, the inpatient care and support facilities **improve the relationship between the person being cared for and the relative**, so that the existing good close relationship is not jeopardised. The costs of systemic family therapy for a duration of six sessions per year were used as a proxy (Stangl-Taller 2013, Hainz 2013). As this impact can be attributed equally to the residents, it is set at half for both stakeholders, especially as family therapy is geared to couples or larger groups of people.

Relatives also benefit from an **improved relationship with their partner,** as taking over care activities often leads to conflicts within the family. In order to evaluate this impact, the cost of couple therapy of 900 euros (psychotherapy practice 2014) was multiplied by the number of relatives who would have to take over nursing activities without the inpatient nursing and care facilities and by the number of nursing relatives with family problems (Pochobradsky et al. 2005).

The deadweight was the number of relatives whose care would have been different without the old people's and nursing homes.

4.5 EMPLOYEES

Another important stakeholder of inpatient nursing and care facilities are the employees. In 2013, a total of 5.699 nursing and care staff (4.682 full-time equivalents) were employed.

A total of six personal interviews were conducted with the staff of the inpatient nursing and care facilities. Clear benefit dimensions could be derived from the interviews conducted.

The central benefit for the employees of inpatient nursing and care facilities is their permanent job and the associated earned income. In addition, the employees of the facilities draw particular motivation from this to perform meaningful and social work, as one employee impressively described: *"You get a lot in return. You don't just give, you also get a lot"* (Interview 20). Apart from that, the acceptance of the residents and good cooperation also play a role, which can be subsumed under the generic term "good feeling". This is underlined by the following statements of the staff members interviewed: *"We help each other (...) we also talk a lot with each other, we really do exchange a lot"* (Interview 16) and *"it is very friendly and familiar"* (Interview 6).

In addition to these extremely positive impacts for employees in retirement and nursing homes, it became clear in the interviews that the psychological stress for employees in their everyday work is very high. Four employees describe this as follows:

- *"It is also a psychological burden, of course"* (Interview 6).
- *"The job is exhausting, physically and psychologically anyway"* (Interview 15).
- "*If the residents are sometimes aggressive or restless, then it's difficult (...) it's really hard at times when you get the second waddle or the third scratch"* (Interview 10).
- *"Sometimes working with relatives is psychologically more difficult than with residents (...) working with relatives takes a lot of time"* (interview 16).

Furthermore, the prevailing lack of time and the low wages for a high workload were also discussed in the interviews. Particularly against the background of the great responsibility borne by the employees, they feel that their salary is too low in most cases. This is also shown by the following statements, which emerge from the conducted interviews:

- *"This is not a job you do to earn money"* (interview 16).
- *"The savings are already extreme (...) the lack of time is already a big issue (...) also at the expense of the staff. You are really under stress. Four people want something and you don't know what to do first"* (interview 20).
- *"One would wish one could spend more time with the residents"* (interview 10).
- *"There would certainly be room for improvement in the payment of bank holiday and weekend hours"* (interview 6).
- *"The salary, of course, could be more (...) I think it's definitely too little, you have a lot of responsibility (...) for the responsibility we have, the salary is set much too low"* (interview 5).

In addition, the interviews revealed a heightened awareness of the issue of age among employees, which has had a significant impact. It becomes clear that the employees in inpatient nursing and care facilities are constantly confronted with the topic(s) of old age through their work with residents in need of care, which significantly strengthens their foresight for their own "ageing" and thus makes them aware of this. For example, one of the interviews reveals the following statement: *"One lives more consciously (...) from one day to the next everything can be different"* (interview 16). And the confrontation with the topic of death is also a constant companion of the daily work routine: *"What naturally also belongs to it is saying goodbye"* (Interview 20), which is perceived differently from resident to resident and therefore has to be treated individually and very sensitively by the staff. This also indicates an improvement in the social competence of the staff.

In summary, this results in an impact chain for employees as described in the following chapter.

4.5.1 Impact chain "Employees"

The employees invest their time and skills in the retirement and nursing homes. In turn, the facilities provide paid jobs and the necessary work equipment and offer further training opportunities. The direct output of the inpatient nursing and care institutions in terms of staff is the number of paid working hours and the number or quality of further training courses.

Table 4-49: Impact chain "Employees"

Input	Company activity	Output	Impact/Outcome	Deadweight
Working hours	Provision of the workplace Provision of work equipment	Number of paid hours Number/ quality of	Fixed employment and fixed income Increased physical impairment	Possibility of an alternative job in the care sector

Skills (social competence, empathy, ...) **Abilities** (acquired knowledge, training, etc.)	Further training opportunities	training courses	Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improved social skills Increased psychomental stress Teamwork compared to mobile care services Know-how gain through additional qualifications	Possibility of an alternative job in the auxiliary sector (only for non-qualified employees)

Particularly relevant for the SROI analysis, however, are the outcomes and impacts caused by the activities of inpatient nursing and care facilities. This forms the basis for the calculation of stakeholder-specific monetised impacts and is described in the following section.

4.5.2 Calculation of stakeholder-specific monetised impacts

The employees have a total **monetised impact of 100.644.842 euros** through the inpatient nursing and care facilities. The following table shows how these are made up.

Table 4- 10: Monetised impacts of employees

Employees	
Permanent employment and fixed income Annual average gross salaries of employees (in FTE) minus average unemployment benefit minus social security contribution (employee contribution) less wage tax plus voluntary social security contributions minus deadweight (probability of an alternative job in the nursing sector differentiated by occupational group)	**€ 41.105.177**
Increased physical impairment Follow-up costs of back problems multiplied by the number of employees (FTE) minus deadweight (probability of an alternative job in the nursing sector by occupational group)	**-€ 8.663.594**
Raising awareness of ageing Loss of earnings through a two-month traineeship in a nursing home multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job in the nursing sector by occupational group)	**€ 17.919.413**
Positive feeling (fulfilment, doing something good) Difference in salaries in the non-profit and profit sector multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job in the nursing sector by occupational group)	**€ 54.170.892**

Improving social skills Costs of acquiring social skills (attending several courses on social skills) multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job in the nursing sector according to occupational group)	**€ 5.642.810**
Increased psychomental stress Follow-up costs of burnout multiplied by burnout rate in nursing professions multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job in the nursing sector according to occupational group)	**-€ 11.755.854**
Teamwork - close cooperation Costs for a further training package "teambuilding multiplied by the number of employees (FTE) in the respective occupational group Less deadweight probability of an alternative job in the nursing sector by occupational group)	**€ 1.702.512**
Know-how gain / further training opportunities Expenditure on education and training Less deadweight (proportion of enterprises providing training)	**€ 523.487**
Total profit of the full-time staff	**€ 100.644.842**

The monetised impacts for **permanent employment and fixed income** are calculated on the basis of an employee's annual net income minus the unemployment benefit (AMS 2013a) that he/she would receive without employment, plus voluntary social security contributions. The average additional net income is finally extrapolated to the number of employees (FTE).

As deadweight, the profit has to be deducted for that part of people who otherwise would have got a job according to their qualification in another organisation and thus would have received an additional income as well. According to the interview with representatives of the AMS and WAFF (Viennese organisation which helps e.g. long-term unemployed people back into the labour market), a differentiation must be made between qualified and non-qualified areas of the nursing professions in terms of labour market absorption capacity. While the possibility of an alternative job for qualified health nurses and nursing assistants is limited to the area of qualified nursing professions, according to s AMS representative, employees working as home help (non-qualified area) could additionally be placed in the auxiliary sector (especially retail trade and catering). With reference to AMS data (number of vacancies for qualified and unqualified nursing professions and auxiliary staff for receptive economic classes) and screening of job offers in print and online media, shares of 12.62% (DGKP/S, nursing assistants) and 32.35% (home help) could be calculated for the possibility of an alternative job (AMS 2013a). For domestic staff, the unemployment rate in the auxiliary sector was also used. The unemployment rate for Lower Austria of 2013 was used on the basis of national calculations for calculating the deadweight for administrative staff. The deadweight, here the possibility of an alternative job, for administrative staff is thus 90% (AMS 2013). This deadweight was also used for management, the nursing service and home management as well as for other staff such as doctors and therapists. For kitchen staff, the unemployment rate in the catering trade was used, which was 16% in 2013 (AMS 2014).

The fact that working in nursing and care also represents a significant physical strain (heavy lifting, carrying or bedding) (Höge/Glaser 2005) and thus leads to **increased physical impairment** (especially musculoskeletal disorders) was identified as a negative impact on the staff of inpatient nursing and care facilities. This reduces the monetised impacts by 8.663.594

euros. The follow-up costs of back problems (Göbel 2001) were used as a proxy for monetisation here, extrapolated to the number of employees and adjusted for deadweight. Since this impact only affects nursing and care staff, administrative staff were excluded from the calculation.

The **increased awareness of ageing** was monetised by means of the proxy indicator of the lost gross income of employees in the respective occupational group through a two-month traineeship in a retirement and nursing home, extrapolated to the number of employees (FTE) and adjusted for the deadweight. For administrative staff, a much lower deadline of 16% (own calculations) was applied, especially as it can be assumed that the same impact can only be achieved in administrative work in the area of care and assistance for older people.

Positive feeling (fulfilment, doing something good) is another essential impact, but it cannot be measured directly. For this purpose, the salary difference to a profit-oriented company was used as a proxy indicator. According to a study by Leete (2000), the salary level in profit-oriented companies is between 10% and 20% higher than in non-profit organisations. The proxy indicator was extrapolated to the number of employees. The profit from this impact was in turn reduced by the proportion of people who would have achieved this impact even with alternative employment.

The daily contact with elderly people and people in need of care also contributes to **improving the social competence** of staff working in retirement and nursing homes. The costs for the acquisition of social skills, specifically the attendance of a course on "social skills" amounting to 1.450 euros (Egos 2012) were used as a proxy indicator to monetise this impact. These were extrapolated to the number of employees by occupational group and adjusted for the deadweight (possibility of an alternative job in the care sector). As this impact only affects nursing and care staff, administrative staff were excluded from the calculation.

In addition to the physical impairment, the **increased psychomental strain** on the employees is also a negative impact that nursing and social professions have. Employees in nursing professions are confronted with continuous changes in their working conditions. These include, in particular, the growing number of people in need of care, increasing bureaucratisation in everyday care, precise documentation, slit duties, insufficient time for nursing activities and, above all, the regular confrontation with human suffering, which leads to stress and hectic in everyday care (Tovstentchouk 2009). In addition, relatives of the residents, especially those who visit their family members particularly often and have increased demands, can become a problem. For the staff, this means that the already limited time resources have to be reconciled with the expectations of the relatives. The factors mentioned above also have a considerable impact on the time available for discussions with residents, as it is becoming shorter and shorter. Thus, increased emotional strain and emotional dissonance is pre-programmed, which in the worst case can lead to emotional exhaustion and burnout (Tovstentchouk 2009). For monetisation, the follow-up costs of a burnout (Schneider 2013) were used for this purpose. These include psychotherapy costs and sick leave days. These were adjusted for the deadweight, which consists of the adjusted burnout rate[10] for nursing professions of 12% (Tovstentchouk 2009, Grundmann 2012, ÖBVP 2011) and on the other hand the possibility of an alternative job in the nursing sector. As this impact only affects nursing and care staff, administrative staff were excluded from the calculation.

Another important impact for the employees has been the **close cooperation**. The work in the team is highlighted as particularly positive. Especially sharing difficult cases obviously leads to a pleasant atmosphere among the employees. This impact cannot be measured directly

[10] Difference between burnout rate for nursing professions (= 33%) (Tovstentchouk 2009) and average burnout rate for employees with compulsory schooling (= 21%) (ÖBVP 2011).

either. The costs for the acquisition of team skills, in concrete terms the attendance of some courses on the topic of "team building", in the amount of 270 to 355 euros (Wifi Vienna 2013) were used as a proxy indicator. These were extrapolated to the number of employees affected. As deadweight, the probability of a good working climate with other employers was deducted by 70% (working climate 2013).

In addition, the benefits of **personal and professional training** contribute to the overall profit of the employees. For the evaluation, the expenditure made on initial and continuing training was used and reduced by the proportion of companies offering continuing training amounting to 72% (Markowitsch/Helfer 2003).

4.6 VOLUNTEERS

Volunteers are organised in a particularly structured way in Lower Austria's retirement and nursing homes. They take the time to talk to residents, respond to personal wishes (e.g. by reading aloud or going on short trips) and give the residents a feeling of security and the feeling that they are taken seriously. In Lower Austria's retirement and nursing homes, the volunteers are offered further training, regular team meetings, feedback rounds and supervision, meals in the homes, reimbursement of travel costs, insurance cover and participation in parties, celebrations and excursions. Working in a team provides the volunteers security and support. New acquaintances and friendships can also arise from the opportunity to exchange ideas and experiences.

4.6.1 Impact chain "Volunteers"

Volunteers invest their time and skills in the inpatient nursing and care facilities. In turn, the inpatient nursing and care facilities provide volunteer positions as well as the necessary work equipment and offer further training opportunities. The direct output of the inpatient nursing and care institutions in terms of volunteer staff is the number of volunteer hours worked and the number and quality of further training courses.

