



Policy Roadmap North Macedonia

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**Supporting INclusive development of community-based
long-term CARE services through multi-stakeholder
participatory approaches**



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Policy Roadmap

North Macedonia



InCARE (Supporting Inclusive development of community-based long-term CARE services through multi-stakeholder participatory approaches) aims contribute to the design of a coordinated approach to the development of national long-term care policy and care services at local and regional level, by establishing socially innovative and participatory decision-making processes. We work with care users, care providers and policymakers in Spain, Austria and North Macedonia to design, implement and scale-up innovative care services.

More information on the project's website: <https://incare.euro.centre.org/>.



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Introduction

This policy roadmap presents findings from the InCARE project, which has two aims: implementing socially innovative pilot projects in Austria, North Macedonia and Spain and contributing to the development of the long-term care systems in all three countries. To achieve the latter, InCARE has had policy partners involved in all three countries from the project application stage and throughout. The pilot projects themselves have certainly provided inputs in the process of developing the long-term care systems further. They were developed through a Theory of Change process which meant that the innovations were adapted to the local context with input from a variety of stakeholders. Beyond the pilot projects, InCARE also contributes to the evidence base for developing national long-term care systems further. This included three different elements: data collection through an online survey on attitudes, experiences and expectations of long-term care, analysis of the status quo through situational and SWOT analyses, and projections of future costs of long-term care based on the expected service use. This policy roadmap presents recommendations for the future development of the long-term care system in North Macedonia based on all these activities, including a detailed annex on the calculation of costs.

Summary of findings from the InCARE survey for North Macedonia

Based on results of the InCARE survey¹, availability and affordability remain major barriers in accessing formal care services, particularly for low income earners and rural-living individuals. Many feel obligated to provide care for their loved ones, despite negative impacts on their career and health, warranting increased financial protection and recognition of social rights for informal carers, as well as expanded formal care options. Strong preferences for formal care options and less responsibility for families confirm the need for expansion of community care services and an increased role of the state in providing and financing care.

Short summary of the North Macedonian pilot project

The piloting of the Emergency Button service through the InCare project by the Red Cross of the Republic of North Macedonia, targeted 50 frail elderly people who live independently in their homes and receive home support through the local care center, but whose care needs are insufficiently met by current service.

The Emergency Button System presents a 24/7 service, which the users of the elderly population will be able to use in their homes, by pressing the alarm device, intended to have it on them, whenever they find themselves in a non-life-threatening condition, but is serious enough and needs urgency, first aid and support.

The users will be able to communicate with the Operators from the Contact Center through specialized devices, for which a software application was prepared and technical equipment was established for full functionality, through which the users receive fast and efficient access to appropriate support and assistance by professional persons and intervention teams of the Emergency Button. During the pilot phase, 60 caregivers were able to enhance their theoretical and practical skills for providing home assistance services.

After the piloting of the Emergency Button service, the Red Cross, together with the involved policy partners, will strive to enable sustainability models and integrate the service into the health and social systems of the state.

¹ The findings are based on unweighted data collected through an online survey between September 2021 – February 2022, consisting of 331 responses from North Macedonia. The sample underrepresents younger individuals under 30 and older adults aged 60+, as well as men. The sample is also skewed towards individuals with a university degree or secondary education and urban-dwelling individuals.

Challenges in the North Macedonian long-term care system

Availability and affordability of formal care services continue to be barriers for many, especially for those with low income and living in rural and remote areas. Despite the intensive investments in establishment of new home- and community-based services over the past years, care infrastructure is still limited, particularly in rural areas. The 2019 Law on Social Protection established the responsibility and obligation of municipalities to develop social services at the local level; however many of them still rely on central government financing in pursuing this objective.

Private (For-profit and non-for-profit) ownership comprises a majority of formal care services provided. Residential long-term care is primarily financed from out-of-pocket payments, while the costs for home care are covered both by the state and the users. There is a weak connection between the allowance for care and the use of the care services.

Although less of a reported-barrier by respondents in the InCare survey in North Macedonia, it is crucial that the quality of formal care services continues to be improved. By-laws define the minimum standards for delivery of each of the services, but little attention is paid to the performance and satisfaction of the users.

In addition to improving care infrastructure, the provision of sufficient qualified staff must be one focus area of improvement. Staff shortage and turnover has increasingly become problematic given the current large level of out-migration.

Informal care continues to comprise a large portion of long-term care in North Macedonia and is still seen by many as the role of women. This is at the detriment of families, particularly those in rural areas with limited care infrastructure, with many feeling pressured to provide care despite a negative impact on their career and health or well-being.

Finally, it should be mention that Long-term care is governed partly by the social protection system alongside the healthcare system and there is a lack of integration of health and social care services as the two systems are governed by different rules and principles. There is a weak coordination and information exchange among institutions.

Facilitating and hindering factors for sustainability and potential scale-up of social innovations in the long-term care system

Fostering development of formal care is a priority of the Government of the Republic of North Macedonia and recent years saw significant investments in setting up new social care services. The 2019 Law on Social Protection and corresponding by-law (Rulebook on the terms and conditions, scoring scale, the method and procedure for awarding grants for innovative or intervention social service, 2021) anticipate change of care needs and allow for establishment of innovative social services. Yet, despite the enabling legal framework, ensuring sustainability and scaling-up of innovation can be challenging as it usually demands further legal adjustments and financing by the authorities. There might even be different apprehension of the meaning of innovative social services among decision makers and practitioners, which may affect the formal procedures (e.g liscencing) for their incorporation in the system as regular services.

As noted above, municipalities have competences to establish social services at the local level. Municipalities can even cooperate with other municipalities in meeting care needs on regional level. Such setting provides favourable ground for social innovations in accordance with the local context and needs.

One limitation factor is that innovations are mostly project-based and scalability is often considered at a very late stage. At that stage, there is a reluctance among various actors, especially from other sectors

to adopt new practices if they mean disruption of the “business as usual” and high transaction costs to introduce the change. Therefore, it is important to mobilise relevant stakeholders already in the design phase. The InCARE Project Theory of Change national workshop represented a novel and coherent approach, in which multiple stakeholders from social and healthcare sector were involved and a theory of change map was designed that can contribute to the development of national policies. The Theory of change approach was a possibility to discuss the challenges in the care provision. It also revealed gaps and lack of communication between the healthcare and social services systems.

Context wise, demographic changes and large-scale migration provide a case for innovations in the long-term care, including for innovating the models for financing of the care. COVID-19 pandemics demonstrated that innovations, such as Emergency button might bring the necessary flexibility for tackling crisis situations.

Summary of the projections


Population ageing will increase the number of older adults aged 65+ with severe care needs in the future. The population aged 85+ will particularly increase. This increase in the population with severe care needs will be particularly high for women, especially amongst the age of 85+. At the same time, this increase will also be high for men, indicating the anticipated life expectancy gains in future for them.

Increases in the population with severe care needs will subsequently result in a higher demand for care, whether formal or informal. To maintain the current level of formal care coverage, public expenditure will need to increase substantially. In 2022, the level of coverage of formal care services was already quite low in comparison to other countries, with only 3.2% of individuals with severe care needs receiving some type of formal care, whether in an institution or in their own home. Not only will significant investment be needed to maintain a constant level of coverage in future when demand increases, but even more resources would be required to increase formal care services to a reasonable level to accommodate demand and provide a sufficient range of options for individuals.

Increasing care services to cover 25% of older adults with severe care needs would cost the state a considerable amount, however at the same time, it must be considered that increasing formal services can lead to the burden on informal carers being alleviated, therefore allowing these individuals to join the labour market. This would then have further positive implications for tax revenues and GDP. The LTC system in North Macedonia currently relies significantly on informal carers to provide care for older people. The value of informal care in 2022 was nearly 7 times that spent on formal care services in the country. A strong obligation to provide informal care has resulted in many individuals having to reduce their work hours or quit entirely to provide. The negative impact on mental well-being caused by informal care also raises the importance in increasing the formal coverage of care within the country. Further strengthening the case for increased investment in formal care, most individuals would prefer to use formal care services and subsequently see less responsibility placed on the family. It is also likely to be the case in future that there will be less availability of informal care as the result of large-scale out-migration of young individuals to other European countries. This even further strengthens the case for investing in formal care services now.

Investing in home care appears to be an ideal option to expand the coverage of formal care services, not only given its lower relative cost compared to residential care, but also because it aligns better with the preferences of individuals, as found in previous InCare survey in the country. At the same time, it should be noted that this would still require a large amount of care to be provided informally.

