Evidence brief for policy
EVIPNet Europe

Developing and strengthening services to achieve an integrated continuum of long-term care in Türkiye

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ABSTRACT

The proportion of the elderly population and the number of individuals who experience limitations in performing basic daily activities independently have increased in Türkiye. The need for long-term care (LTC) services has dramatically increased based on these driving forces. In addition, the need for LTC services, which were traditionally associated with housewives and non-working women in Türkiye, has also increased because women have become more involved in work outside the home. Many individuals who need assistance to maintain their functional ability cannot receive critical quality care without a significant burden on their families or finances in Türkiye. This requires multi-stakeholder health policy interventions for a solution to the need for LTC services. The Türkiye Institute for Health Policies, the Ministry of Health of Türkiye and the WHO Country Office in Türkiye came together to develop this evidence brief for policy, to be published under the aegis of the WHO European Evidence-informed Policy Network and provide evidence-informed options for policy-makers to tackle LTC-related problems in Türkiye.

The work was carried out within the framework of the collaboration between the Türkiye Institute for Health Policies and WHO: it involved the Ministry of Health of Türkiye, high-level national policy institutions and national experts, and was supported by technical experts from the WHO Regional Office for Europe. The Türkiye Institute for Health Policies convened a working group comprising representatives from the Ministry of Health. The group identified, selected, appraised, and synthesized relevant research evidence on the problem; devised three options for tackling it; and weighed considerations in implementing each option.

KEYWORDS

LONG-TERM CARE, HEALTH POLICY, TURKEY

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ABBREVIATIONS

AMSTAR  A MeaSurement Tool to Assess systematic Reviews
EBP  evidence brief for policy
EHR  electronic health record
EU  European Union
EVIPNet  Evidence-informed Policy Network
HIT  health information technology
ICOPE  integrated care for older people
ICT  information and communication technology
IoT  Internet-of-things
LTC  long-term care
LTCF  long-term care facility
LTCI  long-term care insurance
MoFSS  Ministry of Family and Social Services (previously Ministry of Family and Social Policies)
MoH  Ministry of Health
NGO  nongovernmental organization
OECD  Organization for Economic Co-operation and Development
OOP  out-of-pocket (expenditure)
SES  socioeconomic status
SSI  Social Security Institution
TUIK  Turkish Statistical Institute
TÜSEB  Health Institutes of Türkiye
TÜSPE  Türkiye Institute for Health Policies of the TÜSEB
The problem

Long-term care (LTC) encompasses activities undertaken by others to ensure that individuals who have suffered or are at risk of significant ongoing loss of individual capacity are able to maintain a level of functional ability coherent with their basic rights, fundamental freedoms and human dignity.

The demand for LTC services in Türkiye is increasing day by day due to various factors. The demographic ageing process is picking up speed in Türkiye, with the population aged 65 years and above increasing by 24% in the past 5 years. In 2012, the population aged 65 years and above was 5.7 million people, and their percentage of the total population was 7.5%. By 2023 this population is expected to increase to 8.6 million people and the percentage to 10.2%. The ratio of those aged 65 years and above to the total population is expected to reach one quarter by 2080. The median age of the population was 32 years in 2018 and is expected to be 33.5 in 2023, 38.5 in 2040, 42.3 in 2060, and 45 years in 2080. Demographic change is the main driver that is increasing the need for LTC services in Türkiye.

LTC services have been placed at the centre of health and social services in Türkiye. This is due to the increase in life expectancy at birth, increase in the older population and the consequent increase in chronic diseases and the afore mentioned demographic changes. In addition, according to current statistics, there are 2.5 million disabled people (about 3% of the population) in Türkiye, and 780 000 of them are in need LTC (about 1% of the population) as they are severely disabled. Moreover, housewives and non-working women, who have traditionally been associated with providing informal LTC services at home, have become more involved in working outside the home. These factors bring LTC to the fore in Türkiye. The COVID-19 pandemic and the massive migration wave and refugee problem faced by Türkiye have also indicated the importance of LTC services.

The ratio of the population living in urban areas in Türkiye has increased over the years, but 7% of Türkiye’s population still lives in rural areas and these are mostly elderly individuals. Most of these individuals live in rural areas of their own free will because they are unwilling to leave their homes and villages. They are socially isolated, services are inadequate and they face difficulties in accessing services in rural areas. In addition, the fact that the young population lives in city centres due to the abundance of employment options and the elderly
stay in rural areas makes informal family care difficult. Elderly people in need of LTC go to their families in the city centre, and this requires a new care-oriented arrangement for these families. Therefore, both the carrying out of LTC services in rural areas and coordination between urban and rural areas are crucial.

It is estimated that one in four people in the 65 years and above age group in Türkiye will need LTC services in the near future. However, many individuals who need LTC services are not able to receive critical quality care without a significant burden on their families or finances. Türkiye faces a number of problems such as the fragmented structure of services and lack of coordination in the delivery of LTC services, barriers to accessing services and their high costs, lack of insurance regulations, inadequacies in legal regulations, issues related to quality and efficiency of services, and inadequate use of technological tools in LTC services. Therefore, removing barriers to access to LTC services is a priority of the current strategic plans of the World Health Organization (WHO) and Ministry of Health (MoH) of Türkiye.

In Türkiye, the majority of LTC services are provided informally, thanks to strong family relations. Municipalities also play a role in providing these services. However, the increasing demand for LTC creates a significant financial burden for both older people and those individuals who need to take care of their elderly relatives. In Türkiye, LTC services, which are largely financed through social support/assistance systems, pose a risk of impoverishment for those without a high income and this might create barriers to access to services. For this reason, it is a prevailing opinion that an LTC insurance (LTCI) system be established to provide quality services while maintaining standards of care in a manner that befits human dignity.

Individuals in need of LTC services in Türkiye have a low level of knowledge and awareness about the LTC services offered by different institutions. This might be explained by the failure of institutions providing LTC services to promote themselves along with the low level of education among these individuals.

There is a need to create a holistic policy and act to eliminate the aforementioned problems related to LTC services in Türkiye and meet the demands of the older population and other population groups in need of LTC services. Barriers to accessing LTC services can be removed with appropriate policy tools and alternative solutions, which is vital.

This evidence brief for policy (EBP) provides evidence of the proposed policy options and summarizes research evidence drawn from systematic reviews. The key findings were drawn from each systematic review identified in the search process. Three options were selected to address LTC-related problems in Türkiye because they took into account a large spectrum of causes of the problem. These options, potential barriers and opportunities, and implementation considerations are presented below.
Selected options

- **Option 1. Strengthening coordination between LTC service providers**
  - Improving the quality and responsiveness of LTC services is possible with proper integration into service packages for health and social support.
  - LTC services inconsistent with the values and preferences of users, caregivers, families and societies are not sustainable, and therefore the opinions and suggestions of the target groups should be given importance in the provision of these services.
  - LTC service environments that involve users as much as possible in local social networks should be organized.

- **Option 2. Strengthening the LTC financing system**
  - LTC financing has two phases; the first step is to create and/or improve the necessary resources for the production and delivery of care services to the community. The second is to activate mechanisms for the allocation of these resources to services.
  - Increasing funding for LTC services is seen as a policy concern in some countries, and fair and efficient policies for resource allocation could decrease these concerns.
  - A system should be developed to evaluate the effectiveness and efficiency of LTC services, and to coordinate, control and support these services.

- **Option 3. Improving the use of technology in LTC**
  - Technology has the potential to enhance and strengthen LTC, raise the standards of care and support efforts to contain costs as the demand grows.
  - Ageing in place: it is important to improve the quality of life of people ageing in the residence of their choice, and technology can help with this.
  - Smart homes and sensor-based technologies have become the centre of LTC services as a result of a shift in care services to the home environment due to the concept of ageing in place.

Barriers and opportunities

- In Türkiye, informal voluntary LTC provided by the family is still common despite the difficulties experienced in the care process, especially with the increase in women’s employment. Also, filial piety is still accepted as a cultural norm. These are facilitating factors for establishing an effective and efficient LTC system.
- LTC systems can be strengthened by improving coordination between service providers. However, it is difficult to coordinate a fragmented LTC system. This is an important barrier to strengthening the Turkish LTC system. Verticalization is important for the
coordination of LTC service delivery and this can be carried out under the MoH. The MoH has an application named “e-Nabız”, which can help with the coordination of LTC services.

Other important barriers to strengthening the Turkish LTC system include the lack of enduring and explicit agreements on the roles and responsibilities of institutions and their professional staff, lack of information-sharing within and between institutions, limited resources, lack of support and communication with older people and their informal caregivers, and lack of shared decision-making. These problems and deficiencies can be overcome with training and will decrease as the LTC service culture develops in Türkiye.

The implementation of LTCI systems requires a long-term reform process and must be adapted to each country’s characteristics and conditions. For this reason, countries with similar socioeconomic conditions as Türkiye can be well studied and LTCI systems in these countries can be adapted to the realities of Türkiye. The Turkish Government gives priority to this issue and it is an opportunity for the Turkish LTC system.

Although the use of technology in LTC services is essential, it is also essential that this technology is easy to use and meets the needs of those who use LTC services. Since those who use LTC services are mostly elderly individuals, they may have limited access to technology. Training is crucial in this regard and organizing training programmes can be carried out on the use of technology for people who need LTC services.

**Implementation considerations**

- To strengthen the LTC system, there are core goals such as supporting and coordinating different types of providers and services, developing new services, providing social support, increasing preventive services and providing person-centred guidance and assistance, and strengthening family and informal care.
- Preventive interventions and applications without the need for LTC should be improved. It is known that chronic diseases and the need for care intensify from middle age. Frailty in old age is a problem that needs to be prevented.
- The implementation of LTCI systems requires a long-term reform process and must be adapted to each country’s characteristics and conditions. In terms of public LTCI, the issue of financial stability plays a key role in successful continuation of the reform.
- The opportunities offered by technological innovations used in the field of health and care also bring some obstacles. If the recommendations made through systems using health information technology (HIT, such as home monitoring technology, personalized decision-support software, interactive health reminder systems, medical records, patient–physician electronic messaging) do not fit the patient’s mental model or perception of the situation, it is unlikely that the patient will follow the advice.
EXECUTIVE SUMMARY

LTC consists of activities that help individuals suffering from or at risk of significant ongoing loss of individual capacity to maintain a level of intrinsic capacity and functional ability coherent with their basic rights, fundamental freedoms and dignity. Intrinsic capacity is the process of developing and maintaining the functional ability that enables well-being at an older age and functional ability is an individual's capacity to carry out the activities that he or she needs or wishes to carry out in a given environment. LTC services are expected to optimize intrinsic capacity and functional ability.

In Türkiye, both the proportion of older people and the number of individuals experiencing limitations in performing basic daily activities independently have increased, and several housewives and unemployed women, who were traditionally involved in the care of older and/or disabled people, are now working outside the home. These factors have increased the need for LTC services. Many individuals who need assistance to maintain their functional ability cannot receive critical quality care without a significant burden on their families or finances. Therefore, there is a need to create a holistic policy and act so that the problems related to LTC services in Türkiye can be eliminated and the demands can be met of older people and other population groups in need of LTC services.

This EBP mobilizes both global and local research evidence on LTC-related problems and options for addressing these problems in Türkiye. The EBP summarizes research evidence drawn from systematic reviews. The key findings were drawn from each systematic review identified during the search process, and each was also assessed in terms of quality (Health Evidence score or AMSTAR [A MeaSurement Tool to Assess systematic Reviews] rating), local applicability (proportion of studies conducted in Europe), equity aspects (proportion of studies explicitly on the priority groups) and degree of focus on the issue. Three options were selected for addressing LTC-related problems in Türkiye because they covered a large spectrum of causes of the problem. The overall evidence for the three options was later summarized and relevant interpretations of the key findings of each review were introduced based on the assessments of quality, local applicability, equity aspects and degree of focus on the issue. The EBP does not contain recommendations. The three options discussed are intended only as possible ways of developing policies, supported by strong scientific evidence. They could either be pursued simultaneously or elements could be drawn from each option to create a new one.

The main problems in delivering LTC services in Türkiye have been identified as a fragmented structure and lack of coordination in service delivery, barriers to accessing services, high costs and lack of insurance regulations, inadequacies in legal regulations, issues related to quality and efficiency, lack of data-sharing and inadequate use of technological tools.
These factors are categorized into five groups – factors relating to service providers, factors relating to regulations, factors relating to service users and target groups, factors relating to financing and insufficient use of technology.

The selected three options to eliminate LTC-related problems are (1) strengthening the coordination of LTC service providers; (2) strengthening the LTC financing system; and (3) improving the use of technology in LTC.

Selected options for addressing the problem

- **Option 1. Strengthening coordination among LTC service providers**
  - LTC services must be delivered in a responsive manner and integrated into health and social support service packages.
  - LTC services must be aligned with the values and preferences of users, caregivers, families and societies.
  - LTC environments that involve users as much as possible in local social networks should be organized.
  - Countries should develop an LTC system to evaluate, coordinate, regulate and support the training of the workforce in the LTC services offered.
  - For a sustainable LTC system, it is important to support and coordinate different types of providers and services, develop new services, provide social support, increase preventive services and provide person-centred guidance and assistance, and strengthen family and informal care.

- **Option 2. Strengthening the LTC financing system**
  - Financing of LTC includes two functions. The first function is to refine the resources needed to ensure that care services can be developed and offered to the community. The second function is to activate mechanisms for the allocation of these resources to deliver services.
  - Although approaches for increasing the resources allocated for LTC services are considered a policy concern in most countries, fair and efficient policies for resource allocation need to be developed.
  - Establishment of an LTCI system requires a long-term and challenging reform process. Countries should take into account their characteristics and conditions while adopting an LTCI system. In terms of public LTCI, the issue of financial stability plays a key role in the successful continuation of the reform.
**Option 3. Improving the use of technology in LTC**

- Technological applications have the potential to enhance and strengthen LTC and support efforts to contain costs as the demand for care increases.
- Technology in LTC services can enhance knowledge exchange, education and virtual environments. These, in turn, would increase the standards of care environments.
- Ageing in place is a term used to describe a person living in the residence of their choice, for as long as they can, as they age. Ageing in place is important to improve the quality of life of individuals who need LTC.
- Technology for ageing in place is defined as electronic technology that is developed for supporting the independence of older adults living in the community by mitigating or preventing functional or cognitive impairment, limiting the impact of chronic diseases and enabling social or physical activity. Technology for ageing in place makes life easier for older people and people who need LTC.
- Health-smart homes and home-based consumer health technologies are potential solutions that can support older adults to age in place.
- The opportunities offered by technological innovations used in LTC also bring some obstacles. If the recommendations made through systems using health information technologies do not fit the patient’s mental model or perception of the situation, it is unlikely that the patient will follow the advice.

Considering Türkiye’s problems with LTC, it can be stated that organizing the care system by providing coordination and integration, deciding on the financing method and creating a care insurance model that is suitable for Türkiye’s policy priorities can provide relief to the elderly and people who need LTC and their families and prevent care-related problems. In addition, protective and preventive interventions in primary care from an early stage will ensure long-term benefits by preventing poor health outcomes and the need for LTC. Moreover, all these results mean a long gradual reduction in health and care costs for both families and countries.

**Box ES.1. Background to the evidence brief for policy**

The present EBP mobilizes both global and local research evidence about a problem, devises three options for addressing it and evaluates key implementation considerations. Whenever possible, the EBP summarizes research evidence drawn from systematic reviews. A systematic review is a summary of studies addressing a clearly formulated question. It uses systematic and explicit methods to identify, select and appraise research studies and to synthesize data from the studies included. Single studies, grey literature (such as reports and guidelines) and relevant datasets were also considered.
The EBP does not contain recommendations. The three options discussed are intended only as possible ways of developing policy, supported by strong scientific evidence. They could either be pursued simultaneously or elements could be drawn from each option to create a new one. The three options were selected because together they address a large spectrum of causes of the problem. Nine steps were taken in preparing the EBP:

1. selecting a topic based on stakeholder discussions (MoH, WHO Regional Office and WHO Country Office in Türkiye, and Türkiye Institute of Health Policies (TÜSPE) of the Health Institutes of Türkiye (TÜSEB);
2. convening a working group comprising representatives from the clinical field, MoH, Bartin University, University of Health Sciences, Ankara University, and TÜSPE team;
3. conducting a workshop on the methodology of evidence-informed policy-making (for the working group);
4. developing and refining the terms of reference for the EBP, particularly the framing of the problem and the options for addressing it;
5. identifying key informants and the steering committee;
6. identifying, selecting, appraising and synthesizing relevant research evidence on the problem, options and implementation considerations (based on stakeholder meetings and discussions with the Ministry of Family and Social Services, MoH, WHO Regional Office for Europe, TÜSPE and academics);
7. interviewing key informants about local implementation considerations;
8. drafting the text to present, in concise and accessible language, the global and local research evidence; and
9. finalizing the EBP based on the input of several merit reviewers.

The EBP was prepared to inform a policy dialogue in which research evidence is one of many considerations. Participants’ views and experiences and their tacit knowledge of the issues at hand are also important inputs to the dialogue. One goal of the policy dialogue is to spark insights – insights that can arise only when all of those who will be involved in or affected by future decisions about the issue can work through it together. A second goal of the policy dialogue is to generate action by participants in the dialogue and those who review the dialogue summary.
THE PROBLEM

The demographic ageing process is picking up speed in Türkiye, with the population aged 65 years and above increasing by 24% in the past 5 years according to the Statistical Institute of Türkiye (TUIK) and expected to reach one quarter of the total population by 2080 (TUIK, 2022b). In Türkiye, the family structure is changing from large extended families to smaller nuclear households. More women now have careers and are in the labour market. These two driving factors have caused the total fertility rate to decrease sharply, resulting in a rapid demographic transition. This transition is expected to increase the proportion of older people rapidly in the near future (Formosa and Kutsal, 2019). In addition, there are 2.5 million disabled people (about 3% of the population) in Türkiye, of whom 780 000 (about 1% of the population) are severely disabled and need LTC according to the Ministry of Family and Social Services (MoFSS; previously the Ministry of Family and Social Policies) (MoFSS, 2022a).

