National eHealth strategy

Foreword

Great strides have been made in the digitalisation of the health and care service since the first national strategy for eHealth was launched in 2017. Technological progress, the pandemic and changing needs have impacted the way in which services are requested and delivered. At the same time, the pressure to deliver good quality health and care services to a diverse population is increasing. With an increasing proportion of elderly people among the population, and more people with chronic and complex health challenges, the need to develop more sustainable, efficient, and effective ways of providing health care services is increasingly urgent. Considering all these current and upcoming challenges within the health system, the further digitalisation of health and care services is a central part of the solution.

Digitalisation is most effective when whole sector unites towards a shared direction and coordinate efforts creating necessary synergies. The health and social care sector consist of many stakeholders and levels and depends on close collaboration across sectors and national and international developers and research communities to solve common challenges. The National eHealth Strategy is a sectoral strategy that unifies and guide the sector in the years to come. The strategy will emphasise the areas that require shared priorities, joint decisions, and coordination.

National eHealth strategy shall contribute to a sustainable and innovative sector, which delivers coherent health and care services of good quality. To achieve this, citizens must receive more holistic health and care services, and be able to actively participate in own and close one's health. Healthcare professionals must have more user-friendly digital solutions that support their working day. Healthcare providers, healthcare professionals and the decision makers must make greater use of health data for increased quality in the health and care services and health monitoring, better utilization of resources, innovation, and better research, preparedness and in general better public health.

As a competent authority, the Directorate for eHealth shall facilitate national coordination and comprehensive and continuous eHealth development. The Directorate have through the broad involvement of the actors in the health and care sector prepared a new national eHealth strategy that applies from 2023, and points towards 2030. Over 60 different actors and stakeholders representing various parts of the sector have participated in the work, including patient and consumer associations, healthcare professionals, healthcare providers, research environments and industry.

We would like to thank all who has contributed to this work and extend a special thanks to the representatives on the committees in the National Council for eHealth. Yet, the most important job lies ahead of us, and that is to ensure that this strategy is fully implemented!

Mariann Hornnes
Director for the Directorate of e-health

Rune Simensen
Director for technology and e-health at the South-Eastern Norway Regional Health Authority, and the leader of the National

Contents

Summary

The national eHealth strategy is the health and care sector's joint strategy for digitalisation and intends to contribute to joint overall priorities and increased implementation capacity in the eHealth area in Norway. The strategy shall be in line with political guidelines and serve as a framework for the actors' own strategies and plans in the digitalisation area.

The strategy must provide a long-term goal while at the same time adapting to societal changes. A vision has been defined to provide the overall direction for what we aim to achieve through our digitalisation efforts in the health and social care sector.

Five strategic objectives represent the focus areas that the sector will collaborate on towards 2030. Each objective has set of key performance indicators which will help to measure achievement of the objective, and the set of the strategic initiatives that presents the most important strategic activities. The key performance indicators and the strategic initiatives are presented in the document "The plan for implementation of the National eHealth strategy" and will be regularly followed-up and adjusted accordingly in the National Council for eHealth.

All stakeholders must work together to implement the National eHealth strategy. Providers of the health and care services and the health and care administration have joint responsibility for implementation. At the same time, good collaboration with research and educational institutions, industry, patient and consumer associations, professional and consumer organizations and other state and municipal actors is crucial to achieving the desired progress and benefit. The strategy must benefit citizens and healthcare professionals and their needs are at the centre of this strategy.

Vision
The strategy's vision is " Together for comprehensive, safe and innovative services that promote health and care empowerment"

The three overall goals for digitalisation in the health and care sector are:
1. Quality and coherence in the services
2. Sustainable health and care sector
3. Innovation strength

The five strategic objectives that are prioritised for the sector to work together on:
Objective 1: Active participation in own and close one's health
Objective 2: Easier working day
Objective 3: Health data for renewal and improvement
Objective 4: Available information and strengthened collaboration
Objective 5: Cooperation and instruments that strengthen implementation

Each strategic objective is important on its own, but they are interconnected and mutually dependent on each other which means that they must be solved in parallel.

Introduction

Norway has a fundamentally good health and care service and was an early adopter of the eHealth solutions. The health and care sector and the citizens have good access to digital tools, and we are constantly getting better digital skills. At the same time, the health and care sector are complex, and consists of many different levels and stakeholders. In this complex landscape, the national eHealth strategy must navigate.

