Laura Korhonen

Investing in Healthcare: A Solution to Finland's Healthcare Crisis

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Author:	Laura Korhonen		
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ABSTRACT:

Suomen sosiaali- ja terveydenhuoltojärjestelmä kohtaa muutostilanteen, jossa kasvavat palvelutarpeet, kohoavat kustannukset ja henkilöstöpula kuormittavat järjestelmää entisestään. Tämä tilanne luo merkittävän tarpeen ennaltaehkäisevälle terveydenhuollolle järjestelmän kuormituksen hellittämiseksi ja säästöjen aikaansaamiseksi.

Tämä kirjallisuuskatsaus tarkastelee, missä määrin strategiset investoinnit ennaltaehkäisevään terveydenhuoltoon voivat lievittää Suomen sote-järjestelmän kriisiä. Katsauksessa määritellään kansantaudit ja tutkitaan niiden merkitystä terveydenhuollon kriisissä. Tutkimuksessa sel- vitetään, mitä ennaltaehkäisevä terveydenhuolto ja sen eri muodot tarkoittavat, mitkä ovat sen hyödyt ja rajoitteet väestön terveyden näkökulmasta, sekä miten ennaltaehkäisevän, ennakoivan ja ennustavan terveydenhuollon toimia voitaisiin hyödyntää osaratkaisuna kriisin hallintaan. Teoreettisena viitekehyksenä hyödynnetään kriisinhallintateoriaa (Crisis Management Theory) ja ennakoivan innovaation hallinnon teoriaa (Anticipatory Innovation Governance Theory), jotka auttavat jäsentämään ennaltaehkäisyn roolia osana pitkäjänteistä ja tulevaisuusorientoitunutta sote-kehittämistä.

Ennakoivan sosiaali- ja terveydenhuollon keinoin voidaan siirtää painopistettä ongelmien jälkikäteisestä hoitamisesta niiden ennaltaehkäisyyn. Tämä mahdollistaa hoitojen ja tutkimusten kohdentamisen yksilöllisesti sekä resurssien hyödyntämisen siellä, missä niillä saavutetaan suurin vaikutus. Tällainen lähestymistapa auttaa hillitsemään sosiaali- ja terveydenhuollon kustannuksia ja rakentamaan järjestelmästä kestävämmän, vaikuttavamman ja asiakaslähtöisemmän.

Tieteellisen kirjallisuuden perusteella havaittiin, että ennaltaehkäisevän terveydenhuollon taloudelliset vaikutukset ovat osittain epävarmoja. Hyvin suunniteltu ja varhainen ehkäisy voi kuitenkin merkittävästi parantaa väestön terveyttä, vähentää sairauksia ja niiden aiheuttamaa kuormitusta sekä tukea taloudellista kestävyyttä. Ennaltaehkäisy vahvistaa myös perusterveydenhuoltoa ja tekee järjestelmästä kriisinkestävämmän. Toisaalta ennaltaehkäisevään työhön liittyy myös haasteita, kuten riskien ylidiagnosointi ja resurssien mahdollinen ohjautuminen pois korjaavasta hoidosta. Kansainväliset toimijat, kuten WHO ja OECD, korostavat silti ehkäisevän työn keskeisyyttä terveyden ja kustannusten hallinnan parantamisessa.

KEYWORDS:
Preventive healthcare, healthcare crisis, Finland, chronic diseases, Crisis Management Theory, Anticipatory Innovation Governance Theory, public health, anticipatory healthcare, proactive healthcare, predictive healthcare

Contents

1 Introduction

1.1 Public Health

Public health refers to an information and action entity, that aims to promote the population's health. The classic definition of public health refers to the scientific basis and actions to prevent diseases, promote health, and prolong life (Sihto and others, 2013, p. 14). The health status of the population is socially and economically important (Sihto and others, 2013, p. 242). Preventive healthcare saves money on healthcare organizations and boosts worker productivity, which helps the economy grow and become more resilient (IFPMA, 2024, p. 1). There are three ranges to public health: promoting health, health services, and protecting health (Sihto and others, 2013, p. 16).

Health promotion is a general concept that covers all activities related to improving health. Originally it has also been described as a need for lifestyle and health-related behaviour change. Later there has also been a statement about promoting healthy lifestyle in the most at-risk population groups (Sihto and others, 2013, p. 24-25). Efforts to improve population health through lifestyle changes require broad societal cooperation. Health-promoting habits need to be supported in homes, schools, workplaces, the food industry, media, and through public policy (Koponen, and others, 2018, p. 37).

The well-being services county is responsible for organizing health counseling that supports the promotion of health and well-being, as well as the prevention of illness, for residents in its area. Health counseling must be integrated into all healthcare services. The well-being services county must also organize the necessary health examinations for its residents to monitor and promote their health and well-being. Both health counseling and health examinations must aim to support work ability and functional capacity, prevent illness, and promote mental health and life management (Healthcare Act, 13 §).

In the framework of "new public health", the starting point of health policies is to develop social policies, that promote health since health problems are seen as social issues rather than individual. Public health is affected by social, political, economic, and environmental factors, and this is why the actions we take to promote public health, should be cooperated between all factors (Sihto and others, 2013, p. 18). In Finland, there is a need for strong shared commitment and guidance, the development of funding models and legislation, as well as close collaboration between stakeholders, to ensure that preventive social and healthcare becomes a strength and key success factor of the Finnish welfare system (Sitra, 2025, p. 1).

1.2 Chronic Diseases

Chronic diseases have become the primary contributors to healthcare costs and related economic losses (CDC, 2024). Chronic diseases refer to long-term health conditions that persist for at least a year and typically require continuous medical care and/or limit an individual's ability to carry out everyday activities (University of Connecticut, 2008, p. iii). In Finland, chronic diseases—commonly referred to as national public health diseases—typically include cardiovascular diseases, diabetes, asthma and allergies, chronic respiratory conditions, and various forms of cancer. A substantial share of these chronic illnesses among the working-age population could be prevented through healthy lifestyle choices and effective preventive measures (THL, 2023).

Cardiovascular diseases are one of the most significant public health problems in Finland, with coronary artery disease alone accounting for over one-fifth of all deaths (Koponen, and others, 2018, p. 62). Lifestyle habits, such as regular exercise, healthy diet, avoiding smoking and alcohol, protect against most common public health problems. Cardiovascular diseases can be prevented by reducing the biggest risk factors, such as overweight, high blood pressure, high blood cholesterol, and diabetes (Koponen, and others, 2018, p. 192). However, a THL study showed that adults' eating habits have gotten worse in the last six years (Koponen, and others, 2018, p. 33). Also, low physical activity is a significant public health and economic challenge (Koponen, and others, 2018, p. 38). Obesity has become more common in the working-age population in the past six years. Every fourth adult is obese, and almost every other adult is obese around the waist. Obesity, especially obesity around the waist, increases the risk of cardiovascular and many other diseases (Koponen, and others, 2018, p. 45).

