A Work Project, presented as part of the requirements for the Award of a Master's Degree in **Management** from the **Nova School of Business and Economics**.

A disciplined entrepreneurship framework for building a healthcare business: the case of Amarsi.

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Abstract

Due to the ageing of baby boomers, the drop in birth rate, and the growth in life expectancy, Italy had the greatest share of the population over the age of 65 in European countries in 2019, accounting for 22.8% (Shaulova and Biagi, 2022).

These specific characteristics, which are currently on the rise, have caught the interest of a growing number of stakeholders, including the government, investors, and industry professionals, in the Italian healthcare sector.

Building on the world leading entrepreneurial framework of twenty-four steps to disciplined entrepreneurship, this thesis provides a pathway to entrepreneurship.

The unique business idea that emerged from this journey is the provision of a unique service in an intermediate, more specialized institution that allows for more immediate interventions than a retirement home, but at the same time, is less structured than a hospital.

Keywords: disciplined entrepreneurship, healthcare, cardiovascular diseases, ageing

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Purpose of the Study

The Covid-19 crisis has highlighted several severe structural issues in the Italian healthcare system. Hospitals are unable to deal with huge shocks for a variety of reasons, including a lack of a contingency plan for the pandemic, a lack of skilled nurses and physicians, outdated equipment, and ineffective utilization of telemedicine and home care.

The latter, along with a 9% drop in GDP, prompted the launch of the Italian Recovery Plan (PNRR), which calls for €200 billion in EU funds, including €15.63 billion dedicated to improving Italy's national healthcare system. (Trimarchi, 2021).

The goal is to address the aforementioned issues by establishing new intermediate and innovative facilities, such as community hospitals (intermediate care inpatient health facilities designed for short hospitalization and low clinical intensity) and community homes (proximity medicine).

Starting from a general analysis of the Italian healthcare market, the purpose of this thesis is to understand where those gaps are present and develop a potential business idea to fight the discrepancies of the market.

Methodology

The object of this thesis is the result of a path that lasted 5 months. The combination of research, interviews with industry professionals, and a 3-week internship in a large healthcare group in Emilia Romagna, Italy, provided me with a more accurate and needs-based understanding of the healthcare market.

To carry out my thesis, I first analysed three well-known frameworks for entrepreneurship: lean start-up, business model canvas, and the disciplined entrepreneurship.

Frameworks	
Business Model Canvas (BMC)	The Business Model Canvas is a strategic management tool to define and communicate a business idea or concept quickly and easily. *Strengths*: the centrality of capturing and delivering value, and the usefulness and simplicity of the visual representation allow entrepreneurs to communicate the business idea easily. *Limitations*: the exclusion of the analysis of external forces such as competition, and market factors, the little interconnection of the 9 blocks, and the focus on profit generation rather than on a strategic purpose -mission and vision-. (Coes, 2014)
Lean Startup (LS)	The Lean Startup (LS) methodology is a process to help organizations carry out experiments and iterate the validation when looking for a sustainable business model (Fazzi Bortolini et al., 2021). When following this approach, an entrepreneur translates his or her vision into testable business model assumptions and then tests these assumptions using a set of minimum viable products (MVPs). *Strengths*: dynamic iteration process, quick customer feedback, and creation of value. (Galli, 2019) *Limitations*: possible difficulties in reaching clients for interviews, resulting in an inability for the business owner to capture customer feedback and confirm assumptions; no linear relationship between validated hypothesis and the company success, bringing the MVP to the market leads to dissatisfied customers, and it makes sense for software or web-related companies with modest startup operating expenses. (York, 2019)
The 24 Steps Disciplined Entrepreneurship (DE)	Disciplined Entrepreneurship is an iterative, industry-adaptable process that aims to be both an educational pathway, and at the same time a practical guide, to high-quality, innovative entrepreneurship. It is a *"24 steps process proposed by MIT to channel the creative spirit to maximize the chances of success and ultimate impact",* as Mitch Kapor said. (Aulet, 2015) The author, Bill Aulet, is the Managing Director of the Martin Trust Center for MIT Entrepreneurship and Professor of the Practice at the MIT Sloan School of Management. Being, in addition, a very well-known entrepreneur, he wanted to provide a guide for the complicated and insidious path of entrepreneurship. *Strengths*: standalone teaching tool, highly adaptable, and it encourages focus and refinement. *Limitations*: many steps in the process rely on primary research, which in some cases can be complicated to acquire. (Winingham, 2015)

Table 1: Analysis of BMC, LS, and DE frameworks

Given the characteristics of the business object, the richness of the data, and the overall complexity of the project, the Disciplined Entrepreneurship, as a highly adaptive and iterative model, appears to be the most appropriate model to adequately and thoroughly describe my path to entrepreneurship.

To guide the reader through a simplified reading experience I will analyse the 24 steps by grouping them into 6 main themes.

Figure 1: General Themes of the 24 Steps

Getting Started – Step 0

In this very first step, the main question is: "*What can I do well that I would love to do for an extended period of time?*" (Aulet, 2015).

Although my studies have been focused on economics, business administration, and management, over the years I have realized that I have a passion for hospitality and healthcare. At the same time, I had the great opportunity to do two internships in two facilities whose purpose is the provision of socio-assistance services to the elderly: Amera - Residência Assistida para Seniores (Faro, and Carcavelos - Portugal), and Villa Serena - Gruppo Orta (Bologna - Italy).

Even though both internships were performed in very different contexts, due to geographic reasons and the different private nature of the establishments, both have taught me a valuable lesson: they are selling a service that none wants to accept but heavily required by ill elderly. Therefore, families find it difficult to institutionalize their loved ones since they believe they are abandoning them.

Thus, it is crucial to establish a relationship between professionals and their families to include them in all areas of the elderly's path (medical, rehabilitation, psychological, dietary, and so on) and to share with them the resulting improvements.

Seeing how these companies manage to improve seniors' life, made me realize that this is the industry I would love to work in.

Therefore, my goal is to study the market deeply, understand if there are any gaps to be covered, and finally find the product-market fit.

Who is your customer?

The first theme focuses on defining the customer through market segmentation, the selection of the beachhead market, the definition of the end-user profile and the Persona, the calculation of the Total Addressable Market of the beachhead market, and finally the identification of the next 10 customers.

Step 1 – Market Segmentation

This phase is devoted to brainstorming, listing possible markets, and conducting additional research for related markets.

Being an iterative process, over the course of these months, I have identified 3 potential market segments to offer a specific service aimed at satisfying the product-market fit and covering the gaps in the market:

- Italian elderly (65+).
- Retirement homes and RSAs: the distinction between a retirement home and a RSA is that the first one is a residence for self-sufficient, or partially non-self-sufficient, elderly in which they receive nursing care and share time with people in the same condition; while the second one is a residential social-health institution for aged and disabled people who are unable to care for themselves and require full-time medical, nursing, and rehabilitative care (Vida association website).
- Italian elderly (65+) with specific diseases.