Table 4-411: Impact chain "Volunteers"

Input	Company activity	Output	Impact/Outcome	Deadweight
Working hours **Skills** (social competence, empathy, ...) **Abilities** (acquired knowledge, training, etc.)	Provision of a volunteer position Provision of work equipment Further training opportunities Social benefits Coordination of the volunteers	Number of volunteer hours Number/quality of training courses	Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improving social skills Know-how gain Appreciation, sense of belonging, sense of community, friendships	Possibility of alternative voluntary work

However, the impacts caused by the activities of inpatient nursing and care facilities are particularly relevant for the SROI analysis. This forms the basis for the calculation of stakeholder-specific monetised impacts and is described in the following section.

4.6.2 Calculation of stakeholder-specific monetised impacts

The volunteers have a total **monetised impact of 5.248.516 euros** through the inpatient nursing and care facilities. The following table shows how these are made up.

Table 4-412: Monetised impacts of volunteer staff

Volunteers	
Raising awareness of ageing Loss of earnings from a one-month traineeship in a nursing home multiplied by the number of volunteers minus deadweight (probability of an alternative voluntary commitment)	**€ 2.540.332**
Positive feeling (fulfilment, doing something good) Average donation of an Austrian person multiplied by the number of volunteers minus deadweight (probability of an alternative volunteer commitment)	**€ 126.154**
Improving social skills Cost of acquiring social skills (attending several courses on social skills) multiplied by the number of volunteers minus deadweight (probability of alternative volunteering)	**€ 2.323.874**
Know-how gain Costs for a basic course for caring relatives and volunteers multiplied by the number of volunteers minus the deadweight (probability of an alternative voluntary commitment)	**€ 207.036**
Appreciation, sense of belonging, friendships Membership in a sports club per year multiplied by the number of volunteers minus the deadweight (probability of an alternative voluntary commitment)	**€ 51.120**
Total profit of the volunteers	**€ 5.248.516**

The **higher level of awareness of ageing** was monetised using the proxy indicator of the lost gross income of employees in the respective occupational group through a one-month traineeship in a nursing home, extrapolated to the number of volunteers and adjusted for the deadweight, the probability of alternative voluntary work of 46% (BMASK 2013).

Positive feeling (fulfilment, doing something good) is another important outcome, but it cannot be measured directly. Therefore, the amount of an average donation by an Austrian of 91,40 euros (Neumayr and Schober 2012) was used as a proxy indicator and extrapolated to the number of volunteers. The profit of this impact was again reduced by the share of people who would have achieved this impact with an alternative voluntary commitment.

Dealing with elderly people and those in need of care also contributes to **improving the social competence** of the volunteers working in retirement and nursing homes. The costs for the acquisition of social skills were used as a proxy indicator to monetise this impact, in concrete terms the attendance of a course on the topic of "social skills" amounting to 1.450 euros (Egos 2012). These were extrapolated to the number of volunteers and adjusted for the deadweight (possibility of alternative voluntary work).

Furthermore, the volunteers benefit from a **know-how gain** in the course of their work in a retirement and nursing home. In order to be able to evaluate this impact in monetary units, the costs of a basic course for caring relatives or volunteers were used (WRK 2014) and extrapolated to the number of volunteers. Again, a deadweight was deducted.

Through volunteer work, the volunteer staff of retirement and nursing homes experience **appreciation and a sense of belonging**. New friendships develop. Many volunteers previously have had relatives as residents in the retirement and nursing homes and have returned to the retirement and nursing homes as volunteers after the death of their relatives. This impact can only be evaluated with the help of a proxy indicator. The costs of membership in a sports club per year were used (FCWIEN 2013) and extrapolated to the number of volunteers. A deadweight of 90% was deducted here, as it is assumed that the volunteers would make friends and be appreciated even without inpatient care facilities.

4.7 HOSPITALS

The stakeholder **hospitals** are mainly Lower Austrian hospitals and the employees of the discharge management of Lower Austrian hospitals.

This stakeholder has been identified as one of the most important, as hospitals save considerable costs in the care of procuratio cases through the inpatient nursing and care facilities. In addition, the employees in discharge management benefit from a lower administrative burden. Procuratio patients are persons in need of care who are cared for in a public hospital at the expense or with the participation of a state, a municipality or a social welfare agency without the need for medical treatment. Procuratio patients were confronted with extensive organisational and administrative matters such as nursing home applications during their hospital stay as nursing cases. The care of nursing cases in hospitals does not correspond to the primary tasks of a hospital, as the care of procuratio cases in the corresponding retirement and nursing homes would be much more appropriate (Court of Auditors' report 2011/2).

4.7.1 Impact chain "Hospitals"

The input of the hospital stakeholder is the referral of patients to the inpatient care and support services. By taking on patients, the output is the number of patients taken on by the inpatient care institutions, which leads to an outcome of fewer procuratio cases. Due to the high costs

that a procuratio case incurs for the hospital, this outcome is proportionately high compared to all other stakeholders, as the following calculation shows. Another important outcome is the lower administrative burden on the hospital's discharge management staff, as they would have a much greater administrative effort. In addition, the hospitals benefit from time savings due to the fact that the home doctors have already carried out diagnostics. When residents are hospitalised, all necessary findings and documents are prepared and made available to the treating doctors in the hospitals. This saves time for the doctors in carrying out the diagnosis. As deadweight, all residents who would have become procuratio cases in the hospital without the retirement and nursing homes have to be deducted.

Table 4-413: Impact chain "Hospitals"

Input	Company activity	Output	Impact/Outcome	Deadweight
Placement in RNH	Taking over patients	Number of patients admitted to RNH	Fewer procuratio cases Reduced administrative burden Time savings due to already performed diagnostics	Number of residents who would become procuratio cases in the hospital even without RNH

4.7.2 Calculation of stakeholder-specific monetised impacts

In total, hospitals as stakeholders benefit from a **monetised impact amounting to 323.637.247 euros**, the majority of which is due to procuratio cases saved. The deadweight is already included in the calculations.

Table 4-414: Monetised impacts of hospitals

Hospitals	
Fewer procuratio cases Amount of the costs for one day in hospital (procuratio) multiplied by the number of additional procuratio cases multiplied by 365 for the entire year	**€ 321.958.835**
Reduced administrative burden Number of full-time equivalent employees in discharge management multiplied by average annual personnel costs for qualified nurses (+ 100 % more employees in discharge management)	**€ 1.373.356**
Time saving due to already performed diagnostics Number of residents coming to the hospital multiplied by 1.5 hours of diagnostic work multiplied by the personnel costs of a hospital doctor (+ 50% more diagnostic effort would be required)	**€ 305.056**
Total profit of the hospitals	**€ 323.637.247**

The outcome **reduced period of duration** of procuratio cases in hospitals has been identified as highly relevant, as procuratio cases (those people placed in acute hospitals without medical care) lead to very high costs in hospitals. The average costs per day of a procuratio case in Lower Austrian hospitals is 583 Euros (personal information from the Lower Austrian

government 2015). For the present calculation, only those residents are considered who would otherwise have to be declared procuratio in a hospital. This is a total of 1.513 residents.

In the present analysis, it is assumed that 1.513 more procuratio cases would have to be admitted by hospitals over course of the year 2013.

The costs incurred by a procuratio case in hospital were thus multiplied by the number of procuratio cases that would have to be additionally admitted by hospitals over the period of one year.

Interviews with discharge managers showed that the **administrative workload** for hospital discharge management staff was **reduced.** If there were no inpatient nursing and care facilities, the staff in discharge management would have a significantly higher workload and an additional staff requirement of at least 100 percent would have to be assumed. The number of employees in discharge management in 2013 was 44,32 in full-time equivalents for Vienna (PIK project report 2010). This number was calculated on the basis of the number of hospital discharges in Vienna and Lower Austria, which ultimately amounts to 25 FTE for Lower Austria. Due to an additional staff requirement of 100 percent, the profit for a lower administrative effort is calculated from the number of employees multiplied by the average annual personnel costs for a qualified nurse.

The calculation of the administrative savings was based on the personnel expenses of an employee in discharge management, whereby part of the personnel expenses would subsequently have to be allocated to the hospital's funding agency. However, this is no longer considered in this analysis as it would exceed the scope of the analysis.

A further outcome is the **time saved by the diagnostics already carried out**. This was multiplied by the number of residents coming to the hospital, multiplied by 1,5 hours of average diagnostic work and monetised with the personnel costs of a hospital doctor. It was assumed that an additional 50% more diagnostic effort would be necessary.

4.8 FEDERAL GOVERNMENT

As a stakeholder group, the **federal government** is a complex entity and therefore offers a wide range of perspectives that are taken in comparison with inpatient nursing and care institutions. The focus of the present analysis is on the consideration as a player in the field of taxes and contributions as well as in the political sphere, which pursues a high level of employment and associated tax and contribution revenues.

As the relevant data from the available secondary material and the surveys conducted among other stakeholders are sufficiently known, a primary survey was not carried out. The benefit descriptions were thus based on secondary material and general knowledge.

The existence of retirement and nursing homes enables the federal government to generate additional tax revenue. These include wage taxes which are incurred by those persons who have a gainful employment due to the inpatient nursing and care facilities and for which contributions - here attributed to the federation - the employer's contribution to the Family Burden Equalisation Fund (Familienlastenausgleichsfond, FLAF) is paid.

There is still a certain benefit for the federal government in the fact that the inpatient nursing and care institutions employ civilian servants. However, these were excluded from the analysis.

The entire impact chain is presented in the following chapter.

4.8.1 Impact chain "Federal government"

The federal government invests subsidies in inpatient nursing and care facilities, which in turn provide services. The activities of the retirement and nursing homes consist in the care and support of residents and the provision of jobs. The corresponding output is the number of persons cared for and the number of full-time staff.

Table 4-415: Impact chain „Federal government"

Input	Company activity	Output	Impact/Outcome	Deadweight
Health and social fundings	Care and support Provision of jobs	Number of persons in care Number of employees	Additional tax and duty revenue (wage tax, employer contributions) Savings in subsidies for 24-hour care Saving on self-insurance contributions for caring relatives	Possibility of an alternative job Number of residents who would buy 24-hour care without RNH Number of residents who manage without APH with the help of employed relatives

Of particular relevance to the SROI analysis is the outcome of the activities and the associated impact. In concrete terms, this is the extent of the additional tax revenue, the savings in subsidies for 24-hour care and contributions to self-insurance for caregiving relatives. The deadweight to be deducted are, on the one hand, tax revenues that could be generated by alternative jobs and, on the other hand, savings that could be achieved without the existence of retirement and nursing homes.

4.8.2 Calculation of stakeholder-specific monetised impacts

In total, the federal government achieves a **monetised impact of 40.823.629 euros.** The composition of this impact is explained in more detail below.

Table 4-16: Monetised impacts of the federal government

Federal government	
Additional tax and duty revenue	
Amount of income tax by occupational group Amount of employer contributions multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job by occupational group)	**€ 32.085.272**

Savings in fundings for 24-hour care	
Annual amount of funding for 24-hour care (€ 6,600) multiplied by the share of funding provided by the Federal Social Office (= 60%) multiplied by the number of residents who would otherwise require 24-hour care and would purchase it	**€ 4.673.181**
Savings on self-insurance contributions for caring relatives	
Amount of the self-insurance premium multiplied by the number of clients who are at least at care allowance level 3 and who would otherwise manage with the help of relatives minus deadweight (share of carers not in employment = 75.1%)	**€ 3.771.767**
Additional revenue (Compensatory Tax on the Employment of Disabled Persons Act[11])	
Amount of the compensatory tax paid under the Disabled Persons Employment Act	**€ 293.409**
Total profit of the federal government	**€ 40.823.629**

The federal government benefits from **wage tax revenues** and employer contributions of the full-time employees amounting to 32.085.272 euros. However, a deadweight, i.e. the probability of obtaining an alternative job, was deducted.

In addition to the profit from tax revenues, the federal government can save subsidies for 24-hour care as well as contributions for self-insurance for care-giving relatives due to the inpatient care and support facilities. The **savings of the 24-hour care fundings** are calculated on the basis of the annual amount of the grant (550 euros per month) (BMASK 2013), the fundings share which the Federal Social Office assumes and the number of residents who would purchase 24-hour care in the alternative care solution.

Self-insurance for caring relatives can also be claimed in addition to compulsory insurance from gainful employment. The conditions for this are, on the one hand, that the relative in need of care is entitled to a care allowance of at least level 3 and, on the other hand, that there is a considerable strain on the labour force due to care in the home environment (pension insurance 2013). For the calculation, the amount of the self-insurance contribution of 358,04 euros (own survey at the BMASK 2013) was extrapolated to the number of residents who are at least in care level 3 and would otherwise cope with the situation with the help of relatives, and adjusted for the deadweight, share of caring relatives who are not in gainful employment.

4.9 PROVINCE OF LOWER AUSTRIA

The province of Lower Austria invests money in inpatient care and nursing facilities. These are primarily obtained through the stakeholder municipalities. Although the settlement is made directly between the province of Lower Austria and the municipalities and social welfare associations, the amounts refunded by the province of Lower Austria to the municipalities and

[11] In Austria, companies with 25 or more employees are obliged to employ one beneficiary disabled person for every 25 employees. If the employment obligation is not fulfilled, the employer is charged a compensation tax to be paid annually.

social welfare associations are attributed to the province in this analysis. The entire impact chain is presented in the following chapter.