The development of these diseases is strongly linked to modifiable lifestyle-related risk factors, such as high blood pressure, high cholesterol, obesity, and physical inactivity (Koponen, and others, 2018, p. 64). Bad lifestyles, such as unhealthy nutrition, lack of exercise, overweight, alcohol, tobacco, and psychological and social stress explain a significant part of the occurrence of chronic diseases (Sihto and others, 2013, p. 187). Early diagnosis and treatment are an effective strategy for preventing many chronic diseases (Wang & Wang, 2021, p. 5). Investing early in effective prevention can significantly decrease the rates of illness, complications, functional disabilities, and mortality associated with many chronic diseases, ultimately conserving resources in healthcare, boosting productivity, and reducing the need for social services (Wang & Wang, 2021, p. 6).

1.3 Preventative, anticipatory, and predictive healthcare

Preventive social and healthcare, also referred to as preventative care, represents a traditional approach aimed at promoting health and overall well-being. It refers to actions and services aimed at preventing diseases and health problems before they occur by emphasizing the importance of healthy lifestyles and the early identification and management of risk factors. By doing so, it helps reduce long-term healthcare costs and eases the burden on the healthcare system (Sitra, 2025, p. 11-12). The relevance of prevention policy, both in terms of public interest and, to a lesser extent, economic importance, stems from the state's primary obligation to ensure the health and safety of its population (Loer, Kathrin, 2016, p. 790).

Preventive care is typically targeted at large population groups and includes practices such as age-specific health examinations, vaccination programs, general health check-ups, and health counseling. Preventive healthcare is an established part of health policy, including in Finland (Sitra, 2025, p. 11-12). There are three types of preventive actions in healthcare. They are primary, secondary, and tertiary prevention (Särkelä and others, 2014, p. 172). Anticipatory and predictive healthcare is a modern form of preventive healthcare (Sitra, 2025, p. 12). Sitra also identifies promotion as one component of preventive social and healthcare. Promotion refers to actions that do not directly address the treatment of illness or problems but instead aim to improve overall health and well-being (Sitra, 2025, p. 13).

Primary prevention refers to measures directed at populations, groups, or individuals to prevent the onset of diseases before they appear. This may include reducing risk factors or implementing general health-promoting actions, such as nutrition and health education, as well as health screenings (Terveyskirjasto, 2023). Primary prevention prevents disease from developing, helping to avoid or delay treatment costs and loss of function. As a result, it lowers healthcare expenses and mitigates other economic impacts, such as reduced wages and productivity, caused by illness (University of Connecticut, 2008, p. i).

Secondary prevention refers to measures targeted at individuals to prevent the progression of a disease in its early, often asymptomatic stage. This may include screening tests that help detect the disease early, allowing for timely treatment before it worsens (Terveyskirjasto, 2023). Early detection allows for stopping the disease progression when treatment is cheaper, and health can be maintained or improved. It also reduces costs related to work absence. For instance, cholesterol screening can find asymptomatic individuals at higher risk for coronary artery disease. If left untreated, this can lead to more disabilities, higher medical costs, and deaths (University of Connecticut, 2008, p. ii).

Tertiary prevention means actions to stop a disease from getting worse, prevent complications, or reduce its impact. For example, it includes measures to prevent a second heart attack in someone who has already had one (Terveyskirjasto, 2023). Tertiary prevention services come into play after a disease or injury has happened. The goal of tertiary prevention is to reduce costly hospital stays and enhance quality of life by effectively managing symptoms. Disease management programs are essential to this type of prevention (University of Connecticut, 2008, p. ii).

Anticipatory healthcare refers to actions and services aimed at preventing diseases and health issues before they arise (Sitra, 2025, p. 11). The anticipatory (or proactive) approach focuses on forward-looking healthcare planning. It makes use of data, digitalization, and artificial intelligence to enable personalized risk assessments and targeted interventions. The method aims to anticipate the emergence of diseases, social issues, and other risk factors, and to respond early before these issues develop into serious conditions. Its goal is to shift the focus of social and healthcare systems from reactive responses to anticipatory, preventive actions. Key features of this approach include early intervention, personalized care, the strategic use of technology, cross-sectoral collaboration, and a life-course perspective, which ensures the continuity of services and considers individuals as whole persons throughout the care pathway (Sitra, 2025, p. 12).

The *predictive approach* is a data- and AI-driven method that identifies an individual's likelihood of developing or worsening a health condition. It uses this information to direct preventive interventions toward individuals or groups with the highest risk. Predictive healthcare enables the design of personalized care paths or treatment plans and supports the ongoing, data-based measurement and monitoring of service or treatment effectiveness (Sitra, 2025, p. 12).

For over the last two decades, there has been a growing concern for the sustainability of health systems, especially in terms of funding and the quality of healthcare services, as well as the adequacy of competent healthcare professionals (Virtanen & Stenvall, 2018, p. 19). The Finnish Ministry of Social Affairs and Health refers to the phenomenon as a crisis in social and health services. At the heart of the phenomenon is the health services, which are so congested that the service system is unable to provide the number of services that are needed. There is a care debt in both primary healthcare and specialized medical care and a service debt in social care and rehabilitation. The estimated amount of the care and service debt is 800-1100 million euros in total (Ministry of Social Affairs and Health, 2023).

The good development of public health in Finland has come to a standstill (Finnish Government, 2021, p. 54). Cardiovascular diseases are a major public health problem. The occurrence of these diseases could be reduced by reducing risk factors (Koponen, and others, 2018, p. 64). Obesity has increased and is now more common in Finland than it is in the European Union countries on average (European Commission, 2023, p. 3). Obesity-related chronic diseases, such as cardiovascular diseases, are one of the leading causes of death in Finland (Jousilahti, Parikka & Koskinen, 2024). It is estimated that 35 percent of deaths in 2019 were due to behavioral causes, for example, diet or physical inactivity (European Commission, 2023, p. 7), which means that some of those deaths could have been prevented (Jousilahti and others, 2016).

Preventable mortality in Finland is lower than the EU-countries (European Union) average but remains higher than in other Nordic countries (European Commission, 2023, p. 11). Hypertension is one of the most common risk factors for cardiovascular diseases, and approximately every second working-age person in Finland has either been diagnosed with or is medicated for high blood pressure (Koponen, and others, 2018, p. 56). Key contributors to hypertension include excessive salt intake, overweight, heavy alcohol use, and lack of physical activity (Koponen, and others, 2018, p. 53). Improving the prevention and management of hypertension could significantly reduce premature deaths and healthcare costs (Wang & Wang, 2021, p. 5). High LDL cholesterol is also a major risk factor, affecting nearly 60% of people over the age of 30 in Finland. Nutrition, particularly the intake of saturated fats, plays a central role in cholesterol levels (Koponen, and others, 2018, p. 57). Finland has previously succeeded in reducing cholesterol levels and cardiovascular mortality through policy interventions, showing that prevention works (Koponen, and others, 2018, p. 57).

Along with chronic diseases, it is estimated that the aging of the population will cause an increased burden on the healthcare system (Sihto and others, 2013, p. 245). While the number of working-age people who provide, and finance services is decreasing, the number of elderly people in good health and in need of services is increasing. According to the population forecast, the proportion of people over 65 years of age will increase from approximately 20 percent to 26 percent by 2030 (Finnish Government, 2021, p. 55). When the older age group increases rapidly in the coming years, it means that the need for services that the older people need will grow (Koponen, and others, 2018, p. 192). As society changes, new solutions are needed to promote well-being, health, and safety in all stages and situations of life, often through different measures (Finnish Government, 2021, p. 9).