In the table below the market segments, the related business idea, and their strengths and limitations are described:

Market / Business Idea	Strengths	Limitations
Italian Elderly (65+) - **Small Retirement Home**	• Italian population is increasingly older. In 2035 increased over-65 by 3.6 million (Lang LaSalle, 2021). • *Already existing shortage of 240,000 places in RSAs* (Dr. Orta, 2022). Increased demand for beds is expected to increase by 80 thousand (Lang LaSalle, 2021). • Non-maturity of the sector, and the need for investment diversification. • Lazio region promotion of small retirement homes for elderly mental healthcare (Dr. Di Carlo, 2022); (Dr. Dama, 2022).	• Lack of staff because of low wages, and less desirable working environments compared to alternatives. A report of Amnesty International Italia says: "*Working conditions that were already difficult have been made worse by the pandemic, with the complicity of the State, which has taken staff away from the social health residential sector without compensating for the shortage of staff, which has led to a drop in the quality of care and a huge increase in the workload of operators*" (Amnesty International, 2021). • Nurses and operators are forced to work double shifts with 17 days of work in a row without rest. (Lantini, 2021). • Turnover of health professionals. (Pauget, 2013).
Retirement home and RSA - **Solution of telemedicine and wearables to overcome the lack of staff**	• Potential solution to lack of staff (Imran, et al., 2021). • It can ease the burden of many monotonous and repetitive tasks. • Digital health technology may also become more prevalent in nurses' daily work lives in the near future. (The Medical Futurist, 2021) • Easy monitoring of the elderly health (Imran, et al., 2021)	• The success of telemedicine depends on several technical necessities: a stable internet connection, innovative software, and access to equipment that allows video calls (computers, tablets, and smartphones). (Stewart, 2021). • the combination of telemedicine, and wearables "*cannot be a solution to the lack of nursing staff, as they are only useful tools to facilitate and make more effective and timelier their work*". "*These technologies would only require additional demand for staff*". (Dr. Corneli, and Dr.Orta, 2022).
Italian elderly (65+) with specific diseases - **Specialized Retirement Home**	• Lack of an intermediate facility between retirement homes and hospitals. • Alleviating the pressures on both. • Limiting the elderly's comings and goings from the hospital. • Specialization and timeliness of intervention. (Internship, 2022).	• Possible initial difficulty, as this is a new setting that must first be understood and then accepted by the government, which will be a central hub for the project's success.

Table 2: Market Segments & Business ideas

Refer to Appendices 1 to 5 for more information.

Below is a timeline to help you understand my journey.

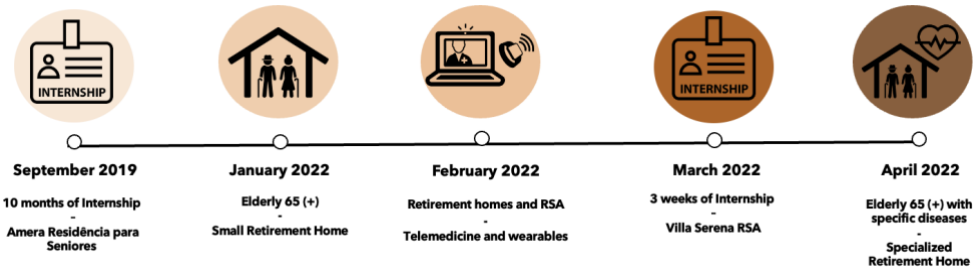

Figure 2: Timeline

Step 2 – Select a Beachhead Market

Once the various market segments have been identified, it is necessary to find a delineated, consistent market opportunity that fulfils the three conditions of a market: customers buy

similar services, customers have the same expectations from both a sales cycle perspective and the value derived from service, and there is a "word of mouth" among customers.

In doing further research on seniors with illnesses, it was found that the constant ageing Italian population and the increasing life expectancy result in a greater probability for elderly to develop diseases. Refer to Appendix 6 for the Report on elderly – Istat.

Even while chronicity and multimorbidity are present in 69% of women and 60% of males over the age of 85, it is crucial to note that the shares are also verified high among the "young elderly" aged 65-74 years (48.5% among women and 39.6% among men).

In addition, 43.2% of the elderly aged 65 and over declare at least one serious pathology (stroke, cancer, Alzheimer's and dementia, heart disease, including heart attack or angina, diabetes, parkinsonism, chronic respiratory diseases: chronic bronchitis, chronic obstructive pulmonary disease - COPD, emphysema). (Istat, 2021).

Considering data from the European Commission, in 2018 ischemic heart disease, stroke, and lung cancer were the leading causes of death. Refer to Appendix 7 for the European Commission data. (OCSE/Osservatorio Europeo Delle Politiche e Dei Sistemi Sanitari, 2021).

Focusing our analysis on Rome, we can notice that always in 2018, the three main reasons for hospitalization were: heart failure, femur fracture, and knee arthroscopy surgery. (Pontiggia, Fabbri, and Salvini, 2018). Refer to Appendix 8 for the most frequent causes of hospitalization in Rome.

The conclusion is that cardiovascular diseases represent, in Italy, one of the most important public health problems. They are in fact among the main causes of morbidity, disability, and mortality. Specifically, cardiovascular diseases are a group of pathologies that includes ischemic diseases of the heart (acute myocardial infarction and angina pectoris) and cerebrovascular diseases (ischemic and hemorrhagic stroke). (Polimedalab, 2021).

Deaths from cardiovascular causes are expected to increase worldwide by 34%, reaching a figure of roughly 24 million per year in 2030, in contrast with a current approximation of 18 million. (Ansacom, 2021).

Therefore, elderly with cardiovascular diseases represent the beachhead market.

Step 3 – End user profile

In the end-user profile, we try to analyse the target customer in a much more detailed way considering aspects such as gender, age range, and motivation.

Elderly with cardiovascular diseases	
Gender	Male and female
Age range	65 (+)
Motivation	Seniors with cardiovascular diseases desire a unique place where they can feel at home and safe, knowing that in case of any emergency specialized staff is ready to intervene immediately. They do not appreciate the idea of being in a retirement home and having to go to the hospital several times within a few days for aggravation of their medical conditions, so they are willing to pay a higher tuition fee to benefit from more specialised medical services.

Table 3: Target Customer

Step 4 – Beachhead TAM

The TAM of the beachhead market is the amount of annual revenue Amarsi would earn if it achieves 100% market share.

TAM = total revenue*end users

TAM = 65.700*341.876 = 22.461.253.200 euros

To calculate the end-users, some assumptions are necessary:

- The analysis is focused on elderly 65+ residents in Rome
- In 2019, the total elderly 65+ residents in Rome were 447.248, from which is subtracted the 2% of elderly already institutionalized (8.945), obtaining a result of 438.303 elderly. (Istat 2017) (Istat 2020).
- For people 60+ the prevalence of cardiovascular disease is 78%. (Belfiore, 2019)
- 78% of 438.303 results in 341.876 elderly.

- The total revenue is calculated as the multiplication of monthly tuition (5.475 euros) by 12 monthly payments.

Step 5 – Persona

This step aims to choose one end user to be my Persona. In my case, I decided to choose my grandfather, since he turns out to be the ideal person to impersonate the Persona.

Name Vito **Gender** Male **Age** 91 **Status** Married **Occupation** Retiree **Location** Mazara del Vallo, Italy		**Bio** Vito is an elderly retiree. He has several medical issues, but the most serious is the cardiovascular one. He is a veteran of many heart attacks, and subsequent cardiac surgeries.
	Quote Wrinkles will only go where the smiles have been.	**Interests** Swimming, listen to classic music, and reading
Personality extrovert – introvert observing – intuition thinking – feeling judging – perceiving	**Goals in context** Receiving the best care at the right time.	**Preferred channels** Newspapers, radio, and television
	Frustration in context Missing my home and belongings	**Brands** Nescafé, Coop, Netflix, and Danacol

Figure 3: The Persona

Step 9 – Next 10 Customers

In this step, 10 potential customers who fit the End User Profile are identified and interviewed to get more information, confirm the initial assumptions, and to ensure the success of the service the company wants to bring to the market.

Unfortunately, this has been a complicated task to perform for my market segment, as they are sick seniors, many of whom already institutionalized. Due to Covid-19, it was impossible to access the facilities to conduct direct interviews with the elderly.

However, during my internship at Villa Serena I was able to collect real time data.

Many seniors might ideally represent 10 potential consumers regarding their traits and pathologies.

An epidemic that occurred within the facility confirmed my assumptions. It resulted in approximately 25-30 decompensated seniors within 3 days, and a subsequent difficult situation for the staff to manage.

Among those patients, there were more than 10 people with cardiovascular issues in need of more specific, specialised, and targeted assistance that my facility could offer them.

The main insights we can extract from this first theme are:

1. To understand the real needs of a specific sector, it is essential to have contacts with professionals in the field.
2. Focusing on the target market is crucial in the hunt for detail and in attempting to concretize and define the consumer.
3. The business should be built around the consumer's needs, not around the entrepreneur interests and talents.

What can you do for your customer?

The second main theme of this path aims to identify what we can do concretely for our customers through the analysis of the full life cycle use case, the high-level product specification, the value proposition, the core, and the competitive position.