As a country in the Southern European Welfare Model, informal family care is still widely adopted for LTC in Türkiye. Institutional care alone is not sufficient for providing LTC. The traditional Turkish family structure counts on unemployed women to care for older and/or severely disabled people in need; however, many women have now become more involved in a working life.

The population density living in rural areas in Türkiye has decreased over the years. However, 7% of Türkiye’s population still lives in rural areas and comprise mostly elderly individuals (TUIK, 2022c). The problems experienced by the population in rural areas in accessing services are an obstacle to the effective and efficient provision of LTC services throughout the country. Therefore, differences are observed between urban and rural areas in terms of LTC within the country.

The COVID-19 pandemic negatively affected individuals needing LTC. LTC services offered to these individuals were interrupted due to the restrictions imposed during the pandemic. This indicated that the integration of home care services into LTC was crucial.

Türkiye has been hosting a large number of refugees and asylum seekers for many years, which also makes LTC services crucial. Among the immigrants to Türkiye, there are older people and those who were injured in the Syrian civil war and, therefore, need LTC services.

In the context of sociodemographic and the global periodic and/or regional events mentioned above, the development of LTC services is essential to ensure that older and/or severely disabled people can remain healthy and active for as long as possible and that they can maintain a good quality of life and dignity even when functional decline sets in.
**Box 1. What is LTC?**

The concept of LTC encompasses activities undertaken by others to ensure that individuals who have suffered or are at risk of significant ongoing loss of individual capacity are able to maintain a level of functional ability coherent with their basic rights, fundamental freedoms and human dignity (WHO, 2017).

*Intrinsic capacity* and *functional ability* are two important concepts to understand the need for LTC services and support. Intrinsic capacity can be defined as “the process of developing and maintaining the functional ability that enables well-being in older age” (Beard et al., 2016). Based on this definition, intrinsic capacity can be said to describe all the individual-level characteristics that contribute to healthy ageing and, therefore, it can be seen as the combination of all the physical and cognitive capacities of an individual (Chen et al., 2022). Interactions between individual-level characteristics, namely intrinsic capacity, and environmental characteristics shape functional ability (Beard et al., 2021). Functional ability can broadly be seen as “an individual’s capacity to carry out the activities that he or she needs or wishes to carry out in a given environment” (Lehto et al., 2017) and includes health-related characteristics that enable people to be and do what they have reason to value (WHO, 2015). Meeting basic needs, being mobile and continuing to learn, maintaining relationships and contributing to society are among some basic domains of functional ability (Astrone et al., 2022). LTC services are expected to optimize intrinsic capacity and functional ability.

LTC includes a package of services aimed at preventing, mitigating and rehabilitating functional decline. It is delivered in a variety of settings, ranging from support in the user’s home to community-based, acute or residential care facilities. This covers aspects of health promotion, prevention, treatment, assistive care and social support, rehabilitation and palliation (WHO, 2021a). However, LTC typically includes the provision of care and assistance for dependent individuals in their daily tasks (including dressing, bathing, shopping, cooking and cleaning), support through social engagement and management of advanced chronic conditions through community nursing, rehabilitation and end-of-life care. These services are provided by both unpaid caregivers (usually the family but also volunteers) and paid care staff (WHO, 2020). LTC services, whether provided in public institutions or community facilities, are essential to the well-being of many older people and other individuals who face difficulties in performing daily activities. LTC enables many people with disabilities to maintain their independence and participate in family, community and economic activities (Kaye et al., 2010).

LTC services are classified into two groups according to service providers.
THE PROBLEM

Formal care is provided by a multidisciplinary team and consists of health-care professionals (physicians, physiotherapists, nurses, psychologists, social workers, dietitians, etc.) or untrained caregivers at both institutions (such as nursing homes) and at home. Formal caregivers are defined as employees with employment contracts (Ökem and Can, 2014). Informal caregivers are usually members of the family or community who provide support in the context of a personal/social relationship or a formal or an informal agreement with the family or the State. They are not professionally trained or have received only sporadic training in care work (WHO, 2022).

Ongoing research is examining the prevalence of dependency and the need for LTC in Türkiye. Since those who need LTC are mostly elderly individuals, these studies usually focus on the elderly. According to the results of these studies, the prevalence of dependency in older people varies (Güdük, 2022). The full dependency rate in instrumental activities of daily living such as cooking, shopping and housework was 1.6% in the study by Şafak et al. (2019). Furthermore, in this study, the dependency rate in activities of daily living such as eating, bathing, dressing, getting in and out of bed, or using the toilet was found to be 0.6%. Koç and Sağlam (2019) examined the dependency rate among older people. They found that 25.5% of older people were dependent for the activities of daily living and 8.0% for the instrumental activities of daily living. In the study by Güdük (2022), 23.98% of elderly people were found to need LTC. This study found the full dependency rate to be 0.25%.

In Türkiye, despite national and municipal efforts to make the necessary services available, many individuals who need assistance to maintain their functional ability are unable to receive the needed quality care without a significant burden on their families or finances. This number is expected to increase in the coming years due to population ageing, magnifying challenges for the health and LTC systems. They will have to meet the growing demand and ensure delivery of high-quality care services in an integrated and sustainable manner.

Türkiye faces a number of problems, such as a fragmented structure and lack of coordination in delivery of LTC services, barriers to accessing services, high costs and lack of insurance regulations, inadequacies in legal regulations, issues related to quality and efficiency, and inadequate use of technological tools in LTC services. These problems interrupt the integrated continuum of LTC services, which means seamless integration of both health and social systems, from governance to information systems and care delivery (WHO, 2021b). Therefore, removing barriers to access to LTC services and providing an integrated continuum of LTC services are the priority goal of the current strategic plans of WHO and the MoH. There is a need to create a holistic policy and act to eliminate the aforementioned problems related to
LTC services in Türkiye and meet the demands of older people and other population groups in need of LTC services.

With the prolongation of life expectancy at birth, there has been an increase in both the older population and people with severe disabilities who cannot carry out their daily activities of living on their own. There has been a consequent increase in chronic diseases, and a series of difficulties that have become more acute with the devastating effects of the COVID-19 pandemic. These have placed LTC services at the centre of health and social services, bringing the integration of these services to the agenda.

The policy-making process regarding LTC is challenging and complex. LTC includes different components such as health, social care, housing and transportation, and none of these components is sufficient on its own. The management of different components by different institutions further complicates the process (MoFSS, 2018).

LTC services in Türkiye face various problems. There are problems related to the delivery of LTC services. The presence of formal and informal service providers and the lack of coordination between these actors reveal a fragmented service delivery structure. This situation negatively affects the quality and accessibility of LTC services. In addition, it is seen that there are deficiencies in the legal procedures related to the regulation of LTC services. Inadequate legal regulations and lack of legislative integrity also affect service delivery processes and are important problems. From the point of view of those who use the services, the number of people who need LTC services and the kind of services that these people need are not known exactly. Only the number of applicants for these services is known. Those who do not apply or do not have access to the service cannot be reached. One of the important obstacles to people’s access to LTC services is the high cost of services, which are unaffordable for many. Since there is no inclusive and sustainable insurance arrangement for LTC services, many people have problems in accessing services. Another problematic area is the insufficient use of technological tools in LTC services. The insufficient use of technology, especially in the services provided by the public sector, prevents the efficient provision of services. In summary, in the context of LTC services in Türkiye, in addition to problems related to service providers and service beneficiaries, coordination/integration of services, insufficient financing, inadequacies in legal regulations, inadequate use of technological opportunities are other factors that prevent the delivery of LTC services at the desired level.

In Türkiye, policies to solve LTC-related problems are insufficient for responding to the LTC needs of the people; both institutional and public care can be stated to be limited and inadequate, so informal family care is the most effective strategy. The Turkish welfare regime, which has the typical characteristics of the Mediterranean family-based care model, has its own peculiarities stemming from the neoliberal and neoconservative policy framework (Terkoğlu and Memiş, 2022).
How did the problem come to our attention?

The problem attracted the attention of policy-makers as it was in line with the objective of “providing easier access to appropriate health services for individuals with special needs due to their physical and mental conditions”. This is an objective in the strategic plan of the MoH covering the period 2019–2023 (MoH, 2022). In addition, to provide easier access to appropriate health services and to better respond to the needs of people with special requirements due to their physical, mental, social or economic conditions, the MoH has prepared the Healthy Aging Action Plan and Implementation Programme 2015–2020. This aims to provide accessible, appropriate, effective and efficient health services to individuals and the society. The Programme aims to implement the targets and strategies of Türkiye in parallel with the European Healthy Ageing Strategy and Action Plan (2012–2020) and Health 2020 targets, similar to those of the WHO European Region, to develop the health system response in accordance with the increase in the older population of Türkiye (MoH, 2022). Moreover, there are some objectives and targets for LTC in the Strategic Plan 2019–2023 of the MoFSS, as follows: (i) development and dissemination of special accommodation and care services for women, children and disabled and elderly people; (ii) taking measures to facilitate access to public services for people with special needs due to their physical, mental, social or economic conditions; and (iii) dissemination of family-oriented care services. The 11th Development Plan 2019–2023 prepared by the Presidency of Strategy and Budget, is an important document in the policy agenda. It also sets goals and targets for expanding community-based care services, especially home health services, geriatric and palliative care services for older adults and services for disabled people and other vulnerable groups (Presidency of Strategy and Budget, 2019).

The COVID-19 pandemic has adversely affected individuals, especially those who are old and in need of LTC. It is known that older adults are susceptible to infection by SARS-CoV-2, which causes COVID-19, have more severe disease, and the incidence and mortality rate increases over 65 years of age. Therefore, management of LTC services for older people is essential, particularly during COVID-19. Early diagnosis and minimizing the problems they experience can help to prevent complications and hospitalizations (Ekici, 2020).

Users and their families face some serious problems while utilizing LTC services. The LTC services they receive may be interrupted at times, particularly because of financial problems, and this negatively affects the sustainability of LTC services. Individuals in the low-income group may participate in some conditional cash transfer and/or disability and elderly social transfer programmes for their relatives in need of LTC, but these funds are insufficient for individuals with a low income. Those in the high-income group, however, can purchase care from caregiver companies for their relatives who need LTC. An increasing number of
companies provide formal care for people who need LTC and the sector has grown day by day. As a result, informal caregiver companies for LTC have also started to emerge.

Considering the scope of LTC-related problems in Türkiye, the above-mentioned strategic objectives for LTC and the result of deliberations between the WHO Evidence-informed Policy Network for Europe (EVIPNet Europe), WHO Country Office in Türkiye, the relevant technical unit of the WHO Regional Office for Europe, the MoH of the Republic of Türkiye, and the TÜSPE began to prepare a report containing possible policy options to address the problem.

**Extent of the problem**

Global demand for integrated LTC systems is already high and increasing due to population ageing, changing family dynamics, projected shortages of formal/professional and informal/non-professional carers (spouses, family members, friends, etc.) and rising expectations of the availability, affordability and quality of LTC services (Hashiguchi and Llena-Nozal, 2020).

As in the rest of the world, the proportion of the population who are elderly in Türkiye has increased and will increase the need for LTC services. In light of this rapid ageing of the population and the ongoing process of demographic transition, LTC services, including both health and social services as a whole, have vital importance for Türkiye. The incidence of chronic diseases is also expected to increase along with the increase in proportion of the elderly population. These chronic conditions require lifelong treatment and care and can lead to a decline in both intrinsic capacity and functional ability.

Individuals who experience limitations in performing such basic activities independently rely on others for support to maintain their health, quality of life and dignity. However, evidence shows that the need for care is often unmet for older individuals in developing countries due to a low literacy rate, poverty, insufficient family and social support, and lack of social service infrastructure (Karahan and Güven, 2002).

Depending on a person’s needs, LTC is offered in various locations by various types of caregiver. The majority of LTC is provided by unpaid family members and friends at home. It can also be administered at an institution, such as a nursing home, or in the community, such as an adult day-care centre (National Institute on Aging, 2022). Service models of LTC are shown in Table 1 (McCall, 2001; National Institute on Aging, 2022; TÜSEB, 2021).
The MoFSS, MoH, municipalities, private sector and nongovernmental organizations (NGOs) take part in the provision and financing of LTC services in Türkiye (Table 2). There are community-based LTC services under the MoFSS, MoH and municipalities; LTC institutions such as “Yaşam Evleri” for older people and “Umut Evleri” for disabled people in Türkiye (Ökem and Can, 2014). Although various attempts have been made, there is no hospice centre or practice within community-based or institutional LTC in Türkiye yet (TÜSEB, 2021). Despite the changes in family dynamics in Türkiye, caring for older people by family caregivers is still a legal obligation and internalized as a way of showing respect, love and compassion. Family members try to be role models for their children to maintain this understanding and social norm. Although spouses and children are heavily burdened with providing care for older adults in the family, leaving them in an LTC institute is not a welcome practice. The lack of professional assistance, as well as the traditional cultural structure, makes the care of older people extremely challenging in Türkiye (Gok Metin et al., 2019). Middle-income and high-income families who do not meet the public care criteria (low income) and cannot afford private residential care services, prefer migrant caregivers – mostly women – from countries

### Table 1. Service models for LTC

<table>
<thead>
<tr>
<th>Community-based care</th>
<th>Institutional care</th>
<th>Informal care</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Home care</td>
<td>• Nursing home</td>
<td>• In-home care and support by family members, friends and not formally reported Turkish or migrant caregivers</td>
</tr>
<tr>
<td>• Home health-care services</td>
<td>• Palliative care</td>
<td></td>
</tr>
<tr>
<td>• Adult day-care centres</td>
<td>• Supportive housing</td>
<td></td>
</tr>
<tr>
<td>• Home-type social service units</td>
<td>• Hospice centres</td>
<td></td>
</tr>
<tr>
<td>• Hospice practices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: McCall (2001); National Institute on Aging (2022); TÜSEB (2021:322)
LTC services provided by the MoH in Türkiye, home health-care services and palliative care services of public hospitals are covered by the Social Security Institution (SSI) within the scope of general health insurance. Some of the expenses incurred in private sector home care companies are invoiced to the SSI, but they are mainly financed by private insurance, out-of-pocket (OOP) payments or complementary health insurance. While the LTC services provided by the MoFSS are largely covered by the public budget, a small portion is provided through OOP payments. The services provided by the municipalities are covered from the public budget, while the services provided by NGOs require OOP payments and donations (TÜSEB, 2021). In Türkiye, the current tax-financed system for care consists of social benefits only and does not cover people whose income is above the poverty line but is not sufficient to cover social care service costs. The share of social protection benefits in the gross domestic product in 2020 was 13.0%, and 3.4% of this share (almost 171 billion Turkish lira) was disease/health-care expenditure (TUIK, 2021a).

As shown in Table 3, 59,411 people benefit from 1010 LTC centres with a capacity for 76,478 people in Türkiye. In-home care social support is provided to 535,700 elderly and disabled people.
### Table 3. LTC capacity and number of service recipients (for elderly and/or disabled people) in Türkiye

<table>
<thead>
<tr>
<th>Institutional care</th>
<th>Number of providers</th>
<th>Capacity (individuals)</th>
<th>Number of service recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoFSS nursing home</td>
<td>164</td>
<td>17 032</td>
<td>12 623</td>
</tr>
<tr>
<td>Nursing homes owned by other public institutions</td>
<td>21</td>
<td>2 957</td>
<td>1 720</td>
</tr>
<tr>
<td>Private nursing home</td>
<td>267</td>
<td>17 544</td>
<td>11 465</td>
</tr>
<tr>
<td>MoFSS daily living centre (for the elderly)</td>
<td>32</td>
<td>532</td>
<td>382</td>
</tr>
<tr>
<td>MoFSS care and rehabilitation centre (for disabled people)</td>
<td>104</td>
<td>8 274</td>
<td>7 211</td>
</tr>
<tr>
<td>Private care and rehabilitation centre (for disabled people)</td>
<td>293</td>
<td>29 208</td>
<td>25 079</td>
</tr>
<tr>
<td>MoFSS daily living centre (for disabled people)</td>
<td>129</td>
<td>931</td>
<td>931</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1 010</strong></td>
<td><strong>76 478</strong></td>
<td><strong>59 411</strong></td>
</tr>
<tr>
<td>In-home care social aid (for elderly and disabled people)</td>
<td></td>
<td></td>
<td>535 700</td>
</tr>
</tbody>
</table>

*Source: MoFSS (2021)*

Aside from institutional care facilities, the State has been establishing community-based care facilities. These are Ministry-run residences with allocated staff in which two to five elderly people share a flat. There are only a few flats (129) with low-capacity utilization (122 people living in them). There are also public and private care and rehabilitation centres, day-care centres and a small number of community-based care centres (the house model) for individuals with disabilities. The State uses a public–private partnership approach in which the State pays the centres a monthly sum equivalent to double the minimum wage per care user person. A modest number of day-care centres have been developed as part of nursing homes, which are available in 30 institutions and serve 301 elderly people (Akkan and Canbazer, 2020).

### Consequences of the problem

LTC services, whether provided in public institutions or community facilities, are essential to the well-being of many individuals who face difficulties in performing activities of daily living.
Without LTC, the independence of many people with disabilities and their participation in family, community and economic activities will be challenged (Kaye et al., 2010).

Türkiye’s inability to have an integrated LTC system together with the increase in the ageing population and attendant disease burden brings with it some consequences. It is seen that many actors (MoFSS, MoH, foundations, NGOs and municipalities) are authorized to deliver LTC services. The absence of an organization that provides coordination between these actors brings with it the duplication of services. In addition to the home health services provided by the MoH, the presence of home health services provided by local governments and the lack of coordination between these two actors may not be a disadvantage for those who use the service, but it creates an obstacle for the sustainability and effective and efficient use of resources for service providers.