Policy environments today are increasingly shaped by complexity, uncertainty, and multiple interrelated causes. In such settings, there is often a reluctance to take risks, and decisions tend to focus on short-term outcomes (OECD, 2022, p. 15). In tough economic times, countries with limited resources often reduce government expenses, and preventive healthcare is usually cut first since urgent treatment for sick people takes priority (Wang, Wang & Huang, 2016, p. 2). In Finland resources for preventive work were cut in many municipalities following the recession of the 1990s, and some municipalities have still not returned to the pre-recession levels (Sihto and others, 2013, p. 285).

This thesis explores the question**: To what extent can strategic investment in preventive health services mitigate Finland's healthcare crisis?** In order to answer the main question, this thesis focuses on two subquestions: what are the benefits and limitations of preventive healthcare in public health, and how to use anticipatory and predictive healthcare policies as one solution to relieve the healthcare crisis. To support this research, the study applies the crisis management theory and anticipatory innovation governance theory as an analytical framework.

Chapter 2 outlines the theoretical framework that supports this study. The chapter introduces and discusses two key theories: crisis management theory and anticipatory innovation governance theory. These theories provide tools for understanding how preventive health services can contribute to managing and mitigating healthcare crises in the Finnish context. By combining these theoretical perspectives, the study aims to offer a comprehensive view of how future-oriented thinking and proactive health measures can strengthen the resilience of the health system.

Chapter 3 provides an analysis of the benefits and limitations of preventive healthcare, and how to implement preventive, anticipatory, and predictive healthcare as a tool to overcome the Finnish healthcare crisis. This chapter is divided into 3.1 The benefits and limitations of preventive healthcare, 3.2. Implementing preventive, anticipatory, and predictive healthcare as a tool to overcome the Finnish healthcare crisis. Lastly, Chapter 4 sums up the findings of this thesis and brings up topics for further study concerning the healthcare crisis.

2 Public Administration Theories

The Finnish healthcare system is described as in crisis (Nukpezah, 2017, p. 7/290). Therefore, crisis management theory was selected as the first framework through which to examine the alleviation of this crisis, given that the primary goal of effective crisis management is prevention (Nukpezah, 2017, p. 7/290). Anticipatory innovation governance theory was chosen as the second framework to approach the topic from a preventive perspective. Anticipatory innovation theory is developed to help the public sector to be prepared for future developments with anticipation. This approach allows them to take advantage of upcoming opportunities while minimizing risks by strengthening the resilience of public systems (OPSI, nd.).

2.1 Crisis Management Theory

A crisis is often described as an unpredictable and surprising event that poses a threat or danger to an organization, but a crisis can also develop slowly and last for a long time (Charles, & McNair-Connolly, 2017, p. 4). A crisis is seen as a major threat to an organization's operations that can lead to serious negative consequences if it is not managed effectively (Coombs, 2007). Lately, the concept of crisis has expanded to include high-risk situations that, in a less connected world, might have remained local but now can escalate and impact organizations globally due to our interdependent systems (Homer-Dixon, Walker, Biggs, and others, 2015). Successful crisis management begins with reducing potential risks before a triggering event. The five main indicators of crisis management effectiveness are minimizing risk, improvisation, interacting with stakeholders, organizational adjustment, and individual or behavioral adjustments (Nukpezah, 2017, p. 7/290).

The healthcare crisis can justifiably be characterized as a slowly evolving phenomenon, as academic and professional discourse on the matter has been ongoing for over two decades. For instance, Minna Harjula and colleagues addressed the issue in their book *Kansalaisuus ja kansanterveys* as early as 2003. Furthermore, healthcare professionals have described the current situation as a potential threat to European security (The Finnish Medical Association, 2024). The demand for healthcare services is growing, while the supply of professionals is declining due to the retirement of the baby boomer generation (Sihto and others, 2013, p. 259). There are also concerns that the positive trend in population health may be slowing or even reversing (Koponen and others, 2018, p. 191). Since the prevalence of chronic illnesses increases with age, healthcare expenditures are inevitably rising (Wang & Wang, 2021, p. 3).

2.1.1 Preventative healthcare in preventing public health crisis in the light of the Crisis Management Theory

Crisis management theory is all about preventing and reducing the severity of a crisis (Nukpezah, 2017, p. 7/290). Managing future healthcare costs depends on the ability to prevent diseases before they develop, detect them early, and effectively manage the conditions that contribute to high healthcare expenses (University of Connecticut, 2008, p. iii). Preventive healthcare helps reduce future treatment costs by encouraging healthier lifestyles and increasing awareness of risks through early detection (Wang, 2018, p. 10). We need to prevent the most common chronic diseases and improve the treatment of them so that we can reduce the prevalence of diseases (Koponen, and others, 2018, p. 190). To minimize the burden on the healthcare system and to ensure the well-being of people, it is important to support the maintenance of people's functional capacity as long as possible (Koponen, and others, 2018, p. 192). The well-being of the elderly can be influenced by healthy lifestyles, good treatment and rehabilitation of diseases, and encouragement to active life (Koponen, and others, 2018, p. 193).

Allocating more resources to health promotion and disease prevention enhances the overall health of the population. These types of investments play a key role in strengthening the resilience of health systems. When people are healthier, they are less susceptible to illnesses and are better equipped to cope with future crises (OECD, 2023, p. 436). Initiating preventive health measures early on may reduce the likelihood of catastrophic illnesses within the population over time. There is an inverse relationship between current investments in preventive care and the future prevalence of ill health. Sufficient preventive healthcare can help lower or avoid the costs associated with treating diseases typically diagnosed later in life. As a result, the healthcare expenditures linked to an aging population can be mitigated through effective preventive services (Wang & Wang, 2021, p. 3). It is important, that we identify the impacts of health policy solutions, and that these solutions are developed based on the evaluation (Sihto and others, 2013, p. 65). Prevention plays a crucial and efficient role in evidence-based strategies aimed at enhancing the effectiveness of existing health expenditures, curbing the rise in healthcare costs, and decreasing long-term health spending (University of Connecticut, 2008, p. 17). Experts say that moving quickly to prevention-focused healthcare is crucial for keeping (European Union) health systems economically stable (The European House Ambrosetti, 2024 (a), p. 1).

If prevention isn't achievable, the focus should shift to reducing the severity of the emergency's effects on the organization or community (Nukpezah, 2017, p. 7/290). Strengthening disease prevention, prioritizing primary care, and expanding access to mental health services are key steps in improving population health before a crisis emerges. Reaching these goals calls for greater investment in both public health and primary care systems. Moreover, addressing the social and economic determinants of health enhances resilience by reducing populations’ exposure to future crises (OECD, 2023, p. 46).

