Nordic Welfare Centre

Integrated Healthcare and Care through distance spanning solutions

– for increased service accessibility

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Foreword

Integrated health and social care with the citizens perspective in focus is on the run in all Nordic countries. Healthcare and care are offered in people's homes out of their own needs. Although there are challenges in organizing integrated services due to silo-thinking and different areas of responsibility. Digitalisation and remote service solutions are important prerequisites for maintaining the quality of the Nordic welfare model. In addition, digital service models are a necessary first step to create efficient integrated healthcare and care.

Integrated healthcare and social care services will mitigate the challenges of an ageing population, lack of manpower and not at least, create more wellbeing for less or at least the same amount of money. The Nordic project Integrated Healthcare and Care through distance spanning solutions (iHAC) is working to make healthcare and social care more accessible to citizen through distance spanning solutions and service integration.

The iHAC project is one of several activities in the Nordic Vision 2030's action plan and contributes to the Nordic Council of Ministers' goal of being the most sustainable and integrated region in the world by 2030. Whilst the former project, Healthcare and care throughout distance spanning solutions (VOPD) focused on the implementation of service, this report presents examples of different ways of organizing cross-sectoral collaboration to achieve integrated digital health and social service provisions.

In this publication, you can read about how five different regions have organized integrated healthcare and care, what they have in common, and what differs. To help the reader observe and understand these similarities and differences, a theoretical framework on governance is presented, written by The Norwegian Centre for E-health Research. The governance framework has been found useful when looking at the complexity that characterizes the organization and adoption of integrated e-health and distance-spanning social care solutions.

The Nordic Welfare Centre would particularly like to thank the participants in the iHAC project's working group, their project partner Centre for Rural Medicine – Region Västerbotten, The Norwegian Centre for E-health Research, as well as the organizations in each country that have contributed with descriptions of their regions.

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Introduction

This publication is an inspiration to generate insight about how system structures can be organized to secure new integrated healthcare and social care service models. In the digital shift of healthcare and social care, model areas with their solutions can serve as inspiration for further joint development between for example local and regional authorities within healthcare and care in the Nordics.

As integrated healthcare and care requires cross organizational and sectorial focus and an innovative user perspective design approach, the people benefitting of reading this publication would be the whole spectrum from politicians, healthcare and social care specialists and workers, private industries and not at least the citizens themselves. The citizens will be the drivers behind the future use of trend technologies in healthcare and social care, as it will be the citizen that will decide when to see their physicians.

As healthcare and social care will become more accessible when services move into people's own homes there is a demand for new service designs and new service models to support this transformation. Distance spanning solutions in social care will increase the quality of services and the service levels. Furthermore, digitalization erases administrative boarders and improves service provisions by bundling healthcare services with social care services.

The development of new service models will help tackle the demographic challenges of an ageing population, where there is not sufficient manpower to continue with the current service models. Integrated healthcare and social care services will mitigate the challenges of an ageing population, especially in rural areas with lack of manpower and secures more wellbeing for less or at least the same amount of money. The project Integrated Healthcare and Care – Through distance spanning solutions (iHAC) is working to make healthcare and social care more accessible to citizen through digital distance spanning solutions and service integration.

The first part of the publication covers an introduction to a theoretical framework presented by the Norwegian Centre for E-health Research. The focus is on governance and the three important components that must be in place to make cooperation successful; communication and knowledge sharing; common goals; trust between actors.

Five regional models

This report also presents five regional models of collaboration within the healthcare and care sector in Denmark, Finland, Iceland, Norway and Sweden. What all these model regions have in common is collaboration across healthcare sectors and institutions.

The five descriptions include service models showing how to build, and work integrated in health and care with the support or digital services and distance spanning solutions. The descriptions can serve as an inspiration to develop system structures which can secure integrated health and social care services.

Cross-sectoral collaboration in digital health and social service provisions

The Norwegian Centre for E-health Research has been invited to contribute with a theoretical framework to the project report Integrated healthcare and care through distance spanning solutions, a building block for a sustainable Nordic region 2021-2024 (iHAC).

The project's main objective has been to map the examples of integrated healthcare and social care on a regional scale. This report presents five regional models of collaboration within the healthcare and care sector in, Denmark, Iceland, Finland, Norway and Sweden. What all these model regions have in common is collaboration across healthcare sectors and institutions.

Most of the collaboration models also cover several municipalities within a geographical region. Because of the countries' different ways of organizing the healthcare and care services, the regional models will differ to a certain extent. However, building on a similar welfare state model and a well-developed public sector, the Nordic countries do have much in common, and thus it was contended that some degree of comparison is warranted.

As will be shown later in the report, the contributing regions have reached very different stages of service implementation: The regions in Denmark, Norway and Sweden have established organizations, routines, and services. The Finnish and Icelandic regions, on the other hand, are still in the project development stage and are planning the introduction of their services. Because of this, the choice was made to not range the regions based on our theoretical framework, but

instead, see how each region incorporates elements of governance. The preceding project, Healthcare and care through distance spanning solutions (VOPD), contributed with knowledge on developing and implementing digital service models in healthcare and social care services. The acquired knowledge gives direction on how digital services can be adopted in sparsely populated areas.

A result of this project was, among others, an English translation of the Norwegian-developed Roadmap for Service Innovation[1]Add in a box: Several models and frameworks for the adoption of e-health exist. One example is the Non-adoption, Abandonment, Scaleup, Spread and Sustainability framework (Greenhalgh, 2017)[2], and another is the Normalization Process Theory (May et. Al, 2018)[3].

Five examples of cross-sectoral collaboration

In this report, five examples of cross-sectoral collaboration within health care and social care in the Nordic countries will be presented.

- Region of Southern Denmark, Denmark
- Päijät-Häme welfare district, Finland
- Fjallabyggd Municipality – Northeast region, Iceland
- Regional Coordination Group (RCG) for e-health and welfare technology in Agder, Norway
- Tiohundra Norrtälje, Sweden

The report aims to show how the different regions are organized, what they have in common, and what differs. To help the reader observe and understand these similarities and differences, a theoretical framework on governance is presented, based on Røiseland and Vabo (2016)[BA1] . The governance framework has been found useful when looking at the complexity that characterizes the organization and adoption of e-health and distance-spanning solutions: Several actors representing the primary health care and specialist health care services, national authorities, policy, the law, non-governmental organizations, the industry etc. The presentation of this framework is illustrated using examples from the empirical material that will be presented later in the report. These examples are used mainly for pedagogical value, and our presentation is thus not intended as an exhaustive analysis.

A questionnaire to the regions was also designed with Røiseland and Vabo's (2016) framework in mind, and in particular the three characteristics, they consider necessary for governance to succeed:

- knowledge-sharing and communication
- common goals
- trust.