**Unmet need and poor coordination and integration of care**

Coordination of institutions and integration of care are vital components of an ideal LTC system, and Türkiye has trouble in this regard. The inadequacy of both the coordination of institutions and the integration of care may result in unmet needs. A study by Özmete and Hussein (2017) investigated the problems faced by individuals aged 65 years and above who need LTC while receiving health services and their unmet needs. This study showed that elderly people who need LTC required the support of others to access a doctor, a health institution or a hospital; it also indicated that they required the care and support of others for the regular intake of their drugs with increasing age. The study found that the most challenging problems faced by elderly people regarding the health-care delivery system in Türkiye included crowded hospitals, difficulty in walking, unavailability of wheelchairs and inadequate assistance from support staff. To solve these problems, it is necessary to increase coordination between institutions and expand integrated health services.

LTC is also required when individuals experience a decline in intrinsic capacity due to disability and/or chronic disease, often from the onset of such conditions through the rest of their lives (de Meijer et al., 2011). The inability to self-care tends to increase over time among those with any kind of disability and is associated with a lower self-rated quality of life, readmission to hospital, higher health-care utilization and all-cause mortality (Lane et al., 2017).

If LTC services are not provided to people with traumatic and degenerative neurological disorders, it negatively affects their survival and life expectancy rates. Providing only treatment or only social care services negatively affects the well-being and quality of life of the person. In addition, rehabilitation services should be provided along with treatment/care. Unmet treatment/care and rehabilitation services cause negative consequences for the health and socioeconomic status (SES) of elderly and disabled people and other patients.

However, people with disabilities still face barriers to accessing the services they need because they have more serious health problems. In a study conducted in this context, participants
reported that the physical care services they needed were generally inadequate, costly or inconvenient. A continuous provision of integrated rehabilitation services is necessary to minimize preventable impairments, optimize independence and functioning, and maintain the quality of life (Foster et al., 2015).

In a study conducted in Denmark on the rehabilitation needs of patients with cancer that were not met within 14 months from the date of diagnosis, one third of the participants reported that they needed physical rehabilitation, and another third stated that they needed psychological rehabilitation (Holm et al., 2012). In another study conducted in Sweden on the consequences of unmet care needs post stroke, one out of every five patients reported that they could not get the care services they needed for a year. It has been stated that this situation is related to old age, poor functional outcome, pain and depression (Ullberg et al., 2016).

The familial welfare system and high reliance on informal care puts a pressure on families. One study that focused on caregiver burden from the perspective of Turkish family caregivers said that greater frailty is associated with a heavier burden on the family caregiver (Gok Metin et al., 2019). This has productivity implications for the economy as caregivers are (partially) withdrawn from the labour market.

Financial burden

The increasing demand for health services and LTC and the financial vulnerability of elderly people might create a significant financial burden for them if related costs are not covered by social protection systems. In particular, OOP expenditure occurring on account of deficits in financial protection might have severe impacts given its regressive nature, and thus increase inequities between the rich and the poor. Such deficits in the financial protection of the elderly might be aggravated by a lack of services due to constraints in the trained workforce and require that services by unskilled personnel be paid privately (Scheil-Adlung, 2012). In addition, unmet rehabilitation needs result in financial problems (Holm et al., 2012). Financing of LTC relies heavily on collective prepayment and OOP arrangements, with funding shifting increasingly onto service users and families (Schulmann et al., 2019).

In Türkiye, LTC services are largely financed through social support/assistance systems and, therefore, pose a risk of impoverishment for those outside the income criteria, while also creating barriers to rights-based access to services. (Income is calculated by considering the income, wealth and expenditure of all individuals living in the household and alimony obligation. According to this calculation, per capita income must be less than two third of the minimum wage.) This situation is not peculiar to Turkiye, as many countries in the WHO European Region and those that are part of the Organisation for Economic Co-operation and Development (OECD) face the challenge of ensuring adequate financial protection for elderly people and improving the affordability of LTC services, especially for individuals with moderate or severe care needs. For this reason, it is a prevailing opinion that an LTCI system
should be established to provide services in accordance with the quality and standards of care in a manner worthy of human dignity.

Globally, most countries face strong and increasing financial pressures on their health and LTC systems due to already high public spending and debt, demographic pressure and technological advances. Therefore, more policy action will be needed to maintain the contribution of health and LTC systems to ensure fiscal sustainability, improve population health and ensure utilization of the full potential of people living with disability. The need to make health and LTC systems financially sustainable by increasing their efficiency and effectiveness must continue, along with access to quality services (European Commission, 2019).

### Factors causing LTC problems in Türkiye

There are several factors linked to the fragmentation and inaccessibility of LTC services in Türkiye. A comprehensive report recently published by TÜSEB states that the main problems regarding LTC services in Türkiye stem from the lack of legislation, human resources, financing and coordination between institutions. By comparison, it has been emphasized that community-based LTC services are viable as family relations are strong, municipalities are very experienced and successful in providing support services, health and social service institutions are well organized throughout the country and universal health coverage for medical services is comprehensive and widespread (TÜSEB, 2021). Similarly, according to a recent WHO report, although there are constraints such as fragmented governance, low public finances and labour shortage in LTC, there are facilitating factors such as continuing education programmes at various levels, and availability of strong information technology platforms among service providers in Türkiye (WHO, 2021b).

These factors can be grouped into five categories of issues related to service providers, regulations, service users, financing and insufficient use of technology.

### Factors related to service providers

Problems related to the delivery of LTC services in Türkiye can be grouped under two main headings as (i) lack of coordination in the delivery of the services and need for an integrated care model, and (ii) issues relating to informal caregivers.

#### Lack of coordination in the delivery of the services and need for an integrated care model

The LTC system is fragmented in terms of the provision of home-based care, which is provided by the MoH, MoFSS, some foundations and NGOs, and municipalities in Türkiye. Home-based health care is provided by public and private hospitals. Home-based care is an emerging sector where small- and large-scale private entities (some own nursing homes) also provide
home-based care services. The municipalities also provide home-based social as well as health-care services for those aged 65+ years. These services can be used by the sick, elderly adults and disabled people who live within the borders of the relevant municipality, have applied for the service or have been notified, are socioeconomically weak and deprived, and cannot carry on their daily activities of living alone. However, administrative data that demonstrate the capacity of the municipal care services for older people are not publicly available.

**Residential care** for LTC comprises public nursing homes for people aged 60 years and above and private nursing homes for people aged 55 years or above who could look after themselves, care and rehabilitation centres for older and disabled people who need LTC, daycare centres and home-based care services (health and social care) run by the municipalities, NGOs and private entities. In 2008 private entities were allowed to open nursing homes; since then, this has been a rapidly growing social sector. Today, private nursing homes have outnumbered public homes (Akkan and Canbazer, 2020).

**Palliative care** is in its early stages of development. In 2010, the Palya-Turk Project was initiated by the MoH, and since then palliative care centres have been established in public and private hospitals. Generally, provision of palliative care is not integrated with social care facilities (Akkan and Canbazer, 2020).

More than one public service provider is authorized to provide care services in Türkiye, and it is important to note that there is no organization that ensures coordination between public service providers. In addition, the concepts used by public service providers for LTC services are different, and this is also seen in various legal regulations. For example, when the MoH provides more comprehensive services with the concept of “health at home”, the MoFSS provides services with the concept of “care at home” and municipalities use the concept of “health and care at home”. Although each authority has its own law, sometimes their tasks can overlap.

Fragmentation in the provision of health and care services observed among public service providers in our country is found in almost every country. While health-related issues are generally handled within the framework of a national health system or national social security system, social care-related issues are often addressed within the framework of social welfare systems implemented by regional and local governments. Therefore, access to health and social services is defined by different processes in many countries. This situation creates an obstacle to the integration of services (Tarricone and Tsouros, 2008). This fragmentation of care overburdens health institutions, reduces the accessibility and affordability of community-based social care and triggers the development of a so-called grey market to fill service capacity gaps in residential and community-based care (WHO, 2022).

Reform and investment in LTC have become even more pressing in the aftermath of the COVID-19 pandemic, which has revealed fragmentation, wide capacity gaps, deep inequalities
and structural vulnerabilities in care systems. Rebuilding for quality, effectiveness and sustainability requires an integrative approach to LTC service provision, focused on improving coordination across sectoral boundaries and governance levels and between formal and informal caregivers (WHO, 2022).

Conceptually, instead of integrated care, many similar concepts such as care coordination, collaborative care or comprehensive care are used and these concepts overlap up to a point. However, there is no uniform definition of integrated care (Zonneveld et al., 2018). Integrated care can mean different things in different areas. A common feature of integrated care is that it seeks to improve the quality of care for patients, service users and caregivers by ensuring that services are well coordinated according to needs. In addition, it is stated that because country systems differ, no single organizational model can be applied universally to integrate care (Goodwin et al., 2014).

Although Türkiye does not have a completely integrated LTC model, it does have extensive experience in the delivery of integrated care services. In 2015 the “Protocol on Cooperation of Home Health, Care, and Social Support Services” was signed. The Protocol’s goal is to facilitate data-sharing among relevant public institutions and organizations, to provide home health, care and social support, as well as other similar public services, with holistic understanding and cooperation, and to avoid duplication by increasing service efficiency. The Protocol, however, has not yet been widely distributed throughout the country (MoFSS, 2018). One of the important developments regarding integrated care services is the Disease Management Platform developed within the MoH. Via this platform, family physicians carry out screening and follow-up procedures of individuals with chronic diseases and, if necessary, can direct them to psychologists and social workers for psychosocial evaluation.

The fragmented structure of LTC services in Türkiye is also visible in the quality monitoring and evaluation system. On the one hand, the MoH started studies in 2016 with the aim of improving and increasing the quality of health services carried out in the field of home health services and prepared a “Quality Standards Set in Home Health”, consisting of 120 standards and 239 evaluation criteria. On the other hand, the MoFSS issued a directive on the “Development and Evaluation of Quality in Care Services for the Disabled and Older Adults” in 2018. Despite these individual initiatives regarding quality, there is no holistic quality system in Türkiye that monitors, evaluates and exchanges information on all LTC services and patient outcomes. This situation also causes accountability and transparency problems.

At the beginning of the 2000s Türkiye increased the breadth and depth of health services with reforms carried out in the field of health and social security. At the same time, it implemented the general health insurance system, which aims to provide equitable, easily accessible and quality health services to the entire population. In addition, the General Directorate of Services for Persons with Disabilities and Older Adults, affiliated to the MoFSS, was established by combining the units responsible for the execution of services in the fields
The problem of disabled and elderly people in different institutions, and thus separate and scattered services were brought together.

In the light of all these positive developments, it is clear that the LTC system in Türkiye is constantly developing and will continue to change, expand and modernize in the future. For this reason, as well as the need to provide continuity of care for disabled and elderly people with special needs, ensuring the integration of care in Türkiye seems to be a key objective to be reached.

**Issues relating to informal caregivers**

Türkiye has a family welfare system in which the family is the primary caregiver for older people. According to the Turkish Civil Code, family members have intergenerational obligations to look after their dependents (Akkan and Canbazer, 2020). Thus, care for older people and LTC is primarily provided informally by the family and the community. While the cultural and policy developments in the region firmly situate care provision within the family sphere, sociodemographic dynamics – such as changes in family structure, migration and rate of women’s formal employment, among others – pose the unavoidable reality of inconsistent availability of such care. However, there are limited data or formal records that account for informal and undocumented work arrangements and other dynamics, such as internal and international migration, in shaping the availability of the informal/family LTC network (Ismail and Hussein, 2021). It is particularly important for the Turkish system, which so heavily relies on family caregivers, to collect better data about who they are and what the effects of caregiving are on their health and economic prospects.

In Türkiye, as a sign of respect for the elderly, all responsibility is taken and the elderly are left to be guided by their adult children, which causes an overlooked problem. Elderly people guided by their adult children do not have independence and autonomy and, as a result of this, they cannot make choices among the options available, participate in decision-making processes and strengthen their self-care behaviours.

The other problems relating to informal caregivers are the use of refugee and migrant caregivers. Türkiye is a destination country for Syrian, Turkic and Balkan countries. Some migrants work as residential baby-sitters and informal care workers. The main issue with migrant caregivers is that there is no information on their numbers and characteristics, such as gender, education and qualification, and the full scope and breadth of this issue are not understood. The number of migrant care workers in LTC services is increasing day by day not only in Türkiye but also in the Region. Consequently, the official LTC sector needs to pay special attention to their impact on quality assurance and professional standards in the long term. Austria was one of the first countries in the Region to enact real legislative measures to govern this sector. LTC is typically provided by middle-aged women. Control systems have been established, including reform initiatives, incentives and concrete subsidies for all parties. It demonstrates that, despite efforts to “legalize” it, care provided by immigrants remains a grey area within modern labour market legislation and quality management. This is due to the
nature of care, the low professional status associated with care work and the unwillingness of political stakeholders to regulate private household activities (Schmidt et al., 2016).

In Türkiye, as in most countries in the Region, the majority of LTC is provided by informal caregivers who face their own challenges and need support. Informal carers struggle to balance caring with paid work (especially women who provide intense care) and face the negative impacts of caring on their income, future pension, health and well-being. Most informal carers of working age combine their caring responsibility with paid work. However, their employment rate decreases with the intensity of care provided, and many informal carers who are employed work part time. The LTC workforce, both formal and informal, has a strong gender dimension, as most carers are women. They are exposed to difficult working conditions and often low pay in formal care, while informal caregiving makes their full participation in the labour market difficult, which contributes to gender gaps in pay and pension. Informal care can have a negative impact on the health of carers. Data comparing the health status of informal carers with the general population point to a slightly less favourable situation for this group (European Commission, 2021).

Public policies face difficulties in reconciling care and labour market participation, as most care services are provided by informal caregivers, often in families of women and/or older workers (Marin et al., 2009). However, these informal caregivers are not integrated in the formal LTC delivery system. Furthermore, there is a lack of coordination between formal and informal caregivers.

Factors relating to regulations

There is no comprehensive and specific regulatory framework for LTC services in Türkiye. However, LTC services, in terms of home-based care, nursing homes and social support, are covered by other legislative acts. While the concept of home care was used in the legal regulation\(^1\) on home care services issued by the MoH, the concept of home health was used in the later regulation.\(^2\) On the part of the MoFSS, the concept of care comes to the fore in the legal regulation\(^3\) based on the provision of care services.

The situation is slightly different in local governments, and there are legal regulations that combine health and social services. In the Metropolitan Municipality Law (law number 5216\(^4\)), there are regulations covering health and social services, from establishing health facilities to opening centres for disabled people to providing social assistance to low-income people, orphans and the needy. In municipalities outside the metropolitan area, there are some

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1 Date: 10 March 2005 – Number: 25751 (Official Gazette, 2005)
2 Date: 27 February 2015 – Number: 29280 (Official Gazette, 2015)
3 Date: 30 July 2006 – Number: 26244 (Official Gazette, 2006)
4 Date: 23 July 2004 – Number: 25531 (Official Gazette, 2004)
regulations regarding health and social services for elderly and disabled people, according
to the Municipal Law (law number 5393\(^5\)).

The main legislative acts relevant to the operation of LTC services are as follows (Özmete
and Hussein, 2017):

**Regulation on the Delivery of Home Health-care Services.** Establishes procedures,
service standards, pricing and conditions of operation for home health-care services
provided by the MoH.

**Regulation of Nursing Homes, Care Homes and Rehabilitation Centres.** Establishes
eligibility criteria for care and nursing homes, the mix of services provided and the
responsibilities of the different personnel that comprise the workforce rendering
services.

**Regulation Determining the Foundation and Operation Principles of Public Nursing
Homes.** Establishes operation and monitoring standards for publicly operated nursing
homes.

**Regulation of Private Nursing Homes and Care Home Centres.** Establishes procedures,
service standards, pricing and conditions of operation for privately operated residential
care facilities.

**Regulation on the Payment of Allowance to Older Adults Residing in Social Service
Institutions.** Establishes entitlements of daily allowances for low-income older people
who benefit from free-of-charge nursing home care.

Another legal regulation that has an important place in care services for disabled and elderly
individuals is the Social Services Law number 2828.\(^6\) Within the scope of this law, home
care of disabled individuals in need of care is supported, and institutional care services
are provided for older and disabled individuals. The problem related to these regulations
is that there is no integrated and holistic approach. However, several communication and
coordination protocols have been proposed or implemented across the health and social
care sectors and across governance levels to address fragmentation in service delivery.
Noteworthy is the 2013 MoH Programme for Promoting Multisectoral Health Responsibility.
This Programme aims to “mobilize parties through a multisectoral health responsibility
approach and enhance and improve the level of public health in the spirit of cooperation”.
Further, in recognition of the fragmentation issues affecting the system, a protocol has been
prepared on care integration among home health care and social support services (Özmete
and Hussein, 2017). However, this protocol has still not been widely distributed throughout
the country (MoFSS, 2018).

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\(^5\)*Date: 13 July 2005 – Number: 25874 (Official Gazette, 2005)*

\(^6\)*Date: 27 May 1983 – Number: 18059 (Official Gazette, 1983)*
Factors relating to service users and the target group

According to 2021 statistics, the Turkish population is 84,680,273 and total fertility rate is 1.7. Although Türkiye’s population is relatively young, ageing is already a major concern as the population over the age of 65 years accounts for 9.7% of the total population. Life expectancy at birth is 75.6 years for men and 81.2 years for women in Türkiye (TUIK, 2022a). However, there is no information on the population that needs LTC at home or in an institution.

There is a need for detailed information on the characteristics and types of care demands of the target group. It is essential to improve the collection of data on care needs in the population and data infrastructure on LTC to be able to properly plan workforce and service provision and forecast future needs.

Factors related to financing

There is a lack of a specific financial model for LTC services, schemes or the insurance system in Türkiye. Current support mechanisms stem from a social protection model that is usually means-tested or associated with pension schemes for formally employed individuals. More generally, Türkiye does not have a comprehensive LTC programme. Hence, the responsibilities for and provision of LTC are fragmented and distributed across different governmental departments (Ismail and Hussein, 2021).