Step 6 – Life Cycle Use Case

It describes in detail how the Persona discovers the service, acquires it, uses it, and derives value from it. Having a visual representation of the entire service lifecycle allows us to see how the service fits into the customer's value chain.

In this case, we have 3 different life cycle use cases:

1. The elderly through internet and word-of-mouth becomes aware of our facility
2. The elderly with several cardiovascular problems is already institutionalized in a retirement home or RSA. The owner or the director learns about our facility through the

government and decides, with the family's consent, to move the patient to our facility that is more appropriate for his reception and care.

3. The persona with several cardiovascular problems is already institutionalized in a retirement home or RSA. He has an aggravation of his clinical situation (such as, for instance, a heart attack), so he is obliged to go to the hospital. Once the elderly is stabilized, the retirement home or RSA will contact the government, by knowing our facility, will arrange for the transfer of the elderly from the hospital to our facility.

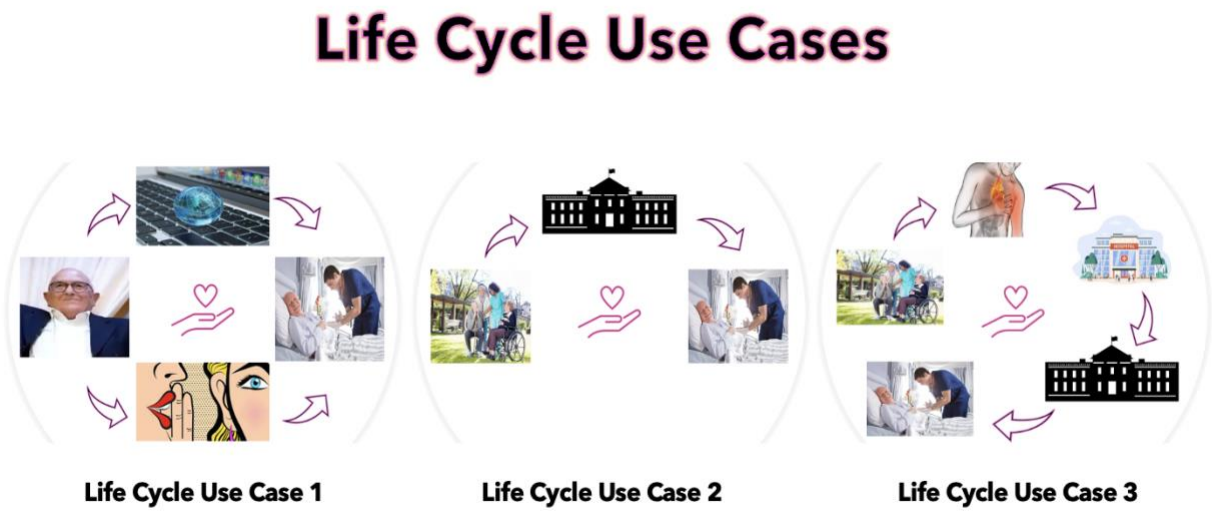

Figure 4: Life Cycle Use Cases

Step 7 – High Level Product Specification

This step is dedicated to building a visual representation of the service through a brochure. This allows us to highlight the features and functions of the service and the related benefits the client derives from it.

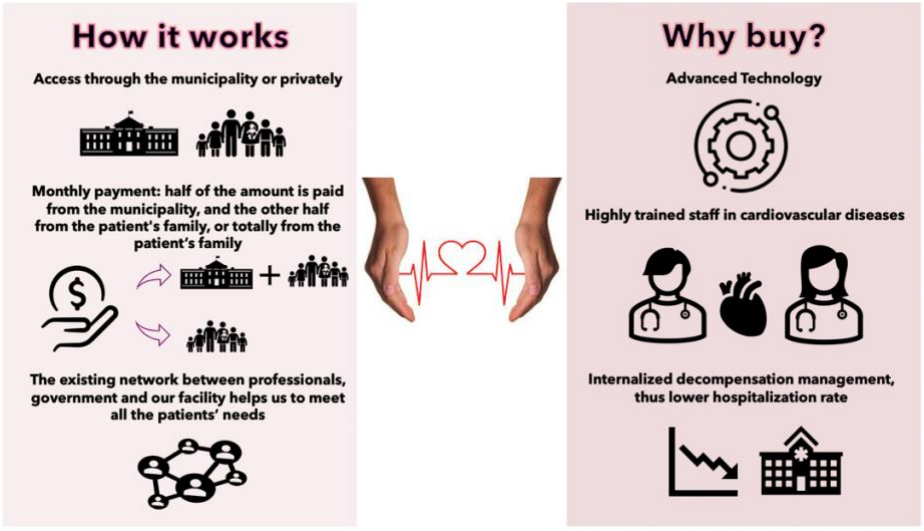

Figure 5: Visual Representation of Amarsi service

Step 8 – Quantify Value Proposition

The quantified value proposition aims to highlight how the benefits derived from the service offered, which can be classified as “better”, “faster”, and “cheaper”, reflect the Persona's top priority. There will be a comparison between the actual state (as-is) and the possible state. The difference that will emerge, constitutes the value proposition.

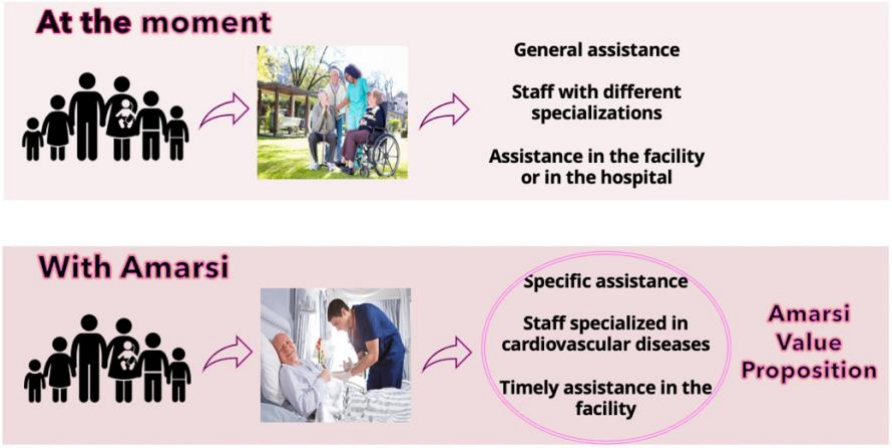

Figure 6: Amarsi Value Proposition

As seen in the figure above, the value proposition of Amarsi includes specific assistance, staff specializing in cardiovascular problems, and timely intervention within the facility itself.

It enables us to categorize the service provided, which reflects the Persona priorities -receiving the best care at the right time- as "best" and "fastest."

Step 10 – Define Core

The core represents what the business does better than anyone else, the "secret sauce". As a specialized long-term residential facility, Amarsi's core consists of a variety of features, including marketing and customer service, use of advanced technology, networking, and in particular the selection and administration of professionals specialized in cardiovascular diseases. It allows Amarsi to build a unique service, based on patient-centricity, specialization, and timeliness of intervention, that not only provides a competitive advantage, but also meets customers' top priorities.

Step 11 - Chart Your Competitive Position

This step aims to develop the competitive positioning chart, to visually show that, taking into consideration the core of the company, the competitive position fully meets the top priorities of the Persona.

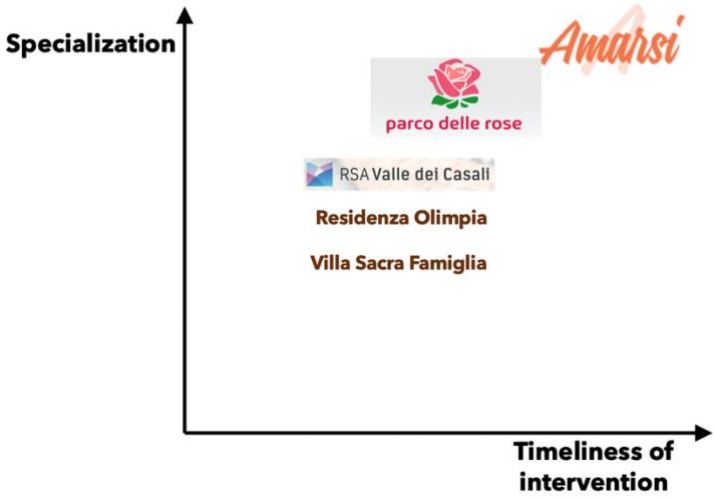

Figure 7: Amarsi Competitive Positioning Chart

In the chart, I took into consideration the two main priorities of elderly, specialization, and timeliness of intervention, which are based on our core.