2.2 Anticipatory Innovation Governance Theory

Anticipatory Innovation Governance (AIG) is a theoretical framework that focuses on preparing for and shaping uncertain future developments (OECD, 2022, p. 24). It emphasizes the importance of strategic foresight in policymaking by identifying emerging trends, exploring alternative futures, and enabling proactive decision-making before crises emerge (Umbach, 2024, p. 410). AIG is based on systems thinking, which helps to make sense of the complexity and links between various elements in today’s policy systems. Rather than relying on linear cause-and-effect models, it highlights the value of long-term thinking, feedback loops, and cross-sectoral collaboration in navigating systemic change (Umbach, 2024, p. 412–413).

According to this theory, governments must develop the ability to anticipate future developments by generating forward-looking knowledge, while also ensuring that this knowledge leads to concrete innovations in practice. Achieving this requires a new form of governance that enables future-oriented learning through practical, evidence-based experimentation (OECD, 2022, p. 24). The goal is to build resilience and adaptability by making future-oriented thinking a natural part of policy planning and decision-making.

This means regularly assessing risks, exploring future possibilities, and using tools like impact assessments, trend analysis, and strategic planning to guide action. By doing so, policymakers can better prepare for future challenges and create more flexible, forward-looking policies (Umbach, 2024, p. 412-413). Allocating resources to future-oriented innovations can create meaningful effects across various potential future scenarios (OECD, 2022, p. 28). Allocating resources to health promotion and preventive measures enhances the resilience of health systems while offering a cost-efficient approach to improving public health (OECD, 2023, p. 47).

2.2.1 Preventive healthcare in preventing public health crisis in the light of Anticipatory Innovation Governance Theory

Improving population health requires making health-promoting actions even more effective and coming up with new solutions to improve living conditions, health habits, and health services. One way to do this while offering healthcare services to the population is to develop the services to meet the specific needs of each population group better (Sihto and others, 2013, p. 65) and to improve anticipatory and predictive methods in healthcare. To make proper and health-improving decisions, we need information about health, risks, different solution options, and the benefits and drawbacks of these options, so that we can evaluate them. Besides information, we need legislation, resources, and other actions to implement and carry out these actions (Sihto and others, 2013, p. 219).

Reacting only after a crisis has started is less effective than identifying and addressing potential challenges in advance. Governments need the ability to both respond quickly to unexpected events and to anticipate different possible future developments and prepare for them. This requires not just isolated use of foresight and innovation, but a more systematic approach that supports policymakers in combining both anticipation and adaptation in decision-making (OECD, 2022, p. 16).

Governments often face ongoing pressure to deliver short-term results that align with political goals and to focus on managing immediate crises. As a result, they frequently postpone taking meaningful action on long-term global challenges, such as demographic shifts (OECD, 2022, p. 16). Investment in prevention is needed to curb the growth of healthcare services (Koponen, and others, 2018, p. 192). Even the slightest improvements to a healthy life can lower the rate of expenditure growth (Thomson & others, 2010, p. 5).

Strategic foresight should be used to explore and prepare for a range of possible future scenarios (OECD, 2022, p. 15). To address these challenges, it is essential to integrate long-term thinking and future-oriented strategies into policymaking (OECD, 2022, p. 15). This is why especially in times of economic crisis, to avoid similar long-term consequences, it is essential that governments, especially during economic downturns, increase the share of GDP dedicated to health and prevention (Martínez, Montero & Biggeri, 2022, p. 2).

A key element of successful policymaking is the capacity to learn from innovations and to integrate these lessons into existing systems (OECD, 2022, p. 18). The more benefits that can be proven from these investments, the more justified it is to refinance these investments (Särkelä and others, 2014, p. 281). In health promotion and prevention work, it is necessary to increase the use of methods that have been found to be effective in the work of all professional groups (Sihto and others, 2013, p. 284). Positive outcomes from short-term pilot projects have already demonstrated the benefits of anticipatory healthcare, particularly in terms of cost-effectiveness and improvements in patients' health status (Sitra, 2025, p. 9).

Therefore, the effectiveness of government actions increasingly relies on the public sector’s ability to apply future-oriented thinking, anticipate change, and experiment with new solutions in practice (OECD, 2022, p. 18). Cautious leadership and decision-making, along with a culture that discourages risk-taking, limit the adoption of innovations and new operational models. In healthcare, the focus and resources are still largely tied to reactive treatment, which slows down the transition toward proactive approaches (Sitra, 2025, p. 31).

Anticipatory and predictive approaches are integral components of preventive social and healthcare, and they may play a key role in addressing the ongoing healthcare crisis. The preventive approach focuses on supporting the population’s well-being and preventing health problems before they arise. It aims to reduce long-term costs and ease the burden on the healthcare system by offering measures targeted at broad population groups, such as age-based screenings. This approach lays the foundation for both anticipatory and predictive actions within healthcare (Sitra, 2025, p. 12).

The predictive approach is an advanced method within anticipatory social and healthcare that extensively utilizes data and artificial intelligence to identify risks at both individual and population levels, enabling efficient allocation of resources. This approach allows for targeted interventions, especially for individuals and groups identified, such as through genetic analysis, as having an increased risk of illness. Predictive analytics also facilitates the pre-planning of personalized care pathways and treatments, enhancing the effectiveness of care and the use of resources (Sitra, 2025, p. 13).

3 Analysis of Preventative Healthcare

3.1 The benefits and limitations of preventative healthcare

The health of the population is not only a social goal but also an economic concern. A healthier population means lower healthcare costs and higher productivity, which supports economic growth and resilience. Preventive healthcare leads to longer lives and better quality of life (IFPMA, 2024, p. 1). The aim of preventive medicine is to protect health, promote well-being, and prevent illness, disability, and death (Wang, Wang & Huang, 2016, p. 1).

Studies show that for every euro invested in preventive care, the return for the health and social care economy can be as high as 14 euros (The European House – Ambrosetti, 2024b, p. 7), and for every dollar spent on preventing chronic diseases, there is the potential to save about seven dollars over a lifetime, especially when considering social impacts like reduced productivity losses (Wang & Wang, 2021, p. 6). Despite this, preventive efforts are often overshadowed by curative care (Sihto, and others, 2013, p. 291), and in times of economic crisis, governments tend to reduce spending on prevention first (Wang, Wang & Huang, 2016, p. 2), even though such short-term cuts may lead to long-term costs (Wang, 2018, p. 10)

In Finland, only a small fraction of healthcare resources are invested in preventive work compared to curative measures, such as treating existing illnesses (Sitra, 2025, p. 42). However, research indicates that increasing investment in preventive healthcare could help reduce future pressures on health and social care systems. Furthermore, such investments are considered to promote long-term economic and societal resilience. In this light, prevention can be seen not only as a cost but as a strategic investment that may support economic growth and reduce future healthcare expenditures (The European House Ambrosetti, 2024, (b), p. 7).