Methodology

The basis of this report is, as mentioned above a questionnaire which was sent out to regions throughout the five Nordic countries. The chosen regions were selected by the steering group of the project, and the survey was distributed by the project management to key persons in the chosen regions.

This questionnaire was developed based on the objectives of the iHAC-project, as well as on the components of the governance framework (Røiseland & Vabo, 2016). This theoretical framework was chosen because the healthcare sector is characterized by complex cross-sectoral problem solving and high demands for coordination and cooperation, and this dynamic has been fruitfully analysed by other researchers using governance-related terms and literature. Additionally, the three components that will be discussed (communication, shared goals, and trust) reflect how actors in health care view their own challenges. The governance framework also helps us understand the complexity of the health care sector. The end-users receiving services from the healthcare and social care services have complex needs and the number of users with complicated challenges and with complex needs will continue to rise each year. The challenges that arise when several institutions and service organizations are involved to cater to these users' needs have already been mentioned. The solution to this challenge in all Nordic countries is increased coordinated care and information sharing across sectors, rather than fragmented services. National governing documents and white papers, therefore, highlight the need for coordinated care and increased information (sharing) to ensure holistic patient pathways.

The three characteristics of governance which will be discussed show some of the challenges the social and healthcare sector faces, and whilst Røiseland and Vabo (2016) don't give us all the answers to the challenges the social and healthcare services are facing, they can still be used as a tool to operate with.

In addition to the questionnaire, the five regions were asked to give some general information, e.g., network members and when the regional network collaboration was established. Some questions were also open-ended, giving the respondents the opportunity to answer more fully. This questionnaire and the descriptions of the regions in the report were later used as a basis for interviews with each of the regions, conducted by The Nordic Welfare Centre.

Whilst the questionnaire did have some methodological weaknesses, these were compensated by the follow-up interviews. Here, questions were clarified, and representatives from the regions were able to expand on their previous answers. The issue of representation was present in the regions that evaluated themselves in the questionnaire –whilst some participants had discussed it broadly within their own network, others hadn't. As such, their answers are based on their

personal understanding of the questionnaire, which again may not represent the views of the whole region. However, it can also be added that the fact that the regions each answered differently can also be viewed as positive, as an insight that might otherwise have been overlooked was received.

What is governance?

Before looking at governance, it may be helpful to look at what it means to govern. According to Røiseland and Vabo (2016), governing consists of two things: Making decisions, and following through on these decisions, thus suggesting that governing is about affecting and changing society in a conscious and thought-out manner. The word "governance" itself is defined as "the actions or manner of governing" (p. 17).

Despite this seemingly simple definition, when one looks at how governance has been used in practice and described in the literature, there are many definitions to choose from. Therefore, it is also important to define what is meant when talking about governance as a theoretical framework[4]. Here, Røiseland and Vabo's (2016) definition will be used:

"The non-hierarchical process whereby public and/or private actors and resources are coordinated and given a common direction and meaning" (p. 21).

Governance, thus defined, is non-hierarchical – as opposed to traditional bureaucratic steering, and oriented towards cooperation – as opposed to New Public Management. The text elaborates on this below.

Governance is both an analytical tool and a distinct approach to problem-solving. As an analytical tool, the governance framework may help us take/understand the perspective of autonomous actors put in a situation where they need to work together, as it can help describe and understand the processes parties go through – how their goals are formulated, negotiated, and possibly achieved, and why there are challenges.

As a practical approach to problem-solving, governance is relevant for example when e-health solutions are to be implemented across administrative levels, and hierarchical management models (where directives are given, and each party follows up) aren't necessarily suitable. Therefore, one turns to governance instead. This can be seen in the Nordic countries, where municipalities have a much more autonomous role than hospitals. Even though hospitals are organized in a very hierarchical manner, to obtain coordinated care, other mechanisms and solutions are needed. Governance as a practical approach is also relevant in situations where steering according to

New Public Management principles may be problematic, for example concerning issues where fragmentation and silo-organization prevail.

Three components of governance

Communication and knowledge sharing	Common or shared goals	Trust between actors

The building blocks of governance

Within the definition of governance, Røiseland and Vabo (2016) state that there are three specific characteristics that lie within their definition: The first of these is that the participants are mutually dependent on one another – as mentioned, they are trying to achieve something that can only be done together. These goals can only be achieved together due to their different resources, which can be things like expertise or local knowledge. Going back to the health care sector and the patients with complex needs; to obtain holistic patient pathways, all parties within the specialist and primary healthcare services must share information and work towards the same goals. After discharging the complex patient, the hospital depends on the general practitioner (GP) to follow up with the patient regularly, and the GP depends on the municipal home care services to follow the user daily. They should all ensure the prescribed medication is taken, that the correct food is eaten, and other special precautions are taken care of.

Discussions and agreements

Secondly, precisely because all participants are dependent on one another, this affects how decisions are made. It is important to note that governance, as Røiseland and Vabo (2016) define it, is only possible when all parties can discuss and potentially reach agreements. As such, normal modes of power, such as directives or commands may not work. If force is used, then there is a risk that other participants who contribute with important resources may pull out of the cooperation. This can potentially happen when there is too strong top-down governance involved. If, for example, the contributing parties are used to a non-hierarchical structure, too much leadership may cause friction. Too much strong top-down governance may also lead to the person in charge of cooperation being unable to use everyone's knowledge effectively. The whole point

of governance is, after all, to mobilize the involved parties´ unique expertise and initiative in complex problem-solving. It can safely be assumed that the governing authorities' knowledge and perspective on the given problem will be narrower than the sum of all the involved parties´ knowledge. Therefore, it is vital that the "governance of governance" is based on incentives, soft control, and leadership, instead of the tools that are traditionally used in the public domain (i.e., laws and rules) (Røiseland & Vabo 2016). Too strong steering, thus, can undo the purpose of governance, which is, after all, an increased ability to solve complex problems.

The element of negotiation can be seen in all contributing regions in this report: They have all developed fora and institutions to share information, discuss, and obtain agreements. This is visible, especially in the [Norwegian Agder] region where all parties also have signed cooperation agreements. Through this agreement, the parties have committed to collaborate and let the regional coordinating structure organize the health services. The parties also commit to working towards common goals.

Making it happen

The third and final characteristic is one that has already been mentioned: That governance is an attempt at following through on ideas and achieving something. This is closely related to the second characteristic, as it requires that activities are based on shared goals. As such, governance also involves the basic processes of an organization. This means that these shared goals and potential strategies must be planned out in advance, and activities need to be coordinated. The result of this is that parties who use governance as a way of leading will look quite similar to a formal organization, although the hierarchy will, of course, be a lot more relaxed than one would normally expect (Røiseland & Vabo, 2016).