From above, it can be observed that RSAs like Valle dei Casali, Residenza Olimpia, and Villa Sacra Famiglia do not have a high specialization, and this is reflected in the poor timeliness of intervention.

Instead, the RSA Parco delle Rose, although it welcomes seniors with any medical conditions, is more specialized in dementia, Parkinson's, and Alzheimer's. Consequently, it allows them to have prompt interventions if there is an exacerbation of these diseases.

Amarsi will be highly specialized in cardiovascular diseases and will welcome only seniors with cardiovascular issues. From a strategic perspective, this will allow us to hire only staff specialized in cardiovascular issues, who will be ready to intervene immediately.

The main insights we can draw from the second theme are:

1. Creating visual representations of the full life cycle of the service and of the service itself is important for both consumers and entrepreneurs.
2. Taking into consideration the top priorities of customers is fundamental to creating a successful service.
3. The competitive position is a very effective vehicle for communicating the quality value proposition.

How does your customer acquire your service?

After defining the customer and determining what Amarsi can do for him/her, the following step is to discover how the customer acquires the service through the examination of Customer's Decision-Making Unit, the mapping of the process to acquire a paying customer, and the mapping of the sales process to acquire a customer.

Step 12 - Determine the Customer's Decision-Making Unit (DMU)

Typically, the target consumer has a decision-making group of few people who will approve, block, or influence the purchase process. Understanding this group is vital both in the development of the service and its features, and for sales.

Therefore, in this step it is important to determine who is part of the decision-making group of the elderly:

- *The champion*: the person who wants the customer to purchase the service. It is represented by the family of the elderly, who wants the elderly to use the service because having cardiovascular disease, he needs specific assistance.
- *End-user*: the person who will use the product. It is depicted by the elderly.
- *Primary economic buyer*: the person who authorizes the end-user to spend money to purchase the service. In Amarsi scenario, since the percentage of the monthly tuition the elderly must pay is a significant expenditure, and because the family frequently contributes to the tuition payment, the principal economic buyer is the elderly's family.

Step 13 – Map the Process to Acquire a Paying Customer

In this step we must determine the acquisition process of a paying customer, so we identify how the purchase decision is made, and the possible obstacles that may inhibit the ability to sell the service.

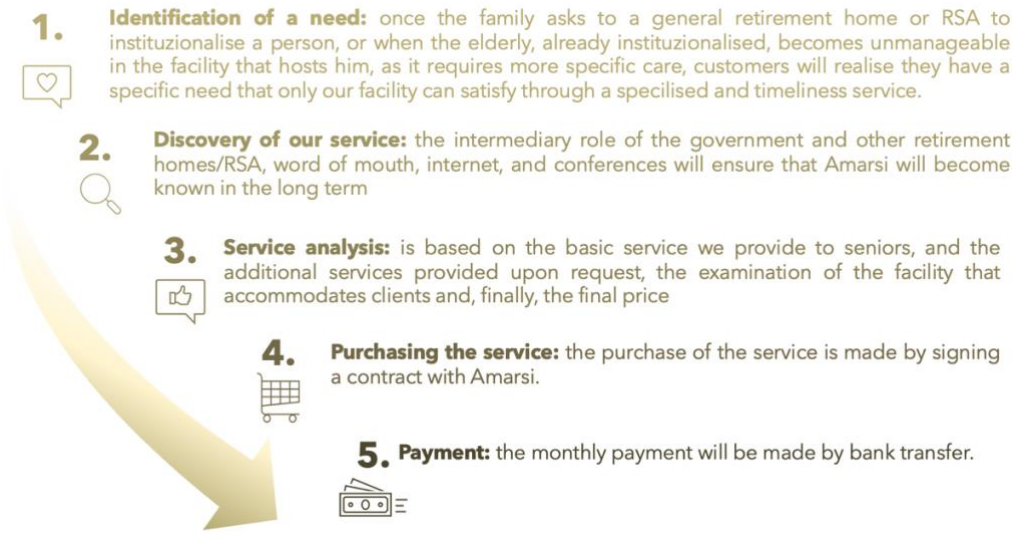

Figure 8: Amarsi Process to Acquire a Paying Customer

To summarize, the customer purchases Amarsi's service after going through a 5-step process. However, it should be kept in mind that since it is a substantial expense for seniors and families, and that this type of service is not included in the LEAs -essential levels of care that do not involve payment by the citizen – (Dr. Orta, 2022), the family's economic situation could be a constraint on the elderly's admission into the facility.

Thus, the family budget is an important factor to consider throughout the analysis of the twenty-four steps. Nevertheless, it should be emphasized that in extreme cases the municipality may decide to participate in the families' share of the monthly tuition in a percentage determined by the family's financial status.

Step 18 – Map the Sales Process to Acquire a Customer

This step is dedicated to understanding how Amarsi will enter the market, how it will improve its sales strategy in the medium term, and what inexpensive long-term customer acquisition strategy it will adopt.

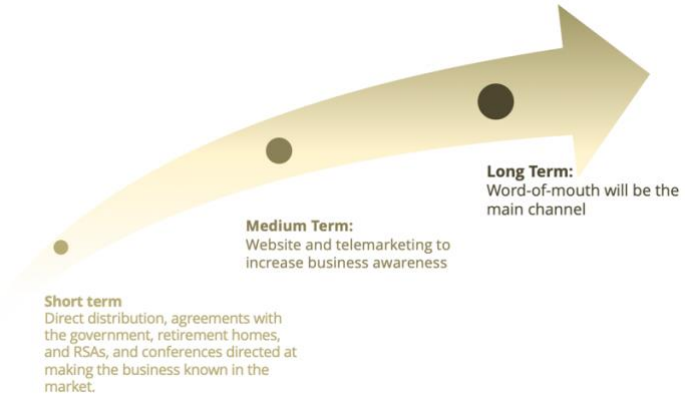

Figure 9: Amarsi Sales Process to Acquire a Customer

The main insights we can extract from the third theme are:

1. The elderly's family is the key element of the elderly Decision-Making Unit. It is a relevant information both for the sale and for the design phase of the service and its features.
2. Mapping the sales process to acquire a customer and the process to acquire a paying customer enabled us to identify the family budget as a possible potential trap, and telemarketing as one of the cost drivers of the sale process.

How do you make money off your service?

To better understand how the company makes money with the service it wants to offer, we must consider 4 fundamental steps: design a business model, set the pricing framework, calculate the Lifetime Value of an acquired customer, and calculate the cost of customer acquisition.

Step 15 – Design a Business Model

When designing a business model, we should take into consideration:

- *Customer*: to understand what the customer is willing to do, insights from mapping the decision-making unit and the process of acquiring a paying customer are crucial. Once the senior's need has been identified, the elder and his/her family will begin a 5-step procedure that will culminate in the elder's institutionalization.
- *Value creation and capture*: it involves the determination of the value the service delivers to consumers and which methods of capturing value work best together. The customers' value creation is ensured by the provision of timely and specific care by specialized staff, while Amarsi's value capture must occur monthly to ensure the continuity of the service delivered.
- *Competition*: to understand what the competition is doing. Competitors use both subscription and usage-based business models.
- *Distribution*: to determine if the distribution channel has the appropriate incentives to sell the service. Amarsi's service distribution is direct, so no other distribution channels are considered.

Amarsi business model is then a mix of two business models: subscription business model, and usage-based business model.

The subscription business model is employed to induce the economic buyer to pay monthly fees to keep his or her loved one in Amarsi facility. At the same time, this formula allows for a high degree of flexibility if the elderly should be discharged or transferred to another facility.