The results indicate that substantial investment will also be needed into recruiting into the LTC workforce to cover additional demand for care and an expansion of care services. This could prove problematic given the current large level of out-migration. At the same time, increasing the number of LTC jobs can also provide an opportunity for middle-aged women not currently in the labour market as



the result of care obligations. Therefore, investing in formal care services can not only alleviate the burden on informal carers (and particularly women), but it can also contribute to job creation.

Given the anticipate shrinkage of the working age population, as well as large out-migration of younger individuals, alternative financing models may need to be considered, such as LTC insurance.

Finally, implementing an emergency button to be used by 500 individuals receiving care services in their home would cost the state only marginally more. Not only would it create additional jobs, but it may also help to reduce the burden placed on families.

Recommendations

Taking into consideration the findings above, we suggest the following recommendations.

Addressing future needs for long-term care

First priority should be improving the availability and affordability of formal care in the country. This calls for further **investment in high quality formal services, particularly home- and community-based social services** targeted to the needs of the population. Increasing availability of formal care includes **opening more residential care facilities** and increasing the coverage of older persons with severe care needs from the current 2.5%. That would contribute to decreasing the burden on informal carers.

Encouraging **pluralization and decentralization of social services**, i.e. incentivizing the entry and licensing of new service providers, supporting municipalities' efforts to invest in care services, expanding eligibility criteria for services, reducing care users' out-of-pocket payments and increasing the availability of publicly provided services are all initiatives that can serve to improve the availability and affordability of care.

In terms of affordability, the Ministry of Labour and Social Policy considers **changing the financing formula of social care services so that the cost of delivery would be covered both by the state and the user**. This is in line with the finding from the InCare survey that the strongest preference concerning financing care is for the state to cover either full or basic costs of home and residential care services.

Another priority should be **strengthening the monitoring of the performance and quality assurance of social services**. Among other, **quality standards for delivery of services need to be revisited** in order to empower the users. Currently, by-laws define the minimum standards for delivery of each of the services; however, one must look beyond such admittedly important elements of care, such as staffing or bed numbers, to examine the system of care and its performance. The quality standards must insure early involvement of the users, family members and caregivers in the design and delivery of the service. To that end, the Ministry of Labour and Social Policy in North Macedonia has already initiated projects to improve the quality of care, including care at homes for older adults, day care centers for persons with disabilities, etc.

If service coverage is to be expanded, this subsequently would result in an increase in the demand for care workers. But there is the issue of labor force migration, which may prove difficult to meet the increased care demand. "We educate and certify care givers, and then they move to Western countries". Hence, another priority is to **invest in caregivers and remaining staff engaged in care delivery, providing decent working conditions, upskilling and protection of the social rights for them**. Development of caregivers network/registry might facilitate operation of care services. Better regulating the working arrangements and working conditions of caregivers is essential for formalisation of their work and attracting the work force. High schools should adapt education curriculum for preparing future care givers.

Enlargement of the formal care coverage will not diminish the role of informal care in the care mix. Given their large role in the LTC system, **the state must invest in support measures and services (e.g. respite) for informal carers**. Alongside investment in support services for carers, "social protection and financial support for carers should be strengthened to ensure that informal care is a willing decision made without the risk of financial vulnerability."

Finally, it is worth emphasising the need for **reforming the LTC policy in the country with participation of users, providers and all other stakeholders**. Key goal should be to promote healthcare and long-term care according to EU standards and practices. **Regular collection of data and analysis** and information exchange will ensure evidence-based design of the long-term care system and policy that aligns with the cultural changes and change of public attitudes. Theory of Change is a useful tool for developing

sector-wide policy and programmes as it brings together stakeholders from various levels and from different sectors.

Sustainability and scaling up the Emergency button

The successful implementation of the Emergency Button showed the need for innovative services in the community that can add additional value to the health and social system.

The piloting clearly demonstrated that Emergency button is a social service per se. Most of the clients needed advice or psychosocial support. There were limited number of users with medical condition that required urgent attention and treatment. In view of this, Emergency care service should be delivered in conjunction with related home assistance and care service and the much needed transportation assistance services. The delivery of the services as integral part of the social protection system requires amendments to the social protection legislation (rulebook), i.e. setting of national standards and cost price per unit for delivery of the service. The experience of the piloting as well as the needs and opinion of users should feed the modification of the legislation.

It is necessary to continue to increase the outreach and promotion of the services to ensure that the Emergency Button reaches the target population. This includes comprehensive community outreach activities, strategic partnerships with healthcare providers, and leveraging digital platforms for effective promotion.

The service is labour intensive. In view of the limited human resources of Red Cross, it could be delivered by other licenced providers, which will be still using the Call center platform of Red Cross given the big initial investments in software development for delivery of the Emergency button.

Transportation services could be organised and financed by the municipalities. The average annual cost on municipal level is estimated at about 12.000 EUR and therefore it should not constitute substantial burden even for smaller municipalities. An older person with dependency on average will use the service 4-6 times a year.

In terms of financing of the service, co-payment by the users could be foreseen in addition to the costs that would be covered by the state/municipality. To ensure sustainability and integration of the service on the long run, the Red Cross of North Macedonia, with the Ministry of Labor and Social policy will continue exploring the most viable funding models, that would involve co-payment of the price by the users and coverage by the state either from the social protection or ultimately from the health insurance fund. The services could receive incentives for job creations under the national Operational plan for active employment measures.

There is a need to continue investing in new community-based and home care services. However, the calls of the Ministry of Labour and Social Policy for establishing new services should at the same time stimulate setting up innovative ones.

Formal cooperation with Emergency care is restricted by the healthcare legislation, which allows this service to be solely provided by the healthcare institutions and medical doctors. The healthcare regulation should be amended to mandate Emergency button providers to refer clients in life treating condition to Emergency care.

Technical Annex

Methodology

The aim of this study was to project the anticipated costs of LTC expenditure and required LTC workforce in North Macedonia in the future and to simulate alternative scenarios. The results presented in this report are based on a cell-based projection model using a combination of micro-, administrative and national statistics data. The baseline model maps different levels of care dependency by age and gender onto LTC use (residential care, home care and LTC cash benefit) in North Macedonia. As a key component of care in North Macedonia, informal care is also included in the model. The projections for 2040 account for demographic changes assuming a high population ageing scenario.

The baseline model assumes that care needs are categorized into 3 groups based on EU-SILC data: no dependency, limited dependency and severe dependency. We assign individuals into these care dependency levels by age, gender, education and income distribution using probabilities calculated with EU-SILC. The model assumes that all individuals with severe dependency require some form of long-term care and that these individuals are the ones to receive LTC services and cash benefits. Information on service use (residential care and home care) and receipt of the cash benefit for older people was provided by the Ministry of Labor and Social Policy in North Macedonia. We otherwise assume that individuals living in the community (i.e. not in residential care) receive informal care in some form. Information on costs of services were taken from a combination of sources (from the Ministry of Labor and Social Policy, and from Gjorgev, 2021).

Population projections for 2040 are taken from the United Nations Population Division. The baseline projection for future LTC service use and cash benefits assumes that the rate of use/receipt remains constant from 2022 onward.

Table 1 highlights the remaining details of the model and the data sources used to develop the baseline, projection, and alternative scenarios.

TABLE 1: DATA SOURCES USED TO DEVELOP THE MODEL

Data Source	Information used	Purpose(s)
EU-SILC (2020)	Information on population aged 65+, including age, gender, education, income distribution and care needs.	To simulate the distribution of individuals aged 65+ according to care needs and other characteristics.
Eurostat	Baseline population by age and gender	To establish a baseline population for 2022.
Administrative data	1) Number of residential care users (2020) 2) Number of monthly home care users (June 2022); distribution of hours used; cost of home care per hour 3) Number of LTC workers in residential and home care 4) Number of individuals receiving the assistance and social cash benefit for older adults	1) To model the distribution of LTC service users and cash beneficiaries across the population with severe dependency. 2) To model the number of care workers needed to carry out the LTC service for people aged 65+. 3) To model the total public expenditure for each LTC service and benefit.
United Nations Population Division	Population projections by age and gender (2040)	To project changes in the population from 2022 to 2040.
Gjorgev (2021)	Average costs for residential care and cash benefit; prevalence of informal care	To calculate expenditure for residential care and cash benefits; to discern prevalence of informal care as a sensitivity analysis.