A comprehensive eHealth development requires cooperation across the sector, and the national eHealth strategy is an instrument for achieving this by setting a common direction for digitalisation in the health and care sector. The strategy shall support the actors' overall responsibility for providing sustainable and equitable health and care services of good quality, while at the same time stimulating and contributing to digital transformation in the sector. In the strategy the emphasis is on the areas that require *joint* priorities, decisions, and coordination.

The strategy sets out the overall direction towards 2030 through five prioritized strategic objectives which represent the priority areas that the sector must work on together with all relevant stakeholders. For each of the five objectives, key performance indicators *have been defined* that help to indicate goal achievement, and *strategic initiatives* that are some of the most important strategical activities that move us towards the established goals. The key performance indicators and the strategic initiatives together are presented in the Plan for implementation of the National e-health strategy [1]. The Plan will be regularly assessed and adjusted accordingly to new needs and changes. The implementation will therefore be based on a flexible approach with step-by-step deliveries and active involvement of all relevant actors.
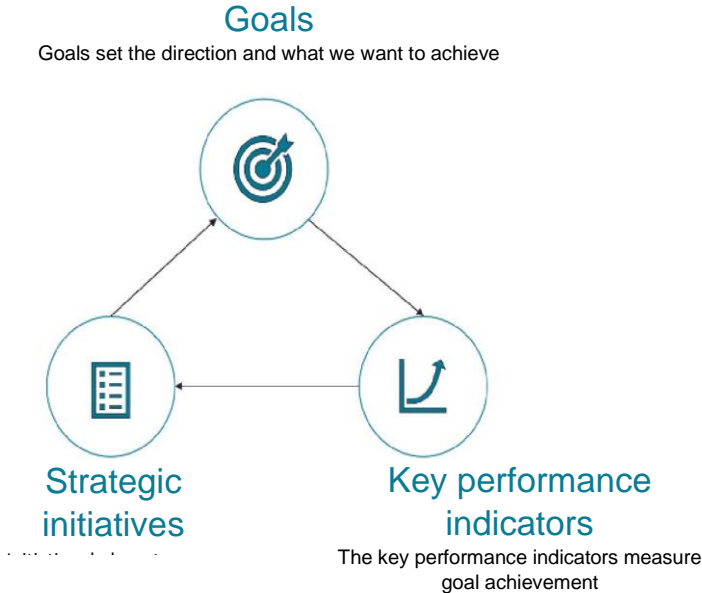
Goals
Goals set the direction and what we want to achieve

Strategic initiatives

Key performance indicators
The key performance indicators measure goal achievement

Figure 1. The strategy's focus areas are described strategic objectives, key performance, and strategic initiatives

The National Council for eHealth[2] will have a central role in managing and following up of the strategy. Progress on key performance indicators and strategic initiatives will form the basis for strategic discussions, which may lead to changed priorities and potential adjustments in strategic direction and plan for implementation.

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[1] The governance and monitoring of the strategy are described in detail in the "Plan for implementation of the national eHealth strategy"
[2] The Norwegian Directorate of e-health (2022): National Council for eHealth

Summary of the knowledge platform

The strategy is based on the knowledge platform[3] consisting of a current situation analysis and a scenario analysis which are prepared through broad involvement of stakeholders. The results from the knowledge platform are briefly summarized in this chapter.

An aging population, more people with chronic and complex health challenges, a growing shortage of healthcare professionals and demanding economic situation requires that resources and expertise are used in more efficient way to be able to provide good health and care service. Digitalisation is one of the tools that give us an opportunity to increase quality, efficiency, effectiveness and which enable us to provide health and care services in more innovative ways. At the same time, we know that it is demanding to create a change. We must facilitate digital transformation through adaptation of structures, processes, and better collaboration across all stakeholders in the health and care sector and other relevant sectors.

Progress has been made with coordination of digitalisation initiatives across sector, but it is still necessary to further develop cooperation and co-management based on trust, equality, and predictability. Proper processes need to be in place to ensure that jointly made decisions are integrated in the decision-making process of all stakeholders. There is need for a more unified and structured approach to the further development of legal and financial instruments. Development of the regulations needs to a greater extent be in line with increased digitalisation needs, and funding models needs to be flexibility and predictable.

A solid foundation for digital collaboration in the health and care sector has been established and several national eHealth solutions are in use. Many improvements were made during the pandemic regarding infrastructure, data sharing, awareness, and use of digital services. Even though we are constantly taking steps in the right direction, there is still work to be done to ensure an efficient flow of information between and across all levels and actors. There is also potential for making digital solutions more user-friendly both for citizens and healthcare professionals.