The usage-based business model is used for the fruition of additional services, such as specialist medical visits at "home".

Step 16 – Set Your Pricing Framework

Based on the Quantified Value Proposition, we determine The Pricing Framework, which aims to find a balance between attracting as much revenue and customers as possible.

Based on the fact that prices of an RSA in Lazio Region vary between 98.40 euros (medium-low care intensity level: chronic-degenerative diseases in stabilization phase) and 220.30 euros (high care intensity level: ALS or vegetative state) per day, we can set our price around 180 euros per day. The medical-nursing services require higher standards than in a medium-high care facility, but not as high as in facilities receiving patients in a vegetative state. (Montemurro and Petrella, 2016).

In addition, there may be additional expenses based on the needs of the elderly that will not be part of the monthly fee, as for instance medicines, specialist consultations (specialized doctor, psychologist, and educator), car rental, and other activities outside the facility (day trips, restaurant meal, access to museums or archaeological sites, and so forth).

Step 17 – Calculate the Lifetime Value (LTV) of an Acquired Customer

The calculation of the Lifetime Value of an Acquired Customer is the discounted profit that a new customer will provide on average.

Net Present Value or LTV = Gross Profit * (1 – Cost of Capital Rate)

However, the insights gained through the internships and interviews, highlighted that the important calculation to be considered is the Resident Lifetime Value. (Attane, 2021). The RLV will provide us with a critical estimation of the total revenue that potential residents would bring to Amarsi.

RLV = average number of months * monthly fee

To calculate the average number of months I considered the life expectancy of both seniors 65+, and seniors 75+. Once they enter a facility, they are unlikely to leave it until the day they pass away unless there are special cases, such as moving to another facility.

The Italian 65 men's life expectancy is 18.6 years, while for Italian 65 women it is 21.9, consequently in average it is 20 years. (Istat, 2020).

However, to obtain a more comprehensive analysis, I additionally evaluated the best case (life expectancy 25% higher) and the worst case (life expectancy 25% lower) scenarios, obtaining the following results:

Currency: €

RLV Elderly (65+)	Average Life Expectancy	Months	Monthly Fee	RLV
Best Case Scenario	25 years	300	5475.00	1642500.00
Real Case Scenario	20 years	240	5475.00	1314000.00
Worst Case Scenario	15 years	180	5475.00	985500.00

RLV Elderly (75+)	Average Life Expectancy	Months	Monthly Fee	RLV
Best Case Scenario	12.5 years	150	5475.00	821250.00
Real Case Scenario	10 years	120	5475.00	657000.00
Worst Case Scenario	8.5 years	102	5475.00	558450.00

Table 4: RLV Calculations

It is important to keep in mind having assumed that the monthly tuition price remains constant over the following five years, the RLV remains constant too.

Step 19 – Calculate the Cost of Customer Acquisition (COCA)

This step is dedicated to calculating the acquisition cost of a customer in the short, medium, and long term, based on the sales process.

COCA = (Total Marketing and Sales Expenses – Cost of Retention)/N. of new customers

However, in this case we will not consider the cost of retention, given that Amarsi does not have to spend money to keep the customer buying the service for a long time.

Currency: €

COCA	Marketing Exp	Sales Exp	N. of Elderly	Sales Exp Unit	Sales Exp New Customer	Tot Exp	COCA
1	12000	829720	30	27657	829720	841720	**28057**
2	12000	899100	40	22478	224775	236775	**23678**
3	10000	949850	45	21108	105539	115539	**23108**
4	5000	1009094	48	21023	63068	68068	**22689**
5	3000	1009094	48	21023	0	3000	**0**

Table 5: COCA Calculations

However, in order to evaluate the results of RLV and COCA, it is appropriate to calculate the ratio between them bearing in mind the golden rule of the 3:1 ratio.

Currency: €

Ratio RLV-COCA	RLV	Tot COCA	RLV/COCA	Ratio
Best Case Scenario (65+)	1642500.00	97532	17	17:1
Real Case Scenario (65+)	1314000.00	97532	13	13:1
Worst Case Scenario (65+)	985500.00	97532	10	10:1
Best Case Scenario (75+)	821250.00	97532	8	8:1
Real Case Scenario (75+)	657000.00	97532	7	7:1
Worst Case Scenario (75+)	558450.00	97532	6	6:1

Table 6: Ratio RLV-COCA

Considering that all of the ratios I considered are higher than 3:1, we can conclude that Amarsi's business idea appears to be successful.

The main insights we can extract from this fourth theme are:

1. It is important to pay close attention to how the entrepreneur captures his value.
2. Pricing should not be based on cost, but on the value the customer gets from the service offered.
3. When calculating LTV and COCA the entrepreneur must be realistic and then make appropriate adjustments over time. Refer to Appendix 9 for further calculations.

How do you design & build your service?

Following the verification of how the consumer purchases the service and how Amarsi makes money on its sale, this fifth theme seeks to define the design and building of the service itself, by identifying and testing key assumptions, defining the minimum viable business product, and showing that "the dogs will eat the dog food".

Steps 20 and 21 – Identify & Test Key Assumptions

Steps 20 and 21 aim to identify and rigorously test the initial hypotheses to verify their validity.

The assumptions on which I based my project are:

1. There is a lack of more specialized intermediate facilities between retirement homes and hospitals.
2. Most of the time retirement homes struggle with a caseload of seniors in acute conditions that are difficult to manage inside the facility.
3. The bed capacity of the facility is 50.

4. Specialized staff and timeliness of intervention make the value proposition appealing from the consumer's point of view.
5. The government will appreciate and give life to this project.

To test the key assumptions, interviews with Italian professionals of this sector and conversations with retirement owners during my internship have played a key role.

"*The emergency department already suffers from chronic congestion, which increases the costs of the health sector and puts a burden on the general taxation system. Therefore, any initiative that drains inappropriate admissions from the NHS should be undertaken, because every time a hospital bed is occupied, € 1600 per day is spent (…). So, finding a way to increase the capacity of social care facilities is crucial*", Dr. Orta said.

Just with a few words, we had a confirmation that there is a lack of intermediate facilities, and that the government is going to appreciate the initiative, since a bed in my facility will cost less than a hospital bed.

As regards the second and third assumptions, they were tested during my internship. A widespread outbreak in the retirement home led to many complications and stress for employees, that admitted their inability to take care of many decompensated elderly simultaneously.

In addition, the elderly cannot enjoy timely intervention by specialized staff and suffers from repeated transfers from the nursing home to the hospital and vice versa.

Steps 22 and 23 – Define the Minimum Viable Business Product (MVBP) & show that "The Dogs Will Eat the Dog Food"

Following the identification and verification of the initial key assumptions, the creation and subsequent validation of the Minimum Viable Business Product (MVBP) is carried out.

The MVBP is a test of a service that provides value to the customer and results in the start of a feedback loop that is critical to creating better versions of the service itself.

However, since the service Amarsi will provide to elderly is a peculiar and specific service, the MVBP is represented by the service itself, a social-assistance health-related service.

"The dogs will eat the dog food" because they are driven by an imminent need. It is complicated to give feedback today, but it will be possible to assess client satisfaction through questionnaires submitted to clients and their families in the first months of the launch of the facility.

The main insights we can extract from this fifth theme are:

1. Defining and testing key assumptions prepares entrepreneurs to sell the service in a proper way.
2. Creating the MVBP and demonstrating quantitatively that customers are willing to pay for it is important to see if they are using it and how engaged they are as users. However, in some cases, it is complicated to develop these steps.

How do you scale your business?

Finally, to explain how the company scales the business we are going to analyse the TAM for follow-on markets and develop a product plan.

Step 14 – Calculate the Total Addressable Market Size for Follow-on Markets

Moving forward on the path of entrepreneurship, we must evaluate other follow-on markets, similar markets that involve selling additional products or applications to the same customer (upselling), or selling the same product to adjacent markets, and their TAM size.