The differences and connections between the three characteristics presented above, and the three characteristics that will soon be presented, is that the first three are what makes governance special, whilst the characteristics presented now are deemed vital if governance is to succeed.

Why governance?

Many of the problems facing the digitalization of healthcare are described as problems of cooperation and/or coordination. This is perhaps unsurprising, given the complexity of modern healthcare sectors, and the notorious difficulty of cooperation, both as an object of study and as practice. However, this also means that cooperation (or collective action) attracts the work of many scholars working on what criteria and components must be in place to make cooperation successful (Vik & Hjelseth, 2022).

For example, the implementation of welfare technology in

municipalities may be seen as a cross-sectoral problem/challenge, involving many different actors in different sectors such as the economy, health care, politics, authorities, law, education, family, mass media, research, civil society/voluntary, sports etc. This means that the successful implementation of welfare technology is a cross-sectoral challenge that depends on cooperation for its solution. In addition, market-like steering through New Public Management often generates problems like fragmentation, so-called "silos" and reduced collective problem-solving capability, and the emergence of the governance framework is often seen as a response to this. Governance may thus also come to be expected and seen as a source of legitimacy for decision-makers.

Three problems and three solutions

The promise of governance as an approach to cross-sectoral problem solving may be seen in relation to three distinct problems, each of which is complemented by a distinct solution.

As indicated above, the starting point is always a network of interdependent and more or less equal actors trying to solve a complex problem together. Whilst all actors have their own perspective on and knowledge about the problem, no one has the full picture. Moreover, the different actors each bring different goals to the table, and in absence of hierarchy, it is not obvious whose goals should apply. Lastly, the lack of hierarchy also leads us to the question of how to ensure adherence to these decisions.

Røiseland and Vabo (2016), argue there are three solutions to these problems: 1) the information problem should be addressed by ensuring (through leadership, appropriate channels for) communication and knowledge sharing, 2) the problem of conflicting goals should be addressed by establishing common or shared goals, and 3) the problem of adherence should be addressed through establishing trust between actors.
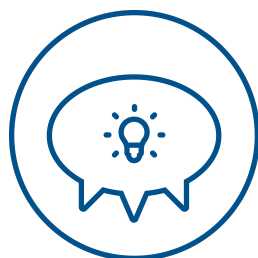
Communication and knowledge sharing

Communication is a vital aspect of governance, simply because there would be no governance without it. If different stakeholders are going to agree or disagree on things, then actors working within a

framework of governance need to be able to express their own views and have an opinion of other parties' viewpoints. Sharing knowledge is also key here, as this makes it possible to understand what kind of questions are important to ask, what challenges may arise in the project, and help give an understanding if and when crises occur. The central point here is that one party needs to be able to convince the other through discussions and arguments and that these new ideas will lead to a change in what the other party believes is both desirable and possible within the cooperation. Røiseland and Vabo (2016) also point out that it is gaps of knowledge that make cooperation necessary in the first place, and that lack of communication is often a factor in why cooperation fails. One critical part of the patient pathway is the patient's transfer between the service levels in the health care sector. Due to lack of communication and misunderstandings, complex patients are for example often hospitalized shortly after their discharge (Fredwall et al., 2020 [5]), and unplanned hospital admissions for older people are a problem for health systems internationally (Huntley et al., 2022[6]).

Indeed, the reason inter-organizational cooperation is established is that each organization wants to find solutions that they cannot solve alone. In the health care sector, the most natural example would be that of the patient, who is treated in both specialist and primary health care services. If the patient ends up in a hospital, then they are treated there before being discharged. However, they will still need to be followed up both by their GP and the municipal health care services. To ensure that the patient receives good treatment, it is vital that health care services on all levels communicate and share information, both about and with the patient.

Arenas for communication

Cooperation also represents a way of connecting different organizations together, leading to information and knowledge being both developed and shared (Røiseland & Vabo, 2016). As will be seen later in the report, all presented regional networks have structures or regular meetings and common arenas for communication and knowledge sharing. In the interviews, these meetings are mentioned as important arenas for sharing ideas and avoiding misunderstanding one another. One example is the Swedish network, who meets every Monday . During these meetings, all collaborating parties discuss both big and small issues. These regular meetings are important because all the parties are given the opportunity to raise and discuss issues important to them, thus avoiding misunderstandings and building trust. The Norwegian network has also spent a lot of time on developing the structures of the network, in which regular video meetings is one of several factors. Another practical example of both communication and knowledge would be South Denmark's wound assessment platform. Even for Finland, who is still only in the project planning phase communication and knowledge sharing are important aspects of their KOHTI Ecosystem

model.

On the other hand, the Icelandic network said in their interview that they were having trouble with their project, precisely because there were difficulties regarding information-sharing. Even though the legal framework in Iceland states that people should work together, and that health and social care are supposed to share, the network here stated that there wasn't a tradition for sharing. Indeed, people are more preoccupied with not sharing than finding a solution as to how to share.

Common goals – formative function towards continuity

Common goals are considered important because they have a formative function – this means that they shape both what the contents of the cooperation include, and the relationship between the participants and how they cooperate with one another. In terms of results, an important question to ask is "Whose goals should guide the cooperation?" (Røiseland & Vabo, 2016). In its extreme consequence, this can be seen in the financing systems of the health care services. Both the primary health care services and the specialist health care services are governed by financial results. When remote digital care as a service is introduced, this can be costly for the municipality because the patients are discharged from the hospital at an early stage and need close following-up from the home-care services, while the hospital saves on it. Whose financial targets should one then relate to? The same goes for the specialist health care services being diagnosis-oriented, hospitals as a general think and treat patients based on their specific diagnosis, whereas the home care service in the municipality looks at the patient as a whole – can they for example live at home? If they fall and hurt themselves, why did the fall happen? Is the patient eating, why or why not?

Within the context of the five chosen regions, we can say that RCG Agder has the common goal of following through on the Norwegian National Health and Hospital Plan, where the objective is to get the municipalities and hospitals to collaborate towards better continuity of care. In South Denmark, shared goals have also been important in relation to the "big why" question – citizens and health professionals alike must understand why the service is being implemented, and what the benefits will be.