Digital skills are a key prerequisite when it comes to achieving effective digitalisation. Both citizens and healthcare professional in Norway have a good starting point for finding, understanding, and adopting digital information, but increasing level of digitalisation will entail ever higher demands. However, there is a great variation in digital skills which can be challenging both for citizens and healthcare professionals to adopt new solutions and tools. Increased digitalisation may leave more people feeling like digital outsiders which can lead to unwanted inequities in health and care.

Health and care services are provided as part of a broader ecosystem. Stakeholders are increasingly seeking to create cohesive and integrated services for citizens also across sectors. Closer collaboration with research and industry could strengthen innovation and implementation capacity in the eHealth area. International cooperation is important and there is a high political attention, particularly regarding pan European cooperation on eHealth and data sharing.

Large amount of data is generated and collected, but it is used to a limited extent. There is potential for better use of health data for the improvement of clinical treatments, prevention, preparedness, and in public health. Digitalisation and sharing of health data requires better digital security which are amplified through global cyber events and an increased digital cyber threat. Digital security efforts are highly prioritised within the health and care sector and the public sector in general.

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[3]Directorate for e-health (2022): Knowledge platform for national e-health strategy from 2023

Relation to other strategies and plans

The National eHealth Strategy is a sectoral strategy and will facilitate increased coordination and collaboration on digitalisation within the health and care sector. The strategy does not change the governance structures, but will, through the active management of the National Council for eHealth, provide guidance for the areas that require *joint* priorities, decisions, and coordination. The strategy will provide framework for stakeholders' own strategies and plans within the field of digitalisation, for example local authorities' ambitions within eHealth and regional health authorities' development plans, while also ensuring mutual collaboration between these.

The National eHealth Strategy and Plan for Implementation must be in line with political guidelines and consider other relevant strategies and plans. The most central documents are the National Health and Hospital Plan (2020-2023) [4]and One Digital Public Sector: Digitalisation Strategy for the Public Sector 2019-2025 [5]. The National Health and Collaboration Plan that will enter into force from 2024, and the new public health and health preparedness report that are due in 2023 will also set out overall framework for political guidelines for the health and care sector.

Digital security and digital skills

Digital security and digital skills are two central topics to several adjacent strategies and plans. These areas are important for achieving the objectives of the National eHealth Strategy, even if no dedicated objectives on these to topics have been defined in this strategy. Close follow-up on developments in these two areas is important to ensure that the eHealth strategy is in line with those developments.

In recent years, the focus on digital security has increased. There has been a notable increase in the number of serious cyber-attacks and there are several examples of events that have affected the sector both in Norway and international. Digital security breaches can create serious disruptions to the health and care sector's ability to deliver secure services. Coordinated efforts are put in place to manage digital security in the public sector, also through the National Cyber Security Strategy for Norway [6]. There are special issues linked to digital security in the health and care sector, and for that reason the area has been raised as a central topic by the Storting (The Norwegian Parliament) in the forthcoming White Paper on health preparedness. Digital security is a prerequisite for the objectives in the eHealth strategy therefore any guidance in the upcoming report may in the long run lead to changes in the structure of the strategy.

Digital skills [7] are a critical factor for digital transformation in the health and care sector. Several national stakeholders are working to increase the level of digital skills [8]. Digital skills are one of the priority areas in the Digitalisation strategy for the Public Sector (2019-2025). The Ministry of Education and Research has published a Digital Transformation Strategy for the University and College sector [9]and the Ministry of Local Government and Modernisation has published the strategy Digital Throughout Life (2021) [10] to increase digital inclusion. Several regional and local initiatives are also underway to strengthen digital skills. Digital skills are a prerequisite for enabling the ambitions of the National eHealth strategy which is to strengthen the role of citizens and healthcare professional. At the same time, important work is under way at national, regional, and local level, which must be followed up to ensure the desired development.

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[4]The Government (2019): National health and hospital plan 2020-2023 . From 2024, the National Health and Cooperation Plan will replace the National Health and Hospital Plan
[5]Ministry of Local Government and Modernization (2019): Digitalisation strategy for the public sector 2019-2025
[6]The Government (2019): National Cyber Security Strategy for Norway
[7]Digital skills: a collective term for characteristics, attitudes and values, digital skills and digital knowledge and understanding
[8]Ministry of Education (2020): Future competence needs III — Learning and competence at all levels
[9]Ministry of Education (2021): Digital transformation strategy for the University and College sector
[10]Ministry of Local Government and Modernization (2021): Digital Throughout Life

Vision, overall goals, and target groups

Vision

The strategy's vision sets out the overall direction for what we aim to achieve through digitalisation efforts in the health and care sector.