4.9.1 Impact Chain "Lower Austria"

The province of Lower Austria invests in the retirement and nursing homes in the form of construction costs and compensates for the net expenditure. The inpatient nursing and care facilities employ people and provide inpatient care and assistance to residents. Impacts that arise for the province of Lower Austria as a result of this business activity are shown in the following table and are subsequently calculated and monetised.

Table 4- 17: Impact chain "Province of Lower Austria"

Input	Company activity	Output	Impact/Outcome	Deadweight
Construction costs **Compensa-tion for net expenditure of the RNH**	Support and care Provision of work places	Number of persons cared for Number of employe es	Additional tax revenue Savings in subsidies for 24-hour care Savings on state contributions for mobile services Fulfilment of the supply mandate	Possibility of an alternative job Number of residents who would buy 24-hour care or mobile services without RNH Activities of the RNH, which can be substituted by other existing organisations or private individuals, which also creates a certain feeling of security

4.9.2 Calculation of stakeholder-specific monetised impacts

In total, the province of Lower Austria achieves a **monetised impact of 6.028.532 euros.** The composition of this impact is explained in more detail in Table 4-17.

Table 4- 18: Monetised impacts of the province of Lower Austria

Federal State of Lower Austria	
Savings in fundings for 24-hour care Annual funding amount for 24-hour care (€ 6.600) multiplied by the share of the funding that the province covers (= 40%) multiplied by the number of residents who would otherwise purchase 24-hour care	**€ 2.191.519**
Savings on state contributions for mobile care annual amount of the state contributions multiplied by the number of residents who would otherwise purchase mobile care services	**€ 3.837.013**
Fulfilment of the supply mandate	Calculated for stakeholder "general population"
Total profit of the province of Lower Austria	**€ 6.028.532**

The **savings of the 24-hour care fundings** are calculated on the basis of the annual amount of subsidy (550 euros per month) (BMASK 2012), the subsidy share that the state assumes and the number of residents who would pay for 24-hour care in the alternative care solution. This results in an outcome of 2.191.519 euros.

The province of Lower Austria benefits from the existence of the inpatient nursing and care facilities as it does not have to pay additional **provincial contributions for mobile care services**, which would arise in the alternative scenario for those residents who would have to/might purchase mobile services. The profit is calculated on the basis of the number of required or purchased hours of recognised mobile care and support services in the alternative scenario and the contribution of 3.837.013 euros paid directly by the state to the supporting organisation.

The inpatient care and nursing facilities give the general Lower Austrian population a **feeling of security**, as it is ensured that retirement and nursing homes are available if there is need for care. The province of Lower Austria thus benefits from the fact that the inpatient care and nursing facilities help to fulfil the care mandate. The calculated sense of security is, however, only shown in grey for this stakeholder, as the outcome is taken into account directly with the stakeholder "general population".

4.10 SOCIAL INSURANCE INSTITUTIONS

The **social security institutions** in Austria are responsible for pension, health and accident insurances. The direct benefit of the social insurance institutions is the collection of additional contributions that otherwise could not be achieved. This concerns all persons who, due to the existence of the inpatient nursing and care facilities and their activities, have an employment.

4.10.1 Impact chain "Social insurance institutions"

The social insurance funds provide inpatient nursing and care facilities with benefits in kind, especially incontinence products and medication. The relevant activity for these stakeholders is the provision of jobs and the associated additional contributions. The corresponding output is the number of full-time employees who would lose their jobs without the inpatient care and support facilities.

Table 4- 19: Impact chain social insurance institutions

Input	Company activity	Output	Impact/Outcome	Deadweight
Benefits in kind (incontinence products, medication etc.)	Provision of jobs Care and support of the residents	Number of employees Number of residents in care	Additional social security contributions Cost savings in the health sector (hospitals, doctors in private practice, patient transport)	Possibility of an alternative job Number of residents for whom the corresponding impact would have been achieved even without RNH

4.10.2 Calculation of stakeholder-specific monetised impacts

The social insurance institutions will benefit from a **monetised impact of 55.461.330 euros.**

Table 4- 20: Monetised impacts of the social insurance institutions

Social Insurance Institution & Employee Pension Funds	
Additional social security contributions Amount of social insurance contribution (employer share) + amount of the social insurance contribution (employee share) multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job according to occupational group)	**€ 55.461.330**
Cost savings in the health sector	Calculated for stakeholder hospitals, doctors in private practice and response organisations
Overall profit of the social security institutions	**€ 55.461.330**

Social security contributions were calculated on the basis of the number of FTE employees. A deadweight was deducted in the amount of the probability of finding an alternative job.

In addition, the social insurance institutions benefit from savings in the health care sector, as inpatient nursing and care facilities provide medical care services that would be covered by the respective social insurance as part of medical home care, directly by general practitioners, or in hospitals. In this study, this was covered by the stakeholders hospitals, general practitioners and response organisations as far as the available data allowed. However, it should be noted that, for example, different forms of therapy from which the residents of retirement and nursing homes benefit were not taken into account due to the lack of data and thus the monetised impacts of the social insurance institutions are far **underestimated**.

4.11 AMS (AUSTRIA'S EMPLOYEMENT OFFICE)

The stakeholder **AMS** is a service company under public law. In 1994 the labour market administration was spun off from the Federal Ministry of Labour, Health and Social Affairs and the AMS was constituted with the mandate of the Federal Minister of Labour, Social Affairs and Consumer Protection for activities within the framework of full employment policy. The AMS advises, informs, qualifies and promotes job seekers and companies. The main tasks and objectives of AMS are reducing the unemployment rate, creating jobs, keeping unemployment among young people short, preventing long-term unemployment and increasing labour market opportunities through qualification (AMS 2006).

The AMS is considered in the present analysis as it has monetised impacts in the sense of the SROI analysis in connection with the full-time employees of inpatient nursing and care facilities.

One of the aims of the inpatient nursing and care facilities is to create jobs. Accordingly, the AMS benefits in terms of savings on unemployment benefit and emergency unemployment

benefit for those persons who find employment in the inpatient care and assistance facilities and can thus be kept in continuous employment.

In summary, this results in an impact chain for the AMS as described in the following chapter.

4.11.1 Impact chain "AMS"

The AMS does not provide any direct input to the retirement and nursing homes. The activity relevant for the AMS is the direct and indirect provision of jobs and training places and the unemployment avoided as a result. The corresponding output is the number of employees who would lose their jobs without the inpatient nursing and care facilities.

Particularly relevant for SROI analysis is the impact. For the AMS, on the one hand, the savings of unemployment benefit or emergency unemployment benefit and on the other hand contributions to unemployment insurance are relevant. Deadweight is again the possibility for employees to find a comparable alternative job.

Table 4- 21: Impact chain AMS

Input	Company activity	Output	Impact/Outcome	Deadweight
N/A	Provision of jobs Provision of training places	Number of employed and trained staff	Saving (emergency) unemployment benefit Additional contributions to unemployment insurance	Savings that would have resulted from alternative employment

4.11.2 Calculation of stakeholder-specific monetised impacts

The AMS achieves a total **monetised impact amounting to 59.201.970 euros,** which can be broken down as described in the following table.

Table 4- 22: Monetised impacts AMS

Labour Market Service	
Saving unemployment benefit Level of unemployment benefit by occupational group multiplied by the number of employees (FTE) in the respective occupational group minus deadweight (probability of an alternative job by occupational group)	**€ 59.201.970**
Additional contributions to unemployment insurance Level of unemployment benefit by occupational group Multiplied by the health insurance contribution rate of 7.65% of the benefits received (unemployment benefit) Less deadweight (probability of an alternative job by occupational group)	**included in social insurance**
Overall profit of the AMS	**€ 59.201.970**

In order to calculate the profit of the AMS, the **average unemployment benefit** was used and allocated to all employees (FTE). In addition, there is a health insurance contribution of 7.65% of the benefits received, which the AMS also pays to the social insurance funds.

As the **additional contributions to unemployment insurance** are an integral part of social security contributions, this profit is taken into account by the social security institutions and is not shown separately here.

4.12 SUPPLIERS

Among the **suppliers**, in a broader sense, were all those from whom the inpatient nursing and care facilities purchased materials and other services. A large part of the other operating expenses, such as operating costs, were also allocated to the suppliers. These include for example suppliers who offer products for care and support, workwear, cleaning materials and food.

4.12.1 Impact chain "Suppliers"

The corporate activity of the inpatient nursing and care facilities that is relevant to this stakeholder is the purchase of products and services to make the operation of the retirement and nursing homes possible. The number and scope of products or services purchased is the corresponding output. For this stakeholder, the outcome is getting additional orders and thus additional income. As deadweight, orders that would be generated or could be compensated by other organisations must be deducted.

Table 4- 23: Impact chain suppliers

Input	Company activity	Output	Impact/ Outcome	Deadweight
Products/ services	Purchase of products and services to enable the RNH's operation	Number and scope of products/services purchased	Additional orders	Orders which can be compensated by other organis-ations/projects

4.12.2 Calculation of stakeholder-specific monetised impacts

The suppliers achieve a **monetised impact of 38,967,092 euros** through the inpatient care and support facilities.

Table 4- 24: Monetised impact of suppliers

Suppliers	
Additional orders Cost of materials and purchased services minus deadweight (proportion of orders that would have been completed even without RNH)	**€ 38.967.092**
Total profit of the suppliers	**€ 38.967.092**

The benefit for the suppliers lies primarily in the **getting additional orders** from the inpatient nursing and care facilities. In order to calculate this profit, data from the balance sheets of the

nursing and care homes were used, aggregated and extrapolated. Depending on the different performance, different deadweight results.

For example, in an interview with a supplier of care products such as skin protection creams, cleansing tissues, wound care materials, incontinence products, compression bandages, etc., it was assessed how important the retirement and nursing homes are and whether the orders could be compensated for in other ways. According to the supplier's information, the retirement and nursing homes generally generate relatively little turnover compared to hospitals and other institutions in the health sector. With regard to compensation if there were no retirement and nursing homes, the interviewee comes to the conclusion that incontinence products would probably be sold in the same quantity and certainly also in the same quality even if care and nursing were provided in the alternative scenario. Wound care products and bandages are prescribed by doctors and are then dispensed through pharmacies or bandagers. To his knowledge, this also applies to nursing home residents. If retirement and nursing homes do not exist, this distribution channel would remain and accordingly little would change. By comparison, distribution via the retail trade (e.g. Bandagist Bständig) or via retirement and nursing homes has hardly any impact on the supplier's turnover. Both receive roughly the same price. The retail trade then adds margins, which the consumer ultimately has to bear. In this respect, it would be more expensive for relatives or those in need of care even in the alternative scenario. The supplier maintains the same turnover. Therefore a 100% deadweight was deducted for these products.

However, the situation is different for services directly related to the nursing home, such as snow removal, purchased building services, operating expenses including energy, uniforms, cleaning by third parties, maintenance costs, the maintenance of beds and technical equipment, insurance and depreciation. If there were no retirement and nursing homes, these expenses would be almost completely eliminated.

A deadweight of 100% was assumed for all other categories of operating expenses, as these expenses could easily be compensated by other customers.

4.13 PHYSICIANS IN PRIVATE PRACTICES

The stakeholder is understood to be general practitioners, who are usually the first point of contact for patients with medical problems or even have to be within the framework of the general practitioner model. Since the in-house doctors and qualified nurses take over certain activities of the family doctors - such as tube feeding, catheter flushing, wound care, etc. - the doctors benefit from considerable savings in time and effort.

4.13.1 Impact chain "Physicians in private practices"

Support for medical therapy is one of the most important corporate activities for this stakeholder, as it saves the GPs from having to make house calls, which are generally costly and time-consuming. The deadweight here is again the number of residents who do not require home visits even without inpatient nursing and care facilities.

Table 4- 25: Impact chain GPs

Input	Company activity	Output	Impact/ Outcome	Deadweight
Consultation and exchange about medical therapy	Taking over nursing and medical services	Number of residents for whom fewer home visits are necessary	Time saving	Number of clients who do not need a home visit even without RNH

4.13.2 Calculation of stakeholder-specific monetised impacts

The doctors achieve a **monetised impact amounting to 438.434 euros** through the inpatient nursing and care facilities.

Table 4- 26: Monetised impacts of doctors

Doctors	
Fewer home visits Number of additional home visits multiplied by 0.5 (otherwise double count with response organisations) multiplied by the cost of a home visit (difference between hourly rate of a home visit and a practice hour)	**€ 438.434**
Overall profit of the doctors	**€ 438.434**

The interviews with doctors revealed that doctors benefit from **fewer home visits**, as in-patient nursing and care institutions carry out nursing and medical activities that would otherwise have to be carried out by the GPSs. It was assumed that one additional home visit per resident per week would be necessary. This would lead to an additional 52 home visits per year, whereby the duration of a home visit, including travel time, is about one hour. However, this was only assumed for all those residents who would live at home in the alternative scenario. The doctors' profit was thus calculated from the lost profit that doctors make from home visits, as they earn a higher hourly rate for one hour in the practice than for a home visit (Initiative Elga, 2009). Thus, home visits are not considered particularly attractive for GPs, but they must not be omitted by them.

4.14 OWNERS

Owners are understood to be the owners of inpatient nursing and care facilities.

4.14.1 Impact chain "Owners"

The owners of the inpatient nursing and care facilities suffered a financial loss in 2013.