To support family-based and home-based care, there are cash-for-care schemes and social security premium incentives for employers of domestic care workers. Cash for care is a means-tested cash transfer paid to the care provider who is usually a family member living in the same household and provides round-the-clock care seven days a week. To be eligible, a person must provide a medical report demonstrating a diagnosis of at least 50% disability. The care provider receives a monthly cash transfer approximately equivalent to the net minimum wage. Since 2007, the cash-for-care scheme has been the government’s main tool for supporting families with members who require care. The number of people with LTC needs who benefit from the cash-for-care scheme was 523,068 as of February 2020; 32% of the beneficiaries of the cash-for-care scheme are caring for elderly people. Social security premium incentives aimed at employers also cover the employers of domestic care workers within the scope of the Law of Unemployment Insurance. Social security premiums of domestic care workers could be funded by the SSI for up to two years, if certain conditions are met (Akkan and Canbazer, 2020).

In Türkiye, LTC and care services for older people are provided within the scope of social welfare allowances. The MoFSS has proposed a “Care Insurance Model for Türkiye”, which will also include those who cannot afford to pay. However, it has not been implemented yet (TUSEB, 2021). In the current reimbursement system, care services other than health services are not covered.
Insufficient use of technology

Technology has proven to be extremely critical to health care. Current and future developments in health technologies for the home and elderly people are designed not only for effective disease control but also to encourage and enable individuals to live independently.

The potential impact of the global COVID-19 pandemic is thought to have had devastating implications for elderly adults and chronically ill individuals at high risk of developing COVID-19. Technological applications offer a wide range of opportunities to mitigate risks such as social isolation caused by the pandemic and not being able to access the needed health-care services.

Technological interventions were complex and expensive in the past. However, the growing need and demand for convenient and effective remote patient monitoring, development of new and innovative technologies, and availability of adequate funds has led to increased accessibility to low-cost technologies and devices. New and affordable household gadgets are not only popular with older people who want to age at home but also with new patient groups, such as those suffering from chronic diseases, children and those with diabetes, thus expanding its client base rapidly. This will pave the way for a brighter future for both patients and health-care providers.

The Internet-of-Things (IoT) has received a lot of attention in recent years from researchers, entrepreneurs and IoT titans all around the world. IoT is a new technology that connects a wide range of everyday objects and systems, including sensors, actuators, appliances, computers and cellular phones to form a highly distributed intelligent system capable of communicating with other devices and humans (Atzori et al., 2010; Bassi and Horn, 2008; ITU, 2005). The remarkable developments in computing and communication technology, along with modern low-power, low-cost sensors, actuators and electrical components, have opened up a world of possibilities for IoT applications. A smart house with integrated e-health and assisted living technology is an example of an IoT application in gerontechnology that has the potential to revolutionize the health-care system for elderly people (Majumder et al., 2017).

In parallel with the developments in the world, digital literacy in Türkiye has become one of the issues that has been emphasized in recent years. According to the results of the TUIK Household Information Technologies Usage Research (2021b), computer usage in Türkiye is 97%, Internet access is 94.9%, and website ownership is 53.7%. Considering the results of this research, the rates of over 90%, especially in computer use and Internet access, show that Türkiye has taken a significant step in terms of integration into the digital age (Halil et al., 2021).
However, technology use among the elderly and for LTC is very limited in Türkiye. An important barrier is limited digital literacy among informal caregivers and formal care workers. Some health technology products such as wearable sensors, smart devices, remote alert systems are provided by a few private organizations. Since the public sector does not provide or finance these services, access to technological products and applications is limited and creates a financial burden for patients. There is no comprehensive regulation on technology use in LTC and home care, although the MoH has published a regulation on 10 February 2022. This regulates the procedures and principles for granting permission to health facilities that will provide remote health services, the development and registration of a remote health information system and supervision of health facilities within the scope of this regulation.7

**Equity-related considerations**

The term equity in health care is based on three principles – equal access to available care for equal need; equal utilization for equal need; and equal quality of care for all. Equal access to available care for equal need means equal rights to the available services for all. It is not only a fair distribution of health-care resources across the country but also aims to diminish the effect of financial, organizational and cultural barriers in health systems (Whitehead, 1992).

According to a series of international declarations approved by the United Nations General Assembly in the Madrid International Plan of Action on Ageing 2002; the *Human rights of older persons* report dated 2011 determined that there are deficiencies in discrimination, poverty, violence and abuse, services and special precautions. While applying international norms and standards to the rights of older people international political and binding instruments should be considered. The United Nations’ International Norms and Standards on the Rights of Older Persons (Rights of Older Adults) mentions social inclusion, protection from violence and abuse, prevention of financial exploitation, health, access to LTC and home care services, social security and social protection (United Nations, 2011).

With the growing number of those 65 years and above, the literature on the policy of LTC organization has remarkably expanded (Floridi et al., 2021). The focus of these studies has mostly been on the increasing population of older people and the related costs associated with them, such as the social and economic costs of care, employment in the care sector, commodification of care and burden of care. On the contrary, the issue of equality in access to LTC, whether the use of LTC is equitable across the country and how equality differs between countries have not been analysed sufficiently in the literature (Ilinca et al., 2017). The evidence on the association between SES and care use is not conclusive. Some researchers argue that older adults from lower SES groups are more likely to receive informal (Broese van Groenou et al., 2006; Vlachantoni et al., 2015) or formal support (Rodríguez, 2014). Another group of

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7 Date: 10 February 2010 – Number: 31746 (Official Gazette, 2010)
researchers found that older adults from higher SES groups have a higher rate of use of both informal (Bakx et al., 2015) and formal care (Albertini and Pavolini, 2017). Other studies have emphasized that socioeconomic inequalities in care use vary across different LTC systems (Albertini and Pavolini, 2017). In the case of Türkiye, a significant body of literature on the LTC system is mainly about provision, funding mechanisms, utilization, characteristics and challenges of the system (Adaman et al., 2018; Akkan, 2018; Buğra and Candaş, 2011; Buğra, 2012; 2020; Değirmenci, 2022; Gök Metin et al., 2019; Ismail and Hussein, 2021; Oğlak, 2017; Özmete and Hussein, 2017; Yardım and Üner, 2018). The case studies have presented the experiences of certain groups from within the system in certain regions, rather than providing a general perspective (Akkan and Canbazér, 2020; Hussein and Oğlak, 2014; Rençber and Terzi, 2021). There is a gap in this literature in terms of studies focusing on issues related to equity. More studies on Türkiye’s LTC system should be conducted, based on three points – equal access to available care for equal need; equal utilization for equal need; and equal quality of care for all.

**Socioeconomic gradients in LTC services**

The socioeconomic differences in the use of LTC services among those 65 years and above stem from differences in individual needs, and predisposing and enabling factors. Individual needs refer to physical and cognitive health status (Ilinca et al., 2017), and predisposing factors mean gender and age differences, which may vary according to SES (Broese van Groenou et al., 2006). Enabling factors consist of the social, material and financial resources of an individual. While the social factor involves education, ability, family structure and social network, material factors refer to ownership of material resources like a home or a car (Vlachantoni et al., 2015). Financial resources relate to the ability to purchase formal care on the market, which means having wealth and a regular income (Floridi et al., 2021; Rodrigues et al., 2018).

Ongoing case studies and comparative analyses on which people mostly apply to LTC systems and the SES of older adults who are already users of this system have reached conflicting results. Generally, older people with a lower SES have been thought to be the most likely users of LTC services because of their poorer health and income status. However, the existing literature comprises single-country results and needs to be expanded by comparative studies. For instance, Paraponaris et al. (2011) found that the use of formal LTC in France, after controlling for other differences in health, includes a wide spectrum of SES. In Belgium, socioeconomic vulnerability was reported as a strong cause for the use of LTC among older Belgians in the study by Hoeck and colleagues (2011), but their results were unconvincing on whether SES was a stand-alone factor or not. In the Kingdom of the Netherlands, Geerlings et al. (2005) reported that there was a positive association between higher income and the use of privately paid home care, but this did not include a subsidized home care policy. In Spain, existing studies presented conflicting evidence on the role of SES in the use of LTC services (García-Gómez et al., 2015; Rodriguez, 2014). Similarly, Meinow et al. (2005) did not
find strong evidence of a link between a socioeconomic gradient and the use of LTC services in Sweden.

Nevertheless, Ilinca et al.’s comparative study across nine countries in Europe emphasized that the utilization of LTC services varied not only between countries but also between income groups within countries. They argued that elderly adults from groups of lower SES across the nine European countries were the main users of home care services, but most of the countries in this study were evaluated as underperforming and they did not reach horizontal equity in home care services. This is in conflict with one of the principles of equity in health – equal treatment for equal needs. They warned that changing the centre of responsibility and burden of care from the formal care sector to the family and informal caregivers will have preponderantly a harmful effect on lower-income households and may result in disproportionately favouring the rich (Ilinca et al., 2017).

The other socioeconomic factor that impacts equality in the use of LTC services is household structures, such as marital status, number of children, frequency of social contact with children and other family members, and cohabitation. They may have an impact on access to formal and informal care or ability to receive LTC services. In this context, previous case studies on social networks report that there is a positive correlation between higher SES and greater household size and closer distance to children. This correlation indicates that higher-income groups have an advantage in receiving informal care. However, lower socioeconomic groups seem to have a stronger sense of filial duty and the informal care literature also highlights that they have a higher probability of receiving informal care (Ilinca et al., 2017). Previous case studies have reported that older adults with a lower SES had less ability to receive formal care on the market than those with a higher SES, and they were more likely to rely on informal care provided by their families (Carrino et al., 2018; Suanet et al., 2012).

Policy shifts in the LTC system

The policy shift from de-familization to familization or vice versa may affect access and equity to LTC services and the relationship between the use of these services and socioeconomic gradient in two ways. De-familization is used to define the degree to which the State or the market takes responsibility for the provision of care instead of families. While de-familization of a system reduces families’ responsibilities, familization of a system is based on the family as the sole or main provider of care (Chau and Yu, 2021; Floridi et al., 2021). LTC systems across countries in the Region differ from each other according to the degree of their de-familization policy. The degree of de-familization in LTC systems may have two main effects on the distribution of formal and informal care. One of them is that higher de-familization may provide alternatives for family-based care among lower socioeconomic groups and it may diminish socioeconomic inequalities in access to formal or mixed care. The second one is that lower de-familization may cause an increase in reliance on informal care among lower socioeconomic groups who are not able to purchase formal care on the
market (Saraceno and Keck, 2010). The comparative study by Floridi et al. in 2021 showed that de-familization in LTC is linked with socioeconomic gradient in terms of the use of formal and informal care, namely mixed care. This study emphasized that there is a process of transformation towards familization to minimize the increase in LTC-related costs (Colombo and Mercier, 2012) but it may result in widening of socioeconomic disparities in health and well-being among older people because of an increased reliance on families (Floridi et al., 2021).

The role of social network and geographical inequalities

The availability and quality of social networks is strongly associated with the prevention of social inequality and promotion of health status among older adults. The important of a social network emanates from facilitating engagements in social activities, increasing social interaction and promoting access to social support (Siette et al., 2021). Schoenmakers and colleagues (2017) highlighted the role of children as a part of psychosocial care in Germany in their qualitative study and found that social networks of older migrants did not sufficiently meet their psychosocial needs. The comparative study by Tomini et al. in 2016 reported that a larger personal network and life satisfaction were related to each other and if the network consisted of family members, this relation is especially positive. The case study from Germany reported by Schönbach et al. (2017) identified health-related behaviours such as physical activity as key factors of healthy ageing and participation in sports organizations, also emphasizing the importance of SES to healthy ageing and participation in sports organizations.

The relationship between availability and accommodation and geographical inequalities constitutes another potential cause of inequalities. Geographical inequality refers to an unequal provision of services depending on the geographical area. It is accepted that there is an inequality between income groups in each region, but geographical inequality is not related to income and other factors and may result in better or poorer access to care services. The eligibility criteria of regional and local governments and availability of LTC services can be given as an example. More affluent regions and municipalities may have more LTC services in their area; namely, they have fewer eligibility thresholds. Nevertheless, there is no clear evidence of this and which factors are considered as sources of variation. The existing literature indicates that there is plenty of geographical variation across countries throughout Europe (Demaerschalk et al., 2012; Ilinca et al., 2017). For instance, case studies from Belgium and Italy report that service availability and eligibility rules for public LTC differ from each other and vary widely according to their administrative regions (Floridi et al., 2021). The integration of care, which refers to an integration of health and social care services, has been evaluated in terms of possible outcomes and challenges (Baxter et al., 2018; Kelly et al., 2020). Consistent with two systematic reviews, models of integrated care may be thought to reflect the priorities of health and social care professionals and decision-makers and may have a potential to enhance access to services. The integration of health and social care
services is reported as stronger for three outcomes and one of these outcomes is to have increased and improved patient access (Baxter et al., 2018; Kelly et al., 2020). According to a systematic review, five intervention studies from the United Kingdom on integrated care focused on multidisciplinary teams, general service redesign or integration of hospital- and community-based services and they emphasized that access to services in the community and/or specialists/intermediate care had increased. Three comparative international studies emphasized that integrated care improved access to services and two other international non-comparative studies had similar arguments that there was improved access to services for patients (Baxter et al., 2018).

Consequently, with a growing population of those 65 years and above, LTC policies should be equitable rather than have equality in access to care. Recent studies on LTC have also shown that inequalities in the access and use of LTC services may derive from different factors, such as SES, regional or local government’s eligibility criteria and availability of LTC and individual preferences for the quality of social networks. Another factor is that recent LTC service reforms have tried to limit costs and have promoted a transformation from the provision of publicly provided or subsidized LTC services in care facilities (such as non-acute residential and nursing facilities) to formal home-based care. This policy requires great emphasis on family support and may become a tough barrier to the access of LTC services, especially for older adults from lower socioeconomic groups. Against this, analyses of models of the integrated care system present evidence of improved access to care services.
SELECTED OPTIONS FOR ADDRESSING THE PROBLEM

The various possible factors associated with the need for developing and strengthening LTC services in Türkiye, as detailed in the previous section and depicted in the problem tree in Annex 1, call for policy interventions at different levels. Although many measures could have been selected to address the problem, based on stakeholder discussions (MoFSS, MoH, TUIK and WHO and academics), the literature review and consideration of the main issues in the problem tree, the following three options were selected:

1. Strengthening coordination among LTC service providers
2. Strengthening the LTC financing system
3. Improving the use of technology in LTC.

An extensive literature review and analysis was conducted to gather evidence for each policy option (Box 2). The tables presented in Annexes 2 and 3 give details of the systematic reviews identified for each option. Annex 2 lists the systematic reviews that were selected for each option.

Box 2. Collecting evidence for options to address the problem of insufficient LTC services in Türkiye

Evidence relating to the three options to address the problem of insufficient LTC services in Türkiye was searched for primarily from five databases: the Cochrane Library, Health Evidence, Health Systems Evidence, PDQ-Evidence and PubMed. In this way, systematic reviews were identified and collected using subject-related keywords in the title or abstract. The keywords used were “long-term care”, “long term care”, “LTC”, “integrated care”, “technology in LTC”, “financing of LTC”, “LTC insurance”, “LTC expenditure”, “strengthening LTC”, “LTC coordination”.

The key findings were drawn from each systematic review identified in the search process, and each was also assessed in terms of quality (Health Evidence score or AMSTAR^a rating), local applicability (proportion of studies conducted in the Region), equity aspects (proportion of studies explicitly on prioritized groups) and degree of focus on the issue. The overall evidence for the three options was later summarized and relevant interpretations were introduced of the key findings of each review based on the assessments of quality, local applicability, equity aspects and degree of focus on the issue.

The literature review was conducted by six pre-trained authors. Two authors assigned to each option reviewed and scored the systematic reviews. Cross-assessments were made between the authors of each option to ensure intermediate reliability. Studies
Box 2. contd

that were not systematic reviews and had an AMSTAR score of 4 or less were excluded from the EBP.

A total of 72 systematic reviews were identified. Some of these did not specifically address LTC or the selected options and were excluded at the outset. Thirty-four systematic reviews were found related to the specified options but five of them were classified as “weak” in Health Evidence or given an AMSTAR score of 4 or less and were also deemed unacceptable. Following this process of exclusion, after their titles and abstracts had been read and their content analysed, 29 systematic reviews were included in the EBP.

AMSTAR is a comprehensive critical appraisal instrument developed to evaluate systematic reviews.

option through the search process. The first column indicates the option or options to which each systematic review is relevant; the title of the review is given in the second column; the quality/reliability of the review is indicated in the third column by means of a rating; and whether the review was included in the EBP is indicated in the fourth column. The rating is based on the AMSTAR and Health Evidence systems: AMSTAR assesses the overall reliability of the review, giving a grade on a scale from 0 to 9/10/11, where 9/10/11 represents a review of the highest reliability; the Health Evidence rating grades a review’s quality/reliability as weak, moderate or high on a scale from 0 to 9/10/11. In Annex 3, the title of each selected systematic review is listed in the first column; the broad focus of the review is given in the second column; the option(s) for which each review is relevant and its main findings are given in the third column; the fourth column indicates the AMSTAR or Health Evidence rating; and the last column indicates the review’s local applicability by giving the proportion of studies included in the review that were conducted in Europe.

Option 1. Strengthening coordination among LTC service providers

Overview and context

Individuals with reduced functionality should be supported by LTC services to lead their lives independently and as safely as possible, improve their quality of life, while at the same time maintain their rights to equality, autonomy and self-determination. To achieve these goals, (i) care must be delivered on a responsive basis, integrated into health and social support service packages; (ii) care should be aligned with the values and preferences of users, informal caregivers, families and societies; and (iii) care environments that involve users as much as possible in local social networks should be organized (WHO, 2022).
An LTC system covers all organizations, people and activities aimed at promoting, maintaining or improving the health of individuals with functional limitations (WHO, 2021a). As a result, the three major components of an LTC system should include formal care services, informal care and enabling settings (WHO, 2022). Integrated working and coordination among these major components intends to maintain continuity of care and effective transitions, decrease duplication and fragmentation of services, and focus on patient-centred care (Davies et al., 2011; Threapleton et al., 2017). There is an increasing need for services that will bring together a variety of professionals and skills from the health-care and social care sectors (Kelly et al., 2020). Integration of formal and informal care across sectors and across governance levels is expected to strengthen the LTC system, ensure its resilience and sustainability, and ensure that all those who need care and support have equal access to it (WHO, 2022). In the literature, integrated care and coordination of LTC services are generally considered together. Integrated care is a broad phrase that refers to a variety of strategies and models that help patients to have a better experience by improving coordination and continuity of care (Rocks et al., 2020). Organizational integration, discussed in this option, refers to the coordination and governance of actions between acute, rehabilitation and community-based care, and primary health-care institutions or individuals (MacAdam, 2008).