Together for comprehensive, safe, and innovative services that promote health empowerment

Every word and phrase in the vision has a guiding meaning:

Together reflects that digitalisation cannot be solved by an individual stakeholder but it must be solved through cooperation and coordination within the health and care sector, other sectors and stakeholders in research and industry both at national and international level. Involvement of healthcare professionals and citizens is a prerequisite for success.

Comprehensive indicates that services and solutions must be perceived as coherent and user-friendly for citizens and healthcare professional. The solutions must facilitate effective digital collaboration between stakeholders and with other sectors.

Safe health and care services includes patient safety, health preparedness, digital security and citizens and healthcare professionals trust in the health and care services. It includes also systematic use of research-based knowledge in the development of digital solutions.

Innovative is about utilising knowledge and the opportunities digitalisation provides to innovate and improve the way we provide health and care services.

Promoting health and empowerment means empowering the citizen to promote own and close ones' health in everyday life, regardless of disease, disability, and socio-economic background. It is also about prevention at individual and population level.

Overall goals for digitalisation of the health and care sector

Digital transformation is a key to meeting the changes and challenges that the health and care sector is facing. The goal is to ensure that digitalisation is an integrated part of the health and care service. Three overarching goals have been defined in the strategy to clarify how digitalisation will contribute to a more sustainable, effective, and equitable health and care. These goals are conforming with three sub-goals defined in the Digitalisation Strategy for the Public Sector.

1. **Quality and coherence in the services**

Norway has a good health and care service, but there are still undesirable variations in quality, and the services are not perceived as comprehensive by citizens and healthcare professionals. Digitalisation and increased utilisation of technology are key instruments for contributing to strengthening patient safety, information sharing and more coherent and resilient services. Digitalisation must also support equitable services for a diverse population. In particular, the digitalisation could contribute to the provision of more geographically equitable services, as digital health and care services can be delivered regardless of place of residence.

2. **Sustainable health and care sector**

Demographic development and a shortage of healthcare professionals are creating new demands for the sector. To continue providing high-quality health and care services, digitalisation must contribute to increased productivity, more prevention and smarter task-solving so that sector can utilise resources and the expertise of the healthcare professionals in the best possible way.

3. **Innovation strength**

Adequate innovation is required to achieve sustainable health and care services of high quality. Digitalisation is a driving force for building a culture and competence for innovation and an instrument to create place for innovation and providing services in new ways, collaborating in new ways and exploiting technological opportunities.

Target groups for the strategy

Many stakeholders must work together to implement the National eHealth Strategy. Health care providers and the health administration are jointly responsible for implementing the strategy. At the same time, the collaboration with research and educational institutions, industry, patient and consumer organisations, professional and interest associations and other public and local government agencies is crucial to achieving the desired progress and benefit.

The strategy must provide benefits for citizens and healthcare professionals, and their needs must be put at the centre of the strategy. The strategy must consider the needs of citizens and healthcare professional to easily communicate and share information for the purpose of collaborating on health and empowerment. Furthermore, the strategy must meet citizens needs for safe, good, adapted, and accessible health and care services and the opportunity to actively participate in their own and close one's health. The strategy must also meet the needs of health care professionals regarding user-friendly digital support, up-to-date information which enables more efficient working day and to make the right decisions together with the patient.

Strategic objectives

Five strategic goals have been prioritised. These objectives represent the priority areas that stakeholders will work on to achieve vision and the three overarching goals for digitalisation and the needs of the target groups.

Objective 1: Active participation in own and close one's health
Digital health and care services must facilitate that citizens can easily get involved in prevention, treatment, and follow-up of their own and close one's health. How, when and where health and care services are carried out must to a greater extent be adapted to the citizen's needs. This will contribute to better utilization of competence and capacity.

Objective 2: Easier working day
Healthcare professionals should have access to user-friendly digital tools that provide good decision support and supports administration processes. This will contribute to strengthened patient safety, a reduction in unwanted variation and a more attractive work situation for healthcare professionals.

Objective 3: Health data for renewal and improvement
The health and care services, healthcare professionals and the health and care authorities will increasingly make decisions based on data. More data-driven decisions will contribute to better resource utilisation, increased quality, and innovation in the services, as well as better research, health monitoring, emergency preparedness and overall better public health.