Specific types of goals

Here, it might also be fruitful to make the distinction between three specific types of goals: Firstly, the goal of the cooperation, which gives an indication of what the participants wish to achieve together. Secondly, the goal of the different health care actors in the network – these are likely to emerge regardless of the cooperation and will express the expectations within the cooperation. In this case, it can be pointed out that the goal of the cooperation will be placed above the participating organization's individual goals and vice versa. Finally, there are individual goals, which are related to the individual participant's career and their personal preferences. This type is perhaps the least common, as individuals often serve as representatives for a head company or other representatives. Looking back to what has been presented earlier, having these different types of goals is a strength, as it allows all participants to make their voices heard. However, this can also be challenging: Because each party contributes with their specific expertise, it makes common goals harder to define in the first place. In a worst-case scenario, this can lead to conflict, and even when disagreements are solved, this is still a problem, as in some cases, it can mean that important things such as principles and scientific expertise are compromised or negotiated away (Røiseland & Vabo, 2016).

Establishing a common purpose and common goals is imperative in the specific field described in this report. Implementing digital service models in cross-sectoral fields, with autonomous actors characterized by a fragmented organizational approach is indeed challenging – no decision-maker at the very top level can enforce activities to happen. Thus, all the five regional networks presented in this report have developed common goals. The networks also use several approaches to anchor these goals among the participants of the network to ensure the ownership of policymakers' top-level and middle managers, as well as end-users. Although working towards the same goal can be challenging, it is also an exercise the parties do together.

Trust – investment now will bear fruits tomorrow

The final component of governance is trust. Røiseland and Vabo (2016) write that trust in cooperation works as a response to the complexities of working in a network-like cooperation. Instead of having the hierarchical structures of an organization, one has trust

instead. Trust is also an "assumption that the investment you make now will bear fruits in the future" (p. 80). Furthermore, trust is also the assumption and decision to believe that other parties will also work towards the same goal(s): For example, that the hospital won't discharge the complex patient too early, but in such a condition that the prescribed remote monitoring will ensure the patient's safety; that the GP will follow the prescribed medication list, and that the home care services, via telemedicine, ensures the patient actually takes their prescribed medicine. Trust is also involved when local politicians decide to purchase costly digital solutions because they think it will enable quality health services for their elderly, and when the municipal manager outsources ICT support services to a neighbouring or private vendor.

Trust as a common factor is highlighted as important by all the regional networks contributing to this report. However, it is clear to see that trust as an ideal is highlighted as imperative by the networks that have existed for several years. Trust was repeatedly mentioned as essential by all representatives from the [Norwegian network.](#) This network consists of both very small and large municipalities, and as such, all parties need to know that their contribution is important and that they will gain something by contributing. Here, the network continuously works together to develop and create the feeling of being part of a team, in order to create trust between all parties.

Trust will lead to results

Røiseland and Vabo (2016) highlight three advantages of having a high level of trust: Firstly, trust may reduce costs that appear throughout the cooperation, because of reduced transaction costs. This has been highlighted as important for [Tiohundra Sweden](#). Secondly, trust consolidates the cooperation, and makes participants more willing to invest in this shared interest. Finally, trust between participants will lead to results, because, as has been mentioned before, knowledge will be shared, and all participants' resources will be combined. These resources and knowledge will then be used in ways that increase the participants' chances to solve problems and contribute to innovation.

One may also point out that whilst trust in itself isn't negative, it can lead to vulnerability. There are many problems that can threaten and undermine it, and this can lead to challenges when cooperating. Trust is a crucial aspect of governance, and when it is broken, the possibility of solving problems together is drastically reduced. Despite these vulnerabilities, the process of building trust makes the parties' expectations, and the risk and vulnerability affect one another in a positive circle where trust is built through positive experiences of cooperation.

Strengths of governance

Whilst there are many reasons why one should employ governance, one only has to look at the democratic aspect to see why it can be valuable. If one is to have a legitimate democratic government, this presumes that the government can meet the needs of the population and solve central societal issues. As Røiseland and Vabo (2016) note, Western societies have gone through massive changes in the past 20-30 years, and as such, society has become a lot more complex, and expectations have become higher. This in turn requires more complex services and solutions. This increased complexity means that it has become much harder for authorities alone to have an oversight of societal problems. Therefore, other actors' perspectives need to be involved.

Because of the need for more complex solutions, figures of authority can't just go out and interview the affected parties and get an overview this way, as both their problems and solutions will be too complex. This leads to a situation where the affected party's autonomy needs to be kept intact and be considered equally valuable to authorities' knowledge. As such, Røiseland and Vabo (ibid) believe that governance is "a completely necessary adaptation for the needs and problems that public authorities are expected to handle" (p. 36).

The need for cooperation is vital

As described earlier in this chapter, the social and healthcare sectors are known by both formal and informal expectations to engage in complex problems involving many more or less autonomous parts who must coordinate their efforts in order to produce an intended outcome. Therefore, the need for cooperation between all participants is vital. This shows exactly why governance is both a necessary and valuable mode of leadership – because it fills a need that public administration traditionally doesn't fill (Røiseland & Vabo, 2016).

The change towards governance was a change that began already in the post-war period when public administration eventually became New Public Management in the 1980's. In this period, the modern welfare state grew, and the belief in public management and public authorities to solve societal issues was strong in well-developed countries. In this period, governance happened through law-making and bureaucracy-made rules and guidelines. Here, the state was viewed as one unified actor, and the boundaries between public and private were well-defined. There was also a clear difference between politics and administration, and one had to differentiate between policy formulation and the implementation of politics – whilst politicians are expected to design politics, the bureaucracy's job is to implement them (Røiseland & Vabo, 2016).

This way of thinking changed again in the 1970's, when New Public Management was introduced. Here, the key difference is that New

Public Management operates with the idea that there is no difference in what the public and private sectors represent, and the organization, management, and leadership are all general processes, and models that may be copied across the public/private order. However, what mostly ended up happening was an import from the private to the public sector, leading to the dismissal of public agencies. This in turn led to public management being more regulated, where politicians set out goals, and public businesses were responsible for achieving these goals within their allocated resources (Røiseland & Vabo, 2016).

As mentioned earlier, governance became popular around 1990. Of course, this doesn't mean that governance completely replaced public administration and New Public Management, intended instead as a supplement for the two. Røiseland and Vabo (2016) believe one of the reasons for this change could be that the production of services and the implementation of public politics became more complex and fragmented. This means that the individual organizations' chance to shape and implement products has been reduced, and inter-organizational with other public businesses, private companies, or voluntary organizations became necessary. There was a need for new kinds of governance that ensured efficiency within this cooperation.

If one looks at governance from a theoretical perspective, it can also be viewed as a reaction to the encompassing specialisation and decentralisation that was encouraged by New Public Management. Here, the idea had been that more independent companies would take care of their tasks better than larger, multi-functioning management units. As mentioned, the need to coordinate is large today, and much of the literature on government can be seen as an attempt to close the gap between on the one hand scarcer public resources, and on the other bigger expectations and more complicated problems, like the already mentioned patients or users with complex needs (Røiseland & Vabo 2016).