Considering again data from The European Commission of 2018, the two follow-on markets we can focus on are Lung Cancer (LC), and Chronic obstructive pulmonary disease (COPD).

TAM(LC) = 65.700*29.200= 1.918.440.000 euros

In 2018, the prevalence of lung cancer in those aged 70 and up was 12.5% of 373.000 total cases in Italy, resulting in 29.200 elderly. (Gori, 2018).

TAM(COPD) = 65700*3.050 = 200.385.000 euros

The prevalence of COPD in 2018 in elderly 65+ was 10% of 30.500 total cases, resulting in 3.050 elderly.

However, it should be noted that numbers may be skewed, given that the analyses date back to 2018 and that especially in the second case, the numbers are related to a population of patients of only the 800 general physicians HealthSearch (Research Institute of the Italian Society of General Medicine) researchers active as of December 31, 2018. (Lupi, 2020).

Step 24 – Develop a Product Plan

In the last step, both the characteristics of the service to be offered to the beachhead market and the further adaptations of the product to be sold in adjacent markets are determined.

As mentioned before, the characteristics that will distinguish our service will be timeliness of action and specialization in the field of cardiovascular diseases.

However, as we expand into adjacent markets, our characteristics will need to adapt to those new markets, thus the staff specializations will be exactly lung cancer, lung disease (COPD), diabetes, kidney disease, and so forth.

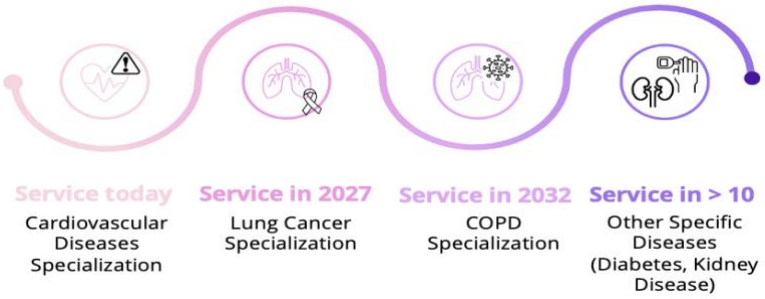

Figure 10: Service Plan

The main insight we can extract from this last theme is that the business owner needs to think ahead about service improvements or possible service adaptations to adjacent markets to have a long-term view of the business.

Learning insights, limitations, and conclusions

Selecting a framework to develop the idea was a long process. After analysing many solutions, we decided to use the Twenty-four Steps framework as a way to express this business.

The three main insights we can learn from this thesis are:

1. Everyone can learn to be an entrepreneur, and to be successful as such you must be an effective communicator, recruiter, and salesperson.
2. Having a team of people with different spirits and skills working toward a common goal, and knowing professionals in the field directly, is more effective than willing to embark on this journey alone.
3. Ambition and collaboration are two key elements for success.

However, this journey encountered some limitations that are particularly visible in the following steps:

Step	Purpose	Limitation	Mitigation
Step 1 – Market Segmentation	To list 6-12 potential markets and gather market primary research on them.	Given the characteristics of the sector, it was difficult to identify 6-12 markets.	I listed the 3 top markets.
Step 9 – Next 10 Customers	Identify at least 10 potential customers, besides your Persona, who fit the End User Profile.	It was impossible to interview seniors directly.	I deducted key information from my internship.
Step 17 – Calculate the Lifetime Value (LTV) of an Acquired Customer	The LTV is the discounted profit that a new customer will provide on average.	It was not appropriate to apply these calculations to this type of business.	I calculated the Resident Lifetime Value.
Step 19 – Calculate the Cost of Customer Acquisition (COCA)	Calculate the cost of acquiring a customer based on the sales process.	In this business there is no cost of retention.	I calculated the COCA without considering the cost of retention.
Step 21 – Test Key Assumptions	Scientifically test the key assumptions.	It was complicated to conduct primary market research with seniors.	I deducted key information from interviews with professionals and from my internship.
Step 22 – Define the Minimum Viable Business Product (MVBP)	Launch a minimum viable product to test the assumptions.	Given the features of the service, it was impossible to launch a minimum viable service.	/
Step 23 – Show that "The Dogs Will Eat the Dog Food"	Demonstrate that consumers are willing to purchase the MVBP.	Considering the non-existence of the MVBP, it was impossible to show that consumers are willing to purchase it.	Interviews conducted confirmed that it is an urgent need that must be met.

Table 7: Limitations and Mitigations of Steps 1, 9, 17, 19, 21, 22, 23

To conclude, the greatest lesson I will take away from this wonderful journey is that entrepreneurship in the healthcare sector is a difficult and arduous path that demands dedication and perseverance. At the same time, it allows to build a company such as Amarsi aspiring to find solutions to problems, and help people, bringing a better life to elderly.

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Appendices

Appendix 1: Italy, elderly population forecast, and long-term bed offer expectation – Jill Italian Real Estate Perspective

Appendix 2: Interview to Dr. Averardo Orta

Interview member of ANASTE

Current situation

From the national point of view one of the main problems is the difference between the accredited beds and the needs of the population.

The social-assistance sector is not included in the LEA (Essential Levels of Care), therefore assistance will not be granted free of charge to all Italian citizens.

There is a national fund for non-self-sufficiency, which amounts to 100 million euros.

In contrast, the national health fund is 124 billion euros.

It is clear from this distance how much the burden of the non-self-sufficient and invalid elderly is left on the shoulders of families.

Sometimes, therefore, carers have been favoured because it was necessary to avoid the problem of taking care of these invalids.

Accreditation

The current situation is that in Italy there are accredited managing organisations. This means that a part of these beds benefits from a sort of discount, which amounts to 40-50% of the total

fee. The all-inclusive fee is about 120 euros per day. This means that the public authorities contribute to the payment of the fees (they pay about 50-60 euros).

Proposal of Anaste

Anaste made a proposal to include the socio-sanitary sector within the LEAs without changing the taxes. The proposal included the renunciation of one day's holiday for the whole sector of employees, plus the merging of a series of funds that currently assist some categories that have local or sectoral value.

But the proposal was not actually presented.

There is a shortage of 240,000 places in RSAs, or at least facilities specialised in the care of the fragile and disabled elderly.

This reform could have generated the funds needed to accredit the missing 240,000 places.

Anaste's proposal would therefore have made it possible to pay the entire fee for all the accredited beds at Italian level, adding the missing 240,000 places.

This proposal had the positive aspect that the investment (which would fall within the objectives of the PNRR - National Resilience Recovery Plan) to build the buildings would have been sustained by the private sector because when there is a guarantee of accreditation, building a facility with 100 beds becomes sustainable also from the point of view of financial equilibrium.

In order to solve the problem of the lack of beds, small facilities called family homes (up to 8 beds) have been allowed, which do not have to meet any requirements, control or authorisation. All that is needed is to notify the municipality of the opening of the service.

This creates a GAP between accredited facilities, which are subject to very complex and rigid standards, and non-accredited facilities, that work in the same market, but have much lower standards, offer a lower price and lower quality services.

The proposal would have made it possible to move to a system in which everything is accredited, and everything is subject to the same standards, saving citizens from endless waiting lists.

Consequential problem in the health sector

The seriousness of this situation is also weighing on the health sector, because when a seriously dependent elderly person is in an inadequate facility, he ends up in the emergency department once a month, while accredited facilities carry out routine diagnostics within the facility itself. The emergency department already suffers from chronic congestion, which increases the costs of the health sector and puts a burden on the general taxation system.

Therefore, any initiative that drains inappropriate admissions from the NHS should definitely be undertaken, because every time a hospital bed is occupied, EUR 1600 per day is spent. An RSA bed costs 120.

So, finding a way to increase the capacity of social care facilities is crucial.

The PNRR is trying to do this with an intermediate tool which is the community hospital (OSCO). These are supposed to be beds with a predominantly nurse-run hospital setting, made precisely to free the actual hospital from inappropriate admissions.

LIMIT: it establishes an additional care setting which was probably needed but is designed for short stays of 8-9 days. The fragile elderly person cannot be framed in this time frame. It is the RSA that should be able to take care of the elderly even in the event of a slight exacerbation of their illness.