Table 4- 27: Impact chain "Owners"

Input	Company activity	Output	Impacts (Outcome)	Deadweight
Profit/loss **Allocation to/ release of reserves**	Provision of services in the field of nursing and care	Profit/loss Apportionments for central services	Expansion of the RNH or other service areas possible/ restriction of the RNH or other service areas necessary	Allocations for central services that would also have arisen without APH

4.14.2 Calculation of stakeholder-specific monetised impacts

The owners of the inpatient nursing and care facilities had a **loss of - 89,753 euros** in 2013.

Table 4- 28: Monetised impacts of owners

Owners	
Loss	
Loss = Input - negative impact that is included as input in the observation year	**-€ 89.753**
Total profit of the owners	**-€ 89.753**

4.15 RESPONSE ORGANISATIONS

In this context, the term "response organisations" refers to all rescue and emergency services of the province of Lower Austria that carry out patient transport, e.g. Red Cross, etc..

4.15.1 Impact chain "Response organisations"

As with the stakeholder physicians, one of the most important corporate activities here is the services provided by the inpatient nursing and care facilities, as these would otherwise require further patient transport. Output is the number of residents who no longer require ambulance transport through the nursing and care homes, either to doctors or to hospital. A deadweight is then deducted from the outcome of the lower input, which includes those residents who do not need ambulance transport at all even without the inpatient nursing and care facilities.

Table 4 -29: Impact chain "Response organisations"

Input	Company activity	Output	Impact/ Outcome	Deadweight
N/A	RNH's activities that would otherwise require the transport of patients	Number of residents who do not need ambulance transport	Fewer calls	Residents who do not need ambulance transport even without RNH

4.15.2Calculation of stakeholder-specific monetised impacts

A monetised impact amounting to 3.641.105 euros is achieved through the response organisations. The deadweight was already included in the calculations.

Table 4- 30: Monetised impacts of response organisations

Response organisations	
Lower number of calls Costs of patient transport multiplied by additional interventions for RNH residents multiplied by 0.5 (otherwise double counting with doctors)	**€ 3.641.105**

multiplied by the distribution of the frequency of residents requiring tasks such as flushing catheters, wound care etc.	
Total profit of the operational organisations	**€ 3.641.105**

The stakeholder response organisation benefits mainly from a **lower number of calls** because, according to an expert interview, tasks such as flushing catheters, wound care, tube feeding and adjusting the pain pump would require additional patient transport to the hospital or transport to family doctors or specialists.

If there were no retirement and nursing homes, there would have to be 49.257 more ambulance services per year, as these services would require transport to hospitals or to doctors in private practice.

In order to avoid double counting with the stakeholder physicians, a 50 percent split between the two stakeholders was assumed here. The additional ambulance transports result from the frequency of activities such as flushing catheters, wound care etc. with the number of residents who need them. The profit for the outreach organisations is thus calculated by multiplying the costs of one patient transport by the additional patient transport required.

4.16 TRAINEES

Students of social care professions must complete a work placement as part of their training. Inpatient nursing and care facilities thus offer the opportunity to gain practical experience in nursing for a large number of trainees.

4.16.1 Impact chain "trainees"

Trainees invest their time and skills in inpatient care and support facilities. In turn, the inpatient nursing and care institutions provide trainees positions as well as the necessary work equipment and offer further training opportunities. The direct output of the inpatient nursing and care institutions in terms of trainees is the number of traineeship hours as well as the number and quality of continuing education.

Table 4- 31: Impact chain trainees

Input	Company activity	Output	Impact/ Outcome	Deadweight
Working hours **Skills** (social competence, empathy, ...) **Abilities** (acquired knowledge, training, etc.)	Provision of the traineeship Provision of work equipment	Number of traineeship hours	Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improved social skills Teamwork Know-how gain	Possibility of an alternative traineeship

Particularly relevant for the SROI analysis, however, are the impacts caused by the activities of inpatient nursing and care facilities. This forms the basis for the calculation of stakeholder-specific monetised impacts and is described in the following section.

4.16.2 Calculation of stakeholder-specific monetised impacts

Trainees achieve a total **monetised impact of 4,865,663 euros** through the inpatient care and support facilities. The following table shows how these impacts are made up.

Table 4- 32: Monetised impacts of trainees

Trainees	
Raising awareness of ageing loss of earnings through a one-month traineeship in a nursing home multiplied by the number of trainees minus deadweight (probability of an alternative traineeship)	**€ 2.387.313**
Positive feeling (fulfilment, doing something good) Average donation of an Austrian multiplied by the number of trainees Less deadweight (probability of an alternative traineeship)	**€ 118.555**
Improved social skills Costs of acquiring social skills (attending several courses on social skills) multiplied by the number of trainees Less deadweight (probability of an alternative traineeship)	**€ 1.945.650**
Teamwork Costs for a training package "Teambuilding Multiplied by the number of trainees (FTE) Less deadweight (probability of an alternative traineeship)	**€ 136.196**
Know-how gain Costs for a basic course for caring relatives and volunteers multiplied by the number of trainees minus deadweight (probability of an alternative voluntary commitment)	**€ 277.950**
Total profit of the trainees	**€ 4.865.663**

The **increased awareness of ageing** was monetised by means of the proxy indicator of the lost gross income of employees in the respective occupational group through a one-month traineeship in a retirement and nursing home, extrapolated to the number of trainees and adjusted for the deadweight, namely the probability of an alternative traineeship, of 30% (assumption).

Positive feeling (fulfilment, doing something good) is another important outcome, but it cannot be measured directly. Therefore, the amount of an average donation by an Austrian of 91,40 euros (Neumayr and Schober 2012) was used as a proxy indicator and extrapolated to the number of trainees. The profit of this impact was again reduced by the share of people who would have achieved this impact with an alternative traineeship.

Dealing with elderly people and people in need of care also contributes to **improving the social competence** of the trainees working in the retirement and nursing homes. In order to monetise this impact, the costs for the acquisition of social skills, in concrete terms the attendance of a course on the topic of "social skills" amounting to 1.450 euros (Egos 2012), were used as a proxy indicator. These were extrapolated to the number of trainees and adjusted for the deadweight (possibility of an alternative traineeship).

The **close cooperation** is also attributed to the trainees. The costs for the acquisition of team skills, in concrete terms the attendance of some courses on the topic of "team building", in the amount of Euro 270-355 (Wifi Vienna 2013) were used as a proxy indicator. These were extrapolated to the number of trainees. As deadweight, the probability of an alternative traineeship of 30% was deducted.

In addition, the trainees benefit from a **know-how gain** in the context of their work in a retirement and nursing home. In order to be able to evaluate this impact in monetary units, the costs of a basic course available for nursing relatives or volunteers were used and extrapolated to the number of trainees. Again a deadweight of 30% was deducted.

4.17 LANDLORDS, PROPERTY OWNERS AND BUILDING CONSTRUCTORS

Landlords are used here as umbrella term for all those who construct and rent out buildings and/or properties of retirement and nursing homes and, in the alternative scenario, would rent out individual housing to residents of the inpatient nursing and care facilities. This stakeholder thus benefits from rental income from the retirement and nursing homes and from a possible rent adjustment or increase of dwellings with an old rental agreement. As with the retirement and nursing homes the possible neglect of the residents' flats is avoided, the stakeholder landlords benefit from considerable cost savings in the area of flat clearance, which would be necessary for neglected flats.

4.17.1 Impact chain "Landlords"

The landlords build homes for the retirement and nursing homes. Since the inpatient care and nursing services as a business activity free up the residents' homes, the outcome is that the home is prevented from falling into neglect and in addition, rent can be adjusted. The number of apartments and houses that would not be neglected even without the inpatient care and support services must be deducted here as deadweight.

Table 4- 33: Chain of impacts landlords

Input	Company activity	Output	Impact/ Outcome	Deadweight
Construct-ion of RNH	Accommodation of residents in RNH	Number of RNH that are rented Number of rental flats freed by RNH Number of rented housing that are not neglected through RNH	Rental income through RNH Possible rent adjustment/increase Neglect of the flat is prevented	Number of flats that do not allow for rent adjustments (takeover by family members etc.)

4.17.2 Calculation of stakeholder-specific monetised impacts

A Monetised impact of 30,863,502 euros can be attributed to the landlords. The deadweight was already included in the calculations.

Table 4- 34: Monetised impacts of landlords

Landlords	
Rental income from RNHs	
Level of rental income	
Deadweight (possibility to rent RNH elsewhere)	**€ 24.982.904**
Rent increase	
possible rent increase (differentiated between municipal flat/private rental flat and after takeover by family of the assisted person/free market) for an average large rental flat in Lower Austria	
multiplied by the number of residents who live in a RNH and have lived in a rented flat	
Less deadweight (proportion of residents who would also give up their homes in the alternative scenario)	**€ 4.291.077**
Prevent neglect of the home	
Clearance and cleaning costs	
multiplied by the number of residents who would fall into neglect	**€ 1.589.521**
Overall profit of the landlords	**€ 30.863.502**

Landlords benefit from **rental income** from the retirement and nursing homes. This was calculated from the expenses of the inpatient nursing and care facilities and an extrapolation was made. A deadweight of 20% was deducted (unpublished utility value report).

A further impact that has emerged for this stakeholder is the **profit** from the old contracts still existing in Lower Austria with extremely favourable old rents. Many landlords are anxious to end such tenancies with old rents. Due to the retirement and nursing homes, the residents give up their flats or have immediate grounds for termination after moving into a nursing home. This allows the landlords to increase the rent and thus benefit from an additional profit.

Currently, 28 percent of the Lower Austrian population live in a flat (Statistik Austria 2011b). Of these, 90% live in rented flats, the remaining 10% in condominiums. 65% of the inhabitants lived in a municipal flat, the remaining 35% lived in private rented flats. As the average age of the residents of the retirement and nursing homes is over 80 years, it was assumed that all those who are in a tenancy have an old tenancy agreement. The average floor space in square metres for Lower Austria was 71.8 m² (Statistik Austria 2011b).

Furthermore, those tenancies where family members take over the flat may only be partially considered. As the rules for the takeover of rented housing by family members in straight line are easier to establish in the case of municipal housing than in private rented housing, as one does not have to live in a common household to take over the housing, different assumptions are made for municipal housing and private rented housing:

- **In the case of municipal housing**, it was assumed that 80 percent of municipal housing could be handed over to relatives. In this case, the takeover also results in a rent adjustment, but only up to the category rate pursuant to Section 15a MRG (rental law) of a category A flat[12], which was 3,25 euros per square metre in 2013 (Mieterschutzverband 2014). If the flat is not taken over by relatives, the landlord can demand a rent that was 5,29 euros per square metre in 2013 (ÖHGB 2014).

[12] The Austrian rental laws distinguish between 4 categories for flats, with category A being a flat with a bathroom, toilet, heating and access to water and category D without a toilet nor water access inside the flat.

- **In the case of private rented housing**, it was assumed that only 50 percent of relatives could take over the flat in the first place, as it is necessary to prove that one has lived in the same household for two years. Again, when relatives took over the flat, the reference value of a category A flat was used for the calculations and for the free market the reference value for Lower Austria.

If one takes into account the profit from new rentals (either by the family of the person cared for or on the free market) of an average-sized rental flat in Lower Austria (Statistik Austria 2011b), the benefit is 4.025.298 euros.

Landlords also benefit from the inpatient care and nursing facilities by preventing the **flat from being neglected**. After research, the costs of vacating and cleaning a neglected flat were used and multiplied by the number of residents who would be neglected in the alternative scenario.

4.18 TRUSTEES

This stakeholder includes all those trustees who are responsible for clients in an inpatient care facilities. Since the nursing and care homes take over organisational activities, this stakeholder saves time.

4.18.1 Impact chain "Trustees"

No financial input from the trustees flows into the inpatient care and support facilities. Corporate activities of the nursing and care homes are organisational activities. The type and scope of the services provided by the inpatient nursing and care facilities, which save the trustees' time, are mentioned as outputs. The impacts are only calculated for those residents who have a trustee.

Table 4- 35: Chain of impact trustees

Input	Company activity	Output	Impact/Outcome	Deadweight
N/A	organisational activities	Type and scope of the services provided by the APH	Time saving	Residents who are not managed

4.18.2Calculation of stakeholder-specific monetised impacts

In total, the calculations show a **monetised impact of 678.549 euros** for the trustees. The deadweight was already included in the calculations.

Table 4- 36: Monetised impacts of the trustees

Trustees	
Time saving Number of hours saved per month multiplied by 12 for the whole year	**€ 678.549**

multiplied by the hourly rate of an Austrian employee and/or lawyer for the number of residents under guardianship	
Total profit of the trustees	**€ 678.549**

The inpatient care and support facilities result in monthly **time saving** of 1.5 hours for the stakeholder trustees. This time saving is monetised via the hourly rate of an Austrian employee. 47 percent of the trustees in Vienna work as lawyers. It was assumed that this is also the case in Lower Austria. For this share of trustees, the time saved is monetised through a higher average hourly rate, namely that of a lawyer. The total profit is thus calculated by multiplying the number of trustees who have clients in the inpatient care institutions by the annual time saved.

4.19 GENERAL POPULATION OF LOWER AUSTRIA

The general population in Lower Austria as a stakeholder is the entire population of Lower Austria. Accordingly, all profits that benefit society in general are attributed to this stakeholder. In concrete terms, the focus here is on the sense of security conveyed by the existence of retirement and nursing homes.