The key to success in LTC services is the care coordination between the family, community and institutional settings (Ilınca et al., 2015). Option 1 is based on strengthening the coordination between service providers to ensure governance, compliance and integration to enhance the quality of services and provide a standardized care environment in LTC services. As mentioned above, the organization of LTC services in Türkiye is highly fragmented. Different providers are responsible for different types of care, resulting in fragmentation of services and difficulty in coordination. Besides the lack of coordination in care service planning and delivery between the two main responsible ministries (MoFSS and MoH), vertical integration is also weak. It is also known that municipalities, NGOs and private care providers offering LTC services have difficulties in cooperating and coordinating with the MoFSS. Collaboration and communication among care professionals in the service delivery process is much better than coordination at higher levels of governance, according to the same stakeholders. The importance of health and social care integration and stakeholder coordination is recognized both at the service level and at the highest decision-making levels in key ministries and work is ongoing to address the existing problems. There has been an understanding of the need for supporting local resources in LTC, promoting organizational integration between health and social care services and between central and local governments (WHO, 2021b).

**Evidence of impact**

There were 14 systematic reviews related to strengthening coordination between LTC service providers. On the basis of their AMSTAR ratings, seven high-quality (Baxter et al., 2018; Coulter et al., 2015; Davies et al., 2011; Eklund and Wilhelmson, 2009; Looman et al., 2019; Reilly et al., 2015; Young et al., 2017) and six medium-quality systematic reviews (Barker et al., 2018;
Dawson et al., 2015; Kelly et al., 2020; MacAdam, 2008; Rocks et al., 2020; Threapleton et al., 2017) were included in the EBP. One low-quality systematic review (Zonneveld et al., 2018) was excluded. Six of the reviews (Dawson et al., 2015; Eklund and Wilhelmson, 2009; Looman et al., 2019; Reilly et al., 2015; Threapleton et al., 2017; Young et al., 2017) focused on the coordination and integration of services, especially for vulnerable older groups (patients with dementia, functionally dependent individuals, etc.). The other seven studies focused on the impacts of coordination of service delivery and organizational integration.

The potential beneficial effects of strengthening the coordination between LTC service providers are improved health outcomes, better quality of care and service access (Barker et al., 2018; Baxter et al., 2018; Coulter et al., 2015; Davies et al., 2011; MacAdam, 2008). Reviews support the fact that coordinated case management improves the outcomes and reduces health-care utilization by vulnerable groups and their caregivers (Eklund and Wilhelmson, 2009; Reilly et al., 2015). However, there are also systematic reviews about the difficulties arising from the transfer of financial resources between different institutions in the integrated care system and improvements in the quality of care, which may mitigate the financial burden on patients (Baxter et al., 2018; Young et al., 2017).

Despite the fact that evidence for cost–effectiveness is limited and unclear, especially for a longer follow up (Baxter et al., 2018; Coulter et al., 2015; Davies et al., 2011; Looman et al., 2019; Reilly et al., 2015; Rocks et al., 2020), integrated and coordinated care for the vulnerable elderly population reduces utilization of health-care services and costs to society (Eklund and Wilhelmson, 2009). There are systematic reviews that point to organizational and cultural uncertainties, as well as those due to informal caregivers in the coordination of LTC services (Coulter et al., 2015; Eklund and Wilhelmson, 2009).

The key components in policy implementation can be summarized as the organization and delivery of primary care, coordination of care for older people and vulnerable groups, sustainability of integrated care in different care settings, and analysis of integrative care in a systematic and relevant manner (Coulter et al., 2015; Dawson et al., 2015; Kelly et al., 2020; Threapleton et al., 2017).

A study by Van Eenoo et al. (2016) on how to design community-based services for older adults in need of LTC in European countries showed that the characteristics of the country should be taken into account. Due to differences in the scope of community care services between countries, country-specific policies need to be developed to provide cost-effective and high-quality LTC needed by the ageing population. At the same time, policy-makers should examine examples of good practice from other countries and take into account local specifics.

A European Union (EU) study (PROCARE) is a good analysis of stakeholder experience. It provided new insights into the different approaches to integration along with the structural, organizational, economic and sociocultural factors that improve integrated care. Findings from surveys conducted in nine countries showed that most countries focused on the
needs of the acute care sector, whereas the social care sector was underfunded and less relevant. While different countries have addressed integration in various ways, PROCARE survey data highlighted a number of strategies to reduce “the barriers that exist at the intersection of health and social care”. These strategies are: case and care management; interim care approaches to improve the hospital–community care interface; multidisciplinary needs assessment and joint planning; personal budgets and LTC compensation packages; coordination among health and social care providers; admission prevention and guidance; ensuring the integration of housing, welfare and care; supporting informal caregivers; independent consulting; coordinating care meetings; and conducting quality management as a mechanism of jointly agreed outcomes.

The key findings of the systematic reviews relevant to Option 1 are presented in Table 4.

Table 4. Summary of key findings from systematic reviews relevant to Option 1 (strengthening coordination among LTC service providers)

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td>• Sharing records among service providers, coordinating care, supporting health professionals and integrating into routine care improves the LTC process (Coulter et al., 2015).</td>
</tr>
<tr>
<td></td>
<td>• Training and support programmes for caregivers provided by different service providers can increase the quality of life of care recipients and reduce hospitalization (Davies et al., 2011; Reilly et al., 2015).</td>
</tr>
<tr>
<td></td>
<td>• Coordinated case management is useful in improving outcomes for individuals with dementia and their caregivers (Reilly et al., 2015).</td>
</tr>
<tr>
<td></td>
<td>• Well-coordinated integrated care models can increase patient satisfaction, improve perceived quality of care and empower service access (Baxter et al., 2018).</td>
</tr>
<tr>
<td></td>
<td>• Concerning the health outcomes, coordination among service providers, agreements for coordination of clinical activities and the use of systems to support coordination are the most successful models (MacAdam, 2008).</td>
</tr>
<tr>
<td></td>
<td>• Inclusion of specialists (physicians or nurses) in the primary care team to coordinate care improves the key health outcomes of LTC residents and supports a multidisciplinary team approach (Barker et al., 2018).</td>
</tr>
<tr>
<td></td>
<td>• Integrated and coordinated care is beneficial for the vulnerable elderly population and reduces utilization of health-care services (Eklund and Wilhelmson, 2009).</td>
</tr>
</tbody>
</table>
### Category of finding

#### Key findings

**Potential harms/disadvantages**

- Compared with institutional care, the risk of hospitalization is higher in the community-based care model, where coordination between service providers is more essential (Young et al., 2017).

- The transfer of financial resources between different organizations in the integrated care system may cause considerable challenges (Baxter et al., 2018).

- Increasing the quality of care may pave the way for financial pressure for patients (Baxter et al., 2018).

**Resource use, costs and/or cost-effectiveness**

- Integrated and coordinated care for the vulnerable older population reduces utilization of health-care services and costs to society (Eklund and Wilhelmson, 2009).

- Evidence for cost-effectiveness is limited and unclear especially for a longer follow up (Baxter et al., 2018; Coulter et al., 2015; Davies et al., 2011; Looman et al., 2019; Reilly et al., 2015).

- Individuals with long-term conditions may benefit from investments in training, support, and redesigning of systems (Coulter et al., 2015).

- Rocks et al. (2020) suggested that integrated care is likely to reduce costs. One of the systematic reviews suggested that integrated care can have a favourable impact on reducing costs and offers some insight on the potential for a positive impact on public finances (Rocks et al., 2020).

**Uncertainty over potential benefits and harms/disadvantages (so monitoring and evaluation could be warranted if the option was pursued)**

- Coordination of LTC services can be affected by organizational and cultural differences. The evidence for this is not very strong (Coulter et al., 2015).

- There is uncertainty as to how informal caregivers are affected by integrated and coordinated care (Eklund and Wilhelmson, 2009).

**Key elements of the policy option if it was tried elsewhere**

- Fundamental changes in the organization and delivery of primary care are needed in most countries to enable proactive, integrated and successful implementation (Coulter et al., 2015).

- To improve the coordination of care for older and vulnerable groups, it is important to understand the levels at and forms by which integration can take place, the key elements of integrated care, and anticipate the implementation challenges to making effective changes in different care settings (Dawson et al., 2015).
### Table 4. contd

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
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<tbody>
<tr>
<td>The role of physicians is important for achieving positive results in integrated care models, especially geriatricians or general practitioners (MacAdam, 2008).</td>
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<tr>
<td>In the United States’ experience, a focused selection of seniors, contractual obligation for a defined package of comprehensive health and social care, a closed network of service providers with an emphasis on primary care, and non-institutional services were significant features of fully integrated models (MacAdam, 2008).</td>
<td></td>
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<tr>
<td>Continuity/transition of care, empowering policies/governance, shared values/goals, patient-centred care, multi/interdisciplinary services, effective communication, coordinated case management, needs assessments for care and discharge planning are all essential components of integrated care in older and vulnerable groups (Threapleton et al., 2017).</td>
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<tr>
<td>Integrative care system analyses should be conducted in a systematic manner. To do this, relevant integration measures must be created and agreed upon. It is important to ensure strong integration between the various structures, processes and results of LTC. Promoting key metrics sets and stakeholder consultation would be useful (Kelly et al., 2020).</td>
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<tr>
<td>Local barriers and facilitators should be considered in the integration of care. Changes are expected to take time, and if aspects of integrated care are successfully integrated into local settings, they are more likely to succeed (Threapleton et al., 2017).</td>
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<tr>
<td>Multidisciplinary integrated interventions with coordination between different caregivers and care levels for the vulnerable older population can be successful in different health systems (Eklund and Wilhelmson, 2009).</td>
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</tr>
<tr>
<td>The EU has conducted a study (PROCARE) that examines the development of integrated care approaches. It provided new insights into the different approaches to integration along with the structural, organizational, economic and sociocultural factors that improve integrated care (MacAdam, 2008).</td>
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</table>

Stakeholders’ views and experiences:

- Local barriers and facilitators should be considered in the integration of care. Changes are expected to take time, and if aspects of integrated care are successfully integrated into local settings, they are more likely to succeed (Threapleton et al., 2017).
As can be seen from the above studies, strengthening coordination among LTC service providers is crucial for the sustainability of LTC services. There are some problems with this in Türkiye. Türkiye can increase access, quality and efficiency by coordinating LTC services offered in a fragmented manner. For this purpose, firstly, reliable statistics on those who need LTC should be obtained and a registration system established. Data and information-sharing between institutions is essential.

Secondly, vertical integration is also essential for coordination. Vertical integration can be strengthened under the MoH and MoFSS. The Turkish LTC system is already fragmented and, therefore, a new institutional restructuring of LTC can complicate the existing structure. However, an integrated system can be created within the existing structure. The General Directorate of Health Services in the MoH and the General Directorate of Disabled and Elderly Services in the MoFSS can act as coordinating umbrella institutions; an integrated care system can be built around these general directorates. However, it is essential that these units work in harmony with each other and that their job descriptions are precisely defined. In this integration process, the following actions can be applied in the initial preparation and planning phase: needs analyses reflecting different perspectives of professional groups working in the field, service users and families; a grouping of different service users; interdisciplinary separation and role distribution; in-service training where professionals from different disciplines come together; academic interdisciplinary workshops; introducing the new integrated system to the public; training informal caregivers on the need of care in the health system; and adding courses related to LTC to the curriculum of the disciplines to be assigned.

Coordination and vertical integration are crucial for LTC services to be provided in an equitable way throughout the country. Problems that particularly create obstacles to the effective and efficient provision of LTC services throughout the country are those related to the inadequacy of mobile health services and the absence of residential care facilities in rural areas and small cities in Türkiye. As a result of this, inequities are observed between urban and rural areas in LTC within the country. Therefore, cooperation and coordination are essential for smaller cities and rural areas. In this context, it is a requirement that rural and provincial-based units of both the General Directorate of Health Services in the MoH and the General Directorate of Disabled and Elderly Services in the MoFSS work in coordination both with central units and among themselves.

**Option 2. Strengthening the LTC financing system**

**Overview and context**

It is expected that LTC expenditures will increase significantly in many countries in the near future and take up a substantial share of the gross domestic product. This makes financing LTC services both a societal challenge and a priority. The options for financing
these expenditures with public or private insurance or OOP expenditures are becoming a difficult challenge for governments (Eling, 2020). Discussions on the financing of LTC show that there are basically two functions. The first function is to refine the resources needed to ensure that care services can be provided and offered to the community. The second function is to activate mechanisms for the allocation of these resources for services. Although approaches to increasing the resources allocated for LTC services are considered a policy concern in most countries, fair and efficient policies for resource allocation need to be developed. In addition, countries should develop an LTC system to evaluate, coordinate, regulate and support the training of the workforce in the LTC services offered (European Commission, 2020).

Option 2 is based on the collection, pooling and allocation of resources to be mobilized to ensure equitable delivery and financing of the required LTC services. Such policies include covering the expenditures made for LTC services under an insurance, by using public or private financing mechanisms based on the sociocultural characteristics and economic structure of the country.

Some countries have developed systems that are publicly funded, in which young adults play a role in financing services used by older adults, such as Japan. Some countries have a system in which the services citizens can use when they need them in the future will be financed from a fund that people pay during their lifetime. Other countries have developed systems based on general taxes for financing LTC services (Barber et al., 2020). An LTCI scheme with public funding was implemented in the Kingdom of the Netherlands in 1968. Although a limited number of services were covered in the early years, the benefits gained from this insurance plan have steadily increased over time. This increase demonstrates that a publicly developed LTCI plan can yield substantial gains when compatible with prevailing social and cultural values in society (Alders and Schut, 2020).

**Evidence of impact**

Six systematic reviews were found, four of high or medium quality, regarding policies on strengthening the LTC financing system (Baxter et al., 2018; Chen and Xu, 2020; Chen et al., 2020; Looman et al., 2019; Rocks et al., 2020; Zeng et al., 2020). Two of the reviews focused on the effectiveness of LTCI (Chen and Xu, 2020; Chen et al., 2020) and three on the effectiveness of economic evaluations of integrated care, effectiveness of the measurement of LTC costs and the impact on outcomes, and costs and effectiveness of preventive and integrated care for community-dwelling frail older adults (Looman et al., 2019; Rocks et al., 2020; Zeng et al., 2020). One of the reviews focused on the effectiveness of integration between health-care services and/or health and social care services in terms of effectiveness, efficiency and quality of care (Baxter et al., 2018).

There is a relationship between the LTCI system and the economic burden of LTC expenditure. The available evidence indicates that the LTCI system improves the social well-being of people
with LTC needs and their caregivers and families. At the same time, this state of well-being also helps to reduce physical and mental health problems. It is known that the services provided with the development of the LTCI system also contribute to improving the health and quality of life of disabled older adults. However, sometimes the positive effects of LTCI systems are seen to be limited, such as improving health and the quality of life and covering the expenses by insurance instead of families. A strong commitment of government support is required to ensure financial sustainability and development of the LTCI system (Chen and Xu, 2020; Chen et al., 2020).

It has been shown that formulating LTC services for society using different integrated care models contributes positively to patient satisfaction, perceived quality of care and access to services. Among the integrated maintenance models, there are also models that deal with the financial and governance aspects of the system. Despite this positive rhetoric, the direction of service costs, how the results obtained should be evaluated for efficiency and the difficulties created by the increasing demand are still an important area of debate (Baxter et al., 2018). Scientific data and evidence in these areas will encourage policy-makers to move forward by identifying the impact of integrated LTC services on service costs and quality.

A study on LTCI argued that if the introduction of an LTCI system is started early and before population ageing becomes a challenging problem adaptation of the service delivery system would be easier for middle-income countries (Rhee et al., 2015).

While there is a strong need to provide and finance LTC services under an insurance plan, arrangements for this seem to be at a very limited level. However, recently, the financial sustainability of the LTC system has become a topic of discussion in many countries. In Austria, Chile, Czechia, Lithuania, Türkiye and the United Kingdom, plans are being made for the integration of LTC services into health and social welfare systems (OECD, 2020). Since most middle-income countries do not have the necessary infrastructure to provide LTC services to society in the long run, early implementation of the LTCI system also allows for a harmonious design of service delivery. In time, as sufficient experience and participation is achieved, service providers will also diversify, and a suitable basis will be established for expanding the scope of the programmes (Rhee et al., 2015).

The key findings of the systematic reviews relevant to Option 2 are presented in Table 5.
Table 5. Summary of key findings from systematic reviews relevant to Option 2 (strengthening the LTC financing system)

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td>• A LTCI system, including both public LTCI (government mandated) and private LTCI (individual voluntary), means having an institutional arrangement to share the nursing expenses of people who need LTC due to chronic diseases or physical and psychological disability. It aims to provide services in a comprehensive and uniform way. The impact of the LTCI system on the health and quality of life of caretakers has been evaluated as positive in two systematic reviews (Chen and Xu, 2020; Chen et al., 2020).</td>
</tr>
<tr>
<td></td>
<td>• These two systematic reviews have also supported the argument that the LTCI system has the potential to reduce the financial burden on families with disabled older adults and its implementation has promoted the development of the health-care service industry (Chen and Xu, 2020; Chen et al., 2020). Moreover, the term integrated care refers to developing integration of comprehensive delivery of quality-based health and social care services. It aims to strengthen people-centred health-care systems as well as the multidimensional needs of the population.</td>
</tr>
<tr>
<td><strong>Potential harms</strong></td>
<td>• Two of the systematic reviews have remarked that there is a dilemma regarding the sustainability of funding sources for the LTCI system. The dilemma is due to the LTCI funding burden on the government budget and the costs of LTC services. A public LTCI system policy has a positive influence on all aspects of social welfare; however, the burden on the government budget and the financial sustainability of the LTCI system should be also considered (Chen and Xu, 2020; Chen et al., 2020).</td>
</tr>
<tr>
<td></td>
<td>• One of the systematic reviews foresaw that the effects of integrated care may be perceived differently by different stakeholders and could become a potential harm in terms of financial outcomes.</td>
</tr>
<tr>
<td><strong>Resource use, costs and/or cost-effectiveness</strong></td>
<td>• Systematic reviews assessing the cost-effectiveness of integrated care are limited because existing evidence varies widely and is fragmented in terms of models of integrated care, population and implementation (Baxter et al., 2018; Rocks et al., 2020).</td>
</tr>
</tbody>
</table>
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option was pursued)

All of the selected systematic reviews have important differences between countries in their models of LTC financing systems and variations in the implementation, population, eligibility criteria, benefits and target groups. The studies in these systematic reviews were not directly comparable because of these differences. The typology of LTC systems is divided into four and one of them is means tested (in the United Kingdom and the United States); the second is based on social insurance (as in Germany, Japan and the Republic of Korea); the third type is known as universal (as in the Nordic model); and the last one is hybrid systems, which means a mix of features of eligibility standards, financing and benefits. For instance, three countries, the Germany, Japan and the Republic of Korea have used social insurance to finance medical care and have developed LTCI systems with different approaches.