TABLE 2 PRESENTS A DESCRIPTION OF EACH SCENARIO, INCLUDING SOME OF THE ASSUMPTIONS MADE.

TABLE 2: DESCRIPTION AND ASSUMPTIONS USED IN EACH SCENARIO

Description/Technical details	Assumptions
Baseline (2022)	
Care needs are distributed by age, gender and other relevant characteristics (i.e. education, income) according to EU-SILC (2020) data.	Use of services and receipt of the cash benefit are concentrated amongst individuals with severe dependency. Individuals living in the community receive informal care.
Projection baseline (2040)	
Population ageing and demographic change increase the number of older adults with care needs requiring care services.	Use of services and receipt of the cash benefit are concentrated amongst individuals with severe dependency. The probability of having severe care needs and using care services remains the same as in 2022 but absolute number of individuals using care increase as the result of demographic changes. Individuals living in the community receive informal care.
Scenario 1: Increased care services to cover care needs (residential and home care) – 25% of individuals with severe care needs use care services	
One quarter of individuals with severe care needs receive care services	Ratio of residential to home care services remains constant from 2022. Use of services and receipt of the cash benefit are concentrated amongst individuals with severe dependency.
Scenario 2: Increased care services to cover care needs (emphasis on home care) – 25% of individuals with severe care needs use care services	
One quarter of individuals with severe care needs receive care services	Probability of using residential care remains constant from 2022, while remainder of individuals use home care services. Use of services and receipt of the cash benefit are concentrated amongst individuals with severe dependency.
Scenario 3: Increased care services to cover care needs (residential and home care) – 10% of individuals with severe care needs use care services	
One tenth of individuals with severe care needs receive care services	Ratio of residential to home care services remains constant from 2022. Use of services and receipt of the cash benefit are concentrated amongst individuals with severe dependency.
Scenario 4: Incorporating emergency button into home care service package	
Emergency button is publicly funded for 500 individuals, requiring 10 care workers, costing 25 euros/month per person.	Same assumptions as in the projection baseline (2040). Only additional assumption is that 500 individuals will use the emergency button in a home care setting, requiring 10 LTC workers and costing 25 euros a month per button. The emergency button is used by those with severe care needs already receiving home care in the community.
All scenarios	
GDP grows in line with projection rates estimated for Bulgaria, assuming that GDP growth in Bulgaria and North Macedonia are similar. Projected GDP growth rates taken from the European Commission's 2021 Ageing Report for 2026-2035 for Bulgaria. Unit costs of care grow in line with labour productivity, given that most costs of care are labour costs. Labour productivity growth rates taken from the European Commission's 2021 Ageing Report for Bulgaria 2026-2035.	

Results (Baseline & future baseline projection)

Our projection models suggest that from 2022 to 2040, there will be a 42,3% increase in the number of older people aged 65+ (*FEHLER! VERWEISQUELLE KONNTE NICHT GEFUNDEN WERDEN.*). Even more concerning is the anticipated increase for individuals aged 85+, where this population is anticipated to increase by 124,4%. The substantial increase in the number of adults aged 85+ is concerning, as care needs tend to be concentrated amongst this group. The projection of individuals with severe dependency aged 65+ is a good indication of the number of individuals that will require some form of

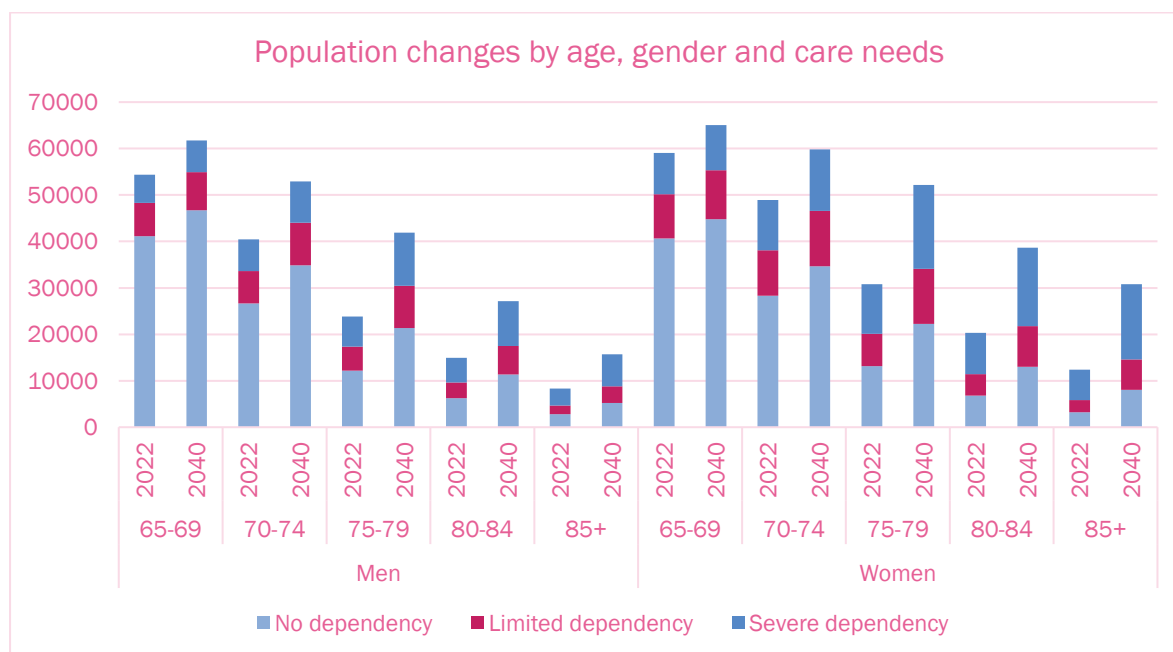
care in 2040. Around 23,6% of adults 65+ had severe care needs in 2022, which would increase to 26,4% of the population in 2040. This would result in a nearly 60% increase in adults with severe dependency, amounting to over 40.000 additional individuals requiring care. Adults with limited dependency, who are those with only some care needs, but not severe enough to use formal care, can also provide a good indication of potential demand for care in future. From 2022 to 2040, there would be an increase in adults aged 65+ with limited dependency of 47,3%, an increase of nearly 30.000 adults.

TABLE 3: PROJECTION OF POPULATION (2022, 2040)

	2022	2040	% increase from 2022 to 2040
Individuals aged 65+	313.340	445.824	42,3
Individuals aged 85+	20.702	46.457	124,4
Individuals with severe dependency (65+)	74.018	117.815	59,2
% of population with severe dependency (65+)	23,6%	26,4%	-
Individuals with limited dependency (65+)	58.228	85.793	47,3

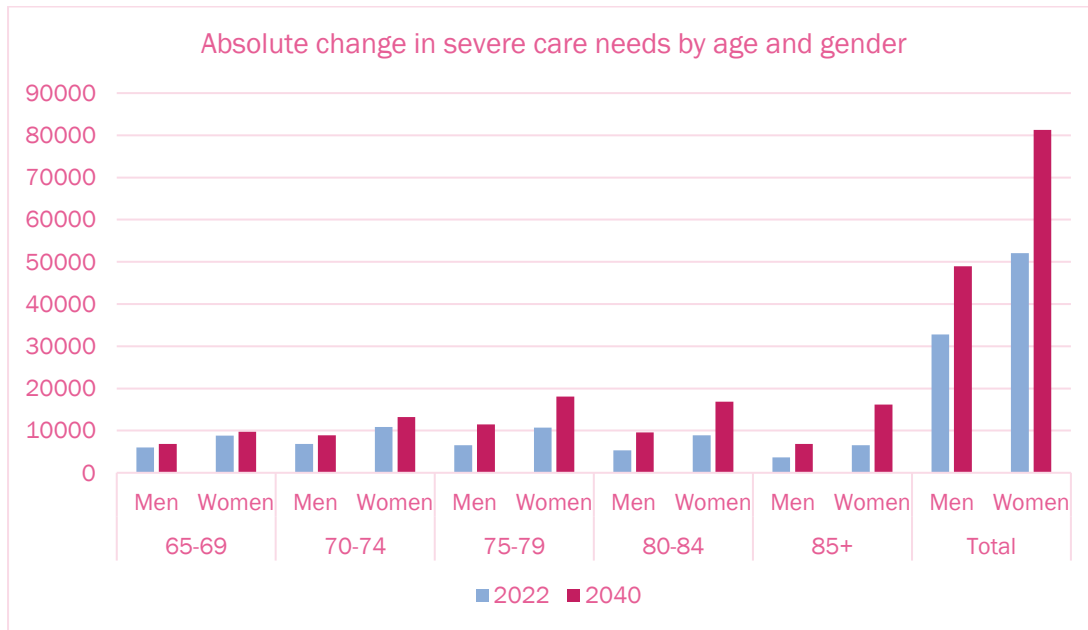
Fehler! Verweisquelle konnte nicht gefunden werden.Fehler! Verweisquelle konnte nicht gefunden werden. presents the anticipated change in the population of adults 65+ by age, gender, and level of dependency. The figure shows that the increase in the population will be particularly large among women older than 75. The figure also indicates that the increase in adults with severe care needs will generally be concentrated among older individuals (75+), but especially among women.