4.19.1 Impact chain "General population of Lower Austria"

Through the general population in Lower Austria, donations and other income flow into the retirement and nursing homes, which provide services in the field of nursing and care. The services provided by the inpatient nursing and care facilities result in an increased sense of security through the awareness of being professionally cared for in case of a need for care.

Table 4- 37: Impact chain of the general Lower Austrian population

Input	Company activity	Output	Impact/ Outcome	Deadweight
Donations **Other revenue**	Provision of services in the field of nursing and care	Number and scope of services provided, which are perceptible to the general population	Feeling of security Displacement from the labour market	Number of people who are not willing to pay for RNH Activities of the RNH that can be subst-ituted by other existing organi-sations/privates, which also brings a certain feeling of security

4.19.2 Calculation of stakeholder-specific monetised impacts

The monetised impacts for the general population of Lower Austria amount to **100.214.317 euros**.

Table 4- 38: Monetised impacts of Lower Austrian's general population

General population of Lower Austria	
Increased sense of security Administrative costs of nursing insurance per year multiplied by the number of people over 40 in Lower Austria Less deadweight (people who do not have an increased sense of security from RNH = 50%, organisations that could take over services from RNH and therefore could provide the same sense of security = 58%)	**€ 101.592.577**
Displacement from the labour market Number of relatives who find work and thus drive other people out of the labour market	**-€ 1.440.237**
Total profit of the general population in Lower Austria	**€ 100.152.340**

The existence of inpatient care and support facilities gives the **general population in Lower Austria** a **feeling of security**. The administrative costs for a nursing care insurance were used as a proxy here. In principle, people aged 35 and over take out long-term care insurance. For a 40-year-old woman, the monthly premium to be paid is 100 euros with a monthly payment of 1.056 euros in case of need of care (Uniqa 2013, telephone call Uniqa). The administrative costs are 4.175% per year. The remaining amount was not attributed to the feeling of security, as this is based on the assumption that a benefit will also be received later.

As deadweight, 50% were initially deducted, as it cannot be assumed that all Lower Austrians have an (increased) feeling of security due to the retirement and nursing homes. A study in Germany comes to the conclusion that the willingness of people between 55 and 75 years of age to pay for services in need of care is 50% (Blanke et al. 2000).

As some activities of the inpatient nursing and care institutions could also be substituted by other existing organisations or private individuals, which also creates a certain feeling of security, another 58% are deducted (own calculation from survey).

Furthermore, all those currently employed relatives of residents have a negative impact on the general population, as people are pushed out of the labour market. The calculations were carried out analogously to the additional income of the relatives.

A further impact of inpatient care and assistance facilities is the **market economy service orientation**, which further undermines family cohesion and/or informal care relationships.

On the one hand, this can have positive impacts, such as relieving the burden on relatives, which in turn leaves more time for other family members. On the other hand, the sense of responsibility for elderly people and people in need of care can decline in society as a whole, depending on the values held. Whether the impact is ultimately positive or negative is a value decision. However, since no value decision is to be made here, this impact is not calculated and monetised.

4.20 SROI VALUE - TOTAL CALCULATION AND SCENARIO CALCULATION

The final step is to calculate the concrete SROI value for the defined period (2013). For this purpose, the (financial) investments made by the financiers are compared with the social impacts assessed in monetary terms and the existing monetary impacts.

By comparing the total investments made in 2013 with the sum of the monetised impacts, the **SROI value** is **2.93. This means that each euro invested creates impacts in the monetised equivalent of 2.93 euros.**

Table 4- 39: Calculation SROI value

Investments in 2013	**€ 406.143.623**
Monetised impacts 2013	**€ 1.190.238.091**
SROI total	**2,93**

The following table provides an overall view of the SROI analysis and reiterates the investments and profits of the individual stakeholders, which were previously examined in more detail.

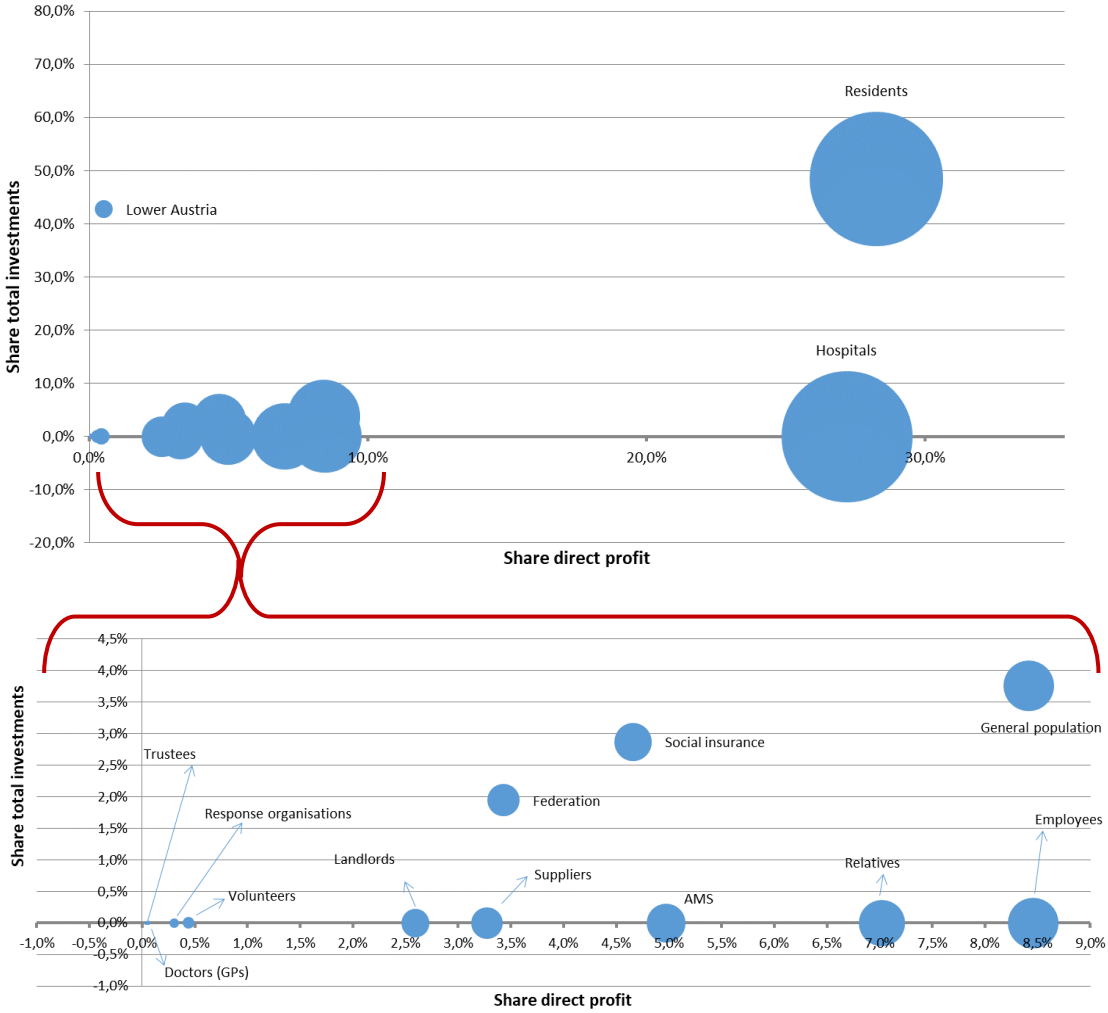
Table 4- 40: Investments and profits of inpatient nursing and care facilities overall view 2013

Stakeholders	Investments in RNH		Impacts and profits from RNH		Share of profit
Residents	Contributions to costs	€ 196.789.352	e.g. no risk of neglect, improved physical well-being, longer life expectancy, limited privacy	€ 336.100.966	28,2%
Hospitals	Transfer to RNH	-	e.g. fewer procuratio cases, less administrative work	€ 323.637.247	27,2%
Employees	Time, skills, acquired knowledge	-	e.g. fixed employment and fixed income, positive feeling (doing something good)	€ 100.644.842	8,5%
General population	Other income, donations	€ 15.266.505	Feeling of security	€ 100.152.340	8,4%
Relatives	-		e.g. improved relationship with relatives, less psychological and physical stress	€ 83.574.128	7,0%

AMS	-	-	Savings of unemployment benefit	€ 59.201.970	5,0%
Social insurance	Incontinence products and medicines	€ 10.884.975	additional contributions, cost savings in the health sector	€ 55.461.330	4,7%
Federal state of Austria	Fundings	€ 7.903.689	additional taxes and charges, saving on self-insurance premiums and promotion of 24-hour care	€ 40.823.629	3,4%
Suppliers	Products / Services	-	Additional orders	€ 38.967.092	3,3%
Landlords	Provision of buildings for RNH	-	Rental income, rent increases, neglect of the flat is prevented	€ 30.863.502	2,6%
Province of Lower Austria	Fundings	€ 173.741.443	additional tax and duty revenues, savings on promotion of mobile services and 24-hour care	€ 6.028.532	0,5%
Volunteers	Time, skills, acquired knowledge		e.g. positive feeling, appreciation	€ 5.248.516	0,4%
Trainees	Time, skills, acquired knowledge	-	e.g. know-how gain, greater awareness of ageing	€ 4.865.663	0,4%
Response organisations	-		Fewer missions	€ 3.641.105	0,3%
Trustees	organizational activities	-	Time saving	€ 678.549	0,1%
General practitioners	-	-	fewer house calls	€ 438.434	0,0%
Other provinces	Revenue from other federal states	€ 787.453	-	-	0,0%
Owners of RNH	-		financial loss; release of reserves	-€ 89.753	-
SROI		**€ 406.143.623**		**€ 1.190.238.091**	**2,93**

As can be seen from the table above, the individual stakeholders have a different share in the investments and the monetised impacts. The following table also shows the influence of each stakeholder graphically.

Figure 4-41: Stakeholder shares in total investment and profits



It can be seen that the residents both make the highest share of the investment and receive the highest share of the impact. Relatively speaking, they benefit more than they invest. The share of the total profit of the residents is 27%.

The next most important stakeholder groups are the hospitals, which account for 26.4% of total profits and do not contribute financially to inpatient nursing and care facilities. The employees benefit with an overall profit of 10.3%. The next most important stakeholder groups are the general population, relatives, the employment office "AMS" and the social insurance institutions.

The province of Lower Austria, as the funding institution, contributed the majority of the investments, after the inhabitants. In addition, the social insurance institutions invest by providing incontinence products and medication, the general population with donations and other income, the federal government with fundings and other provinces if their citizens are cared for elsewhere.

A **sensitivity analysis** was used to **calculate** a **scenario that shows the impact of shorter life expectancy.**

A significant impact is the **longer life expectancy** in retirement and nursing homes. In the calculations above, an average life expectancy of 2,2 years was added for the residents. In the context of a sensitivity analysis, it was assumed that in the future, due to the expansion of

mobile services, only the very elderly will be accommodated in retirement and nursing homes and will only spend their very last months of life there. If the average life expectancy is reduced from additional 2.2 years to additional 0,5 years, the **SROI value** would **decrease from 2.93 to 2.73**. This clearly shows the importance of the longer life expectancy of residents, although it is only one of many impacts for residents.

In summary, it can be seen that the inpatient nursing and care facilities generate a clear profit, especially for the residents but also for the hospitals. In total, 293% of the euros invested in Lower Austria's inpatient care and nursing facilities pay off.

4.21 SUMMARY

The NPO & SE Competence Center of the Vienna University of Economics and Business (WU Wien) was commissioned by the Federal Association of Retirement and Nursing Homes in Austria to analyse the **social and economic impact of inpatient nursing and care facilities in Lower Austria and Styria.** The observation period refers to the year 2013.

The analysis was carried out by means of a Social Return on Investment (SROI) analysis, the aim of which is to record and evaluate the social added value created by the inpatient nursing and care facilities as comprehensively as possible. The method aims to measure not only the financial, but explicitly also the social impacts of the project. The present analysis is based on the "Praxishandbuch Social Return on Investment" published by Schober/Then (2015). An updated English version is available since 2017 with the title "Social Return on Investment Analysis. Measuring the Impact of Social Investment", by Then/Schober/Rauscher/Kehl. A key point is the identification of the most important stakeholders at the beginning. For each stakeholder group, the invested input, the achieved output and the outcome are compared in an impact chain. The identified impacts are verified, supplemented, quantified and finally, where possible and meaningful, evaluated in monetary units. In this way, the monetary value of the aggregated impacts can be compared with the total input available in monetary units. The resulting indicator is the SROI value, which is a ratio indicator that shows how the monetised impacts are proportional to the money invested. A value of 1:2 signals twice as valuable social impacts as investments.

Research question 1 is: *"What impacts do the inpatient care and nursing facilities in Lower Austria have on the relevant stakeholder groups?*

Research question 2 is: *"Can the impacts achieved in the context of inpatient nursing and care facilities be meaningfully and validly measured and monetised?*

Research question 3 is: *"What is the total monetised benefit of one euro invested in Lower Austrian inpatient nursing and care facilities?*

As an **alternative scenario**, it is assumed that there are no inpatient nursing and care facilities in Lower Austria. The residents would have to be accommodated in other care settings, if capacities are available. These would be mobile nursing and care services, assisted living, 24-hour care, nursing homes in neighbouring provinces, hospitals or the purchase of services on the market. Since not all residents would be able to be accommodated elsewhere, relatives providing care would also have to take on increased care and support and/or the residents would be neglected or die earlier.