Weaknesses of governance

Of course, like all methods, governance can have its drawbacks: Governance tends to be employed in situations where all participants are seen as more or less equal despite their differences, and in situations where the participants are mutually dependent on one another. Therefore, it can face challenges in conflict-filled situations, where power and/or influence is at stake, and in situations where participants feel like they don't get any benefits from working together. This is defined as the paradox of governance by Røiseland and Vabo (2016); on the one hand, one of the goals of governance is about overcoming opposing interests and any conflicts that occur. On the other, conflict normally ends up being a hindrance to governance. Perhaps most importantly, troubles can arise when the three solutions either aren't in place or are hard to implement.

Vik and Hjelseth (2022) are critical towards governance because they believe it is unrealistic, and that the current health system is characterized by differentiation. This means it is split up into parts that are part of a bigger, integrated whole. The way they see it, the problem regarding interaction in the healthcare service is a problem of order – the healthcare system is complex and must be coordinated to suit actors, organizational units, and different knowledge-based and professional environments, that each has their own tasks, interests, and values. This again goes back to the question of how to connect specialized areas into the working whole. The fact that the health sector is divided into units is not inherently a negative thing – on the contrary, it reduces complexity. If for example, you break your arm, you know what needs to be fixed, and who is responsible for making that happen. However, problems occur when the patient has needs that the individual units can't solve alone but requires them to interact in ways that connect them. The reason for this cooperation is simple: Because it is for the best of the patient, the health services, and society. Furthermore, Vik and Hjelseth (ibid) believe that it is important to challenge the current view on governance, as they believe that the current normative rhetoric can make interaction and social integration harder, as it obscures the tension, opposition, and differences that exist within the modern health service.

A final critique is that governance doesn't necessarily include everyone that should or could be included in a project, and this lack of inclusion can also be viewed as a democratic issue. Have for example all stakeholders been involved in the project organizations developing the networks? However, Røiseland and Vabo (2016) point out that there are no given guidelines as to what kind of democratic reference point governance should and could be following in the first place. They ask instead if our perceptions of governance should change, as they don't fit this way of governing.

Governance and democracy

In addition to the three characteristics of communication and knowledge sharing, common goals, and trust, Røiseland and Vabo (2016) also note that democracy is important in the frame of governance. Much like governance, democracy can refer to many different types of leadership, and as such, must be defined. Røiseland and Vabo (2016) define democracy as "representing a certain organization of society where political governance directly or indirectly is under the control of the people" (p. 10). They also write that the biggest challenge democracy has in the framework of governance is achieving the right amount of leadership. As mentioned, governance is ultimately a strategy that involves leading without hierarchy. Therefore, both too much and too little leadership can be an issue. Too much leadership, and governance becomes ineffective because the leader doesn't have an overview of how to effectively use each parties' expertise. If there is too little leadership,

then this means there is a disconnect between democratic decisions. However, this doesn't automatically make governance undemocratic. Røiseland and Vabo (2016) reiterate that governance can only be an issue in a democracy if it is purely viewed as "realizing the parliamentary chain of leadership". If governance is controlled by elected politicians in a sufficient way, then it is democratic.

Governing of governance

A final important question to consider is: What does leadership in cooperation do? It can be said that this consists of two different elements: Structural and rational. Building trust requires leadership, defined as "decentralised, direct, and preferably dialogue-based impact primarily exercised between the single leader and employees" (Røiseland & Vabo 2016: 99), and this requires trust. Unlike hierarchical relationships between leader and subordinate in an organization, the management in cooperation normally has very little formal authority to support themselves on. This makes trust building even more important than in a normal organization. It is the leader's role as the broker of interests that contributes to trust-building in a cooperation, and their work can involve things such as nurturing the relationship between the different parties in the cooperation. Here, there is an implicit ambition to create a common goal and meaning, as well as defining and solving conflicts between those involved.

The leader must also ensure good communication and effective sharing of knowledge. This is something that can already be supported by structural elements such as the process design. This entails the organization of communication between parties and arrangements for the common production of knowledge. The effect the leader has through both governance and leadership sets important premises for what is achievable within the framework of formally organized co-management processes.

Summary

To sum up this theoretical introduction, the following points may be reiterated: As has been mentioned, governance has been a very specific response to challenges that modern Western society faces – of steadily increasing expectations of solving ever more complex societal problems. Complex problems typically involve several autonomous actors that need to cooperate with one another to find a solution. Cooperation is notoriously difficult for several reasons, including 1) different and conflicting perspectives, 2) conflicts regarding what goals are to be achieved and how, and 3) that the cooperation takes place in the relative absence of hierarchy.

Governance, as defined in this report, can be viewed as a response to all of these issues, requiring, however, that certain things need to be

put into place. Regarding the first problem –perspective diversity – the solution is communication between the involved parties, and that they together establish a common perception of reality. Secondly, when looking at the problem of conflicting goals, the solution is the development of and support for common goals. Finally, regarding the absence of hierarchy, trust needs to be both established and maintained.

The rest of the report contains five case descriptions of how the three distinct problems of communication, common goals, and trust are handled within five distinct Nordic regional networks. Here, the reader can clearly see how all the involved regions work to ensure that communication and knowledge sharing, common goals, and trust are realized in their project, regardless of what stage it is in.

[1] Veikart for tjenesteinnovasjon.
https://www.ks.no/fagomrader/innovasjon/innovasjonsledelse/veikart-for-tjenesteinnovasjon/

[2] https://www.jmir.org/2017/11/e367/

[3]
https://implementationscience.biomedcentral.com/articles/10.1186/s13012-018-0758-1

[4] It may be noted that there are several different terms that are used when governance is being discussed, i.e. co-governance and new public governance

[5] Leve hele livet: En kvalitetsreform for eldre
https://omsorgsforskning.brage.unit.no/omsorgsforskning-xmlui/bitstream/handle/11250/2652620/Leve%20hele%20livet_5_Sammenheng%20og%20overganger%20i%20tjenestene_v2-b.pdf?sequence=1&isAllowed=y

[6] Is case management effective in reducing the risk of unplanned hospital admissions for older people? A systematic review and meta-analysis https://academic.oup.com/fampra/article/30/3/266/506451

5 cases

Five case descriptions

In the following chapters five regions from the Nordic countries are presented. The regions are chosen according to the methodology described in theoretical introduction and the descriptions are presented based on the questionnaire and performed interviews with key persons in each region. The descriptions differ when it comes to how the networks are established but reflect how each region in collaboration strives for more integrated healthcare and social care. The five examples has cross-sectoral collaboration within health care and social care in focus and are examples of how system structures can be organized to ensure new integrated healthcare and social care services. All regions have components as communication and knowledge sharing, common goals, and trust that strongly contribute to better collaboration between service levels and adopting of digital health services/distance follow-up solutions.