FIGURE 1: CHANGE IN POPULATION BY AGE, GENDER AND CARE NEEDS



Next, **Fehler! Verweisquelle konnte nicht gefunden werden.** presents the absolute number of individuals with severe care needs according to age and gender, to confirm the findings from **Fehler! Verweisquelle konnte nicht gefunden werden..** More generally, women will comprise a larger share of the increase in adults with severe care needs. The increase in severe care needs will be highest for men in the age categories 75-79 and 80-84, while for women, this increase will be largest in all age categories from 75+.

FIGURE 2: ABSOLUTE CHANGES IN ADULTS WITH SEVERE CARE NEEDS BY AGE AND GENDER (2022-2040)



Fehler! Verweisquelle konnte nicht gefunden werden. indicates these changes as a percentage change from 2022 to 2040, indicating that these changes will be largest amongst the oldest age groups in relative terms, and particularly for women. In relative terms, the % change in adults with severe care needs will be larger for men than for women among the younger age groups (60-64, 65-69, 70-74), indicating expected life expectancy gains for men in future.

FIGURE 3: % CHANGE IN INDIVIDUALS WITH SEVERE CARE NEEDS BY AGE AND GENDER

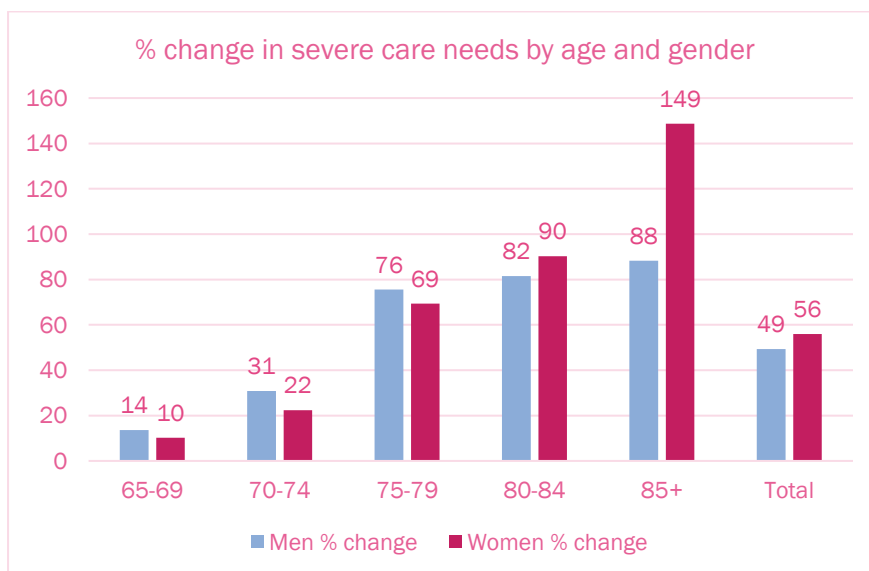


Table 4 indicates how these changes in the population will translate into use of care services and receipt of benefits, if probability of receiving these benefits remains constant in the future. A relatively small portion of adults with severe care needs used LTC services in 2022: 2,86% used residential care, both private and public, and 0,76% received home care monthly. Around 3,08% of adults 65+ with severe care needs receive the cash benefit for older adults. If we assume that adults with severe care needs living in the community (i.e. not in residential care) receive informal care from a family member or friends, this would equate to 97,14 of individuals, or nearly 72.000 individuals in 2022.

Table 4: Recipients of care benefits and services (2022, 2040, % change)

	As % of individuals with severe care needs		Absolute		% increase from 2022 to 2040
	2022	2040	2022	2040	
Recipients of residential care	2,86	3,18	2.114	3.856	82,4
Recipients of home care (monthly)	0,76	1,23	565	911	61,2
Recipients of cash benefit	3,08	2,99	2.279	3.628	59,2
Recipients of informal care	97,14	93,09	71.904	113.047	57,2

Assuming that rates of care use remain constant, population ageing would lead to a substantial increase in the number of older adults receiving LTC services and the cash benefit. Residential care would witness the largest increase at 82,4%, corresponding to an additional 1.742 beds needed. For home care, the monthly number of recipients would increase by 61,2%, amounting to an additional 346 spots. These increases would allow for the rates of formal care use to remain constant based on the probability of use in 2022. In terms of the cash benefit, this would require an increase in beneficiaries by 59,2%, resulting in an additional 1.349 individuals receiving the benefit. In terms of informal care, this would increase by 57,2%, leading an additional 41.000 individuals receiving informal care. This would assume however, that informal care will be as readily available as it is in 2022, which may not be the case, given large levels of out-migration of younger people.

In terms of the composition of care, informal care would comprise the largest portion of care (assuming that all those in the community with severe dependency receive informal care) at 97,14% in 2022, reducing only slightly to 93,09% in 2040. This decrease would be offset by an increase in recipients of residential care and home care.

FIGURE 4: INCREASE IN CARE BENEFICIARIES AND LTC WORKERS IN RESIDENTIAL AND HOME CARE (2022, 2040)

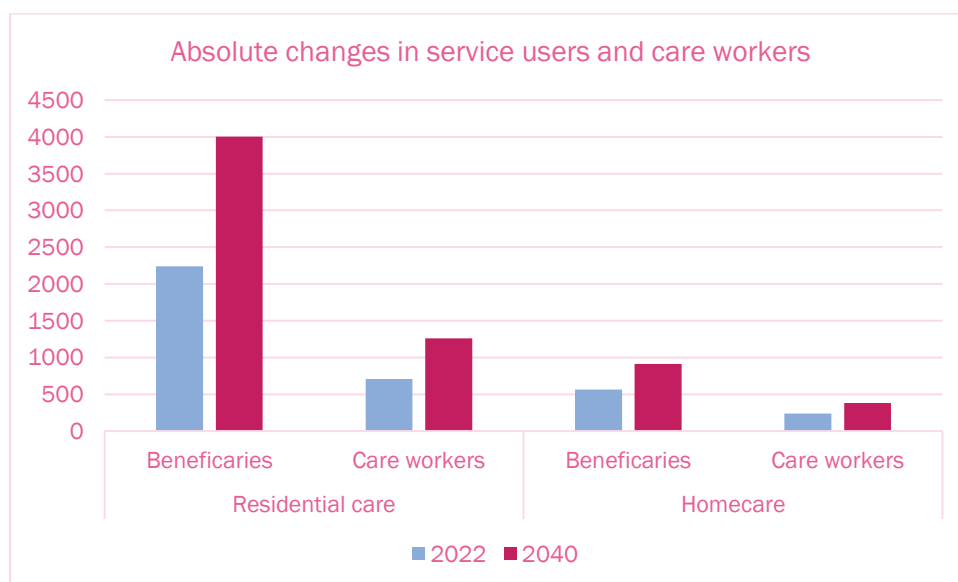
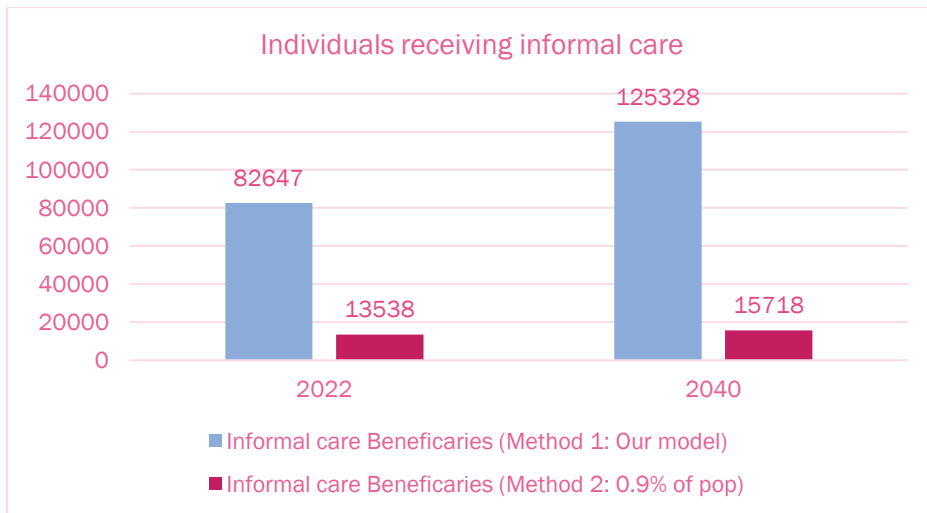


Figure 4 provides a visual representation of these changes for residential care and home care in terms of care users and care workers required. As the rates of formal care use are higher for residential care than home care, this setting would see a larger increase in care users in absolute terms than the home care sector. This would also result in a larger increase in the number of care workers needed in residential care settings.