Investing in preventive healthcare helps improve public health and build a stronger overall health system (Wang, Wang & Huang, 2016, p. 2). Investment in prevention is needed to curb the growth of healthcare services (Koponen, and others, 2018, p. 192). Preventive healthcare can significantly improve health outcomes, reduce risks, and lower costs, particularly when interventions are targeted, evidence-based, and adapted to the specific context and population characteristics (Sitra, 2025, p. 17). Effective prevention is also linked to lower prevalence rates of ill health, contributing to sustainable productivity growth. However, excessive prevention may lead to the identification of more mild chronic diseases, resulting in longer disease durations and increased prevalence rates of ill health (Wang & Wang, 2021, p. 8). Challenges, such as implementation variability, inconsistencies, and the lack of diversity considerations in research models may limit broader effectiveness (Sitra, 2025, p. 17).

Increasing spending on prevention can lower the rates of illness, improve public health, boost productivity, and enhance overall welfare, as indicated by theoretical analysis and estimates. However, beyond a certain point, higher preventive spending may divert funds from curative care, potentially leading to an increase in illness rates (Wang & Wang, 2021, p. 5). Preventive measures contribute not only to better health outcomes but also support economic growth by enhancing productivity and income levels. At the same time, they help alleviate the long-term financial pressure on healthcare, social services, and welfare systems (The European House Ambrosetti, 2024, (b), p. 61). However, the economic impact of prevention is unclear. While preventive healthcare helps maintain or improve public health, it can also divert resources away from curative treatments, potentially affecting overall health outcomes. Prevention should be seen as a complement to, rather than a replacement for, curative healthcare (Wang & Wang, 2021, p. 4).

Effective preventive healthcare can help reduce new cases of diseases, complications, and disabilities, easing the demand for healthcare services. Studies have emphasized the impact of an aging population on healthcare costs and called on governments to prioritize prevention and treatment. Healthcare spending makes up a significant portion of government budgets (Wang & Wang, 2021, p. 2). OECD countries are spending more on welfare, especially healthcare, and this spending is growing faster than their GDP (Walker, Druckman & Jackson, 2021, p. 5). In Finland, political strategies and a funding model based on morbidity tend to prioritize immediate savings and reactive measures. This framework hinders long-term investments in preventive efforts. Pressure to reduce costs constrains the development of proactive approaches and the allocation of resources aimed at achieving long-term benefits, as decision-making is often driven by short-term outcomes (Sitra, 2025, p. 31). Rising costs and difficulties in controlling costs have led to a societal debate about whether health services provided to the public with public funds should be prioritized in the future (Sihto and others, 2013, p. 245). If funding is no longer sufficient, it might be necessary to either cut back on services or raise the prices of services (Sihto and others, 2013, p. 259).

Wang and Wang (2021) examined how the optimal allocation of medical resources between prevention and treatment can improve population health in OECD countries. They identified the most effective level of investment in preventive healthcare to reduce disease prevalence, enhance public health, increase economic productivity, and improve overall well-being. They found that the most optimal share of health expenditure to GDP is 1.175% (Wang, Wang, 2021, p. 1). In Finland, this expenditure was 0.84% of the GDP in 2021 (Eurostat, 2025), therefore there is potential in Finland to increase funding for preventive healthcare. The financial sustainability of the healthcare system depends on political decisions regarding both the level of investment in health and the allocation of resources. These decisions need to be made without delay, as projections and existing inefficiencies indicate that the cost of inaction will be significant (Thomson & others, 2010, p. 11).

The goal of health policy is to care for the population’s health by promoting health and its premises and preventing and treating diseases. The prerequisite to health policy is to have a good enough knowledge of which factors determine health status and diseases, and how we can affect these factors with different policies (Sihto and others, 2013, p. 39). The most effective measures are that are taken simultaneously from different directions and have the same goal (Finnish Government, 2021, p. 9). Healthcare politics includes different social interests, actors, and actions, that seek to influence governmental decision-making related to health and healthcare. This can have an impact for example on legislation, budget, or official decisions (Sihto and others, 2013, p. 161).

Increasing resources for effective prevention programs would improve economic performance and overall well-being while also enhancing public health (Wang, Wang & Huang, 2016, p. 9). Also, if a larger share of the budget was invested in anticipatory measures, the costs of reactive interventions would decrease, which in turn would slow down or halt the overall growth of total expenditures in the long term (Sitra, 2025, p. 16).

Improving population health, strengthening primary care, and ensuring better integration with long-term care all enhance health system resilience. These actions reduce pressure during disruptions and lower the likelihood of the system becoming overwhelmed (OECD, 2023, p. 47). To identify the most effective preventive interventions, health expenditures should be allocated efficiently. Funds that are not yet fully utilized could be directed to benefit the entire population, leading to significant improvements in health and well-being in a growing economy (Wang, Wang & Huang, 2016, p. 8).

The state is seen as a strong actor in the welfare state to make and implement health policies (Sihto and others, 2013, p. 22). Support is needed from political decision-making, legislation, and finances. Also, it is needed to coordinate, implement, and monitor nation-level health programs. Cooperation is not only needed between healthcare organizations and the highest state decision-makers, but also with municipalities, education systems, media, and consumer communications (Koponen, and others, 2018, p. 192). According to the Finnish Government, the following aspects should be taken into account in promoting well-being, health, and safety: implementation of measures through cooperation and cross-cutting between different sectors, precision of measures, and identification of their target groups, development of service content, identification of hotspots, proximity to natural environments, and a safe social environment (Finnish Government, 2021, p. 11).

3.2 Implementing preventive, anticipatory, and predictive healthcare as a tool to overcome the Finnish healthcare crisis

Many chronic diseases can be prevented or managed through primary, secondary, and tertiary prevention services. Conditions like heart disease, hypertension, and type II diabetes could see a significant reduction in their impact if effective clinical and community prevention strategies were widely adopted (University of Connecticut, 2008, p. iii). The World Health Organization (WHO) emphasizes the importance of primary prevention in improving public health, aiming also to reduce long-term healthcare costs. In addition to the traditional preventive approach, which includes primary, secondary, and tertiary prevention, we should also consider methods that emphasize future-oriented thinking, such as anticipatory healthcare, as well as data- and artificial intelligence-driven predictive healthcare models. In this thesis, the aim is also to explore how preventive, anticipatory, and predictive healthcare policies could be one solution to relieve the healthcare crisis.

According to Sitra, in Finland, preventive social and healthcare is acknowledged as a key national goal. Nevertheless, there are often inconsistencies between this goal and the actual political and financial decisions. Instead of supporting a forward-looking and predictive system, the current funding structure tends to prioritize reactive care, and short-term cost savings are frequently pursued by reducing support for preventive initiatives, particularly those run by the third sector (Sitra, 2025, p. 38).

Anticipatory healthcare is not yet an everyday reality in Finland, but the recent social and healthcare reform has created new structures that support its development. Integration requires a comprehensive view of services and the costs they generate. Now that the well-being services counties have been established, and their operations are underway, it is an opportune moment to look ahead and begin steering the system towards a more anticipatory approach (Sitra, 2025, p. 28). On the practical level so far, anticipatory care is mostly implemented through localized development initiatives by individual well-being services counties and universities. These projects typically target specific patient groups or diagnoses. Still, even these limited pilots have shown clear advantages of adopting a more preventive approach (Sitra, 2025, p. 38).