Holistic approach on wound assessment creates effective treatment

The increasing number of patients with foot and leg ulcers means that it is crucial to find more effective ways to treat and deliver treatment. Region of Southern Denmark and southern Danish municipalities are cooperating on a wound assessment platform, which benefits a lot of patients.

Region of Southern Denmark and the 22 southern Danish municipalities entered into a co-operation agreement in 2018, which systematizes the co-operation between the region, the municipalities, and the general practitioners regarding the use of telemedicine wound assessment.

The wound assessment platform is where the contact takes place over distance between the citizen, the wound nurse in the municipality and wound specialists at the hospital, which communicates via a digital wound platform. The consultation consists of a wound image taken from the citizens home and a text that describes the wound and the citizen's condition sent via a closed system (for the sake of data security) to the wound outpatient clinic.

Telemedicine wound assessment platform are used to assess different types of complex wounds and has been implemented in all Danish municipalities and regions as part of the financial agreement of 2013 and the National Action Plan for the spread of telemedicine.

The collaboration agreement between Region of Southern Denmark and the 22 southern Danish municipalities has increased quality

through timely efforts and a rapid treatment plan for patients in cross-sectoral treatment courses. When treated in their own immediate environment, the patient has, in addition to a relatively short hospital stay, been saved from transport time to hospital, been able to benefit from their social network and working citizens have been better able to look after a job.

There will be more diabetic and venous wounds in the future because the population in Denmark in general is getting older. This puts pressure on the health system's resources. At the same time the number of patients with chronic diseases such as diabetes are growing and in 2012 there was approx. 320,000 Danes diagnosed with diabetes.

Same treatment – new ways to deliver it

The increasing number of patients with foot and leg ulcers means that it is crucial to find more effective ways to treat and deliver treatment. With telemedicine, time and money can potentially be saved in the treatment, while the patient has access to a faster and more flexible treatment of high quality and with fewer visits to the hospital and with more follow-ups at home.

The service includes a common system for cross-sectoral sharing of medical records and intends to support the citizen's course through strengthened communication and handover at sector transitions, as well as contribute to an overall picture of the patient's wound development across sectors. The work through the platform has increased wound professional competencies and sharpened focus on cross-sectoral collaboration.

The purpose of the implementation of telemedicine wound assessment was to free up time in both municipalities and regions for new tasks, as well as streamlining and improving the quality of the treatment. Evaluation has identified that the wound nurses take care of more tasks than before but can treat more patients. The municipal wound nurses have experienced an increase in competence, and the close collaboration with the hospital makes the hospital staff more confident by leaving more tasks to the municipal wound nurses. The hospitals do not experience more time as result of the service, but the same number of outpatient visits. However, the hospitals experience fewer routine checks and more patients with complicated wounds.

Treatment and care of complex foot and leg ulcers is resource-intensive and often ends up with a long treatment progress. The cross-sectoral cooperation between municipalities and hospitals optimizes the processes and health professional's time. Specialists in the hospitals spend their time on assessment of the wounds digitally while the health personnel in the municipalities take care of the actual wound treatment locally or at home with patients.

Improves wound specialist knowledge

Telemedicine wound assessment does not change the treatment of ulcers but improves the execution and ensures that wound specialists in the hospitals can share their knowledge with nurses in the municipalities. A municipal wound nurse looks after the patient in their own home or at the municipal health centers and sends one picture of the wound to the doctor or the nurse at the hospital via the digital wound database. The staff at the hospital can then provide specialized advice on the further action without the patient having to attend to the same degree physically up to all outpatient visits to the hospital.

It is important to draw attention to the network cooperation established between the municipalities and the wound nurses where knowledges sharing is the main focus. The network cooperation aims to keep focus on how to improve the usage and the continued implementation of the platform, but not at least how to improve the mindset on cross sectorial cooperation. There are appointed ambassadors in the municipalities that support the continued implementation and lift in competences among the wound nurses.

It is also through the network cooperation between the municipatalites and the wound nurses that the feedback from the patients are recived regarding the benefit of the treatement are collected. These inputs from the patients are collected and used to improve the use of the service.

Implementation of telemedicine wound assessment in Region Southern Denmark has been twofold. Organizationally, the platform has changed ways of cooperation, processes and roles across sectors as well as strengthened the competence development of professionals, including the training of wound nurses. A better communication between health care professional groups across of the municipal and regional sector allows faster intervene and change if needed. The close and ongoing dialogue about the treatment with the specialists at the hospital make patients and staff safe, even when the treatment is primarily performed by the municipal wound nurse. The wound nurses enter into dialogue more easily and more quickly with the specialists at the hospital using the platform. In some places patients have read access to the platform, so they can follow closely the course of action which gives a greater sense of co-responsibility for the treatment and supports the healing process.

A digital platform, which is developed and adapted for the project. Here specific documentation is gathered in the treatment and care of wounds for the individual patient. The wound database is used across health professionals and sectors – primary sector, regions, and municipalities.

Success factors

The key success factors and reflections from the wound assessment network up until now is many and below are some of the major findings and components identified:

- The network around the wound assessment has helped to increase focus on the mindset of cross sectorial collaboration thinking. In the beginning it might be unconsciously, however, over time the holistic approache to service the patient has resulted in understanding the benefits in involving all parties around the patient like in a quadruple helix model, where the four major actors in this model are the citizen, primary care, secondary care, and education institutions.

- Furthermore, it is important to communicate and explain to the citizen and the health professionals about the 'Big why' – Why are we implementing the service and what are the benefits from doing so? From the beginning this requires involvement from of all parties – citizen, professionals, and management – through i.e., user centered design and development, ambassadors and/or front runner support. Experiences also shows that there should be a much higher focus on the management role in the implementation of the new services and solutions. The management should set the vision and frame for 'The Why' and ensure achonring in the organization by clear communication.

- Building new competences with the health care professionals is crucial to the success of the network. The wound assessment implementation has had more focus on culture, workflows and developing competences by an 80 percent/20 percent approach where 20 percent has been regular classroom education and 80 percent has been onsite training and development of competences.

- Additionally, there is an increase knowledge among the citizens about the opportunities within technology and data and they would like to use this knowledge in their self-management. On the other hand, there has been a 'techno fatigue' among the health professionals and the challenge has been to dissemble the excessive respect for technology on this side.

- Wound assessment has shown that there is a high degree of trust in the model and service among the citizens. They feel more empowered and independent and have experienced improved quality of life due to less time spend at the hospitals.