The study shows the wide range of tasks and activities performed by inpatient nursing and care institutions in Lower Austria. It makes both positive and negative impacts that arise for different stakeholders of nursing and care homes visible.

The following groups were identified as stakeholders:

- Residents
- Relatives
- Employees
- Volunteers
- Hospitals
- Federal republic of Austria
- Federal province (Lower Austria)
- Other federal provinces
- Social insurance institutions
- AMS (Austria's employment office)
- Suppliers
- General practitioners
- Owners of inpatient and nursing homes
- (Emergency) Response organisations
- Trainees
- Landlords
- Trustees
- General population

In summary, it was easy to ascertain the benefits of the stakeholders, i.e. the impacts of the inpatient nursing and care facilities from the perspective of the stakeholders. Due to a satisfying data situation, quantification and monetisation was possible in a very good way. Research question 2 can therefore be answered positively: The impacts can largely be calculated and monetised in a meaningful and valid way.

Based on the surveys and calculations carried out here, the total **monetised impacts** for 2013 amount to **around 1.190 million euros**. This contrasts with **investments of a projected 406 million euros**, which consist mainly of payments from the state and the residents.

The **greatest profit** is generated for the **residents (28.2%)**, who are regarded as the central stakeholder group of the retirement and nursing homes. In 2013, 12.016 people were cared for by Lower Austrian nursing and care institutions. However, about 500 persons (474 FTEs) with a psychosocial focus were excluded from the analysis. If the billing days provided in the course of 2013 are converted to FTEs, this results in around **8.535 consistently occupied places** for 2013. All psychosocial cases were excluded from the calculations. The number of self-payers was estimated in Lower Austria.

The residents benefit above all from the improved physical condition, longer life expectancy and improved living conditions through barrier-free access. They also benefit from no risk of neglect, an increased sense of security, greater psychological well-being, more social contacts, a balanced and regular diet, less organisational effort, adequate leisure activities, the guarantee of a clean environment and improved relations with relatives. However, they also experience restrictions in self-determination through paternalism, limited privacy through shared rooms, no possibility to stay in one's own home, a higher risk of infection, dissatisfaction with food and higher costs compared to the alternative scenario. The total monetised impact amounts to **336.100.966 euros**.

The **second largest profit** is generated for **hospitals (27.2%)**. The stakeholder hospitals are mainly the public hospitals in Lower Austria and their employees of the discharge management. Due to the inpatient nursing and care facilities, hospitals have to deal with fewer procuratio cases (care in acute hospitals without necessary medical care), thus saving considerable costs and not adequately used capacities.

The third largest profit is made by the employees who work in the retirement and nursing homes **with 8.5%, the fourth largest by the general population with 8.4%**, among other things due to an increased feeling of security

The **least profit** is made by the trustees and general practitioners. The owners of retirement and nursing homes have suffered a **loss.**

If the total profit is related to the total investment in the inpatient nursing and care facilities, this results in an SROI value of **2.93**. **This means that every euro invested in the nursing and care homes in 2013 creates impacts in the monetised equivalent of 2.93 euros.**

In sum, the inpatient care and nursing facilities operating in Lower Austria have a very high impact. Their monetised impacts, related to the year 2013, were more than 2.9 times higher than the financial investments made.

5 STYRIA

The second part of the study dealt with the situation for stakeholders of retirement and nursing homes in the Austrian province of Styria. Here, the exact same methods, indicators as well as stakeholders were chosen as for calculations made for Lower Austria. For the English version of this study, the detailed results are omitted, they can however be found in the German version by Pervan, Schober and Müller (2015) of this study.

To give an overview, the results of the Styrian analysis are summarised here.

By comparing the total investments made in 2013 with the sum of the monetised impacts, the **SROI value is 2.95. This means that each euro invested creates impacts in the monetised equivalent of 2.95 euros.**

Table 5-51: Calculation SROI value

Investments in 2013	**€ 458.572.343**
Monetised impacts 2013	**€ 1.353.719.617**
SROI total	**2,95**

The following table provides an overall view of the SROI analysis and reiterates the investments and profits of the individual stakeholders.

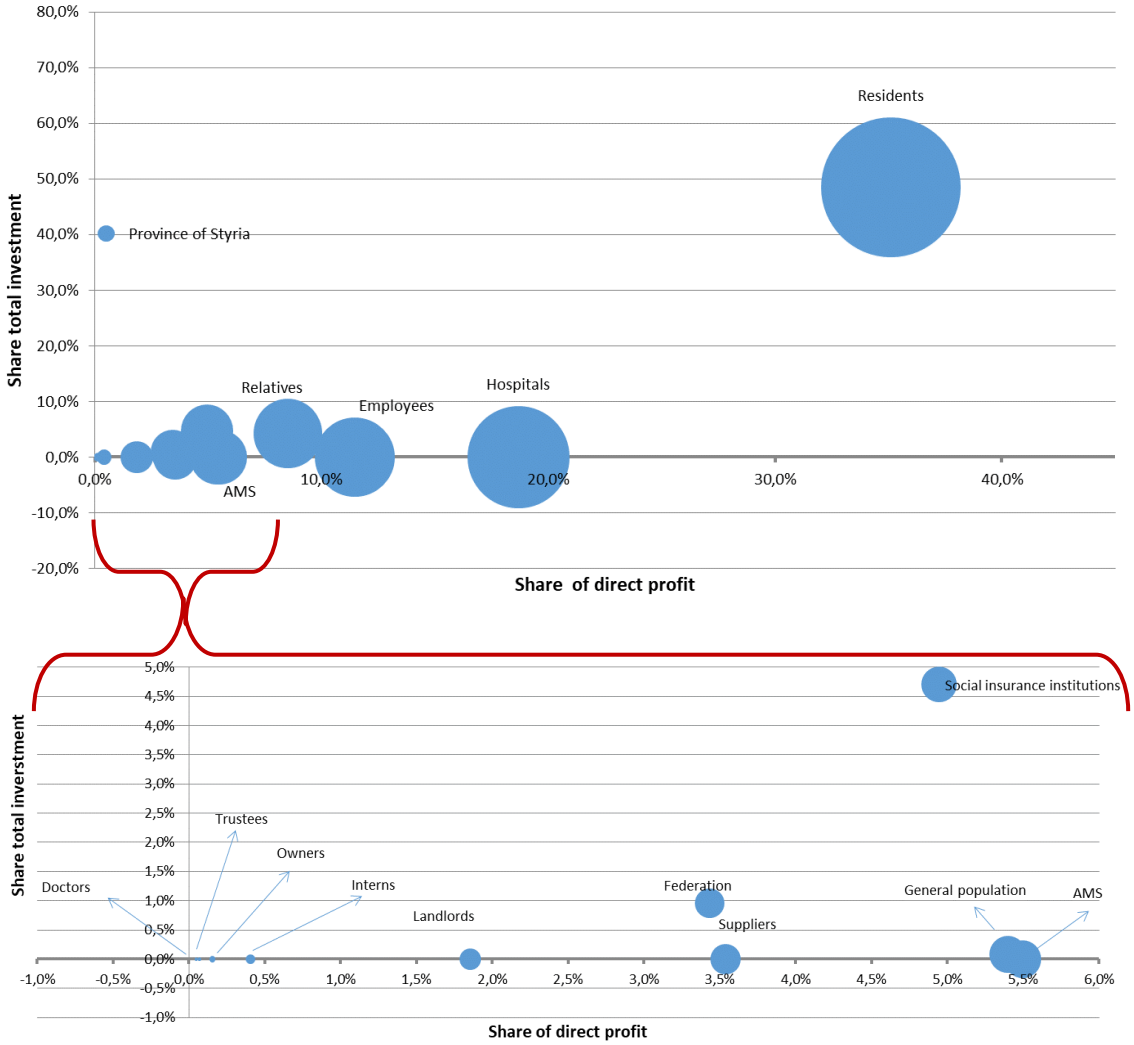
Table 5-2: Investments and profits of inpatient nursing and care facilities: overall view 2013

Stakeholders	Investments in RNH		Impacts from RNH		Share of profit
Residents	Contributions to costs	€ 222.534.871	e.g. no risk of neglect, improved physical well-being, longer life expectancy, limited privacy	€ 475.302.303	35,1%
Hospitals	Transfer to RNH	-	e.g. fewer procuratio cases, less administrative work	€ 252.914.605	18,7%
Employees	Time, skills, acquired knowledge	-	e.g. permanent employment and fixed income, positive feeling (doing something good)	€ 155.302.692	11,5%
Relatives	Revenue from persons with support obligations, heirs and third parties	€ 19.656.384	e.g. improved relationship with relatives, less psychological and physical stress	€ 115.225.886	8,5%

AMS	-	-	Saving unemployment benefit	€ 74.378.913	5,5%
General population	Other income, donations	€ 389.401	Feeling of security	€ 73.042.234	5,4%
Social insurance institutions	Incontinence products and medicines	€ 21.566.255	Additional contributions, cost savings in the health sector	€ 66.912.495	4,9%
Suppliers	Products / Services	-	Additional orders	€ 47.888.113	3,5%
Federal Republic of Austria	Subsidies	€ 4.384.141	Additional taxes and charges, saving on self-insurance premiums and promotion of 24-hour care	€ 46.483.176	3,4%
Landlords	Provision of buildings for RNH	-	Rental income, rent increases, neglect of the flat is prevented	€ 25.109.492	1,9%
Province of Styria	Subsidies	€ 184.325.723	Additional taxes and charges revenue, savings on promotion of mobile services and 24-hour meal support	€ 6.806.454	0,5%
Trainees	Time, skills, acquired knowledge	-	e.g. know-how gain, greater awareness of ageing	€ 5.494.587	0,4%
Response organisations	-		Fewer calls	€ 5.192.305	0,4%
Owners of RNH	-		Financial loss; release of reserves	€ 2.100.150	0,2%
Trustees	Organisational activities	-	Time saving	€ 940.996	0,1%
General practitioners	-	-	Fewer house calls	€ 625.218	0,0%
Other federal provinces	Revenue from other social assistance agencies	€ 5.715.568	-	-	0,0%
SROI		**€ 458.572.343**		**€ 1.353.719.617**	**2,95**

As can be seen from the table above, the individual stakeholders have different shares in the investments and profits. The following table also shows the influence of each stakeholder graphically.

Figure 5-51: Stakeholder shares in total investment and profits



It is clearly visible that residents both make the highest share of investments and receive by far the highest share of profit. Relatively speaking, they benefit more than they invest. The share of the total profit of the residents is over one third (35.1%).

The next most important stakeholder groups are the hospitals, which account for 18.7% of total profits and contribute nothing financially to the inpatient nursing and care facilities. The employees benefit with an overall profit of 11.5%. The stakeholder groups of relatives, the AMS (Austria's employment office), social insurance institutions and suppliers follow in the other places.

The province of Styria, as the funding institution, contributes the majority of the investments, after the inhabitants. In addition, the relatives, through nursing income in 2013, the social insurance institutions invest by providing incontinence products and medication, the general population with donations and other income, the federal government with subsidies and social welfare institutions of other federal states.

As the residents account for the most significant share of the profits and here in particular the negative impact of "restricted privacy through shared rooms" plays an important role, a sensitivity analysis was carried out in addition to the main variant described so far.

As part of this **sensitivity analysis,** a **scenario** was **calculated that shows the impacts of more single rooms in retirement and nursing homes.**

In some retirement and nursing homes, the proportion of single rooms is much higher than the calculated average. The negative impact on the residents' privacy resulting from the restricted privacy amounts to **116.478.135 euros** in the above calculations. The number of people in single rooms was around 40%.

For a sensitivity analysis it was assumed that 75% of the residents would be accommodated in a single room. The SROI value would **rise** from **2.95 to 3.10 euros** in the present scenario. This clearly shows the importance of the limited privacy of the residents, although it is only one of many impacts for the residents.

Another significant impact is the **longer life expectancy** in retirement and nursing homes. In the above calculations, an average life expectancy of additional 2,2 years was attributed to the residents. In the context of a further sensitivity analysis, it was assumed that in future, due to the expansion of mobile services, only the very elderly will be accommodated in retirement and nursing homes and will spend only their last months of life there. If the additional average life expectancy is reduced from 2,2 years to 0,5 years, the **SROI value** would **fall from 2.95 to 2.67**. Thus, longer life expectancy is also a significant lever in the calculation of the impacts on residents.

In summary, it can be seen that the inpatient nursing and care facilities generate a clear profit, especially for the residents but also for the hospitals. In total, a euro invested in the Styrian inpatient nursing and care facilities pays off by 295%.

In summary, the inpatient nursing and care facilities operating in Styria have a very high impact. Their monetised impacts, related to the year 2013, were more than 2.9 times higher than the financial investments made.

6 SUMMARY

The issue of care and nursing for the elderly is a central element of social policy which is closely related to many other fields. The age at which people in need of care move into retirement and nursing homes is becoming ever higher. This is due to the expansion of mobile services and the increased use of 24-hour care. In addition, the disproportionate increase in the number of very old people in the population means that the age group with the greatest need for assistance and care is growing fast.