One way to advance anticipatory healthcare is through anticipatory or proactive future-oriented thinking. This approach leverages data, digitalization, and artificial intelligence to enable personalized risk assessment and targeted interventions. It focuses on predicting diseases, social problems, and risk factors before they arise and on early intervention to prevent their progression into serious conditions. The goal is to shift the emphasis on social and healthcare services from reactive measures to proactive ones. Key characteristics of this approach include early intervention, individualized care, the use of technology, cross-sector collaboration, and a life-course perspective that ensures continuity of care and addresses the whole person throughout the service pathway (Sitra, 2025, p. 12).

In practice, when promoting health in a health-promoting organization, physicians must also systematically work to strengthen health promotion efforts, ensuring that the resources invested in hospitals generate the greatest possible health benefits for the population. Specialized healthcare can enhance the effectiveness of health counseling by integrating it into patient care. Both specialized care and primary healthcare need a shared understanding of the concrete actions and costs involved in incorporating health promotion into the processes of specialized care (Sihto and others, 2013, p. 292). In the anticipatory healthcare model screenings and vaccinations, for example, would be based on an individual's personal risk factors. Low-threshold social services could be offered proactively if there are signs that a person is struggling in their daily life. Before prescribing medication, genetic compatibility could be checked to ensure the most suitable option. Healthcare providers could proactively reach out to clients when their personal data indicates a need or offer services such as screenings. When the system can identify risk factors, health changes, and service needs before the individual seeks help, a natural shift toward preventive and timely care becomes possible (Sitra, 2025, p. 14).

A key to influencing all most common public health problems is to identify problems early and advise or refer for treatment (Koponen, and others, 2018, p. 192). A client's risk for social and health-related problems could be identified early through social factors such as family background, or by integrating social and healthcare data into a life-course perspective to recognize significant life events or early signs of challenges in coping. In the care of chronic illnesses or elderly individuals, services would increasingly focus on maintaining treatment balance and preventing complications. Early identification enables timely preventive measures or initial treatments, thereby reducing the need for more intensive care later. Traditional health check-ups would gradually be replaced by continuous, intelligent, data-driven assessments that combine information from social services, genetic data, lifestyle habits, environmental influences, and historical records. This would enable more effective identification of risk factors (Sitra, 2025, p. 15).

In preventive work, it is essential to rapidly improve the coordination of early-stage services for those in need of special support, as well as enhance cooperation between various organizations and administrative sectors. Having enough public health nurses and doctors in health centers is a key requirement for the effective delivery of preventive services (Sihto and others, 2013, p. 285). In anticipatory healthcare artificial intelligence and automation would support decision-making and streamline routine tasks, such as administrative work, thereby freeing up more time for direct client interaction. Predictive technologies would also provide professionals with insights on where to focus their efforts most effectively. The nature of the work would shift toward promoting clients' overall well-being and offering personalized guidance. In social and healthcare professions, proactive interaction would become central, addressing issues before they arise or escalate into more serious problems (Sitra, 2025, p. 16).

Literature reviews and research findings indicate that anticipatory and preventive models can yield significant benefits; however, their overall effectiveness is often limited by various implementation-related challenges (Sitra, 2025, p. 17). According to Sitra, Finland has a strong potential to succeed in anticipatory healthcare. Particularly, the digitalization of healthcare, the abundance of health data, the use of pharmacogenetics in specialized care, and national expertise in artificial intelligence provide a solid foundation. The integration of services implemented through the healthcare reform also supports this progress. However, significant barriers have slowed broader implementation (Sitra, 2025, p. 5).

An anticipatory healthcare system requires interdisciplinary cooperation between the state, municipalities, well-being services counties, technology companies, private healthcare providers, and research institutions. Large-scale implementation also demands determined national-level guidance, the development and harmonization of legislation, and financing models that are both supportive and innovation-friendly. On the local level, the advancement of anticipatory care within well-being services counties calls for experimentation, the dissemination of lessons learned, courageous leadership to drive systemic change, specialized competencies, and the reorganization of services (Sitra, 2025, p. 5).

A new recommendation (2025) aiming to enhance public health in the long term is from Sitra. Sitra is a public organization that helps Finland renew itself by anticipating the future and, together with partners, finding solutions to tomorrow's challenges. Sitra's goal is to promote Finland's well-being and accelerate sustainable economic growth (Sitra, nd). This new project is called “Finland to be a pioneer in proactive social and healthcare”, and its goal is to shift the focus of investments in the health sector from reactive measures toward more proactive and anticipatory actions. This would mean improved healthcare services for citizens, better cost control within the social and healthcare system, and growth opportunities for businesses (Sitra, 2025, p. 5).

To support the implementation of an anticipatory social and healthcare model, Sitra proposes several key actions: reform the healthcare funding model to support the shift towards anticipatory care, revise legislation to enable anticipatory healthcare, and provide strategic leadership for the transition to anticipatory care. When addressing healthcare funding, currently only a small portion of healthcare spending in Finland is allocated to preventive measures, with the majority directed toward curative treatment. A major area for development is the healthcare financing model, which must be redesigned to promote anticipatory services. The existing funding system, which determines the revenue of well-being services counties, is primarily based on disease diagnoses. To enable anticipatory healthcare, the funding model should instead reward regions based on their success in maintaining population health and functional capacity (Sitra, 2025, p. 42 & 45).

Revising the legislation is also important to implementing anticipatory healthcare since there are technical limitations in data usability. Health data is a fundamental prerequisite for anticipatory care, and Finland already possesses extensive datasets. The goal should be to allow new technologies to be effectively used in preventive efforts. Legislative reforms must encompass all tools relevant to anticipatory healthcare, including solutions based on individual risk profiles—an area with significant potential impact (Sitra, 2025, p. 42 & 45)

A large-scale shift to anticipatory healthcare can only occur through long-term, strategic leadership. Well-being services counties should integrate anticipatory care into their service strategies and long-term roadmaps. Pilot projects that generate valuable insights should be launched through strategic collaboration between the counties, central government, and national funders. These efforts must involve the entire ecosystem of actors in anticipatory care. The transition should be actively led at both regional and national levels as a major strategic and operational change. Anticipatory healthcare must be established as a core objective of national social and health policy to support practical change efforts at the local level (Sitra, 2025, p. 42 & 45).

The development of Finland's social and healthcare system toward a more anticipatory model faces several key challenges. These include resource shortages and financial constraints, insufficient investment, and overall economic pressures on the system. The lack of implementation of anticipatory care models remains a major issue. Additionally, fragmented information systems and their compatibility problems hinder data integration and effective use. The slow pace of legislative and regulatory development, combined with increasing regulation of digital healthcare, further impedes progress. The adoption of artificial intelligence and new technologies has been slow, and frequent political changes and uncertainty contribute to the instability. Moreover, a lack of expertise among professionals in applying emerging technological solutions poses a barrier to advancing anticipatory healthcare practices (Sitra, 2025, p. 40).

However, Finland possesses several strengths that support the implementation of an anticipatory social and healthcare system. These include extensive and high-quality data resources and a high level of digitalization in healthcare—Finland is a forerunner in adopting electronic health record systems, national data repositories (such as the Kanta services), and digital health services. The country also benefits from strong expertise in health technology and artificial intelligence. Additionally, Finland's open and collaborative innovation ecosystem, the recently reorganized public healthcare structure, political support, and strategic policy direction all contribute positively. Increased international collaboration further strengthens these capabilities (Sitra, 2025, p. 39).