Possible results

Implementing the proposed law would create a virtuous mechanism with hundreds of millions of euros of private investment (to build the missing facilities), hundreds of thousands of jobs because 240,000 beds mean 200,000 jobs in the specific social and health sector alone. In addition, another 100,000 jobs in the construction sector to build the missing facilities.

So, it is an important positive injection into the Italian economy.

Moreover, the benefits would be both for the health sector, which would be relieved of these inappropriate hospitalisations, and for families, which often have to waste assets to care for the elderly who are now living longer.

Problems of residential communities

1. Mindset (extended family with grandparents)
2. Economic reasons (grandparents support the family in difficult times)

For these reasons it is complicated to find patients for the residential community, so they find themselves accepting patients with a higher degree of disability than the facility would be authorised to manage. But in order to provide the necessary assistance, resources have to be employed which would then lead to absorbing the entire monthly fee that users pay.

Consequently, if you increase the fee you are competing with accredited facilities that offer incomparably superior services.

Appendix 3: other interviews

Day	People	Main conclusions
26.01.2022	Owner of a retirement home – Dr. Dama	Lazio Region is promoting home care and small facilities to recreate familiar environment. Professional people are missing due to Covid-19 pandemic.
01.02.2022	Accountant expert in retirement home	In order to reduce responsibilities and risks, many entrepreneurs rely on cooperatives that provide all the necessary staff.
08.02.2022	Member of ISMA – Dr. Di Carlo	Shortage of healthcare professional is a problem since many years ago, but the other problem is that people are not motivated enough from the manager to work in a proper way. Retirement homes with 10-20 elderly are better for their mental healthcare because you have the possibility to have a familiar environment and better relationships between elderly and staff. In the public sector, the co-housing already started, and it is successful. But the main customers are people without money (the State pays everything). From a business point of view, it is something not replicable in the private sector because fees would be really high, and it would be difficult to reach customers out.
End of March 2022	Luana Carmen Tarquinio (Director) - CRA Villa Serena	The Covid-19 pandemic resulted in a shortage of nurses. Villa Serena requested help from ASL – Azienda Sanitaria Locale (Local Health Company). They did not look at alternative solutions and have not had an approach to telemedicine and wearables to solve the problem.
End of March 2022	Maria Corneli (Geriatric Physician) - CRA Villa Serena	The use of telemedicine and wearables is an interesting field, however they cannot be a solution to the lack of nursing staff, as they are only useful tools to facilitate and make more effective and timelier their work.
End of March 2022	Averardo Orta (owner of a group of 5 facilities, founder and CEO of Colibrì Consortium, Emilia Romagna region vice-president of Anaste)	Telemedicine and all the technological tools related to it involve an additional demand for staff and does not solve the problem of nursing staff lack.

Appendix 4: FNOPI report

LE CARENZE			
Regioni	Infermieri sul territorio*	Infermieri necessari in ospedale	Totale fabbisogno infermieri
Abruzzo	740	1019	1759
Basilicata	320	192	512
Calabria	1061	1079	2140
Campania	2973	3326	6299
Emilia Romagna	2551	1666	4217
Friuli V.G.	713	730	1443
Lazio	3089	3903	6992
Liguria	971	1069	2040
Lombardia	5388	3981	9368
Marche	816	450	1267
Molise	179	299	478
Piemonte	2537	1541	4077
Puglia	2177	2647	4825
Sardegna	920	855	1775
Sicilia	2678	3030	5707
Toscana	2142	1575	3717
Trentino aa	552	573	1125
Umbria	512	453	965
Valle d'Aosta	71	44	116
Veneto	2694	1839	4533
Italia	33049	30273	63322

* compresi gli infermieri di famiglia e comunità che secondo il decreto Rilancio devono essere 9600, secondo le stime FNOPI circa 21.500 e secondo quelle Agenas circa 23mila

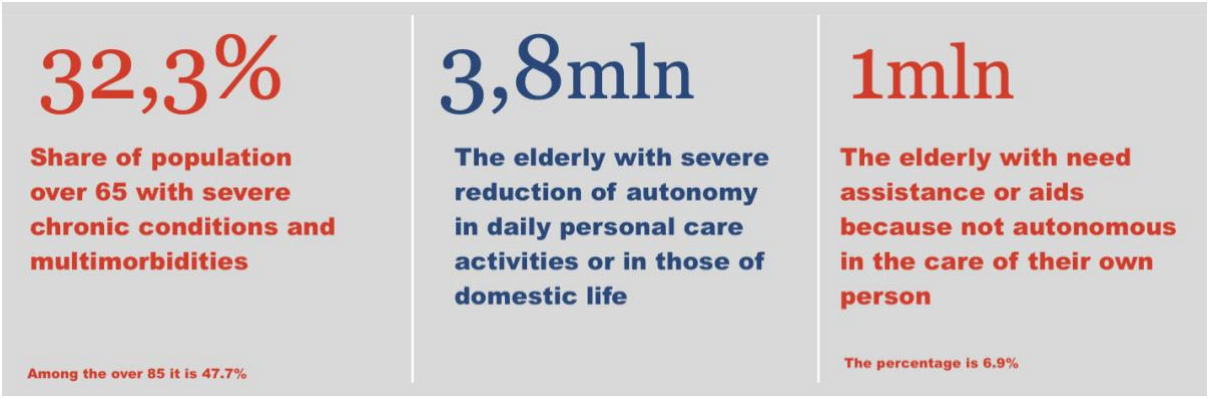
Appendix 5: CREA Sanità 2022 report

Tabella 3b.1. Numero di medici ed infermieri per 1.000 abitanti e per 1.000 abitanti *over* 75. Differenza tra Italia e media di Francia, Germania, Regno Unito e Spagna

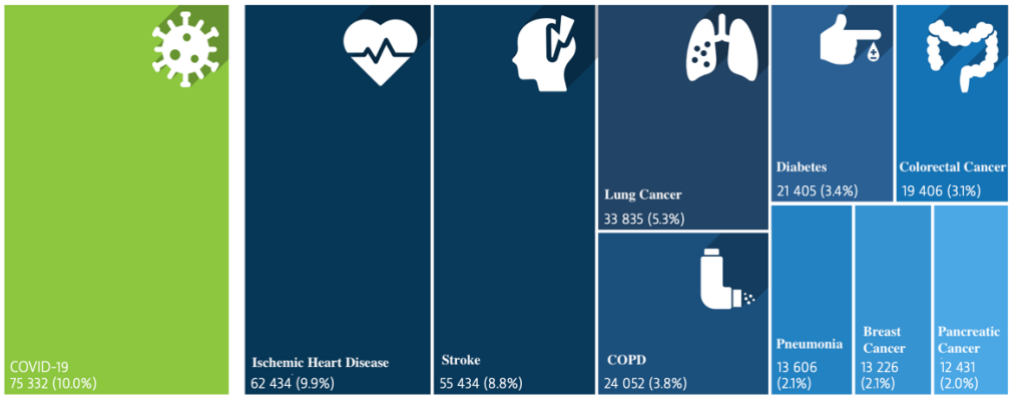
	Italia	Media FR, DE, UK, ES	Differenza tra IT e media FR, DE, UK, ES	Numeri assoluti
Numero di medici per 1.000 abitanti	4,06	3,58	+0,48	+28.981
Numero di medici per 1.000 abitanti *over* 75	35,06	37,52	-2,46	-17.189
Numero di infermieri per 1.000 abitanti	5,49	9,42	-3,93	-237.282
Numero di infermieri per 1.000 abitanti *over* 75	47,45	97,55	-50,1	-350.074