Key elements of the policy option if it was tried elsewhere

The success of LTCI systems depends on the established LTC service system with service standards and norms and the active participation of family members, social workers and volunteers. The structural designs of LTCI systems have different characteristics in different countries; LTCI systems must be adapted to every country’s conditions and require a long-term reform process that should be continuous. Stable and sustainable development of public LTCI is key to solving the financing problem of public LTCI (Chen and Xu, 2020; Chen et al. 2020; Zeng et al., 2020).

Stakeholders’ views and experiences

Different stakeholders may take different approaches towards LTCI systems and integrated care in terms of financing of LTC. For instance, reduced activity in one sector may cause financial losses and may result in resource transfer from one sector to another. Market competition and regulation as well as a private LTCI system should be taken into consideration (Baxter et al., 2018).

The financial expenditure of public LTCI and other insurance models such as a private LTCI market and fundraising may be decisive from different stakeholders’ perspectives (Chen and Xu, 2020; Chen et al., 2020).

Expenditure for LTC services is expected to be one of the most important components of total health expenditure due to the increase in the number of the elderly population and decrease in birth rates in the near future (Güdük, 2022; Torun et al., 2016). This forces governments to include LTC services in reimbursement systems and/or to create LTC-specific insurance packages. In Türkiye, LTC services are largely financed through social support/assistance systems and OOP payments, and this affects individuals with low income most negatively.
Spending on LTC causes catastrophic health expenditures for some households. Therefore, Türkiye could integrate LTC services in its social insurance system. An LTC-specific insurance package can also be established or LTC services can be covered by complementary health insurance. In addition to insurance-based solutions for LTC services, fiscal space-based solutions might also be possible. In this context, fiscal space techniques can be adopted for creating the fiscal space in LTC.

**Option 3. Improving the use of technology in LTC**

**Overview and the context**

Those in need of LTC are those who experience or are at risk for significant ongoing loss of individual capacity due to chronic illness, disability and/or old age. Technological applications have the potential to enhance and strengthen LTC and support efforts to contain costs as the demand for care increases. Additionally, Martinez-Alcala et al. (2016) stated that technology can enhance knowledge exchange, education and virtual environments, increasing the standards of care environments.

Demographic change and population ageing, new global public health issues such as the COVID-19 pandemic, developments in health services and information technologies have shifted the focus of policy-makers from finding and seeking ways to extend life expectancy to improving the quality of life. One of the factors that improves the quality of life of individuals is ageing in place. Ageing in place is a term used to describe a person living in the residence of their choice, for as long as they can, as they age. Technology for ageing in place is defined as electronic technology that is developed to support the independence of older adults living in the community by mitigating or preventing functional or cognitive impairment, limiting the impact of chronic diseases, or enabling social and physical activity (Peek et al., 2014).

The shifting of care services to the home environment with ageing in place and smart home- and sensor-based technologies have become the centre of both scientific literature and technological developments in care services. Health-smart homes and home-based consumer health technologies are potential solutions that can support older adults to age in place – the ability to live in a residence of their choice without moving as their needs for health-care services change (Reeder et al., 2013).

It is a term that describes “assistive devices that can support people with prompts and reminders, alarm systems, automatic lights, domestic appliances that switch themselves off at a certain point, easy-to-use remote controls and phones, monitoring, and therapeutic interventions”. “Pervasive telecare technologies include a range of sensors to detect motion, pressure, inactivity, falls and temperature, which automatically send a signal to a carer or monitoring centre to provide assistance when it is needed.” Surveillance technologies
that enable constant monitoring of the user include wearable devices such as electronic tracking chips, global positioning system locators that can locate a person if they get lost, and alarm pendants and bracelets that can call for assistance in the event of an emergency (Daly Lynn et al., 2019).

The Centers for Medicare and Medicaid Services defines an electronic health record (EHR) as “an electronic version of a patient’s medical history that is maintained by the provider over time, and may include all the key administrative clinical data relevant to that person’s care under a specific provider, including demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports” (Kruse et al., 2021).

Technology can also help to create age-friendly environments and cities. Gerontechnology applications, which seek ways for older people to have good health, participate in social life, and live independently, and try to understand their needs through research, development and design of products and services (van Bronswijk et al., 2022) can be used to create age-friendly environments and cities adapted to the needs of older adults (Podgórniak-Krzykacz et al., 2020). The report *Global age-friendly cities: a guide* by WHO (2007) emphasizes that age-friendly cities supported by technology can allow older people to participate in society. Michael et al. (2006) and Righi et al. (2015) point out the importance of gerontechnology for creating age-friendly environments and cities. Van Hoof et al. (2019) state that an age-friendly city with gerontechnology applications can offer a supportive environment that enables older adults to live actively within their families, neighbourhoods and civil society. Local and municipal networks are important in this regard. Local and municipal authorities can prepare roadmaps to assess and eliminate the barriers to age-friendly environments based on the WHO (2007) Guide (Plouffe & Kalache, 2011). The Guide identified the essential characteristics of an age-friendly city in eight interconnected domains: outdoor spaces and buildings; transportation; housing; social participation; social respect and inclusion; civic participation and employment; communication and information; and community support and health services. Local and municipal authorities can determine their policies based on this Guide.

Technology should not be evaluated only in terms of those who use LTC services; it should also be evaluated in terms of service providers. Technology can help service providers to provide accessible and quality services. In this regard, preparing LTC staff to improve their informatics competencies and technology usage levels is essential in today’s information-intensive health-care delivery systems (Erdoğan et al., 2013).

In recent years, several technological interventions have been used to improve the quality, effectiveness and efficiency of LTC services. Therefore, the literature on the clinical results of technological applications is also growing.

**Evidence of impact**

Fifteen systematic reviews were found that dealt with technology use in long-term patients and LTC services. On the basis of their AMSTAR ratings, 11 of the systematic reviews were
SELECTED OPTIONS FOR ADDRESSING THE PROBLEM

included in this evidence brief and one that was considered unreliable as excluded. Two high-quality (8–11/11) systematic reviews (de Jongh et al., 2012; Thabrew et al., 2018), six moderate-quality (5–7/11) systematic reviews (Edirippulige et al., 2013; Husebo et al., 2020; Mileski et al., 2019; Peek et al., 2014; Reeder et al., 2013; Whitehead and Seaton, 2016) and two low-quality (4/11) systematic reviews (Daly Lynn et al., 2019; Kruse et al., 2021) were identified. Four low-quality (0–3/11) systematic reviews (Demiris and Hansel, 2008; Gochoo et al., 2021; Hawley-Hague et al., 2014; Shishehgar et al., 2018) were excluded. Few high-quality systematic reviews on diversified technological interventions in the use of LTC services were found. Therefore, to provide diversity of technological interventions in systematic reviews, the two systematic reviews graded 4 were included in the EBP, although they were of low quality.

In the literature, some systematic reviews showed that technological interventions have a positive impact on the clinical outcomes of patients with chronic disease and on service quality at LTC facilities. A systematic review of patients with diabetes showed no statistical difference between text messaging interventions compared with usual care or email reminders for glycaemic control (measured by blood glycated haemoglobin), the frequency of diabetic complications or body weight. There are some, albeit very limited, indications that in certain cases, mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses (de Jongh et al., 2012).

Although the use of telemedicine in LTC facilities (LTCFs) has benefits such as easy access to health services and low cost, more robust research is needed to measure the clinical effectiveness and cost–effectiveness of telemedicine. Some of the 22 studies included in the systematic search have shown that certain telemedicine approaches are reliable in LTCFs. Three studies examining the economics of telemedicine in LTCFs show that the care provided by telemedicine is cheaper than the traditional method. However, these studies also suggest further research to establish confidence in the results (Edirippulige et al., 2013).

The area where sensor technologies are used the most is smart home technologies. A smart home is a residence equipped with technological features that monitor the well-being and activities of its residents to improve the overall quality of life of individuals, increase independence and prevent emergencies (Demiris and Hansel, 2008). Besides, according to the results of 31 studies on smart home technologies carried out in the 2010–2020 period and included in the systematic review, 80% of smart home systems are sensor-based platforms, 29.1% are cameras, 19.3% are wearable devices and 35% are smart home systems. The review found that 0.4% use unobtrusive methods, 16.1% use robots, 70.9% use artificial intelligence and machine learning and 32.2% have fall detection capabilities (Gochoo et al., 2021).

A robot-integrated smart home has technology that integrates all the components into a whole system, including the cloud server, body sensor network, voice verification and a remote caregiver, to achieve the goal of caring for older people in their own homes. Thanks to these possibilities, activities of the human body can be recognized, the position of people can be tracked, human activities based on sound can be monitored and fall status can be
detected. In a study, 37 different human activities were recognized by the robot through sound events with an average accuracy of 88% and fall sounds were detected at frame level with 80% accuracy (Do et al., 2018).

In another study, in which nine types of robot, such as companion, rehabilitation, reminder and indoor fall detection, were examined, some robotic technologies such as companion services received more attention, other types of robot that could assist older adults to live independently were subjected to less scrutiny. There is a need for more studies on expectations of older people from robotic technology (Shishehgar et al., 2018).

Due to recent advances in sensor technology, monitoring of LTC residents appears to be a viable alternative method of fall prevention. A study into the use of alarms and/or warning devices that can help to reduce falls in LTCFs states that alarm devices and alarms can be one of the most promising technological investments that can be made to support older adults, when implemented correctly with older adults at highest risk of falls and with specific communication protocols (Mileski et al., 2019).

Although there are various methodological approaches to the use of electronic assistive technology in LTC settings to support individuals with dementia, there is also a significant lack of evidence for effective technological interventions such as bright light therapy, simulated presence therapy or robotics. There is a wide variety of devices and systems commercially available to support individuals with dementia, but little verified information exists to help caregivers to select the most appropriate technologies. Also, the potential for technological solutions to be incorporated into person-centred care is clear. Efforts to involve people with dementia in decision-making should be expanded (Daly Lynn et al., 2019). A systematic review has shown that sensor technologies have a wide range of potential applications in the care of dementia, from early detection of cognitive impairment to assisting in the management of behavioural and psychological symptoms in late-stage dementia (Husebo et al., 2020).

In another study, experiences were investigated of patients with memory impairment and their spouses using sensor technology in their homes. It found that the establishment of sensor technology at home as a memory support had a wide impact on the lives of patients and their families. Sensor technology not only supports activities but also affects patients by changing behaviours, providing a sense of security, independence and increased self-confidence. On the negative side, sensor technology makes daily life easier for spouses but gives more responsibility for care (Olsson et al., 2018).

Another study on environment-assisted living technologies found that environment sensors are mostly used to support older people to live independent lives. They can help older people, their families or caregivers to avoid unexpected harm, but the potential of non-intrusive environment sensors in elderly care is not yet fully understood (Uddin et al., 2018).
According to a systematic review evaluating the treatment effectiveness and acceptability of e-health interventions for the treatment of anxiety and depression in children with long-term physical conditions, it was concluded that the available e-health interventions do not have a positive effect in reducing the symptoms of anxiety or depression in this target population. In addition, face-to-face interventions rather than e-health-based interventions are much more effective in the treatment of anxiety and depression in children with long-term physical conditions. However, it is still important to develop more technology-based treatments specifically designed to meet the needs of this population (Thabrew et al., 2018).

Although the use and adoption of EHRs in LTCFs is less than their use in other areas of health, they result in significant improvement in documentation management and quality results at LTCFs. Of the articles included in the systematic review, 43% (12/28) reported a mixed impact of EHRs on documentation management, and 33% (9/28) reported positive quality results using EHRs. Few articles have demonstrated an effect on patient satisfaction, physician satisfaction, length of stay for inpatient care, and productivity using EHRs. Implementation of EHRs at LTCFs also allows for better management of clinical documentation, enabling better decision-making (Kruse et al., 2017).

In three of the 14 studies included in the systematic review on the use of HIT in LTC, the use of HIT did not significantly increase the time spent in nursing activities. While the time has not increased, the quality and timeliness of documents have improved significantly. Although improvement in documentation was observed in six of the 14 studies, administration of HIT reduced the occurrence of late or missed doses. A reduced probability of delayed or missed doses was observed in three of the 14 studies. The implementation of HIT systems provides improvements in the overall coherence and organization of patients’ health records at LTCFs (Kruse et al., 2021). A summary of the findings from systematic reviews related to Option 3 are given in Table 6.

**Table 6. Summary of key findings from systematic reviews relevant to Option 3 (improving the use of technology in LTC)**

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td>- Technological interventions provide benefit in supporting the self-management of long-term illnesses (de Jongh et al., 2012; Whitehead and Seaton, 2016).</td>
</tr>
<tr>
<td></td>
<td>- EHRs significantly improve the management of documentation in LTCFs and enhance quality outcomes and improve decision-making (Kruse et al., 2017).</td>
</tr>
</tbody>
</table>
**Table 6. contd**

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
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</table>
| Benefits (contd)    | • The use of apps in m-health has the potential to improve health outcomes among those living with chronic diseases through enhanced symptom control (Whitehead and Seaton, 2016).  
|                     | • LTCFs that implemented HIT systems have shown reductions in adverse drug events caused by medication errors and overall reduced risk to the organization (Kruse et al., 2021). |
| Potential harms/ disadvantages | • Possible disadvantages of using mobile phone messaging include the risk of inaccurate data input, lack of understanding or misinterpretation of the information, and difficulties in reading for those with poor vision or literacy problems (de Jongh et al., 2012).  
|                     | • Several technical issues were highlighted with technological devices as well as the reliability of the devices, such as low batteries, connection problems and alarm fatigue (Daly Lynn et al., 2019).  
|                     | • Electronic monitoring has potential ethical risks, such as autonomy/liberty and privacy breaches (Husebo et al., 2020).  
|                     | • Kruse et al. (2017) reported a few negative experiences with workflow and productivity in implementing EHRs, but it is unclear whether this was due to change management and organizational issues. |
| Resource use, costs and/or cost-effectiveness | • Reviews have shown that cost is a challenge associated with the use of technology-based interventions (Daly Lynn et al., 2019; Peek et al., 2014).  
|                     | • Assistive technologies were found to be cost saving in dementia care (Husebo et al., 2020).  
|                     | • There is a significant information gap regarding the costs of mobile phone messaging interventions (de Jongh et al., 2012).  
|                     | • Electronic health solutions have been described as essential tools for providing cost-effective care in the long run (Kruse et al., 2017) as well as quality health-care services to ageing populations (Daly Lynn et al., 2019). |
### Table 6. contd

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty over potential benefits and harms/disadvantages (so monitoring and</td>
<td>• The very low quality of the evidence means the effects of e-health interventions are uncertain in children aged below 10 years so that it may be early to recommend e-health interventions for this clinical population (Thabrew et al., 2018).</td>
</tr>
<tr>
<td>evaluation could be warranted if the option was pursued)</td>
<td>• There is limited evidence of the impact of the use of EHR on patient satisfaction, physician satisfaction, length of hospital stay and productivity (Kruse et al., 2017).</td>
</tr>
<tr>
<td></td>
<td>• There is an extensive variety of technical interventions with a broad range of methodological heterogeneity to explore their effect (Daly Lynn et al., 2019).</td>
</tr>
<tr>
<td>Key elements of the policy option if it was tried elsewhere</td>
<td>• Education is a key component for staff, residents and families in implementing technological interventions in LTCFs (Mileski et al., 2019).</td>
</tr>
<tr>
<td></td>
<td>• Having correct patient contact information and securely stored health records are essential to meet privacy, confidentiality and data protection requirements (Daly Lynn et al., 2019).</td>
</tr>
<tr>
<td></td>
<td>• Research on health-smart homes and home-based consumer health technologies will satisfy calls for technology innovation research to support new models of person-centric care (Reeder et al., 2013).</td>
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<tr>
<td></td>
<td>• Demonstration of the technology, the opportunity to try it out in a risk-free environment, and training or coaching can be used to reduce technology-related concerns specific to individuals. It is advisable to involve professional caregivers, family members and peers who already use the new technology in these interventions since older people are sensitive to their influence (Peek et al., 2014).</td>
</tr>
<tr>
<td>Stakeholders’ views and experiences</td>
<td>• There is evidence on the feasibility of and stakeholder satisfaction in using telemedicine in LTCFs in a number of clinical specialties (Edirippulige et al., 2013).</td>
</tr>
<tr>
<td></td>
<td>• Sensing technology to monitor behavioural and psychological symptoms and assess treatment responses in people with dementia was regarded as non-intrusive and well accepted both by patients and caregivers (Husebo et al., 2020).</td>
</tr>
</tbody>
</table>
Technology, if used wisely and adequately, can enhance and strengthen LTC services and also help to contain costs. However, it is a fact that older people are often less comfortable with technology. This brings up the issue of inadequate technology literacy among older people. Local and/or central governments along with NGOs can take some steps in this regard. For example, macro-level educational steps can be taken to increase the usability of technology for older people, especially for the development of digital skills among the elderly, awareness actions to break negative attitudes about technology use among the elderly population and familiarize them with technology, and training care personnel about the technological devices to be used.