At present, the general premise of "mobile care prior stationary care" prevails. Priority is given to the development of those mobile services over stationary ones. However, homes for the elderly and nursing homes fulfil an essential and irreplaceable function in the care of people in need, especially in the very last stage of life. Mobile and stationary services can only be considered substitutes to a limited extent, as a recent study by the Austrian Institute of Economic Research confirms (WIFO 2014). If care at home can no longer be guaranteed in the existing form of housing due to a lack of a social network or a lack of needs-based equipment, a move to a retirement and nursing home where the necessary care and support services are guaranteed is often indispensable.

In this context, an analysis of the inpatient nursing and care facilities appears all the more important in order to be able to visualise the framework conditions that the residents find and the role of the retirement and nursing homes in society as a whole. The present study, which was commissioned by the Federal Association of Retirement and Nursing Homes in Austria, focuses on these social impacts of inpatient nursing and care facilities for the two federal provinces Lower Austria and Styria. As outlined in chapter 2economic, social, psychological and physiological impacts. **The impact analysis is carried out by means of a Social Return on Investment (SROI) analysis, the aim of which is to record and evaluate the social added value created by the inpatient nursing and care facilities as comprehensively as possible.** The present analysis is based on the "Praxishandbuch Social Return on Investment" published by Schober/Then (2015). An updated English version is available since 2017 with the title "Social Return on Investment Analysis. Measuring the Impact of Social Investment", by Then/Schober/Rauscher/Kehl.

As an **alternative scenario**, it is assumed that there are no inpatient nursing and care facilities in Lower Austria or Styria. Residents would have to be accommodated in other care settings, if capacities are available. These would be mobile nursing and care services, assisted living, 24-hour care, nursing homes in neighbouring provinces, hospitals or the purchase of services on the market. Since not all residents could be accommodated elsewhere, relatives providing care would also have to take on increased care and support and/or the residents would be neglected or die earlier.

In **Lower Austria**, **12.016 people** lived in Lower Austrian retirement and nursing homes in **2013**. However, about 500 persons (474 FTEs) with a psychosocial focus were excluded from the analysis. If the billing days performed in the course of 2013 are apportioned to FTEs, this results in around **8.535 consistently occupied places** for 2013. Psychosocial cases are excluded here. In this province, 76% of the residents are women and almost half of them, about 47%, are 85 years old and older.

In **Styria, 13.273 people** were cared for in retirement and nursing homes in **2013**. The 4.344.220 billing days in the course of 2013 have been allocated to FTEs, resulting in around **11.902 continuously occupied places** for 2013, the majority of which, around 71%, are women and almost half of the residents (49%) are 85 years old or older.

If the two federal provinces are compared directly, it becomes clear that the length of stay in Lower Austria's retirement and nursing homes is considerably shorter than in Styria. As Lower Austrian residents also have higher levels of long-term care allowance on average, this leads

to the assumption that in Lower Austria residents are in a worse physical condition overall. The mobile care network in Lower Austria is comparably better developed, which fits into this picture. People in need of care therefore only come to a nursing home in the very last months of their lives. This results in a shorter length of stay than in Styria and a much higher fluctuation rate of residents.

On the basis of the surveys and calculations carried out here, the total **monetised impacts** for the year 2013 amount to **around 1.190 million euros for Lower Austria and 1.354 million euros for Styria**. This compares to **investments of around 406 million euro for Lower Austria and 459 million euro for Styria**. Comparing the total investments from 2013 with the sum of the monetised impacts, the **SROI value for Lower Austria is 2,93. The SROI value for Styria is 2,95 euros. This means that each euro invested creates impacts with a monetised equivalent value of 2,93 euros for Lower Austria and 2,95 euros for Styria.** The investments thus return about three times in both provinces as positive impacts for society as a whole. The most significant positive impacts are for the **residents**, followed by the **hospitals. Both stakeholders together account for around 50% of the total profit.**

Differences between the provinces are mainly due to the **unequal distribution of residents** in the alternative scenario. The share of residents with long-term care allowance level 7 is higher in Lower Austria at around 11% than in Styria (9%). Moreover, there are no facilities for assisted living in Lower Austria. In addition, the retirement and nursing homes in the neighbouring provinces of Lower Austria have fewer vacancies than those in the neighbouring regions of Styria. A further difference results from the different average hospital costs for a procuratio case in the hospitals. Similarly, the proportion of the general population in Lower Austria, with 912.397 persons, is significantly higher than in Styria, with 673.058 persons (Statistik Austria 2012b). A further difference between the two federal provinces is the fact that in Lower Austria an additional stakeholder group was included in the analysis, namely the the volunteers. Although there are also volunteers in the retirement and nursing homes in Styria, they are not organised to the same extent and with the same professionalism as in Lower Austria. However, the volunteers themselves make up only a small proportion of the overall profit (0.5%) and have little influence on the SROI value.

In the calculations of the province of Styria, the additional revenue from taxes (property tax and other levies) was explicitly mentioned. This breakdown was not possible in Lower Austria due to the non-available data base.

In summary, the present SROI analysis has shown that the inpatient nursing and care facilities in the two provinces of Lower Austria and Styria have a very high impact. The monetised impacts, related to the year 2013, were about 2.9 times higher for Lower Austria and Styria than the financial investments made.

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8 ANNEX

8.1 IMPACT CHAINS

Table 8-81: Impact chains

Stakeholders	Input	Company activity	Output	Impacts (Outcome)	Deadweight
Residents	Contributions to costs	Care and support	Number of settlement days	No danger of neglect Increased sense of security Limited individuality Limited privacy (double room) No possibility to remain in your own home until death Changed psychological well-being Improved general physical condition Higher risk of infection than at home Longer life expectancy Balanced and regular diet Higher/lower costs compared to the alternative scenario Less organisational effort More social contacts Adequate leisure activities Improving the housing situation through accessibility	Number of residents who would have achieved the same impact even without RNH (cf. resident distribution alternative scenario)

				Ensuring a clean environment Improved relations with relatives	
Relatives	Willingness to accommodate the family member(s) in the RNH	Taking over the care and support Involvement of the relatives	Number of food days covered by RNH	Less physical, psychological and social stress Knowing that family members are well cared for Possibility to pursue gainful employment (unrestricted) Feelings of guilt for having "deported" the relative(s) Possibility to go on vacation Time relief Changed relationship with the relative (unencumbered encounter) Changed relationship with the partner (relationship conflicts)	Number of relatives whose relative would be otherwise dependent on others without RNH
Employees	Working hours Abilities (social competence, empathy, ...) Skills (acquired knowledge, training, etc.)	Provision of the workplace Provision of working materials Further training opportunities	Number of paid hours Number/ quality of continuing education courses	Permanent employment and income Increased physical impairment Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improving social skills Increased psychomental stress	Possibility of an alternative job in the care sector Possibility of an alternative job in the auxiliary sector (only for non-qualified employees)

				Teamwork compared to job in mobile services Know-how gain through additional qualifications	
Volunteers	Working hours Abilities (social competence, empathy, ...) Skills (acquired knowledge, training, etc.)	Provision of an volunteering position Provision of work equipment Further training opportunities Social benefits Coordination of the volunteers	Number of volunteer hours Number/ quality of continuing education courses	Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improved social skills Know-how gain Appreciation, sense of belonging, sense of community, friendships	Possibility of alternative voluntary work
Hospitals	Transfer to RNH	Taking over patients	Number of patients taken over by RNH	Fewer procuratio cases Reduced administrative burden Time saving due to already performed diagnostics	Number of residents who would become procuratio cases in the hospital even without RNH
Federation	Health and social assistance	Care and support Provision of jobs	Number of persons cared for Number of employees	Additional tax and duty revenue (wage tax, employer contribution) Savings in subsidies for 24-hour care Saving on self-insurance contributions for caring relatives	Possibility of an alternative job Number of residents who would buy 24-hour care without RNH Number of residents who manage without RNH with the help of employed relatives

Provinces of Lower Austria and Styria	Construction costs Compensation for net expenditure of the APH	Support and care Provision of jobs	Number of persons cared for Number of employees	Additional tax revenue Savings in subsidies for 24-hour care Savings on state contributions for mobile services Fulfilment of the supply mandate	Possibility of an alternative job Number of residents who would buy 24-hour care or mobile services without RNH Activities of the RNH, which can be substituted by other existing organisations or private individuals, which also creates a certain feeling of security
Social Insurance Institutions	Benefits in kind (incontinence products, medication etc.)	Provision of jobs Care and support of the residents	Number of employees Number of assisted residents	Additional social security contributions Cost savings in the health sector (hospitals, doctors in private practice, patient transport)	Possibility of an alternative job Number of residents for whom the corresponding impact would have been achieved even without RNH (cf. resident distribution alternative scenario)
AMS	N/A	Provision of jobs Provision of training places	Number of employed and trained staff	Saving unemployment benefit/ emergency unemployment assistance additional contributions to unemployment insurance	Savings that would have resulted from alternative employment

Suppliers	Products/services	Purchase of products and services to enable the RNH to operate	Number and scope of products/services purchased	Additional orders	Contracts awarded by other organisations/projects Companies could be compensated
Physicians in private practices	Consultation and exchange about medical therapy	Taking over nursing and medical services	Number of residents for whom fewer home visits are necessary	Time saving	Number of clients who do not need a home visit even without RNH
Owners	Profit/loss Reversal of provisions	Provision of services in the field of nursing and care	Loss Apportionments for central services	Expansion of the RNH or other service areas possible/ restriction of the RNH or other service areas necessary	Allocations for central services that would also have arisen without RNH
Response organisations	N/A	RNH's activities that would otherwise require the transport of patients	Number of residents who do not need ambulance transport	Fewer missions	Residents who do not need ambulance transport even without RNH

Trainees	Working hours Abilities (social competence, empathy, ...) Skills (acquired knowledge, training, etc.)	Provision of the traineeship Provision of work equipment	Number of traineeship hours	Greater awareness of ageing Positive feeling (fulfilment, doing something good) Improvement social skills Teamwork Know-how gain	Possibility of an alternative traineeship
Landlords and property owners	Construction of RNH	Accommodation of residents in RNH	Number of RNH that are rented Number of rental flats freed by RNH Number of rented housings that are not neglected by RNH	Rental income through RNH Possible rent adjustment/increase Neglect of the flat is prevented	Number of flats that do not allow for rent adjustments (takeover by family members etc.)
Trustees	N/A	Organisational activities	Type and scope of the services provided by the RNH	Time saving	Clients who are not managed

General population	Donations Other revenue	Provision of services in the field of nursing and care	Number and scope of services provided, which are perceptible to the general population	Feeling of security Displacement from the labour market	Number of people who are not willing to pay for RNH RNH activities that can be substituted by other existing organisations or individuals, which also brings a certain sense of security

8.2 DATA TABLE

Table 8-82: Allocation of data and sources

Stakeholders	Impacts (Outcome)	Indicators / Proxies	Data	Sources
Residents	no danger of neglect	**Proxy:** hourly wage of a private housekeeper/ cleaning lady **Proxy:** Time spent on hygiene and	Hourly rate for private cleaning staff: € 12,50 Use of time per year: 626h and 35 min.	Interviews with two private cleaning persons, Statistik Austria 2010a, own calculation
	increased sense of security	**Proxy:** Expenditure on administrative costs for long-term care insurance	Administration costs for nursing care insurance per year: € 530	Uniqa, Schober et. al 2013, own calculation
	limited individuality - paternalism	**Proxy:** School fees for private primary school for 10 months	School fees for private primary school for 10 months: € 1.460	Albertus Magnus primary school 2013, own calculation
	limited privacy (double room)	**Proxy:** Cost of additional insurance for a single room per year	Costs for a single room per year per person: € 19.524,60	Statistics Austria 2014a, Wiener Städtische 2014

Residents	no possibility to remain in your own home until death	**Proxy:** Compensation payment for waiver of main tenancy rights	average moving costs: € 480,00 Market price difference for one year: € 206,78 (Lower Austria) / € 276,41 (Styria) three monthly rents for the average brokerage fees: € 1,256.70 (Lower Austria) / € 1,233 (Styria)	Own survey, Statistik Austria 2011b, Statistik Austria 2014b, ÖHGB 2014
	changed psychological well-being	**Proxy**: Costs for psychotherapy (short therapy)	Cost of psychotherapy (unit of 50 minutes): € 110 Duration short therapy: 25 units	Ellviva 2013, Psyonline 2013, own calculation
	improved general physical condition	**Proxy:** Follow-up costs of a femoral neck fracture**,** urinary tract infection**,** gastro-intestinal inflammation (gastroenteritis)	Cost of femoral neck fracture: € 11.250 Costs urinary tract infection: € 425 Gastroenteritis costs: € 77 Follow-up costs malnutrition: € 3.146,61 Follow-up costs for confusion of medication: € 4.545,45 Follow-up costs for decubital ulcers: € 19,692.00	Chicken 2010, Osteoporosis 2012, Thiesmann 2005, Van Den Brandhof et al. 2003, Frei 2006, Grandt et al. 2005, Eibel 2012, own calculation
	higher risk of infection than at home	**Proxy:** Follow-up costs of the treatment of a hospital infection	Follow-up costs of the treatment of a hospital infection: € 18.636,36	Die Presse 10.01.2011, Oe24 2009, own calculations
	longer life expectancy	**Proxy:** Value of a healthy life year (QALY)	Value of a healthy life year: € 36.937,50	Nice 2010, own calculation