FIGURE 5: INCREASE IN INDIVIDUALS RECEIVING INFORMAL CARE (2 DIFFERENT METHODS)



Note: Method 1 assumes that all individuals with severe care needs that receive home care or receive no care at all also receive informal care. Method 2 is based off of Gjorgev (2021) and previous EU-SILC data that suggests that 0.9% of the North Macedonian population provides informal care. We assume that each informal carer provides care to one individual with care needs.

Figure 5 presents the changes in the number of individuals with severe care needs that would receive informal care in 2022 and 2040, based on two different methods. The first method is based on the assumption that all individuals with severe care needs in the community receive informal care to some extent. This would lead us to assume that nearly 72,000 individuals in 2022 received informal care, and keeping the probability of informal care receipt constant, this would lead to an additional 41,000 requiring informal care in 2040. The second method is based on a figure provided in Gjorgev (2021), based on EU-SILC data, that suggests 0.9% of the North Macedonian population provided informal care in 2016. If we conservatively assume that each informal carer provided care to one individual with severe dependency, this would result in 13,500 carers in 2022, and an increase up to 15,700 in 2040, substantially less than that calculated by the first method.

FIGURE 6: GAP BETWEEN THOSE WITH CARE DEPENDENCY AND THOSE RECEIVING THE CASH BENEFIT

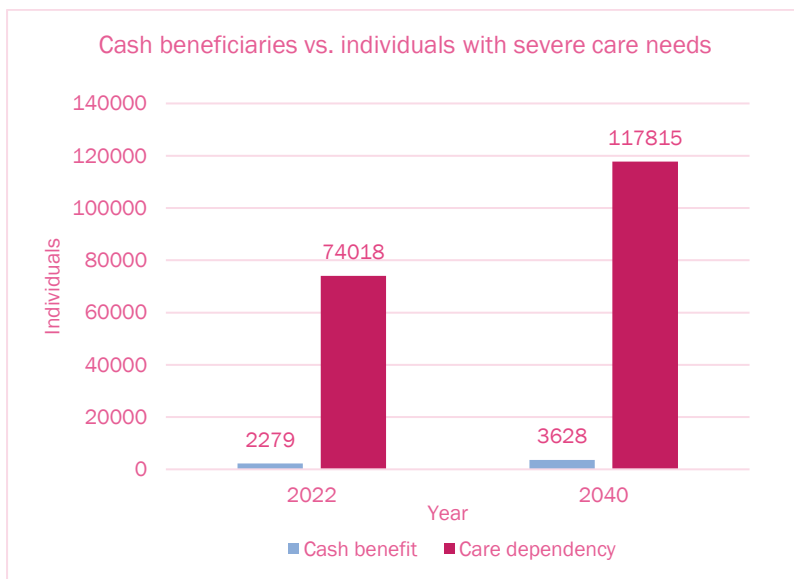
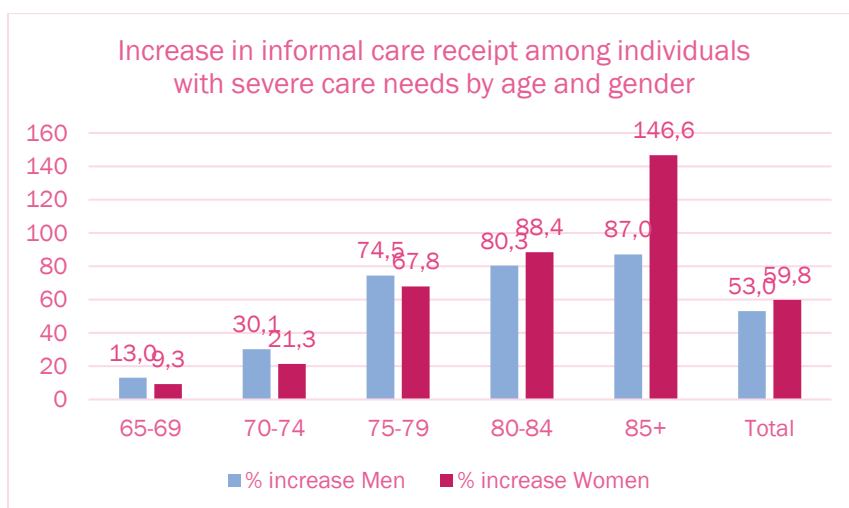


FIGURE 7: DISTRIBUTION OF CHANGES TO INFORMAL CARE RECEIPT BY THOSE WITH SEVERE CARE NEEDS BY AGE AND GENDER



In Figure 6, we examine how increases in informal care receipt would be distributed among individuals with severe dependency by age and gender, if we use the first method. This would result in informal care increasing the most among the oldest age category (85%), and slightly more among women.

Finally, for the baseline projection year, we present results for the total expenditure for LTC in 2022 and 2040, and what this amounts to in terms of GDP (Table 5). LTC expenditure is estimated at 946 million MKD in 2022, at approximately 0.119% of GDP. With the projected changes resulting from population ageing, this expenditure would increase substantially to 1.623 billion MKD in 2040, an increase of 71.4%, amounting to 0.154% of GDP. Table 5 also presents sensitivity analyses for 2040 assuming a 0.5 percentage point difference (higher/lower) in the GDP and labour productivity growth rate. The number of LTC workers in residential and home care would increase from 944 to 1672, an increase of 77.1%. In terms of the composition of this spending, a majority would be spent on residential care in both years, followed by expenditure on the cash benefit, and then home care. While this order would remain in 2040, a larger share of the public budget would be needed to maintain care provided in residential care, which would comprise around four-fifths of LTC expenditure.

TABLE 5: PUBLIC EXPENDITURE (TOTAL, % OF GDP, PER BENEFIT/SERVICE) AND LTC WORKERS (2022, 2040)

	2022	2040		2040 (sensitivity analysis)	
		Base assumption	% increase from 2019 to 2035	Sensitivity analysis: +0.5 p.p.	Sensitivity analysis: -0.5 p.p.
Public expenditure (MKD)	947M	1.623B	71,4	1.631B	1.615B
Total LTC workers	944	1.672	77,1	-	-
Expenditure as % of GDP	0,119	0,154	-	0,141	0,167
% of public expenditure on residential care*	75.6	80.9	-	-	-
% of public expenditure on home care	10.2	6.1	-	-	-
% of public expenditure on cash benefits	14.2	13.0	-	-	-

Note: sensitivity analyses assume that growth in GDP and in labour productivity (i.e. costs of care) are either 0.5 p.p. higher/lower than the baseline assumptions.

We tested a number of future scenarios making assumptions about the level of service coverage and the distribution of care provided in residential settings versus in home settings. The simulation indicated that increasing services up to a coverage level where 25% of individuals with severe care needs receive them (a comparable figure to other countries) would result in a substantial increase in public expenditure. In this case, if the ratio of residential care to home care were to remain constant from 2022 to 2040, public expenditure would increase by around 750% up to over 8 billion MKD, requiring over 10.000 LTC workers. This increase in expenditure would be reduced however, if the care mix was altered. If home care services filled this increase in service coverage, this would result in an increase of public expenditure by 561% to over 6.2 billion (MKD), requiring over 12.000 care workers. Scenario 3 presents a less extreme situation and assumes that service coverage would increase to cover 10% of individuals with severe care needs. In this case, if the care mix between residential care and home care was maintained, this would result in public expenditure tripling up to 3.8 billion MKD, requiring over 4.000 LTC workers. Finally, scenario 4 indicates that incorporating the emergency button into home care services would have a relatively limited impact on public expenditure, relative to the future baseline scenario. While the scenarios depicting increases in service coverage indicates substantial increases to public expenditure in relative terms, it's important to consider the baseline levels in that few individuals use services to begin with.