**Objective 4: Available information and strengthened collaboration**
Digital collaboration and strengthened information management along with increased standardization will ensure that health information is secure and easily accessible when needed. This will   facilitate a more active citizen, better and more effective health care, as well as better data analyses for quality improvement, health monitoring and governance.

Objective 5: Cooperation and instruments that strengthen implementation
The implementation in the eHealth area will be strengthened through increased cooperation and better use of financial and legal instruments. This will result in coordinated and comprehensive eHealth development that provide sustainable health and care services of good quality.

Together for comprehensive, safe, and innovative services that promote health empowerment
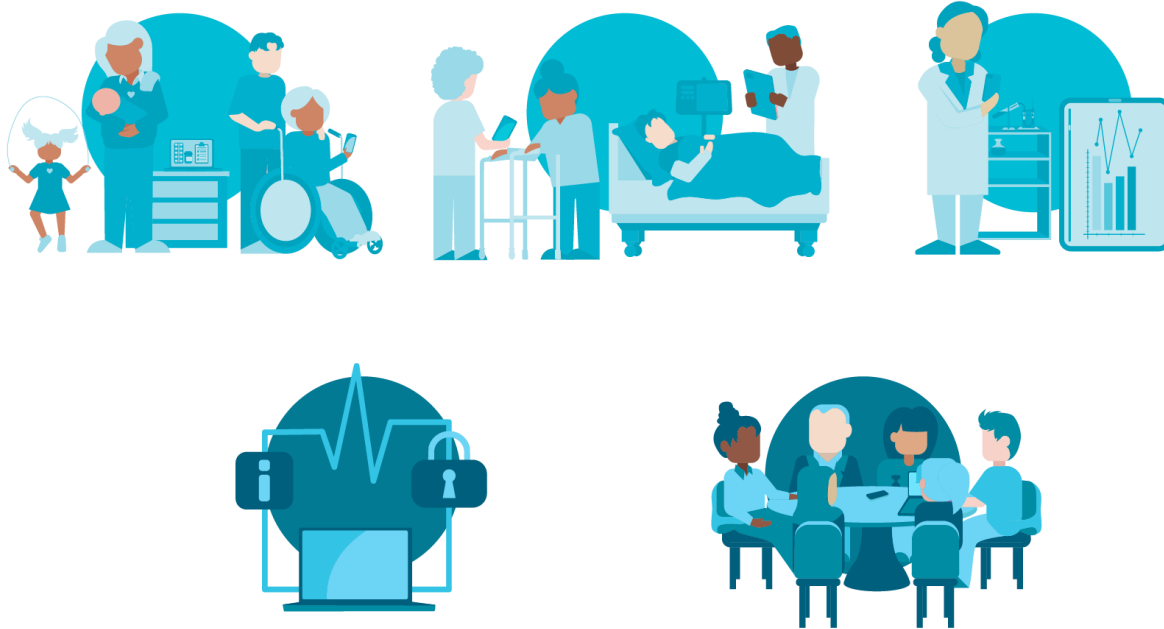
Figure 2. The five strategic objectives must contribute to the strategy's vision, overall goals, and the needs of the target groups

Each one of five strategic objectives is important, but they are interrelated and interdependent. This means that we cannot achieve one objective individually, rather we need to achieve the objectives in parallel. Objectives 1 to 3 will provide direct benefit to the target groups in the strategy, while objectives 4 and 5 are prerequisites for success of the objectives 1, 2 and 3.

The objectives will be evaluated and adjusted towards 2030, to adapt to any changes in the society, health care sector, technological development and other factors that affect the sector's priorities.

The UN's Sustainable Development Goals

It is a stated policy that the health and care sector should contribute to sustainable development and support the UN's sustainability goals [11]. Digitalisation can facilitate sustainable services and solutions that help us to move in the right direction. Consequently, digitalisation will support Norway's ability to deliver on the sustainability agenda and the UN's Sustainability Development Goals towards 2030. The following UN Sustainable Developments Goals are particularly relevant to the National eHealth Strategy, and these are reported on in the national portfolio:

3.Good health and well-being: The health and social care sector is key to ensuring good health and promoting quality of life for everyone. Digitalisation will be used to support this by facilitating better quality and patient safety, sustainable development and innovation, which are the three overarching objectives in this strategy. All five strategic objectives contribute to the above, but objectives 1-3 contribute most directly in respect of residents. Objective 1 contributes through increased flexibility and better opportunities for residents to proactively participate in matters relating to their own health and that of relatives, objective 2 contributes by facilitating equal and quality-assured healthcare and objective 3 contributes by creating targeted initiatives for quality improvements, innovation, prevention and preparedness.