- The service has also been optimizing the trust between the municipalities, region and primary sector. It is the technology and data that have imposed the cross-sectional collaboration even though the health care professionals have less trust and have more difficulties navigating due to outstanding system and technology integration.

- Trust has also been established by forming different clusters and user groups with the purpose of securing a constant usage, knowledge, and implementation of the solution. Municipalities and different participants get the opportunity to be a part of the different groups so trust, communication and cooperation can be established.

Statements for citizens and health professionals

Citizen

"It was a big upheaval for me to suddenly be a wound patient and I was home for a long time. I was afraid of losing my leg. When the wound will get a little better I would like to return at work as a train driver, but then I would not have time to commute to the hospital every other day. The platform made it possible for me to take care of my work because the treatment took place close to my home". Male patient

"It has been really good to be able to follow the development of healing so close through the course of the treatment. I had bought plane tickets for Canada and was in doubt as to whether I could travel if the wound did not heal. Bente, my wound nurse, could by using the platform calculate the wound's healing time and give me 'permission' to travel. I managed. When I arrived, I sent her a landscape foto from Canada - of course via the platform". Male patient

Health profesionals

"The best results for Telemedicine Wound Assessment is when telephone contact is maintained with the citizen alongside ulcer treatment." Wound Nurse, Kolding Municipality

"Wound assessment allows for rapid initiation of appropriate treatment in case of acute aggravation" Wound Nurse, Kolding Municipality

"Telemedicine cross-sectoral ulcer assessment helps create equality in health" Wound Nurse, Kolding Municipality

Facts about the model area

| Name of regional network	Region of South Denmark
Area in km2	12.191 km2
Population – number of inhabitants	1.2 mio
When the network was established	2012/2018
Number of municipalities in the network	22 municipalities
Number of hospitals in the network	4 somatic and 1 psychiatric
Target group	Citizens with ulcers
Number of users	3163 and growing

Useful links

Below you will find links to documents or platforms that could be useful to dive into for more details.

[National Action Plan for the spread of telemedicine](#)

[The digital platform supporting citizen, primary and secondar health and social sector](#)

[Collaboration agreement between 22 municipalities and Region south Denmark](#)

[Flyer to patients](#)
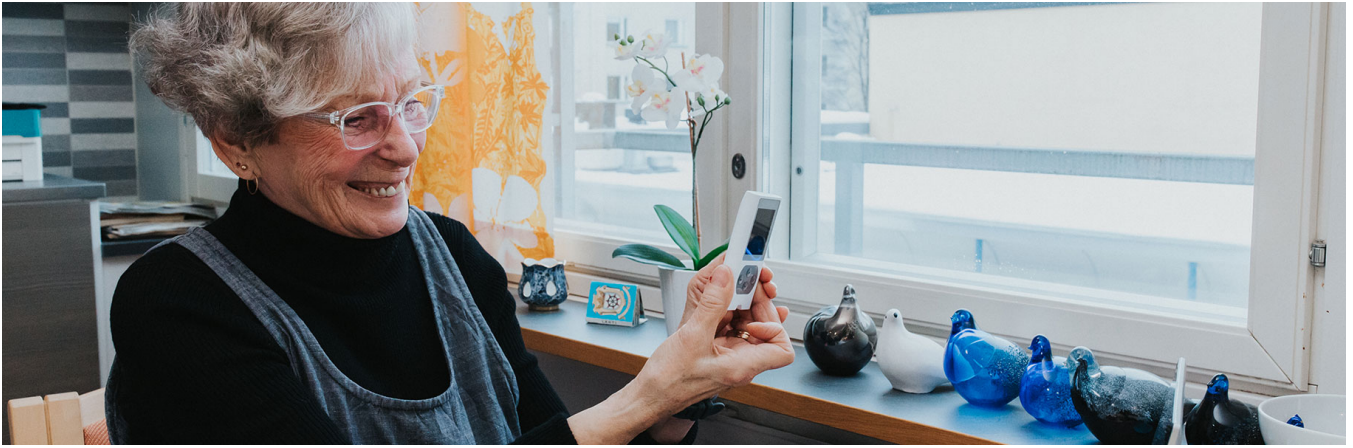
Ecosystem model with citizens needs in focus

A costumer focus approach, with a holistic view on the citizen, where they are not patients but customers with complex needs. For this, Päijät-Häme-region has developed an ecosystem with a customer centric approach within the home care services.

In Finland there is currently ongoing a historic change in the welfare model via the [Health and social services reform](#). Päijät-Häme region has already for several years established integrated health and social care, moving from municipal and hospital district services towards service provision through wellbeing services counties, according to the Health Care Reform 2023.

The KOHTI-project is in the region of Päijät-Häme in the southern eastern part of Finland with 23 home care units. KOHTI – Technology supporting care and living at home, is a part of the governmental KATI-program - Technology supporting smart ageing and care at home which the Ministry of Social Affairs and Health in Finland published in autumn 2020 to support the good health and functional capacity of older people. The overall focus in the KATI-program and the related projects like KOHTI is to understand the needs of the customer and how the health and social care can support these needs.

It is important to mention that the KOHTI model has been developed especially for home care services and is a part of social welfare and that is why services users are called customers and not patients.

The KOHTI will pilot various technologies in the home care services and strengthen customer involvement and improve staff wellbeing and skills. KOHTI will support the implementation of technology by

using an inclusive model for the use of technology as part of home care services for the elderly. The main target of the model is to study and define what are the functions and needs of the stakeholders in the ecosystem during the whole lifespan of the technology in use.

Project background

There is a lack of nursing resources, and the wellbeing of the healthcare professionals has declined. At the same time the increasing cost of the care is alarming, and the huge national health and social services reform brings its own requirements for change. Therefore, the deployment of technologies and managing the full lifecycle requires more centralized control. This includes also better technology portfolio management and clearer understanding of the roles and responsibilities of different stakeholders.

As a starting point to develop the KOHTI Ecosystem model the project used an existing framework called IkäOTe-model developed by the University of Eastern Finland, which includes the whole lifespan of the technology:

- before and during the technology deployment, during the use of the technology, and after the use of the technology
- four stakeholders: health care organization, elderly and their next-of-kin, nurses, and technology organization.

Based on IkäOTe-model, the project has developed the KOHTI Ecosystem model which is looking at the whole life span of the technology from prototype to 'out of use' from a user perspective and with a customer centric approach within the home care services.

The core KOHTI project group consisted of specialists from Päijät-Häme Joint Authority for Health and Wellbeing and supported by external specialist consultants. Other participants in the project network include specialists from LAB WellTech innovation ecosystem, third sector representatives and company representatives. A group of nurses and their supervisors were interviewed and the next-of-kins were included via web survey. Leaders of the Päijät-Häme Joint Authority for Health and Wellbeing are actively involved.