TABLE 6: EXPENDITURE (TOTAL, % OF GDP, INCREASE FROM 2022) AND LTC WORKFORCE ACROSS SCENARIOS (IN MKD)

	Expenditure (MKD)	Expenditure as % of GDP	Increase in expenditure relative to 2022	LTC workforce
<i>Baseline year (2022)</i>	947M	0,119	-	944
<i>Future (2040): constant rates of care dependency and service use</i>	1.697B	0,160	78,3	1.672
<i>Scenario 1: Increasing service use (residential care and home care) – 25% of individuals with severe care needs using services</i>	8.049B	0,763	749,7	10.443
<i>Scenario 2: Increasing only home care – 25% of individuals with severe care needs using services</i>	6.265B	0,593	561,4	12.027
<i>Scenario 3: Increasing service use (residential care and home care) – 10% of individuals with severe care needs using services</i>	3.805B	0,361	301,7	4.173
<i>Scenario 4: Future baseline + Incorporating emergency button into care packages</i>	1.698B	0,161	79,3	1.682

Figure 8 indicates how beneficiaries of different services would vary across the different scenarios. Of interest, scenario 1 (increasing service coverage to 25%, with a mix between residential and home care) would result in a large increase of individuals using costly residential care services. The number of home care beneficiaries would be highest under scenario 2, if service coverage increased to cover 25% of individuals with severe care needs, primarily by home care. Finally, recipients of informal care would remain high across all scenarios regardless of the coverage of services, further highlighting the country's reliance on informal care. Even in scenario 1 where a large number of individuals enter residential care, resulting in fewer people needing informal care, the number of informal care beneficiaries would still be high relative to 2022 as the result of population ageing.

FIGURE 8: BENEFICIARIES OF CARE SERVICES ACROSS SCENARIOS

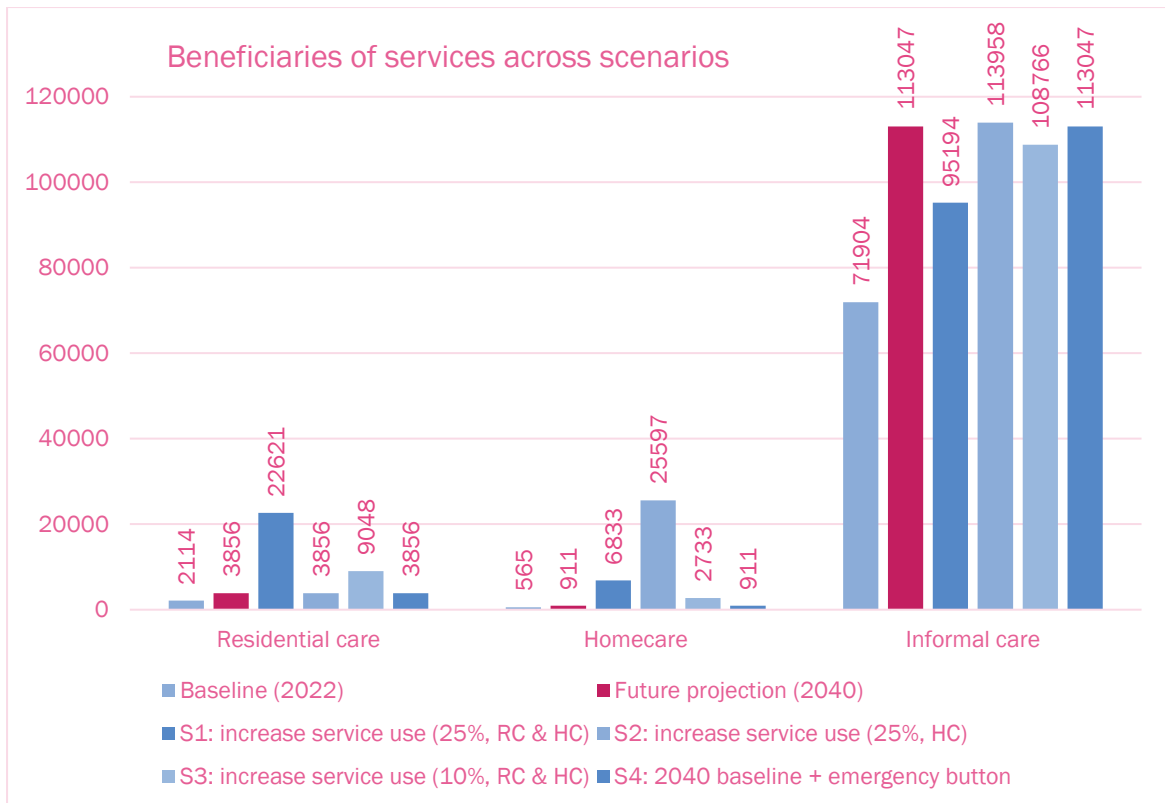


Figure 9 indicates the distribution of care services across the scenarios. Each bar can be interpreted as the entire North Macedonian population aged 65+ requiring care. This figure emphasizes again the primary role that informal carers play in ensuring older people receive the care they need in North Macedonia, as well as the generally low level of formal care coverage in the country. The baseline scenario (2022) indicates the low level of coverage present in the current system, where only 2.5% of individuals with severe care needs aged 65+ receive residential care and 0.67% receive home care. Increasing the level of service coverage, either through a mixture of residential and home care (scenario 1) or just homecare (scenario 2), would result in informal carers being alleviated from the burden placed on them to provide care. Scenario 1 would result in fewest carers needed, followed by scenario 2. A more marginal increase in service users in scenario 3 (10% of all individuals with severe care needs) would only marginally reduce the responsibility placed on informal carers overall.

FIGURE 9: COMPOSITION OF SERVICES AMONG INDIVIDUALS WITH SEVERE CARE NEEDS

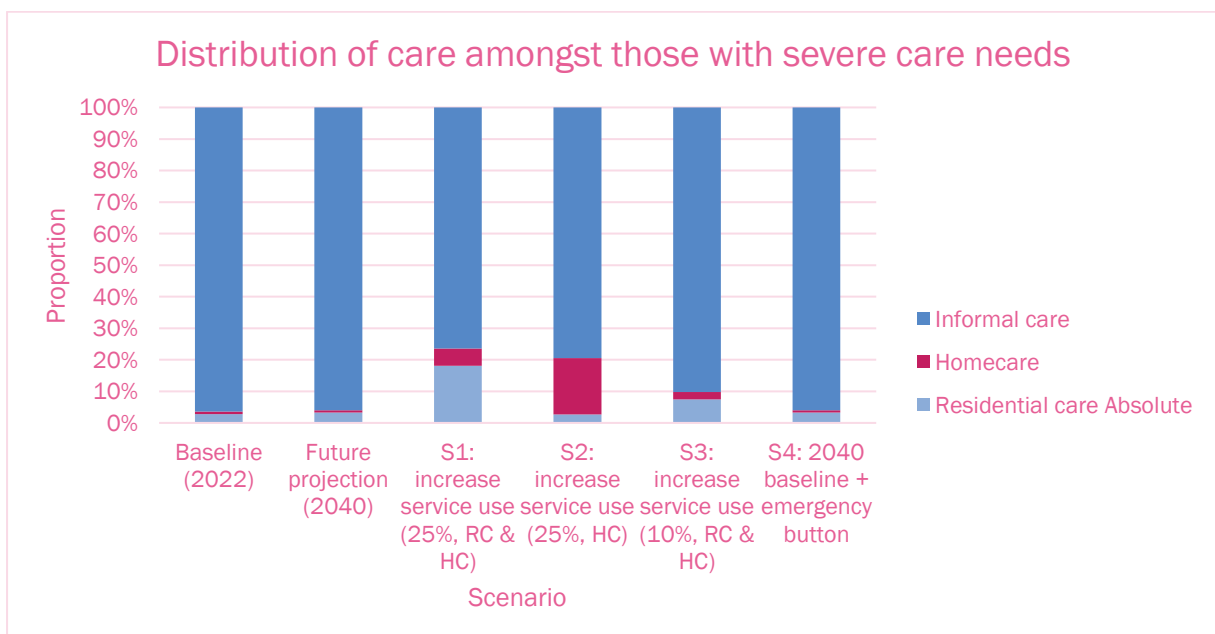
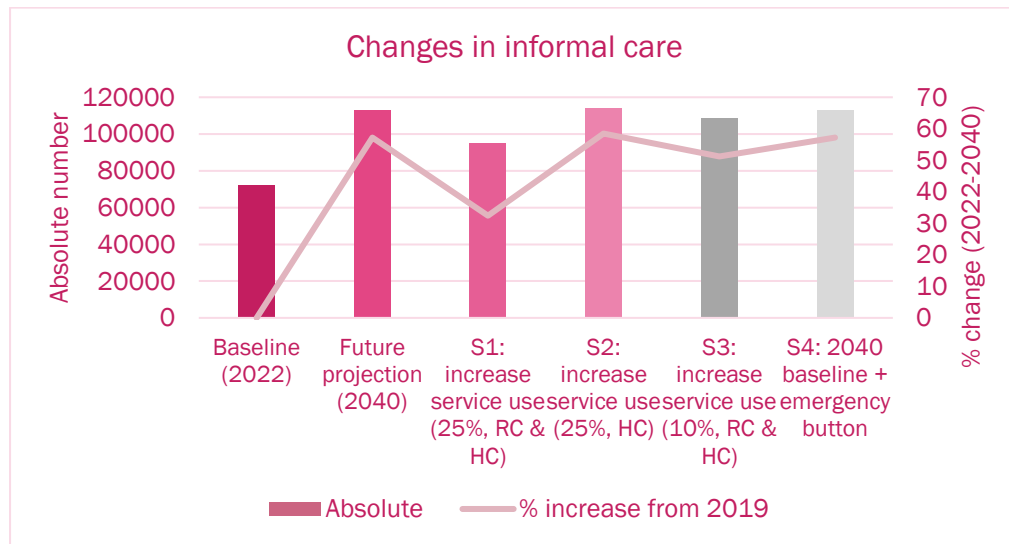