Industry, innovation and infrastructure: Industry and infrastructure, including infrastructure for information technology, is a prerequisite for a well-functioning society. eHealth has an important role to play here and digital infrastructure will ensure communication and data sharing across the health and social care sector and with other sectors. Objective 4 is key to ensuring that the infrastructure is reliable and resilient. The eHealth field will also contribute to inclusive and sustainable innovation in the sector. This relates in particular to objective 3 Health data for modernisation and improvement. Objectives 1 and 2 will also contribute to health and social care services being provided in new ways and objective 5 will contribute to improved collaboration and ecosystems for innovation and research on eHealth.

10. Reduced inequalities: In order to reduce inequality, resources must be distributed fairly within and between countries. The health and social care sector must provide equal services. For eHealth, this means that everyone must have equal access to digital services, regardless of age, place of residence, ethnicity, gender and financial situation. It also means that the services must take into account variations in digital skills and non-digital users. Objectives 1 and 2 are important when it comes to contributing to the above, by working towards equal services and contributing to the development of digital skills.

12. Responsible consumption and production: There is a need to ensure sustainable consumption and production patterns. The stakeholders within the health and social care sector are all responsible for reducing consumption within their actors. Digitalisation and use of data to improve efficiency can facilitate this, including by using more data to achieve insights, which is part of objective 3.

13. Climate action: Society as a whole must contribute to stopping climate change and the health and social care sector accounts for approximately five per cent of the total greenhouse gas emissions in Norway. Digitalisation can contribute through increased use of digital services, as described in objectives 1 and 2, with digital communication able to reduce transport requirements in connection with health and social care services and through objective 3 by using data for targeted optimisation. Increased digitalisation creates digital pollution and eHealth should therefore play a role in avoiding overconsumption of electricity by stimulating sustainable digital behaviours.

17. Partnerships for the goals: To succeed with the Sustainable Development Goals, new and strong partnerships will be required. In general, the attainment of the objectives set out in the strategy requires the health and social care sector to collaborate on digitalisation. There is a need for closer links to other sectors and other parts of society, as well as international communities. Objective 5 references the need to improve and widen collaboration and strengthen the instruments to ensure implementing capacity for the strategy to create the desired effects. The follow-up process that has been outlined for the strategy will also contribute to an active and close collaboration on the desired effects.

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[11] The UN's sustainability goals are the world's joint work plan to eradicate poverty, fight inequality and stop climate change by 2030. Norway's action plan to achieve the sustainability goals by 2030 is described here: Government (2021): Report . St. 40 (2020–2021) Goals with meaning— Norway's action plan to achieve the sustainability goals by 2030

Objective 1: Active participation in own and close one's health

Digital health and care services must facilitate that citizens can easily get involved in prevention, treatment, and follow-up of their own and close one's health. How, when and where health and care services are carried out must to a greater extent be adapted to the citizen's needs. This will contribute to better utilization of competence and capacity.

Citizens expect to have more insight into their health information and data, to have opportunities to participate in their own and close one's health care, and to have the opportunity to adapt treatments to their life situation. There is a great variation in the spread and use of digital services, across geographical locations, socio-economic and demographic dimensions as well as between different treatment pathways.

Towards 2030, we shall achieve:

- Citizens will have simple and user-friendly digital tools, self-service solutions and access to customized information that enables them to be active and make good choices to safeguard own and close ones' health
- Citizens and their relatives have easy and secure access to own and close ones' health information that is communicated in a form that is easy to understand and which contributes to increased health literacy
- Citizens and their close ones can easily give a consent and powers of attorney
- Patients and healthcare professionals have access to tools that give citizens the opportunity to take part in decisions of their own treatment in consultation with healthcare professionals
- Citizens and healthcare professionals have access to services that ensure easy communication and more efficient self-reporting and self-monitoring
- Citizens, in cooperation with healthcare professionals can customize to when, where and how health and care services are performed, and several services are provided at the patient's home
- More people with health issues are living longer at home by help of the welfare technology and digital home follow-up. This contributes to increased security, empowerment, and the ability to take care of their own health
- Digital exclusion is reduced by the services being adapted individually so that "non-digital" citizens have the same access to the health and care services as "digital" citizens

When the objective is achieved, citizens and their close one's will have flexibility and more opportunities to participate proactively in their own and close one's health and care. Effective collaboration between citizens, relatives/guardians and healthcare professionals is in place, and expertise and capacity are utilised in a way that contributes to sustainable health and care services.