Fonte: elaborazione su dati OECD *Health at a Glance* 2019 - © C.R.E.A. Sanità

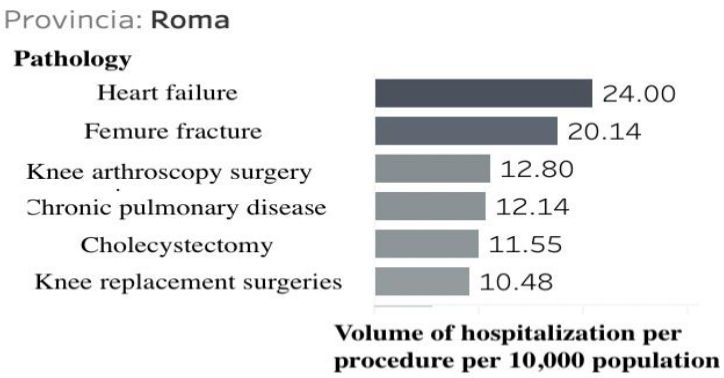
Appendix 6: Report on elderly - ISTAT



Appendix 7: European Commission data



Appendix 8: The most frequent causes of hospitalization in Rome



Appendix 9: Further Calculations

Project Valuation

Currency: €

CASH FLOWS						
Year	**0**	**1**	**2**	**3**	**4**	**5**
Sales		1971000.00	2628000.00	2956500.00	3153600.00	3153600.00
Quantity		30.00	40.00	45.00	48.00	48.00
Monthly price		5475.00	5475.00	5475.00	5475.00	5475.00
Annual price		65700.00	65700.00	65700.00	65700.00	65700.00
Cogs		829720.00	899100.00	949850.00	1009094.00	1009094.00
Hygienic materials		13200.00	17600.00	19800.00	21120.00	21120.00
Labour expenses*		717360.00	749400.00	781440.00	829500.00	829500.00
Catering		86400.00	115200.00	129600.00	138240.00	138240.00
Laundry		12240.00	16320.00	18360.00	19584.00	19584.00
Special waste		520.00	580.00	650.00	650.00	650.00
Gross profit		**1141280.00**	**1728900.00**	**2006650.00**	**2144506.00**	**2144506.00**
Fixed costs		333080.00	333080.00	331080.00	326080.00	324080.00
Rent		120000.00	120000.00	120000.00	120000.00	120000.00
Utilities		20000.00	20000.00	20000.00	20000.00	20000.00
Payrolls**		154080.00	154080.00	154080.00	154080.00	154080.00
Maintenance costs		6000.00	6000.00	6000.00	6000.00	6000.00
Legal costs		5000.00	5000.00	5000.00	5000.00	5000.00
Marketing costs		12000.00	12000.00	10000.00	5000.00	3000.00
Insurance		16000.00	16000.00	16000.00	16000.00	16000.00
EBITDA		**808200.00**	**1395820.00**	**1675570.00**	**1818426.00**	**1820426.00**
Depreciation		21427.62	21427.62	18774.12	18774.12	18774.12
EBIT		**786772.38**	**1374392.38**	**1656795.88**	**1799651.88**	**1801651.88**
Taxes		24.00%	24.00%	24.00%	24.00%	24.00%
Net Income		**597947.01**	**1044538.21**	**1259164.87**	**1367735.43**	**1369255.43**
Operating CFs		**619374.63**	**1065965.83**	**1277938.99**	**1386509.55**	**1388029.55**
CAPEX	-159429.90					
Investment Cash Flow	-159429.90	0	0	0	0	0
Free Cash Flow	**-159429.90**	**619374.63**	**1065965.83**	**1277938.99**	**1386509.55**	**1388029.55**
Discount Rate		67.50%	50.00%	42.50%	30.00%	25.00%
Discounted FCF	**-159429.90**	**369775.90**	**473762.59**	**441637.08**	**485455.53**	**454829.52**
NPV	**2066030.72**					

Notes:
t=1: 18 oss; t=2: 20 oss; t=3: 22 oss; t=4: 25 oss
Labour expenses are wages of doctors, nurses, oss, educators, physioterapists, and psycologists paid for providing the service
For the special waste the company will buy 2 bins (t=1), 3 bins (t=2), and 4 bins (t=4) per month
Payrolls includes administrative employees, cleaners, manager, and maintainer payrolls
Maintenance costs includes elevator and legionellosi expenses
The discount rates refer to a study by PWC (the last year was estimated taking into account the decreasing trend of previous years)

Currency: €

*WAGES	Monthly Average	Annual Average	N	Tot
Doctors	2000.00	24000.00	7.00	168000.00
Nurses	1450.00	17400.00	10.00	174000.00
Oss	1335.00	16020.00	22.00	352440.00
Educator	1450.00	17400.00	2.00	34800.00
Physiotherapist	1450.00	17400.00	2.00	34800.00
Psycologist	1450.00	17400.00	1.00	17400.00
Tot	**9135.00**	**109620.00**	**44.00**	**781440.00**

Currency: €

**PAYROLLS	Average Monthly	Average Annual	N	Tot
Adm. Employees	1450.00	17400.00	3.00	52200.00
Cleaners (1 level)	1107.00	13284.00	4.00	53136.00
Manager (10 level)	1686.00	20232.00	1.00	20232.00
Maintainer (2 level)	1188.00	14256.00	2.00	28512.00
Tot	**5431.00**	**65172.00**	**10.00**	**154080.00**

Notes:
Wages and Payrolls are referred to year 3

Currency: €

CAPEX			
	Quantity	Price	Tot
Long-term care bed	50	1000.00	50000.00
Antidecubitus mattress	50	100.00	5000.00
Pillow	50	10.00	500.00
Bed linen	100	40.62	4062.00
Blanket	50	14.90	745.00
Hospital inpatient monitor	50	1000.00	50000.00
Hospital bedside table	50	220.00	11000.00
Closet	40	129.00	5160.00
Infirmary	1	610.00	610.00
Desk	4	240.00	960.00
Computer	4	990.00	3960.00
Chair	4	90.00	360.00
Multifunctional trolley	2	335.00	670.00
Sofa	5	799.00	3995.00
Dining table	9	625.00	5625.00
Chairs	50	100.00	5000.00
Television	30	200.00	6000.00
Dressing cabinet	3	533.00	1599.00
Dressing bench	3	410.00	1230.00
Exercise bike	1	153.00	153.00
Elastics	2	8.00	16.00
Psycho-motor game set	1	100.00	100.00
Montessori table	2	44.95	89.90
Gym floor	50	51.90	2595.00
Tot CAPEX			**159429.90**

DEPRECIATION					
Effective life	1	2	3	4	5
10	5000.00	5000.00	5000.00	5000.00	5000.00
7	714.29	714.29	714.29	714.29	714.29
2	250.00	250.00	0.00	0.00	0.00
2	2031.00	2031.00	0.00	0.00	0.00
2	372.50	372.50	0.00	0.00	0.00
7	7142.86	7142.86	7142.86	7142.86	7142.86
10	1100.00	1100.00	1100.00	1100.00	1100.00
10	516.00	516.00	516.00	516.00	516.00
10	61.00	61.00	61.00	61.00	61.00
10	96.00	96.00	96.00	96.00	96.00
10	396.00	396.00	396.00	396.00	396.00
10	36.00	36.00	36.00	36.00	36.00
15	44.67	44.67	44.67	44.67	44.67
10	399.50	399.50	399.50	399.50	399.50
8	703.13	703.13	703.13	703.13	703.13
10	500.00	500.00	500.00	500.00	500.00
5	1200.00	1200.00	1200.00	1200.00	1200.00
10	159.90	159.90	159.90	159.90	159.90
10	123.00	123.00	123.00	123.00	123.00
5	30.60	30.60	30.60	30.60	30.60
5	3.20	3.20	3.20	3.20	3.20
5	20.00	20.00	20.00	20.00	20.00
10	8.99	8.99	8.99	8.99	8.99
5	519.00	519.00	519.00	519.00	519.00
	21427.62	**21427.62**	**18774.12**	**18774.12**	**18774.12**

Currency: €

BREAK-EVEN POINT						
Year	0	1	2	3	4	5
Fixed Costs		333080.00	333080.00	331080.00	326080.00	324080.00
Revenue per Unit		65700.00	65700.00	65700.00	65700.00	65700.00
Variable Cost per Unit		27657.33	22477.50	21107.78	21022.79	21022.79
BEP		**8.76**	**7.71**	**7.42**	**7.30**	**7.25**