4 Summary, recommendation, and conclusion

The aim of this thesis was to address the research question "*To what extent strategic investment in preventive health services can mitigate Finland's healthcare crisis*". It also sought to explain the concepts of preventive, anticipatory, and predictive healthcare, explore *the benefits and limitations of preventive healthcare*, and investigate *how preventive, anticipatory, and predictive healthcare policies could serve as one potential solution to alleviate the ongoing crisis in the healthcare system*. Crisis Management Theory and Anticipatory Innovation Governance Theory were used as theoretical frameworks to analyze how preventive strategies could contribute to addressing Finland's healthcare crisis. Crisis Management Theory was selected as the primary lens, as its central aim is to reduce risks and prevent crises before they escalate (Nukpezah, 2017, p. 7/290). Anticipatory Innovation Governance Theory was applied as a complementary framework to highlight the importance of foresight and proactive planning. This theory supports the idea that the public sector should anticipate future developments and adapt accordingly to strengthen resilience and take advantage of emerging opportunities.

The main research question of this thesis was "*To what extent can strategic investment in preventive health services mitigate Finland's healthcare crisis*?" As a result of reviewing scientific sources, it became evident that the economic effects of preventive healthcare remain somewhat uncertain. Preventive care has many positive effects. It improves health and saves money. Effective preventive healthcare can lower the incidence of diseases, complications, and disabilities, thereby reducing pressure on healthcare services (Wang & Wang, 2021, p. 2). Increasing investment in well-designed prevention programs supports both public health and economic well-being (Wang, Wang & Huang, 2016, p. 9). Economic analyses suggest that the return on investment in preventive care can be substantial: for example, every euro invested may yield up to 14 euros in benefits within the health and social care sectors (The European House – Ambrosetti, 2024b, p. 7). Similarly, each dollar spent on preventing chronic diseases could result in savings of approximately seven dollars over a lifetime, particularly when broader societal impacts, such as productivity loss, are taken into account (Wang & Wang, 2021, p. 6).

Enhancing population health, reinforcing primary care, and improving coordination with long-term care contribute to a more resilient healthcare system, making it better equipped to handle crises and prevent overload (OECD, 2023, p. 47). Benefits and value from preventive actions are most significant when put in place as early as possible (University of Connecticut, 2008, p. i).

Although prevention plays a key role in maintaining and improving population health, it may also draw resources away from necessary curative care, which could negatively impact overall health outcomes (Wang & Wang, 2021, p. 4). Theoretical models and estimates suggest that increased investment in prevention can reduce disease rates, strengthen public health, raise productivity, and improve societal well-being. However, short-term pilot initiatives have already shown promising results, highlighting the advantages of anticipatory healthcare, especially its cost-efficiency and its ability to enhance patient health outcomes (Sitra, 2025, p. 9).

The best way to improve public health in OECD countries is to invest wisely in both prevention and treatment (Eurostat, 2025). However, preventive services receive only a limited portion of national healthcare funding (The European House Ambrosetti, 2024, (b), p. 7). Studies have discovered that the ideal level of preventive healthcare spending is 1.175% of GDP. In Finland, this spending was only 0.84% of GDP in 2021 (Eurostat, 2025), which suggests there is room to increase investment in prevention. Policymakers should prioritize areas such as disease prevention and chronic condition management. Aligning resource allocation with population health needs can lead to better investments in interventions that support healthy aging. This is expected to enhance quality of life, reduce future healthcare costs, and as mentioned earlier, increase revenue for the health sector. All of this highlights the crucial role of health financing policy in ensuring financial sustainability (Thomson & others, 2010, p. 73).

This thesis also sought to explain the concepts of *preventive, anticipatory, and predictive healthcare*. Preventive social and healthcare, also known as preventative care, follows a traditional model aimed at enhancing health and overall well-being by stopping health issues before they arise. It involves promoting healthy lifestyles and detecting risk factors early, helping to lower long-term healthcare costs and reduce strain on the healthcare system (Sitra, 2025, pp. 11–12). The World Health Organization (WHO) highlights the importance of primary prevention in improving population health and controlling long-term expenses (Sitra, 2025, p. 13).

Primary prevention focuses on stopping diseases before they begin, targeting populations, groups, or individuals (Terveyskirjasto, 2023). Secondary prevention aims to detect and treat diseases in their early stages, often before symptoms appear (Terveyskirjasto, 2023). Tertiary prevention involves managing existing illnesses to avoid worsening conditions, prevent complications, and reduce their overall impact (Terveyskirjasto, 2023). Anticipatory and predictive models are more advanced forms of preventive care. The anticipatory—or proactive—approach emphasizes foresight in healthcare planning by leveraging data, digital tools, and artificial intelligence. It focuses on identifying and addressing health risks, social challenges, and potential problems early, aiming to shift the healthcare system from reactive treatment to proactive prevention. Predictive healthcare relies on data and AI to assess an individual's or population's risk of developing or worsening a condition. This method enables targeted preventive actions, especially for those at the highest risk, such as in vaccination campaigns or chronic disease management (Sitra, 2025, p. 12).

Another goal of this thesis was to explore the *benefits and limitations of preventive healthcare*. According to the research literature, a healthier population contributes to reduced healthcare expenditures and increased productivity, thereby supporting both economic growth and societal resilience. Preventive healthcare plays a critical role in extending life expectancy and enhancing quality of life (IFPMA, 2024, p. 1). It has been shown to significantly improve health outcomes, lower health risks, and reduce overall costs, especially when interventions are well-targeted, evidence-based, and tailored to the specific needs and characteristics of the population (Sitra, 2025, p. 17). Strategic investment in preventive care not only strengthens public health but also reinforces the healthcare system as a whole (Wang, Wang & Huang, 2016, p. 2). Furthermore, effective prevention is associated with a decrease in the prevalence of illness, supporting long-term gains in productivity (Wang & Wang, 2021, p. 6).

However, there are potential downsides. Overinvestment in prevention could lead to the detection of minor chronic conditions, increasing disease prevalence and extending treatment durations unnecessarily. Overemphasis on prevention can also result in the detection of milder chronic conditions, leading to prolonged disease management and a higher overall prevalence of ill health (Wang & Wang, 2021, p. 8). Moreover, inconsistencies in implementation, uneven application, and insufficient consideration of population diversity in research may limit the broader effectiveness of preventive approaches. Additionally, challenges such as implementation inconsistencies and limited inclusivity in research models may hinder the effectiveness of preventive strategies (Sitra, 2025, p. 17). There is also concern that beyond a certain threshold, increased spending on prevention may come at the expense of curative care, possibly leading to adverse health outcomes (Wang & Wang, 2021, p. 5). Therefore, while prevention is vital for sustaining population health, it should complement, not replace, curative healthcare services (Wang & Wang, 2021, p. 4).