Development of digital skills and health literacy among citizens and close one's will have impact on the achievement of the objective. Dedicated strategies and initiatives at national, regional, and local level are put in place to ensure this development, as mentioned in the introduction of this document. The objective also foresees further development of work processes to optimates the opportunities given by digitalisation. Further development of processes is part of the responsibility of all stakeholders and highlights importance of close cooperation. Achieving the objectives will also depend on an effective flow of information, which is covered by objective 4.

Objective 2: Easier working day

Healthcare professionals should have access to user-friendly digital tools that provide good decision support and supports administration processes. This will contribute to strengthened patient safety, a reduction in unwanted variation and a more attractive work situation for healthcare professionals.

There are many good digital solutions in use today, and improvements are continuously being made. At the same time, professionals in the health and care service experience that many of the current solutions have insufficient functionality and that there is not enough time for training. Healthcare professionals spend a lot of time obtaining and registering information, as well as other manual work, and this takes time away from the patient. At the same time, technology provides opportunities for healthcare professional to make better use of knowledge, further development of working processes and exploring of new ways of providing healthcare.

Towards 2030, we shall achieve:

- Healthcare professionals have access to comprehensive digital work tools that contribute to an efficient working day
- Healthcare professionals have easy access to relevant and necessary information about the patient, regardless of where in the country and at what level they have received health care treatment
- Healthcare professionals can digitally collect information and have a digital dialogue with patients
- Reduced double registration and more automatic reporting to health registries, to other public registries and public authorities
- Health and care assessments are to a greater extent supported by digital knowledge and decision supporting tools
- Clinical and administrative processes are more efficient and take advantage of opportunities of new technologies, including artificial intelligence and personalised medicine
- Healthcare professionals have good digital skills both from education and through training in the use of new digital tools

When the objective is achieved, the healthcare professionals will have better support to make good and more consistent choices related to prevention, diagnosis, and treatment. The choices they make will to a greater extent be based on knowledge and experiences available in the tools they use. Healthcare professionals will spend less time collecting data, on manual tasks and will have more time for the patient and the work situation is perceived as more attractive. This will contribute to equal and quality-assured health and care, regardless of where is provided.

An important prerequisite to achieve this objective is that digital skills are prioritized in the education of the healthcare professionals' and in the further education of the managers in the health and care sector. Achievement of this objective also depends on an effective and secure flow of information, as described in the objective 4.

Achieving of this objective will lead to better collection of data and more structured information in the eHealth solutions. This will enable better use of health data which is covered by objective 3.

Objective 3: Health data for renewal and improvement

The health and care services, healthcare professionals and the health and care authorities will make decisions based on data. More data-driven decisions will contribute to better resource utilisation, increased quality, and innovation in the service, as well as better research, health monitoring, emergency preparedness and overall better public health.

Large amount of health data is generated and collected but it is used to a limited extent. There is a need to strengthen the ability to create and utilise insights from the data to contribute to service innovation, research, health monitoring, preparedness, and public health.

Towards 2030, we shall achieve:

- The health and care services, healthcare professionals and the health and care authorities have better access to data and analysis solution to make good decisions, including solutions based on artificial intelligence
- Widespread use of knowledge-based data and health registries for quality improvement, research, health monitoring, emergency preparedness and crisis management and governance
- Further development of personalised medicine, supported by advanced data analysis
- Systematic collaboration within the health and care sector, industry, and research to utilise health data for service development, innovation, and development of industry
- Closer international cooperation on health data, which includes the planned work on European Health Data Space (EHDS)

When the objective is achieved, more informed choices can be made to efficiently utilise resources and reduce undesirable variations in quality. Targeted initiatives are in place to improve quality, as well as preparedness, prevention, and health promotion. Better insights will enable healthcare professionals to make more informed decisions and improvement in clinical practice. Increased innovation, research and quality improvements in the health and care service will support citizens regarding prevention and access to new and more effective health and care services.

Effective information management, good quality of data and better access to health data through health registries, health data initiatives and analysis platforms, are important prerequisites for achievement of this objective. There is need for access to structured health data collected from a broad range of sources such as health and care services, medical devices, citizens, other sectors, and international stakeholders. Another prerequisite is that information must be more standardised and that freely flows between stakeholders which is described under the objective 4. Regulations need to be in place to enable safe access to health data which complies with the requirements of data protection and information security, as described under the objective 5.

Objective 4: Available information and strengthened collaboration

Strengthened information management and increased standardization will ensure that health information is secure and easily accessible when needed. This will facilitate a more active citizen participation, better and more effective health care, as well as better data analyses for quality improvement, health monitoring and governance.