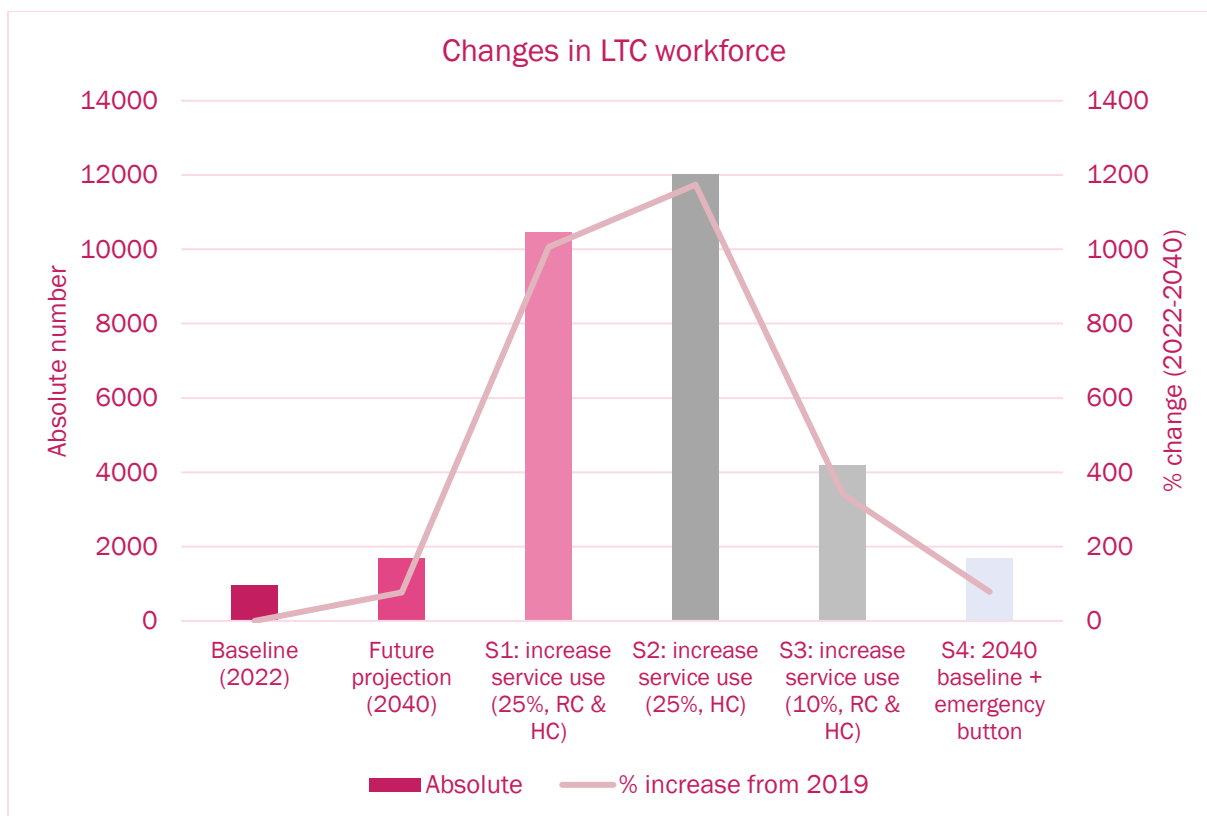
Figure 10 further attests to the large role played by informal carers, and the substantial increase in carers that would be needed to meet future demand for care. Of interest to note here, the increase in informal carers would be lowest across scenarios 1, 2 and 3, if formal care services were to be expanded, therefore alleviating informal carers from the responsibility to some extent.

FIGURE 10: CHANGES IN INFORMAL CARE ACROSS SCENARIOS



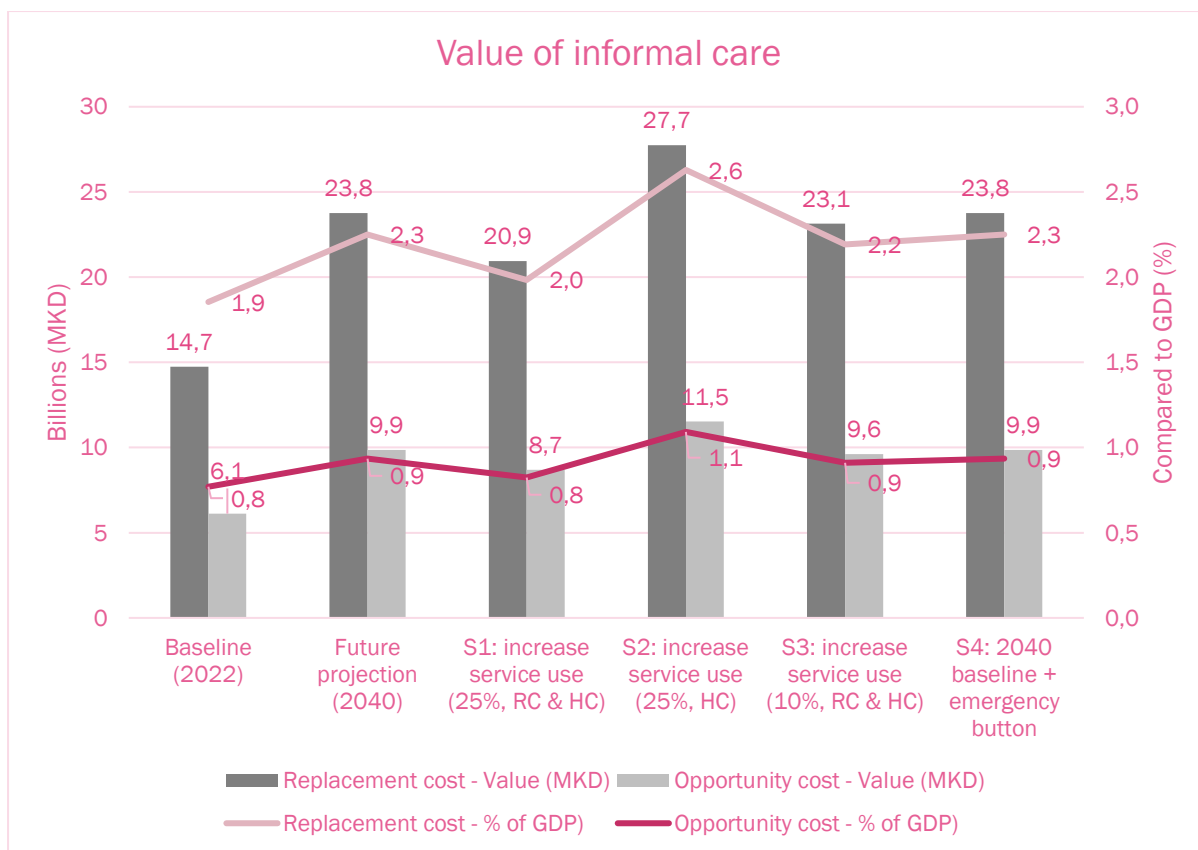
While the demand for informal care would be lower in scenarios where service coverage would be expanded, this subsequently would result in an increase in the demand for LTC workers. Figure 11 indicates that this demand would be highest if service coverage was to increase to cover 25% of individuals with severe care needs, particularly if home care services comprise most of this additional demand. Increasing formal service provision to cover 25% of individuals with severe care needs would require at least a 10-fold increase in LTC personnel. This figure would be closer to a 1200% increase if this additional supply of services was met primarily through homecare services. A more reasonable increase in care services to cover 10% of the population with severe care needs would still require a 400% increase in care workers.