Table 6. contd

<table>
<thead>
<tr>
<th>Category of finding</th>
<th>Key findings</th>
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<tr>
<td>Stakeholders' views and experiences (contd)</td>
<td>Further post-implementation research is needed to determine if and how the factors influencing acceptance of technology by older adults are interrelated, and how they relate to existing models of technology acceptance (Peek et al., 2014). Besides, Reeder et al. (2013) emphasized that stakeholder views are not sufficiently discussed in studies.</td>
</tr>
</tbody>
</table>
CONSIDERATIONS IN IMPLEMENTING THE THREE OPTIONS

Potential barriers

Option 1. Strengthening coordination among LTC service providers

The lack of public funding and incentives at the macro level is a barrier to both traditional LTC services and innovative social practices (Schulmann and Leichsenring, 2014). Similarly, Threapleton et al. (2017) reported that implementation problems such as macro-level contextual factors, meso-level systems organization (financing, leadership, service structure and culture), meso-level intervention organization (features, resources and reliability), micro-level factors (shared values, participation and communication) were observed in the organizational integration of LTC in older and vulnerable groups.

To strengthen the LTC system, there are core goals, such as supporting different types of providers and services, developing new services, providing social support, increasing preventive services and person-centred guidance and assistance, strengthening family and informal care, and coordinating service providers. However, it is difficult to adopt these general goals to different contexts and frameworks, given the different developmental statuses of LTC systems at the national and regional levels. For example, in northern Europe, 12% of services are institutional, while in southern Europe this proportion is low (3% in Italy, less than 1% in Greece). The Kingdom of the Netherlands is undergoing significant reforms in the LTC sector, while France and other countries are promoting small units and assisted living plans. The quantitative growth of institutions and overall health expenditure is a goal of southern European policy-makers, particularly when it comes to private residential care services (Leichsenring, 2004).

Cultural differences might also be counted among the factors that inhibit the strengthening of LTC systems. At the point of establishing an integrated care system in Türkiye, it may be difficult for social and cultural structures to accept the formal part of care. It may be necessary to make behaviours more acceptable and positive in society, such as getting formal support for care. In addition, the family is seen as a private area in the whole society, and LTC services, follow-up, and interventions can be perceived as interference in family affairs. Caring for family members in need and especially the elderly reflects an important traditional norm in Türkiye. Continuous institutional care may be destructive for elderly people within these cultural norms. The cultural structure in Türkiye may make it difficult to use institutional care options. Therefore, combining family-based care and institutional
support, a patient-based mixed care model that focuses on the needs and problems of the service user, may be important for integrated care to be established.

Other barriers that can be listed are the lack of enduring and explicit agreements regarding the roles and responsibilities of institutions and their professional staff, lack of information-sharing within and between institutions, limited resources and support, lack of communication with older people and their informal caregivers and lack of shared decision-making (Stoop et al., 2019). Among these barriers, the lack of information-sharing within and between institutions is an important problem for Türkiye to detect LTC-related problems and provide quality and sustainable LTC services. The lack of data is also a major obstacle to evidence-based policy-making and regulatory enforcement for LTC (Feng et al., 2012).

The fragmentation of health and social services entry points and referrals in Türkiye, lack of cooperation between public and private operators and a lack of a standard needs assessment protocol or procedure may also be obstacles to strengthening coordination between service providers (WHO, 2021b).

Informal caregivers, especially migrant caregivers, appear to have become more important for LTC services in Türkiye. Middle- and high-income families who do not meet the public care criteria (low income) and cannot afford private residential care services prefer immigrant caregivers, mostly women from countries such as Azerbaijan, Georgia, Republic of Moldova, Turkmenistan and Uzbekistan, supported by their family members. The lack of statistical information and the legal framework renders this workforce invisible, and it is not possible to monitor and evaluate the quantity, quality and type of care provided (WHO, 2021b). These shortcomings of immigrant caregivers can be a barrier to strengthening the coordination between LTC service providers.

Planning policies is challenging due to the lack of clear and consistent data collection on LTC at the national level in Türkiye, which reflects the importance that should be placed on this aspect (Oğlak, 2017).

**Option 2. Strengthening the LTC financing system**

LTCI aims to share the nursing expenses of older people who cannot take care of themselves because of chronic diseases or physical and psychological disability. LTCI comprises public LTCI (government mandated) and private LTCI (individual voluntary), and its implementation varies between countries. The implementation of LTCI systems requires a long-term reform process and must be adapted to each country’s characteristics and condition. In terms of public LTCI, the issue of financial stability plays a key role in the successful continuation of the reform (Chen and Xu, 2020; Chen et al., 2020; Zeng et al., 2020).

The effects of the public LTCI system are complex. It is emphasized, on the one hand, that it has positive effects on the physical and mental health of caretakers and has reduced the
CONSIDERATIONS IN IMPLEMENTING THE THREE OPTIONS

The opportunities offered by technological innovations used in the field of health and care also bring some obstacles. According to a systematic review, if the recommendations made through systems using HIT (home monitoring technology, personalized decision-support software, interactive health reminder systems, medical records, patient-physician electronic messaging) do not fit the patient’s mental make-up or perception of the situation, it is unlikely that the patient will follow the advice. However, knowing how to use a computer and having
easy access to a computer are decisive in terms of trust in technology, using the system or managing health according to the system’s recommendations (Jimison et al., 2008).

In a study using the dataset of the Household Information Technologies Use Research of TUIK to determine the effect and use of information and communication technologies (ICT) on older individuals, not knowing and not needing to use ICT are among the reasons why older individuals do not use ICT. This result may also be due to the belief that this technology is aimed at young people (Baran et al., 2017).

Although Internet usage rates in Türkiye have increased significantly, knowledge of and skills for using digital technologies are important issues that need to be investigated. The fact that ICT usage may be different brings the concept of digital division to the agenda. Although access to technology is currently the main determinant of the digital divide, the level of use of technology and that of information literacy will be the main determinants in the coming years (Saatçioğlu, 2006).

From another point of view, although remote health services, which have gained momentum with the development of technology, are fast and accessible for previously diagnosed diseases/conditions and a treatment plan is prepared, they will be insufficient for detecting new symptoms. However, there is no doubt that remote health care will bring new rights and obligations in the areas of reimbursement and financing, confidentiality and privacy, patient and employee rights and safety.

On the other hand, the rapid development of digital technologies in health without the necessary infrastructure raises the possibility of increasing the demand for health services and clogging the system. In addition, the diversification of electronic platforms that are expected to be used by the employees together with the technological developments will cause extra work for employees while at the same time causing possible wrong transactions.

Finally, although wearable technologies make life easier, adaptation to these technologies is one of the possible obstacles. According to a study, wearable technologies can create uncomfortable feelings when worn for a long time, which causes a high risk of rejection, especially by older adults at home (Uddin et al., 2018).

Technology can be stated to be crucial in providing LTC services. Accurate, good-quality and sufficient data are essential for improving technology and also for establishing evidence-based policies. Effectively benefiting from the data and data-based information technologies to improve patient safety, reduce harm and improve patient outcomes in LTC is a common goal among health-care providers, patients and regulators, as stated by Brenner et al. (2016). Beyond providing uninterrupted LTC, idle data that are not being used can be put to use and processed in a way that can create value and be transformed into useful data for policy-making (Merih et al., 2021). Because accessing accurate and quality data is problematic in Türkiye, there are problems in making data-based decisions in LTC (Güloğlu, 2022). Statistics
cannot be kept regularly for various reasons and there is a reluctance to share the statistics (Alav, 2021). These are considered barriers to data-based decisions.

Potential opportunities

Option 1. Strengthening coordination among LTC service providers

Solving current problems related to LTC services requires an integrated system, which is possible with political commitment. Political interests focus on developing social and health policies and these are seen as a priority. In addition, with a more coordinated system, the financial burden of current care support and LTC expenditure can be reduced as health problems are more controlled. These factors bring a care coordination strategy to the agenda.

Hofmarcher et al. (2007) reported that a care coordination strategy has linking services and provides them together when and where needed. To reduce the need for high-cost hospitalization, patients should receive proper acute and LTC care, fragmentation should be eliminated, and there must be strong coordination in LTC that targets the fragile, elderly and other complicated or high-risk groups. Programmes for care coordination, such as case/care management and disease management, improve the quality, although the evidence to support their cost–effectiveness is limited (Kodner, 2009).

Through the e-Nabiz application, individuals and health-care professionals in Türkiye can access the health records collected from health-care institutions via the Internet and mobile devices. It is a personal health record system where citizens can manage all of their health information and access their medical history from a single location, regardless of where the examinations, diagnostic tests and treatments were performed. It is one of the most comprehensive health-care information infrastructures in the world. It allows physicians to review health records and establishes strong and fast communication between patients, physicians and institutions (e-Nabiz, 2022). This state-of-the-art electronic health database can provide significant benefits in strengthening the coordination between service users, physicians and institutions providing LTC.

Option 2. Strengthening the LTC financing system

In countries such as Belgium, Denmark, Germany and the Kingdom of the Netherlands, pioneering regulations have been made in the area of care insurance. Care insurance is implemented in three ways – as a premium system, a non-contributory system and a mixed system consisting of a combination of these two systems (Kocabaş and Kol, 2020). However, there is no LTCI plan developed for LTC services that covers the entire population of Türkiye.

The “Home Care Pension” run by the MoFSS provides support programmes for caregivers who are not registered in Türkiye by providing cash assistance for low-income households (MoFSS, 2022).
The strategies that need to be developed to carry forward all these initiatives in a holistic manner will provide an opportunity for Türkiye to offer LTC services that are more effective, efficient and of high quality.

A significant portion of LTC services in Türkiye are financed directly by households through OOP payments. However, low-income individuals in need of LTC, whether covered by social security or not, are paid by organizations such as the MoFSS and municipalities through the central budget and local budgets. A programme called YADES has been launched to protect and support older adults over the age of 65 years who reside in Türkiye and need services. It also facilitates the lives of those who need biopsychosocial care by providing the necessary care where they live; it is planned to spread these services throughout the country. In this way, direct financial transfers allocated to the LTC area can be distributed from the central budget to the ground budgets. Integration of financing and consolidation of local resources for the provision of LTC also have the potential to result in the establishment of a nursing care insurance for LTC services and improve the integration between central and local governance in the areas of health and social care.

In addition, the 2011–2013 Care Services Strategy and Action Plan of the Prime Ministry Administration for Disabled People in the field of care insurance envisaged that preparatory studies should be carried out on issues such as determining the financing method, making actuarial calculations, determining the actors in the system and regulating care insurance within the social insurance system to cover the entire population. Taking this initiative together holistically and developing an insurance plan for LTC services will be an important step towards providing the LTC services society needs in the future.

**Option 3. Improving the use of technology in LTC**

Independence is a critical issue not only for older individuals, but also for individuals with disabilities or chronic illnesses. While trying to cope with health-related problems such as falls, sensory disorders, limitation of movement, isolation and drug administration, these individuals seek solutions to improve their lives (Demiris and Hensel, 2008). At this point, technology has brought a new dimension to health and care services through electronic health applications that allow monitoring of the health status of people, especially following the COVID-19 pandemic.

The health sector, which is one of the areas where technological developments are closely followed in Türkiye as in the whole world, is rapidly implementing digital transformation applications to alleviate the burden of increasing chronic diseases, an ageing population and epidemics.

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8 Date: 31 December 2010 – Number 27820 (Official Gazette, 2010)
Developments in the field of health informatics in Türkiye started in 1999 with the effort to produce a hospital information management system software. Since 2003, the concept of e-health has been included within the scope of the health transformation programme. E-health applications, which started as the transfer of health data to electronic media, have become active in more areas with the development of technology (Şengül, 2019).

The main components of e-health services in Türkiye are the central hospital appointment system, e-pulse, teleradiology and telemedicine services that include remote health service delivery. Through these services, appointments are made via the web or mobile devices, priority is given to individuals over 65 years of age, cancer patients, orphans, women with risky pregnancies and disabled individuals. The medical backgrounds of individuals can be accessed from a single place, and radiology images can be accessed on the web 24 hours a day, 7 days a week.

As in the whole world, especially in Türkiye after COVID-19, telemedicine services, in short, have taken a place on the agenda of both policy-makers and the scientific literature. The first legal regulation for the provision of remote health services in Türkiye is the Regulation on the Delivery of Remote Health Services, which came into effect in 2022. With this regulation, the legal basis for telemedicine services has been established.

While remote health services facilitate accessibility to services regardless of time and place, they are also cost effective. According to a systematic analysis, the use of technologies such as smart homes and telemedicine in LTC services both reduces costs and increases the possibility of receiving LTC (Rezapour et al., 2021).

In the digital information age, the digitalization and transformation of health services is normal, but the adaptation of individuals to this digital transformation and their access to ICT is an important issue that needs to be emphasized. Internet usage rates in Türkiye are increasing significantly from year to year. According to the Information and Communication Technology (ICT) Usage Research in Households, conducted by TUIK, the rate of Internet usage among individuals aged 16–74 years was 79% in 2020 and 82.6% in 2021. While 90.7% of households had access to the Internet in 2020, it increased to 92% in 2021 (TUIK, 2021b). The rate of use of the Internet among individuals in the 65–74 years age group was 8.8% in 2016 and 32.5% in 2021 (TUIK, 2022b). The rapid increase in Internet access and usage rates in Türkiye point to the potential of digital health services in the next few years.

According to the Transforming the Future of Aging (2019) report of the Science Advice for Policy by European Academies, the prevalence of health-care technologies will expand rapidly and these technologies can also be used for the detection and diagnosis of diseases, improvement of health, maintenance of functional ability and prolongation of healthy life expectancy (Science Advice for Policy by European Academies, 2019).
The use of technologies in the field of health can expand the opportunities for access to care services and enable the assessment and delivery of care services in a holistic way. An example of this is seen in the person-centred integrated care for older people (ICOPE) approach developed by WHO. ICOPE was developed to support the transformation of health and social care systems to provide integrated and person-centred care for older people. It prioritizes the use of digital technology to collect and report data on the internal capacity and functional capabilities of individuals, support self-management and exchange information among service providers (WHO, 2019).

The use of digital technologies in health services, aside from their contribution to existing health and care systems, seems to have a positive impact on achieving the United Nations Sustainable Development Goals. One of the important studies carried out in Türkiye to achieve the goal of reducing premature deaths from noncommunicable diseases by one third through the prevention and treatment of these diseases is the Disease Management Platform. Thanks to this digital platform integrated with e-health services, family physicians carry out the screening and follow up of individuals with chronic diseases. It aims to prevent individuals from experiencing loss of function and becoming disabled through monitoring of complications and planning of integrated care support with recommendations for patient-specific treatment plans.
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ANNEX 1. PROBLEM TREE: THE BUILDING BLOCKS OF INSUFFICIENT LTC SERVICES

Social consequences

Health issues (mortality, disability, poor life and health quality)

Financial consequences

Lack of sustainable, effective, quality and accessible LTC services

Insufficient LTC services

Provider-based problems
Fragmented LTC providers
Informal caregiver problems
Lack of monitoring and control
Lack of education and qualifications

Lack of regulations
Lack of legislative integrity
Inadequate existing regulations
Confusion regarding authority and responsibility

Service user-based problems
Uncertainty of size of the target group
Uncertainty of need of the target group
Cultural factors on care perception

Financial issues
Lack of LTCI
Lack of an integrated financing structure
Lack of sustainable and holistic financial management

Insufficient use of technology
Lack of widespread use of technology in the public sector
Not enough funding
Lack of regulation
### ANNEX 2. SUMMARY OF SYSTEMATIC SCIENTIFIC LITERATURE SEARCH

<table>
<thead>
<tr>
<th>Option/Options</th>
<th>Systematic Review</th>
<th>Rating</th>
<th>Inclusion in EBP</th>
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## Annex 2. Summary of Systematic Scientific Literature Search

<table>
<thead>
<tr>
<th>Option/Options</th>
<th>Systematic Review</th>
<th>Rating</th>
<th>Inclusion in EBP</th>
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<tbody>
<tr>
<td>Option/Options</td>
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<tr>
<td></td>
<td>Daly L, Rondon-Sulbaran J, Quinn E, Ryan A, McCormack B, Martin S. A systematic review of electronic assistive technology within supporting living environments for people with dementia. Dementia. 2017;1.</td>
<td>4/9 (AMSTAR rating from McMaster Health Forum)</td>
<td>Included</td>
</tr>
</tbody>
</table>
### Annex 2. contd

<table>
<thead>
<tr>
<th>Option/Options</th>
<th>Systematic Review</th>
<th>Rating</th>
<th>Inclusion in EBP</th>
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</table>
### Systematic review

#### Focus of systematic review

- Outcomes of home care and institutional care comparison in LTC for functionally dependent older groups.
- Effectiveness of case management approaches for home support to patients with dementia from the perspective of different actors (patients, caregivers, and staff).
- Effectiveness of programs aimed at assisting and sustaining individuals with dementia in their homes, including caregivers.

#### Main findings (for each option)

- **For Option 1:**
  - Compared to institutional care, the risk of hospitalization is higher in the community-based care model, where coordination between service providers is more essential. There is insufficient evidence to support a specific model of care for the functionally dependent older groups. There is uncertainty as to whether long-term home care reduces the risk of death or hospitalization compared to nursing home care. Likewise, it is unclear whether the intervention improves physical function or quality of life.
  - **Health Systems Evidence:** 10/10 (AMSTAR rating from McMaster Health Forum)
  - 10 studies were included, two of which were conducted in Europe.

- **For Option 1:**
  - Coordinated case management is useful at improving outcomes for individuals with dementia and their caregivers. While nursing home admissions and overall health care costs may decrease over the medium term, the results of longer follow-up are unclear. Outcomes regarding depression, functional abilities, and cognition are uncertain.
  - **Health Systems Evidence:** 11/11 (AMSTAR rating from Program in Decision-making)
  - 13 studies were included, four of which were conducted in Europe.