In this thesis, the aim was also to explore *how preventive, anticipatory, and predictive healthcare policies could be one solution to relieve the healthcare crisis*. The Finnish social and healthcare system is at a turning point, where anticipatory models may offer viable solutions (Sitra, 2025, p. 41). Preventive, anticipatory, and predictive healthcare approaches offer promising solutions to address Finland's healthcare crisis, particularly by shifting the focus from reactive to proactive care. Positive results from short-term pilot projects have already demonstrated the value of anticipatory healthcare, particularly in terms of cost-effectiveness and improvements in patient health outcomes, and that predictive action models prevent disease and improve resource efficiency (Sitra, 2025, p. 6 & 9). Allocating resources to preventive healthcare contributes to better public health and strengthens the overall healthcare system (Wang, Wang & Huang, 2016, p. 2). Increasing investment in prevention is essential to contain the growing demand for healthcare services (Koponen and others, 2018, p. 192). When tailored to the specific needs and characteristics of the target population, and grounded in evidence, preventive interventions can notably enhance health outcomes, lower risks, and reduce healthcare costs (Sitra, 2025, p. 17). Moreover, allocating a greater portion of healthcare funding to anticipatory measures could lead to a reduction in the need for costly reactive care. This shift would ultimately help slow or even stop the long-term rise in overall healthcare expenditures (Sitra, 2025, p. 16).

Potential benefits include improved cost control and enhanced service quality. However, achieving these outcomes requires a commitment to long-term, systemic change across the entire health and social care system (Sitra, 2025, p. 41). Proactive social and healthcare should be established as a strategic goal of national social and health policy, providing support for practice-oriented change efforts at the regional level (Sitra, 2025, p. 45). Finland's transition toward a more anticipatory social and healthcare model faces several obstacles, including limited resources, financial constraints, and insufficient investment. Challenges such as the slow adoption of anticipatory care practices, fragmented and incompatible information systems, and delays in legislative and regulatory development also hinder progress. Furthermore, growing regulation of digital health, slow uptake of AI and technology, political instability, and a lack of professional expertise in emerging technologies present additional barriers (Sitra, 2025, p. 40). Despite these challenges, Finland is well-positioned to implement anticipatory healthcare. The country has extensive, high-quality health data, a highly digitalized healthcare system, and strong competencies in health technology and AI. An open innovation environment, a reorganized healthcare structure, political backing, and strategic guidance further support this shift. Enhanced international cooperation also strengthens Finland's ability to advance in this area (Sitra, 2025, p. 39).

The Ministry of Social Affairs and Health has also instructed municipalities to implement anticipatory measures to manage the pressure on the service system and ensure the adequacy of services (Sitra, 2025, p. 28). The role of municipalities in anticipatory healthcare involves supporting the promotion of health and well-being through preventive health campaigns, physical activity services, and the provision of other welfare services. Municipal services such as early childhood education, schooling, and employment services play a central role in supporting citizens' overall well-being and ability to cope with everyday life (Sitra, 2025, p. 36).

One strategy to improve population health with a cooperation strategy is a strategy where the healthcare sector offers its knowledge to other sectors of society so that other sectors could benefit from this knowledge in implementing population health in their perspective, with the knowledge of actual healthcare expertise (Sihto and others, 2013, p. 191). In this framework, the health sector assumes a dual role: that of an expert and an advocate. In Finland, cross-sectoral health programs—developed collaboratively across various sectors—have been systematically submitted to the Government for formal adoption. Broad participation from all sectors in promoting health also supports the management of municipalities' largest expenditure area: social and healthcare services. While municipalities often seek savings within the healthcare system itself, it is frequently the case that healthcare costs could be reduced more effectively through actions taken outside the health sector (Sihto and others, 2013, p. 192).

Having multiple organizations setting different goals on different factors of health can often be beneficial for promoting health holistically. Some policies and health-promoting projects are relevant only for a certain period (Sihto and others, 2013, p. 161). For example, in North Karelia effective social measures succeeded in reducing mortality from heart diseases by over 85 percent in the 70s'. This was done with many different actions, but the key point was in reducing risk factors, that is, improving living habits. Changes were made in healthcare, work communities, schools, media, organizational activities, smaller communities, and in other ways. This North-Karelia project proved, that lifestyle changes in society are possible, and they have an impact on population health (Sihto and others, 2013, p. 114-115). A lot of the most affordable primary prevention strategies are implemented at the community level (University of Connecticut, 2008, p. 5).

Another example is from China where an evaluation of a hypertension control program demonstrated the effectiveness of public health initiatives aimed at preventing, managing, and treating specific illnesses. Similarly, a study on diabetes across various European healthcare systems revealed that raising awareness about the disease and enhancing national health plans can lead to better patient quality of life, improved disease management, and reduced healthcare costs (Martínez, Montero & Biggeri, 2022, p. 3).

Social services also play a key role in anticipating risks. Several social factors have been identified as predictors of high healthcare costs. Approximately 10 percent of the population accounts for a large share of social and healthcare service use and often utilizes both sectors simultaneously (Sitra, 2025, p. 31). These factors should be more effectively considered in future efforts to promote health.

Preventing public health problems and improving treatment towards medical recommendations could achieve cost savings and have benefits in individuals' lives (Koponen, and others, 2018, p. 191). To improve health and get people to age healthier, which could have positive effects on the economy, the ministries should work closer together to ensure that good and effective measures are taken towards public health investments and prevention (Thomson & others, 2010, p. 9).

Since health is a common societal goal, it is justified for the state government to take responsibility for major health-related objectives and strategic directions. It should also recognize the potential of all sectors to contribute to these goals. Some argue that the health sector should lead actions related to health objectives, given its expertise, primary interest, and responsibility. However, it is evident that the engagement of other sectors in achieving health goals cannot be secured—nor their actions directed—by the health sector alone. Leadership must come from a level above individual administrative sectors—ultimately from the Prime Minister at the state level, and from central administration at the municipal level (Sihto and others, 2013, p. 192).

Like any study, this thesis has its limitations. The Finnish healthcare crisis is a complex and multifaceted issue, and solutions focused solely on preventive healthcare, or the healthcare system itself is not sufficient to address it. Additionally, demographic changes—such as the aging population—pose significant future challenges, particularly in terms of sustainable financing and the availability of healthcare professionals. *A question that needs to be answered next, is how to manage a public health crisis without or with very little economic growth since economic growth is not self-evident.* Or how to manage the crisis after 10 to 20 years, when the demographic change is even stronger and there are even more elderly people and even fewer young people financing and giving services. Also, we need to recognize that preventive actions in healthcare institutes are not the only way to help this issue, and those other ways need to be found and studied even more. There are solutions beyond the healthcare sector, such as education, urban planning, and social policy. These should also be integrated into the broader effort to promote public health.

Future research, such as a master's thesis, could build upon this study's strategic approach by further exploring the practical implementation of preventive, anticipatory, and predictive healthcare models in Finland. This could include analyzing specific case studies from different well-being services counties, evaluating the outcomes of pilot programs, or examining the scalability of digital tools and data-driven solutions in preventive care. A more detailed investigation into how legislative and financial frameworks either support or hinder these approaches would also offer valuable insights for policy development.

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