FIGURE 11: CHANGES IN LTC WORKFORCE ACROSS SCENARIOS



finally, as a final confirmation of the large role that informal care plays in the north macedonia, figure 12 indicates the value of informal care in absolute terms (mkd) and in relative terms as compared to gdp, using first the replacement method (i.e. cost based on the equivalent cost to hire a ltc worker) then the opportunity cost method (i.e. cost based on minimum wage one would receive if they joined the labour market). while informal care does not contribute to gdp, representing informal care as a proportion of gdp is useful for understanding the magnitude of its role, the potential amount that the state would have to pay to take over this role, and finally a potential impact in terms of foregone gdp. in all future scenarios, the value of informal care according to the replacement cost method is at least 20 billion mkd, corresponding to at least 2% of gdp. this value is as high as 27.7 billion mkd in scenario 2 if additional care services were to be covered primarily through homecare services. using the opportunity cost method, informal care would be valued at a minimum of 8.7 billion mkd, or around 0.8% of gdp. these figures indicate the enormous value that informal care provides the ltc system in north macedonia, and suggests that it would be quite costly to replace informal care through formal services. at the same time, given that many informal carers, particularly women, may remain outside of the labour market in order to provide care, it hints to a large amount of lost economic value.

FIGURE 12: VALUE OF INFORMAL CARE ACROSS SCENARIOS



Discussion & recommendations

The results in this simulation suggest that as similarly anticipated in other countries, population ageing will increase the number of older adults aged 65+ with severe care needs in the future, leading to increased demand for care. The population aged 85+ will particularly increase, and as care needs tend to be concentrated amongst this group, this suggests a larger burden on the LTC system in future. This increase in the population with severe care needs will be particularly high for women, especially amongst the age of 85+. At the same time, this increase will also be high for men, indicating the anticipated life expectancy gains in future for them.

Increases in the population with severe care needs will subsequently result in a higher demand for care, whether formal or informal. To maintain the current level of formal care coverage, public expenditure will need to increase substantially. Increasing the number of spots of formal care to remain on par with the current level of coverage however, is likely to still be insufficient. In 2022, the level of coverage of formal care services was already quite low in comparison to other countries, with only 3.2% of individuals with severe care needs receiving some type of formal care, whether in an institution or in their own home. Not only will significant investment be needed to maintain a constant level of coverage in future when demand increases, but even more resources would be required to increase formal care services to a reasonable level to accommodate demand and provide a sufficient range of options for individuals.

Increasing care services to cover 25% of older adults with severe care needs would cost the state a considerable amount, however at the same time, it must be considered that increasing formal services can lead to the burden on informal carers being alleviated, therefore allowing these individuals to join the labour market. This would then have further positive implications for tax revenues and GDP. The LTC system in North Macedonia currently relies significantly on informal carers to provide care for older people. The value of informal care in 2022 was nearly 7 times that spent on formal care services in the country. Based on recent data collection efforts in North Macedonia (Simmons et al. 2022), a strong

obligation to provide informal care has resulted in many individuals having to reduce their work hours or quit entirely to provide. The negative impact on mental well-being caused by informal care also raises the importance in increasing the formal coverage of care within the country. Further strengthening the case for increased investment in formal care, most individuals would prefer to use formal care services and subsequently see less responsibility placed on the family. It is also likely to be the case in future that there will be less availability of informal care as the result of large-scale out-migration of young individuals to other European countries. This even further strengthens the case for investing in formal care services now. If formal care services are not to be further invested into, considerations should at least be made to support informal carers both financially and in terms of well-being.

Investing in home care appears to be an ideal option to expand the coverage of formal care services, not only given its lower relative cost compared to residential care, but also because it aligns better with the preferences of individuals, as found in previous data collection efforts in North Macedonia (Simmons et al. 2022). At the same time, it should be noted that this would still require a large amount of care to be provided informally.

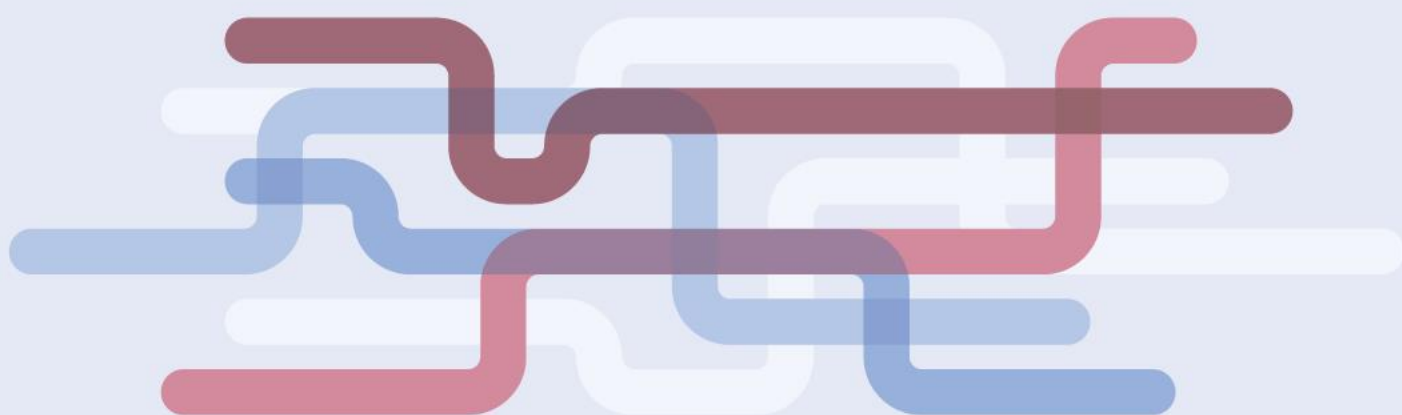
The results indicate that substantial investment will also be needed into recruiting into the LTC workforce to cover additional demand for care and an expansion of care services. This could prove problematic given the current large level of out-migration. At the same time, increasing the number of LTC jobs can also provide an opportunity for middle-aged women not currently in the labour market as the result of care obligations. Therefore, investing in formal care services can not only alleviate the burden on informal carers (and particularly women), but it can also contribute to job creation.

Finally, implementing an emergency button to be used by 500 individuals receiving care services in their home would cost the state only marginally more. Not only would it create additional jobs, but it may also help to reduce the burden placed on families.

One limitation of this model was that we were unable to account for demographic change anticipated for younger individuals. As a result, we are unable to make any claims in terms of the availability of informal care in future, or about the tax revenue base on which LTC is funded. Given the anticipated shrinkage of the working age population, as well as large out-migration of younger individuals, alternative financing models may need to be considered, such as LTC insurance.

The findings from this simulation support the following recommendations:

- 1) Invest substantially in formal care services, particularly home care, to comprise a large share of the care mix and to reduce reliance on informal care
- 2) If reliance on informal care is not reduced, then invest in support measures for informal carers given their large role in the LTC system
- 3) Publicly cover the cost of an emergency button for individuals receiving care at home that may benefit from it
- 4) Invest in expanding the LTC workforce
- 5) Consider financial models for covering the additional revenue needed to finance LTC in future



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