Residents	balanced and regular diet	**Proxy:** Cost of meals on wheels per year	Cost of meals on wheels per year: € 3.941,60	Samaritan Federation 2014
	Dissatisfaction with food	**Proxy:** Market price difference between a canteen meal and a Á-la-carte-menu	University restaurant lunch menu: € 5,39 Á-la-carte restaurant: € 24,10	Eurest 2014, The Campus 2014, Noe Homes 2010
	higher costs compared to the alternative scenario	Difference in cost contributions in the case of the existence of the RNH compared to the alternative scenario (alone, with relatives, mobile services, purchase of private care, 24-hour care, assisted living facilites, nursing homes, hospital)	**Loss with "alone":** € 4,371.40 (Lower Austria) / € 6,992.59 (Styria) **Loss "with relatives":** € 9,398.20 (Lower Austria) / € 11,924.59 (Styria) **Loss on purchase of MD:** € 4,127.01 (Lower Austria) / € 6,707.79 (Styria) **Profit from the purchase of private care:** € 25,851.80 (Lower Austria) / € 23,325.41 (Styria) **Loss on acquisition AWF**: € 5,773.11 (Stmk) **Profit on additional purchase of 24-hour care:** € 21,270.91 (Lower Austria) / € 18,697.92 (Styria) **Profit in procuratio case:** € 13,014.87 (Lower Austria)/ € 11,136.23 (Styria) **Loss in case of "neglected":** € 6,663.93 (NÖ)/€ 9,375.58 (Styria) **Loss on "death":** € 13,895.82 (Lower Austria)/€ 16,435.22 (Styria)	Own calculation, GK-Agentur 2012, interview Discharge Management, Senior Care24h 2012, Caring Hands 2012, WPAA 2010, Help 2012, Schober et al. 2013, Pervan Al-Soqauer 2013

Residents	less organisational effort	**Proxy:** Use of time for organisational matters multiplied by the cost of personal assistance	Time spent per day: 75 minutes, Cost of personal assistance: 22 €.	Statistics Austria 2010a, WAG 2014
	more social contacts	**Proxy:** Use of time for social contacts multiplied by the gross hourly wage of an Austrian	Time spent per day: 93 minutes, Gross hourly wage of an Austrian amounting to € 12.79	Statistics Austria 2010a, Statistics Austria 2010b
	adequate leisure activities	Costs for animation for senior citizens	Gross hourly wage: € 50,08	Pervan-Al Soqauer et al. 2013
	improved housing situation through accessibility	**Proxy:** Costs for a housing assistance for one year	Amount of the costs: € 12.775	SDE 2013, own calculation
	ensuring a clean environment	**Proxy:** Hourly wage of a private house operator multiplied by time spent on hygiene	Hourly rate for private cleaning staff: € 12,50 Use of time per year: 626h and 35 min.	Interviews with two private cleaning persons, Statistik Austria 2010a, own calculation
	improving relations with relatives	**Proxy:** Costs for systemic family therapy	Cost of family therapy (unit of 90 minutes): € 160 Duration short therapy: 6 units	Stangl-Taller 2013, Hainz 2013, own calculation
	maintaining independence and avoiding paternalism	**Proxy:** School fees for private primary school for 10 months	School fees for private primary school for 10 months: € 1.460	Albertus Magnus primary school 2013, own calculation

Relatives	less psychological stress	**Proxy:** Follow-up costs burnout	Follow-up costs burnout (scenario 2): € 16.850	Pochobradsky et al. 2005, Schneider 2013
	less physical strain	**Proxy:** Follow-up costs of back problems	Follow-up costs back problems: € 2.303	Pochobradsky et al. 2005, Goebel 2001
	lower social burden	**Proxy:** Use of time for social contacts multiplied by the gross hourly wage of an Austrian	Time spent per day: 93 minutes, Gross hourly wage of an Austrian amounting to € 12.79	Statistics Austria 2010a, Statistics Austria 2010b
	knowing that family members are well cared for	**Proxy:** Administration costs of a long-term care insurance per year	Administration costs for nursing care insurance per year: € 530	Uniqa, Schober et. al 2013, own calculation
	possibility to pursue gainful employment without restriction	income generated by it	Average gross annual salary: € 27,455 full-time, € 16,117 part-time	Province of Styria 2013a, Statistik Austria 2013a
	feelings of guilt	**Proxy:** amount of costs for monetary gifts from parents to children and young people	Amount of the monetary gifts: € 2.880	Gabanyi et al. 2007,
	possibility to go on vacation	**Proxy:** Market price difference for a holiday in the high or low season	Difference domestic: € 210 Difference abroad: € 126	Statistik Austria 2013b, holidays 2014

	time relief for care	**Proxy:** Average time spent by the carer on care activities per year multiplied by the gross hourly wage of an Austrian	Time expenditure per year: 2,340 hours Gross hourly wage of an Austrian amounting to € 12.79	Schneider et al. 2009, Statistics Austria 2010b
	improved relationship with relatives	**Proxy:** Costs for systemic family therapy	Cost of family therapy (unit of 90 minutes): € 160 Duration short therapy: 6 units	Stangl-Taller 2013, Hainz 2013, own calculation
	improved relationship with the partner	**Proxy:** Costs of couple therapy	Costs of couple therapy (unit of 90 minutes): € 120 Duration therapy: 7 units	Psychotherapy practice 2014, Pochobradsky et al. 2005
Full-time employees	permanent employment and fixed income	Level of additional disposable income per FTE employee	additional disposable income nursing and care staff: € 36.551.266,13 (NECESSARY)/ € 53.813.310,97 (ptn) additional disposable income other personnel: € 4.553.910,60 (NECESSARY)/ € 10.372.477,71 (ptn)	survey organisation, own calculation
	increased physical impairment	**Proxy:** Follow-up costs of back problems	Follow-up costs back problems: € 2.303	Pochobradsky et al. 2005, Goebel 2001
	greater awareness of ageing	**Proxy:** loss of earnings through a two-month traineeship in a nursing home	Average gross monthly earnings of a FTE employee DGKS/PH/HH	Survey organisations, own calculation

	positive feeling (fulfilment, doing something good)	**Proxy:** salary difference in the non-profit and profit sector	Gross salary difference per hour: € 6,17	Leete 2000
	improved social skills	**Proxy:** Cost of acquiring social skills (attending several courses on social skills)	Costs for the acquisition of social skills: € 1.500	Egos 2012
	increased psychomental stress	**Proxy:** follow-up costs of burnout	Follow-up costs of burnout: € 9,375 (scenario 1)	Pochobradsky et al. 2005, Schneider 2013
	teamwork	**Proxy:** Costs of acquiring team skills	Course costs for "Teambuilding": € 1.260,-	Wifi Vienna 2013
	further training opportunities	Expenditure on further training and education for 2013	Amount of continuing education expenditure: € 1,869,594.67 (Lower Austria)/ € 2,385,840.53 (Styria) Proportion of enterprises providing CVT: 72%	Organisation survey, Markowitsch/Helfer 2003
Volunteers	greater awareness of ageing	**Proxy:** loss of earnings through a one-month traineeship in a nursing home	Amount of loss of earnings: € 1.840,50	Own calculations, survey organisation,
	positive feeling (fulfilment, doing something good)	**Proxy:** Average donation of an Austrian	Average donation of an Austrian: € 91,40	Neumayr and Schober 2012
	improved social skills	**Proxy:** Cost of acquiring social skills (attending several courses on social skills)	Costs for the acquisition of social skills: € 1.500	Egos 2012

	Know-how gain	**Proxy:** Costs for a basic course for caring relatives and volunteers	Costs for a basic course: € 150	WRK 2014
	Appreciation, sense of belonging, sense of community, friendships	**Proxy:** Membership in a sports club per year	Membership in a sports club per year: € 200	FCVIA 2014
Hospitals	Prevention of procuratio cases	Cost of a hospital day for procuratio cases	Costs procuratio case: € 583 (NÖ)/€ 470,64 (Stmk)	personal information of the Lower Austrian provincial government 2015, Styrian provincial government 2015
	reduced administrative burden	**Proxy:** doubling the number of dismissal managers	25.47 FTE (NÖ)/25.09 FTE (Stmk)	PIK project report, survey organisation, own calculation
	Time saving due to already performed diagnostics	**Proxy:** Diagnostic effort multiplied by the personnel effort of a regular doctor	Diagnostic effort: 1.5 hours Personnel expenses for regular doctors: € 3,400 gross	Medical Association 2015
Federation	additional tax and duty revenue	Level of additional tax and duty revenue	Additional tax and duty revenue: € 32.085.272(NÖ)/€ 33.939.605(Stmk)	Survey organisation
	Savings of 24h care support 60%.	Amount of the 24-hour care support saved	Funding amount per month: € 550	BMASK 2012
	Saving on self-insurance contributions for caring relatives	Amount saved on self-insurance premiums for caring relatives	Amount of the self-insurance contribution per relative: € 358,04	BMASK survey

	Revenue from the compensation tax for the law on the employment of disabled persons	Amount of revenue from the compensatory tax for the Law on the Employment of People with Disabilities	Level of revenue: € 293,409 (NÖ)/ € 703,626(Stmk)	Survey organisation
Country	Property tax and other fees and charges	Amount of property tax and other fees and charges	Amount of property tax and other fees and charges: € 700.095(Stmk)	Survey organisation
	Savings 24h support 40% support	Amount of the 24-hour care support saved	Funding amount per month: € 550	BMASK 2012
	Savings mobile services	Funding amount per client	Funding amount per client: € 6,889.15	Schober et al. 2013
Social security institutions	Additional social security contributions	Amount of additionally generated SI contributions	Additional SV contributions: € 55.461.330 (Lower Austria)/ € 66.912.495 (Styria)	Survey organisations, own calculation
AMS	Savings on unemployment benefit/emergency unemployment assistance and health insurance contributions	Amount of unemployment benefit saved	Amount of the ALG saved: € 59.201.970 (LOWER AUSTRIA)/ € 74.378.913 (Stmk)	AMS 2013a, own calculation
Suppliers	Additional orders	Level of additional orders	The amount of additional orders: € 38.967.092(NECESSARY)/ € 47.888.113(ptn)	Survey organisations, own calculation
Doctors	fewer house calls	**Proxy:** Difference between hourly rate for home visit Hourly rate of the practice	Hourly rate home visit: € 37 Hourly rate practice: € 61,59	Elga Initiative ,Interviews

Owners	Extension/restriction of the APH area possible/necessary	Net profit/loss for the year	Annual loss: -€ 89.753 (LOWER AUSTRIA) -€ 9.520.280 (Stmk)	survey organisation, own calculations
	Apportionments for central services	Level of levies for central services	Levies for central services: € 12.911.589 (Stmk)	Survey organisation
Response organisations	lower application volume	Costs of patient transport	Costs of patient transport: 73,92	own calculations, interviews
Trainees	greater awareness of ageing	**Proxy:** loss of earnings through a one-month traineeship in a nursing home	Level of loss of earnings: € 1.840,50	own calculations, survey organisation,
	Positive feeling (fulfilment, doing something good)	**Proxy:** Average donation of an Austrian	Average donation of an Austrian: € 91,40	Neumayr and Schober 2012
	Improving social skills	**Proxy:** Cost of acquiring social skills (attending several courses on social skills)	Costs for the acquisition of social skills: € 1.500	Egos 2012
	Teamwork	**Proxy:** Costs of acquiring team skills	Course costs for "Teambuilding": € 1.260,-	Wifi Vienna 2013
	Know-how gain through additional qualifications	**Proxy:** Costs for a basic course for caring relatives and volunteers	Costs for a basic course: € 150	WRK 2014
Landlords and property owners	Rental income buildings RNH	Level of rental income	rental income: € 24.982.904(NECESSARY)/ € 25.109.492 (ptn)	survey organisation, own calculations

	Rent increase/rental price adjustment	**Proxy:** rent increase for old rent Rental agreements for handover to relatives with rent of a category A flat and for handover to third parties with an indicative rent in 2013	old rent: € 0,97 Category rate category A flat 2013: 3,25 Standard rent in 2013: € 5.29 (Lower Austria) / € 7.11 (Styria)	Statistik Austria 2011b, Renters' Protection Association 2014, ÖHGB 2014, interviews, own calculations, research
	Prevention of neglect	**Proxy:** Clearance and cleaning costs of a neglected flat	Clearance and cleaning costs: € 2.000	Interviews, own calculations
Trustees	Time saving	**Proxy:** Number of trustees who have clients at APH with time saving and average hourly rate of an Austrian employee and a lawyer	Time saving per month: 1,5 h Gross hourly rate Austrian employee: € 15,09 Hourly rate lawyer: € 180	Statistik Austria 2010b, Interviews, Lawyer Veith
General population	Feeling of security	**Proxy:** Expenditure on administrative costs for long-term care insurance	Administration costs for nursing insurance per year: €530 People over 40 years of age: 912,397 (Lower Austria) 673.058 (Styria)	Uniqa, Statistics Austria 2012b
	Displacement from the labour market	income lost as a result	Average gross annual salary: € 27,455 full-time, € 16,117 part-time	Province of Styria 2013a, Statistik Austria 2013a

On behalf of Lebenswelt Heim, the Federal Association of Old People's and Nursing Homes in Austria

In cooperation with

With the friendly support of

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