- **For Option 1:**
  - In order to improve the coordination of care for older and vulnerable groups, it is important to understand the levels and forms in which integration can take place, the key elements of integrated care, and anticipate the implementation challenges for working over effective changes in different care settings.
  - **Health Systems Evidence:** 6/9 (AMSTAR rating from Program in Decision-making)
  - 118 studies were included, 28 of which were conducted in Europe.
### Annex 3. Summary of Systematic Reviews Relevant to the Three Options

<table>
<thead>
<tr>
<th>Systematic review</th>
<th>Focus of systematic review</th>
<th>Main findings (for each option)</th>
<th>Rating</th>
<th>Proportion of studies conducted in Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baxter, S., Johnson, M., Chambers, D., Sutton, A., Goyder, E., &amp; Booth, A. (2018). The effects of integrated care: a systematic review of UK and international evidence. BMC health services research, 18(1), 1-13.</td>
<td>Effects of service delivery outcomes such as efficacy, efficiency, and quality of care on integration or coordination across healthcare services, or between health and social care.</td>
<td>For Option 1: Well coordinated integrated care models can increase patient satisfaction, improve perceived quality of care, and empower service access. Evidence for cost effectiveness is unclear. Improved access might have a huge impact on services that are failing to keep up with rising demand.</td>
<td>Health Systems Evidence: 8/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>167 studies were included, it was not mentioned how many were conducted in Europe.</td>
</tr>
<tr>
<td>Looman, W. M., Huysman, R., &amp; Fabbricotti, I. N. (2019). The (cost-) effectiveness of preventive, integrated care for community-dwelling frail older people: A systematic review. Health &amp; social care in the community, 27(1), 1-30.</td>
<td>The effectiveness and cost-effectiveness of preventive, integrated care for vulnerable older adults living in the community, with special focus paid to the aspects and levels of integration of the services.</td>
<td>For Option 1: Improvements in health outcomes have been reported with preventive, integrated care interventions compared to usual care. Evidence for cost effectiveness is limited. High expectations regarding the cost-effectiveness of preventive, integrated care for vulnerable older people should be tempered.</td>
<td>Health Systems Evidence: 8/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>29 studies were included, 11 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Coulter, A., Entwistle, V. A., Eccles, A., Ryan, S., Shepperd, S., &amp; Perera, R. (2015). Personalised care planning for adults with chronic or long-term health conditions. Cochrane Database of Systematic Reviews, (3).</td>
<td>Effectiveness of personalized care planning versus usual care for adults with long-term health conditions.</td>
<td>For Option 1: Individuals with long-term conditions may benefit from investments in training, support, and system redesign. Fundamental changes in the organization and delivery of primary care needed in most countries in order to enable proactive, integrated and successful implementation.</td>
<td>Health Systems Evidence: 10/11 (AMSTAR rating from Program in Decision-making)</td>
<td>19 studies were included, three of which were conducted in Europe.</td>
</tr>
<tr>
<td>Davies, S. L., Goodman, C., Bunn, F., Victor, C., Dickinson, A., Lilfe, S., ... &amp; Froggatt, K. (2011). A systematic review of integrated working between care homes and health care services. BMC health services research, 11(1), 1-21.</td>
<td>Determining barriers and facilitators to integrated working by evaluating alternative integrated methods to health care services assisting older persons in care homes.</td>
<td>For Option 1: Evidence for the outcomes of different approaches to integrated care is limited. There was insufficient evidence to assess the cost of integrated work between nursing homes and primary care professionals.</td>
<td>Health Systems Evidence: 8/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>17 studies were included, ten of which were conducted in Europe.</td>
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### Systematic review

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<tr>
<td>Threapleton, D. E., Chung, R. Y., Wong, S. Y., Wong, E., Chau, P., Woo, J., ... &amp; Yeoh, E. K. (2017). Integrated care for older populations and its implementation facilitators and barriers: A rapid scoping review. International Journal for Quality in Health Care, 29(3), 327-334.</td>
<td>Defining key aspects of integrated care systems for older or vulnerable groups and sharing research on implementation challenges as a resource for health system improvement.</td>
<td>Health Systems Evidence: 5/9 (AMSTAR rating from McMaster Health Forum)</td>
<td>30 studies were included, it was not mentioned how many were conducted in Europe.</td>
</tr>
<tr>
<td>Barker, R. O., Craig, D., Spiers, G., Kunonga, P., &amp; Hanratty, B. (2018). Who should deliver primary care in long-term care facilities to optimize resident outcomes? A systematic review. Journal of the American Medical Directors Association, 19(12), 1069-1079.</td>
<td>Changes in health outcomes of older adults in LTC facilities by professional group(s) providing primary care.</td>
<td>Health Systems Evidence: 7/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>26 studies were included, six of which were conducted in Europe.</td>
</tr>
<tr>
<td>Eklund, K., &amp; Wilhelmson, K. (2009). Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials. Health &amp; social care in the community, 17(5), 447-458.</td>
<td>Integrated and coordinated interventions for vulnerable older people in the society, their outcome measures, and their impact on user, caregiver and healthcare utilization.</td>
<td>AMSTAR: 9/11</td>
<td>Nine studies were included, one of which was conducted in Europe.</td>
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<tr>
<td>Kelly, L., Harlock, J., Peters, M., Fitzpatrick, R., &amp; Crocker, H. (2020). Measures for the integration of health and social care services for long-term health conditions: a systematic review of reviews. BMC health services research, 20(1), 1-11.</td>
<td>Measures that are used to evaluate integrated care for people with long-term health problems between health and social care systems.</td>
<td>For Option 1: Integrative care system analyses should be conducted in a systematic and relevant manner. To do this, relevant integration measures must be created and agreed upon. It is important to ensure strong integration between the various structures, processes and results in LTC. Promoting key metrics sets and stakeholder consultation would be useful.</td>
<td>AMSTAR: 6/11</td>
<td>18 studies were included, it was not mentioned how many were conducted in Europe.</td>
</tr>
<tr>
<td>MacAdam, M. A. (2008). Frameworks of integrated care for the elderly: a systematic review (pp. i-29). Ontario: Canadian Policy Research Networks.</td>
<td>Examining models and frameworks for delivery of care to older groups.</td>
<td>For Option 1: Concerning the health outcomes, coordination among service provider, agreements for coordination of clinical activities, and the use of systems to support coordination are the most successful models. The role of physicians is important in order to achieve positive results in integrated care models, especially geriatricians or general practitioners. In US experience, a focus selection of seniors, contractual obligation for a defined package of comprehensive health and social care, a closed network of service providers with an emphasis on primary care, and non-institutional services were all significant features of fully integrated models.</td>
<td>AMSTAR: 5/10 (McMaster Health Forum)</td>
<td>Eight studies were included, one of which was conducted in Europe.</td>
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<tr>
<td>Chen, L., &amp; Xu, X. (2020). Effect Evaluation of the Long-Term Care Insurance (LTCI) System on the Health Care of the Elderly: A Review. Journal of multidisciplinary healthcare, 13, 863–875. <a href="https://doi.org/10.2147/JMDH.S270454">https://doi.org/10.2147/JMDH.S270454</a></td>
<td>Effectiveness of the long-term care insurance (LTCI) system on microeconomic and macroeconomic entities; caretakers and their families and government spending.</td>
<td>For Option 2: The review focuses on the effects of the long-term care insurance (LTCI) system for both caretakers and their families and government spending. It shows that the LTCI system has a great impact on social welfare for both caretakers and their families and this system has reduced the physical and mental health problems of caretakers and the economic burden of their families. However, the effect on LTCI system on disabled elderly families' economic burden may be limited. Also, the dilemma and sustainable development of the LTCI system is the government needs to focus on in the future due to the sustainability of its funding sources.</td>
<td>5/10 (AMSTAR) (Moderate)</td>
<td>49 studies were included, 13 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Chen, L., Zhang, L. &amp; Xu, X. (2020). Review of evolution of the public long-term care insurance (LTCI) system in different countries: influence and challenge. BMC Health Serv Res 20, 1057. <a href="https://doi.org/10.1186/s12913-020-05878-z">https://doi.org/10.1186/s12913-020-05878-z</a></td>
<td>Effectiveness of the development of public LTCI system from four aspects; the comparison of public LTCI systems in different countries, the influence of public LTCI, the challenge of public LTCI, and the relationship between public LTCI and private LTCI.</td>
<td>For Option 2: The review analyses that LTCI system has a positive effect on the health and life quality of the disabled elderly. On the other hand, the sustainability and stability of financing of LTCI system constitute the main challenge and dilemma. Also, the role of LTCI in alleviating the financial burden on families with the disabled elderly may be limited.</td>
<td>5/9 (AMSTAR rating from McMaster Health Forum) (Moderate)</td>
<td>59 studies were included, 16 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Rocks S, Berntson D, Gil-Salmerón A, Kadu M, Ehrenberg N, Stein V, Tsiachristas A. (2020). Cost and effects of integrated care: a systematic literature review and meta-analysis. Eur J Health Econ. Nov;21(8):1211-1221</td>
<td>Effectiveness of economic evaluations of integrated care and the impact on outcomes and costs</td>
<td>For Option 2: The review focuses on the cost-effectiveness of integrated care and its impact on outcomes and costs. Its findings have indicated that integrated care is likely to reduce cost and improve outcome; but, existing evidence is moderate quality and the point of cost-effectiveness varies largely.</td>
<td>7/10 (AMSTAR) (Strong)</td>
<td>47 studies were included, 24 of which were conducted in Europe.</td>
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**Annex 3. contd**

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<tr>
<td>Baxter, S., Johnson, M., Chambers, D., Sutton, A., Goyder, E., &amp; Booth, A. (2018).</td>
<td>Effectiveness of integration in between health care services and / or health and social care services in terms of effectiveness, efficiency and quality of care.</td>
<td>For Option 2: The review is on the effects of integrated care in the point of effectiveness, efficiency and quality of care. It has provided that different models of integrated care may contribute to patient satisfaction, perceived quality of care, and accessing to services. Despite that, the evidence for service costs and increasing demand has remained unclear.</td>
<td>Health Systems Evidence: 8/10 (AMSTAR rating from McMaster Health Forum) (Strong)</td>
<td>167 studies were included, 88 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Loman, W. M., Huijsman, R., &amp; Fabbricotti, I. N. (2019).</td>
<td>Effectiveness of preventive and integrated care for community-dwelling frail elderly</td>
<td>For Option 2: The review finds that there is no clear relationship between cost-effectiveness and integrated care elements or levels of integration. It has argued that future economic evaluations has been proposed to aid policy decisions on the cost-effectiveness of integrated care.</td>
<td>Health Systems Evidence: 8/10 (AMSTAR rating from McMaster Health Forum) (Strong)</td>
<td>46 studies were included, 19 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Zeng Q, Wang Q, Zhang L, Xu X.</td>
<td>Effectiveness of the measurement of long-term care costs on the formulation of LTCI policies</td>
<td>For Option 2: The review indicates that it may be an effective policy to develop private long-term care insurance and the complement relationship between private long-term care insurance and public long-term care insurance may be realized. It argues that the structural designs of LTCI systems has different characterises in different countries; LTCI systems must be adapted to every countries' conditions and the system has required a long-term reform process, so it should be reformed continuously. The stable and sustainable development of public LTCI is key to solve the financing problem of public LTCI.</td>
<td>8/10 (AMSTAR) (Strong)</td>
<td>35 studies were included, seven of which were conducted in Europe.</td>
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## Systematic review

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<tr>
<td>Thabrew H, Stasiak K, Hetrick SE, Wong S, Huss JH, Merry SN. E-health interventions for anxiety and depression in children and adolescents with long-term physical conditions. Cochrane Database of Systematic Reviews. 2018;(8):Art. No.:CD012489. DOI: 10.1002/14651858.CD012489.pub2</td>
<td>Effectiveness of e-health interventions on the treatment of anxiety or depression in children and adolescents with long-term physical conditions</td>
<td>For Option 3: The field of e-health interventions for the treatment of anxiety or depression in children and adolescents with long-term physical conditions, such as chronic headache (migraine, tension headache, and others), chronic pain conditions (abdominal, musculoskeletal, and others), chronic respiratory illness (asthma, cystic fibrosis, and others), and symptoms of anxiety or depression is limited to five low quality trials. The very low-quality of the evidence means the effects of e-health interventions are uncertain at this time, especially in children aged under 10 years. It is too early to recommend e-health interventions for this clinical population.</td>
<td>10/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>Five studies were included, two of which were conducted in Europe.</td>
</tr>
<tr>
<td>Kruse CS, Mileski M, Vijaykumar AG, Viswanathan SV, Suskandla U, Chidambaram Y. Impact of electronic health records on long-term care facilities: Systematic review. JMIR Medical Informatics. 2017;5(3):e35.</td>
<td>Effectiveness of implementation of electronic health records system in LTC facility</td>
<td>For Option 3: EHRs show significant improvement in the management of documentation in LTC facilities and enhanced quality outcomes. There is a mixed impact of EHRs on the management of documentation, and positive quality outcomes using EHRs. Otherwise there is a limited evidence an impact on patient satisfaction, physician satisfaction, the length of stay, and productivity using EHRs. Implementation of EHRs in LTC facilities caused improved management of clinical documentation that enabled better decision making.</td>
<td>4/9 (AMSTAR rating from McMaster Health Forum)</td>
<td>19 studies were included, one of which were conducted in Europe.</td>
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<td>de Jongh T, Guroi-Urganci I, Vodopivec-Jamsek V, Car J, Atun R. Mobile phone messaging for facilitating self-management of long-term illnesses. Cochrane Database of Systematic Reviews. 2012;(12).</td>
<td>Effectiveness of mobile phone messaging for facilitating self-management of long-term illnesses</td>
<td>For Option 3: There is moderate quality evidence from two studies involving people with diabetes showing no statistical difference from text messaging interventions compared with usual care or email reminders for glycaemic control (HbA1c), the frequency of diabetic complications, or body weight. There are some, albeit very limited, indications that in certain cases mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses.</td>
<td>9/9 (AMSTAR rating from McMaster Health Forum)</td>
<td>Four studies were included, two of which were conducted in Europe.</td>
</tr>
<tr>
<td>Daly Lynn, J., Rondón-Sulbarán, J., Quinn, E., Ryan, A., McCormack, B., &amp; Martin, S. (2019). A systematic review of electronic assistive technology within supporting living environments for people with dementia. Dementia, 18(7-8), 2371-2435.</td>
<td>Effectiveness of electronic assistive technology within supporting living environments for people with dementia</td>
<td>For Option 3: The study found that an extensive variety of technical interventions with a broad range of methodological heterogeneity to explore their effect. Wide-spanning outcomes to support the potential of technology solutions and the challenges presented by such intervention were found.</td>
<td>4/9 (AMSTAR rating from McMaster Health Forum)</td>
<td>63 studies were included, 27 of which were conducted in Europe.</td>
</tr>
<tr>
<td>Whitehead L, Seaton P. The effectiveness of self-management mobile phone and tablet apps in long-term condition management: A systematic review. Journal of Internet Medical Research. 2016;18(5):e97</td>
<td>The effectiveness of self-management mobile phone and tablet apps in long-term condition management</td>
<td>For Option 3: The study found that interventions demonstrated a statistically significant improvement in the primary measure of clinical outcome. The evidence indicates the potential of apps in improving symptom management through self-management interventions. The use of apps in mHealth has the potential to improve health outcomes among those living with chronic diseases through enhanced symptom control.</td>
<td>5/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>Nine studies were included, three of which were conducted in Europe.</td>
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<td>Sensing technology to monitor behavioral and psychological symptoms and to assess treatment response in people with dementia</td>
<td>For Option 3: The study showed that the technology was regarded as non-intrusive and well accepted. Targeted clinical application of specific technologies is poised to revolutionize precision care in dementia as these technologies may be used both by patients and caregivers, and at a systems level to provide safe and effective care.</td>
<td>5/10 (AMSTAR rating from McMaster Health Forum)</td>
<td>37 studies were included, 20 of which were conducted in Europe.</td>
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<tr>
<td>Factors influencing acceptance of technology for aging in place</td>
<td>For Option 3: Acceptance of technology by older adults in the pre-implementation stage is influenced by 27 factors, divided into six themes: concerns regarding technology, expected benefits of technology, need for technology, alternatives to technology, social influence, and characteristics of older adults. On the other hand, further post-implementation research is needed to determine if and how the factors are interrelated, and how they relate to existing models of technology acceptance.</td>
<td>7/11 (AMSTAR)</td>
<td>16 studies were included, two of which were conducted in Europe.</td>
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<tr>
<td>Telemedicine services for residents in long term care facilities</td>
<td>For Option 3: Most studies were observational and qualitative, and focused on utilisation. They were mainly based on surveys and interviews of stakeholders. A few studies evaluated the cost associated with implementing telemedicine services in LTCFs. The present review shows that there is evidence for feasibility and stakeholder satisfaction in using telemedicine in LTCFs in a number of clinical specialties.</td>
<td>5/11 (AMSTAR)</td>
<td>N/A</td>
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**Annex 3. contd**
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Education is a key component for staff, residents, and families. There are “traditional” issues with the use of alarms such as alarm fatigue by caregivers, high costs of implementation, and issues with proper implementation of alarms. Alarms are perceived as intrusive and the noise from them can be a potential cause of falls. However, alarming devices can be a key intervention in the safety of those residents who are prone to falls. This requires proper implementation and education for all parties involved, and proper oversight surrounding the use of the devices. | 5/11 (AMSTAR) | N/A |
Almost all studies included an activity sensing component and most of these used passive infrared motion sensors. The three effective (first tier) studies all used a multicomponent technology approach that included activity sensing, reminders, and other technologies tailored to individual preferences. | 5/11 (AMSTAR) | 31 studies were included, 12 of which were conducted in Europe |
HIT has shown beneficial effects for many healthcare organizations. Long-term care facilities that implemented health information technologies have shown reductions in adverse drug events caused by medication errors and overall reduced risk to the organization. The implementation of new technologies did not increase the time nurses spent on medication rounds. | 4/11 (AMSTAR) | N/A |
THE WHO REGIONAL OFFICE FOR EUROPE

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health.

The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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