A solid foundation has been established for digital collaboration in the health and care sector, but there are still challenges related to quality, structuring, accessibility, and comprehensive information management. Along with challenges in the regulations, this affects the sharing and utilization of health data. There are several ongoing programs and projects that address parts of these issues.

Towards 2030, we shall achieve:

- Facilitating safe and efficient sharing and access to relevant, up-to-date, and correct information across actors and sectors
- Facilitating effective collaboration on relevant citizen data
- Increased standardisation, where collaboration is mainly based on relevant international standards, coding systems and terminology, with necessary national adaptations
- Strengthened local, regional, and national information management that has laid the foundation for good quality, utilisation, and security of the information
- Safeguarding privacy and digital security through a balanced approach to confidentiality, availability, integrity, and resilience
- Mutual trust between the actors as a basis for the exchange of information
- Closer and more effective cross-sectoral digital collaboration
- Norway is part of the EU infrastructure for the exchange of health data
- Increased availability of data from a broad set of sources, such as the entire health and care services, medical equipment, citizens, other sectors, and international actors
- Better facilitation of data used in quality improvement, research, health monitoring, emergency preparedness, crisis management and governance

Digital collaboration is strengthened, and efficient and secure sharing of data is facilitated when the objective has been achieved. This enables citizens and healthcare professionals to make informed and effective decisions based on relevant, up-to-date, and accurate information obtained from different stakeholders at all levels of the health and care sector but also other sectors. Increased standardisation and efficient information flow will stimulate better use of resources, quality improvements, development of industry and innovation.

Good data quality will contribute to better experience with digital surfaces both for citizens' and healthcare professionals, as described in the objective 1 and 2. An important prerequisite is regulations that enables sharing of data, as described in the objective 5.

This objective is important prerequisite for at health data can be used fully and properly, as described in the objective 1 and 2. Further it is important prerequisite for quality improvement, health monitoring and governance as described in the objective 3.

Objective 5: Cooperation and instruments that strengthen implementation

The implementation of the eHealth will be strengthened through increased cooperation and better use of financial and legal instruments. This will result in coordinated and comprehensive eHealth development that provides sustainable health and care services of good quality.

The cooperation in the eHealth area has in recent years been developed through the establishment of several important cooperation platforms[12]. These must be further developed by structured involvement of citizens and healthcare professional. Co-management principles have been developed which implies that the cooperation between central and local government must be based on equality where local government has real influence.

Better collaboration models and ecosystems across public sectors, industry, and civil society should be facilitated. Developments in the eHealth is lacking systematic involvement of the research and innovation environments. In recent years, there has been increased international focus on eHealth and it is necessary to strengthen efforts in international cooperation going forward, especially with the EU and the Nordic countries.

Furthermore, there is a need to develop regulations that are to a greater extent in line with new digitalisation needs and that financing models provide predictability and flexibility for all stakeholders.

Towards 2030, we shall achieve:
- Strategic and structured cooperation between actors in the health and care sector
- Coordinated and binding priorities, efforts, and follow-up on common goals
- Clear roles and responsibilities division for the development and adoption of initiatives and realisation of benefits
- Structured involvement of citizens, their close ones and healthcare professionals
- Cross-sectoral cooperation based on the "Digitalisation Strategy for the Public Sector"
- Collaboration with research communities on systematic research and evaluation of benefits in the field of eHealth
- Collaborative models that facilitate a robust industry and use of the market when it is best and most efficient
- Increased international cooperation, especially with the EU and the Nordic countries
- Financing models that provide predictability, promote development, adoption, innovation, and collaboration between actors
- Funding schemes that promote the use of digital services
- Regulations that facilitate necessary sharing of health information in line with new digitalisation needs, while at the same time safeguarding the duty of confidentiality and requirements for privacy and information security

When the objective is achieved, the cooperation will be strengthened, and stakeholders will follow-up common direction and recommendations in their own organisations. Efforts are made continuously and comprehensively to ensure that regulations and financing models consider the developments and needs that arise in and across sectors. Prerequisite for achievement of this objective is coordinated development of instruments across the ministries, agencies and across all relevant sectors. Further development of financial and legal instruments is crucial prerequisite for achievement of above presented four objectives.

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[12]The National Council for eHealth, The Norwegian Association of Local and Regional Authorities (KS) co-management structure for digitalisation, the regional health organisations' collaboration on digitalisation, the health communities and Management and coordination of services in e-government (Skate) are some examples of important collaboration arenas.