Development of KOHTI Ecosystem model

The purpose of the project group collaboration was to get the accuracy details of tasks and roles in the use of health care technology, and visions how these should be arranged in the future. Additionally, to share information and goals between the identified stakeholders in the ecosystem.

The KOHTI Ecosystem consist of five primary stakeholders, see figure 1 below.

The elderly and their next-of-kin, which are the home care customer and the main benefactor.

Health Care organization, the provider of the healthcare services and solutions.

Employees, especially the practical nurse and her/his supervisor.

Technology organizations, the manufactures of the solutions.

The 3rd sector, which are associations, clubs, unions etc.

Figure 1 – KOHTI Ecosystem Model

The involvement of the 3rd sector in the ecosystem model is an addition to the original IkäOTe-model, to support use of technology and the wellbeing of the customers lifespan.

To support the Ecosystem Model, the project has defined a five-step process which describes the functions and needs of the stakeholders during the lifespan of the technology. Each of the steps in the process are described in detail and is supported by checklists and other relevant documentation to support the region in making the right choices for their customers.

The five-step process consisted of the following elements.

- Pre-screening, evaluation, and incubation, such as evaluation of maturity and usability
- Functions and needs before the deployment of the technology, such procurement processes, signing the contracts, planning the feedback, and training processes, informed consents of the home care customers as well as integration plans for the solution
- Functions and needs during the deployment of the technology, such as training of employees and customers, publicity, and promotion
- Functions and needs during the use of technology, such as evaluating the benefits of use, technical support, and evaluating the need for additional training
- Functions and needs after the use of the technology, such as ensuring data security, collecting feedback, providing technologies for next user or recycling technology

Currently the KOHTI Ecosystem model and process is being tested on pilot projects using an incremental process where learnings, knowledge-sharing and adjustments are being collected, assessed, and implemented during the pilot.

To mention some of the pilot projects within the home care services where the model currently is being tested are medical dispensers and VideoVisit. Furthermore, other technologies to be piloted in KOHTI-project include: GS Smart glucose meter and balance cloud service, Freestyle Libre glucose meter, IEM blood pressure device, Vivago Customer activity tracking, Emfit contact-free sleep analyzer, toilet seat that washes and dries and fall sensor/radars.

Success factors

Some key success factors identified and reflections from the KOHTI project up until now are:

- The customer focus approach is one of the components that is aligned through all the employees within Päijät-Häme and is one of the focus areas in the coming Finnish Health Care Reform 2023. As an employee in the health and care sector you must have a holistic view on the citizen and should not view them as patients in the system but as customers with specific individual needs that require tailored service provision.

- The development of the KOHTI Ecosystem model combined with the five-step process as a guidebook with checklists have made it possible to speed up the implementation process of technologies for the customers.

- The framework is a living document which is developed in an iterative process together with stakeholders. The framework is not limited to care living at home but can be used in other service areas as well.

- The ecosystem and five-step process has increased the knowledge based for data driven decision making, which is the pipeline, increased interoperability, and standardization.

- Even though the work is ongoing, the model has been proven to function well and is a success story in itself - the process has brought up many valuable insights i.e.: technology life cycle is viewed from different roles at the same time, recognizing different roles very early on and building new service models by looking at the technology lifecycle through all the roles simultaneously.

- Continuous communication and information about the model will be necessary to avoid negative attitudes. It is important to spread the message that technologies can be used side by side with traditional care. Some of the customers and professionals view the use of technologies as a way of replacing physical home care, and not as a support to customer empowerment.

- Involvement of the stakeholders in tailored workshops and communication about the progress of the project have been the most important steps in establishing trust. Proving the functionality of the underlying model has helped to build a sense of community and trust in the network. The utilization of online discussion forums (e.g., Innokylä) and creation of online discussion forums between the ecosystem stakeholders has further increased the level of trust.

Facts about the model area

Name of regional network	Päijät-Häme Joint Authority for Health and Wellbeing

Area in km2	6.257 km2
Population – number of inhabitants	212.000
When the network was established	2017
Number of municipalities in the network	8 municipalities, 10 municipalities from 2023
Number of hospitals in the network	1 somatic
Target group	Home care customers (elderly) and next of kin
Number of users	1600 and growing

Useful links

Below you will find links to documents or platforms that could be useful to dive into for more details.

Technology supporting smart ageing and care at home programme (KATIKATI-programme site in English

KOHTI-project site in Finnish

Päijät-Häme website about KOHTI-project (only in Finnish)

Predict changes in health and well-being

Links to YouTube clips presenting digital services in Päijät-Häme (only in Finnish

Front runner municipality within elderly care

Sharing of data between health and social care is not a tradition on Iceland and this can create many difficulties. In order to be the Icelandic front runner within elderly care Fjallabyggð municipality have entered a cooperation agreement for innovation and development.

The cooperation is with the SSNE (Associations of municipalities and business northeast Iceland), the Ministry of Social Affairs, the Ministry of Health, VelTek (Health and Welfare Technology Cluster of the North) and the Association of Senior Citizens.

The overall aim for Fjallabyggð municipality being a front runner within integreated health and care technologies is to support, the elderly population and provide the citizens with a holistic view of their health and wellbeing.

Fjallabyggð and Health Care institution North Iceland - HSN will work with Veltek to develop their co-operation platform for coordinating services with citizens and for the introduction of health and welfare technology in the community.

The three parties have agreed to work together towards the common goals and will develop further plans for the implementation of individual projects as the needs arises.

The aim of the cooperation agreement is to confirm the good will and the main goal of the stakeholders, to work together on the development, innovation, and implementation of technology in health and welfare services for the citizens of Fjallabyggð and with the elderly population as a starting point for the project.

The cooperation set-up

The age composition of the population in Fjallabyggð reflects other rural areas in the Nordics. About 20% of the population is 67 years or older and this number will grow the coming years. This calls for increased collaboration and coordination to provide the service offerings along with new and changed methods and technology to support an overall vision of being front runners within integrated care and quality to the citizens.

The primary stakeholders in the cooperation and their role are described below.

Fjallabyggð municipality provides social and welfare services according to the Act on Municipal Social Services. This includes all general and specialized social services for the citizens and support services for the elderly, as well as the operation of the Hornbrekka residential and nursing home.

Heilbrigðisstofnun Norðurlands (HSN) handles the operation of health services for the inhabitants of Fjallabyggð, cf. law on health care. These are general health care services, including services for the elderly as well as a nursing and medical ward in Siglufjörður

VelTek - The Health and Welfare Technology Cluster of the North is a newly started cluster that began its operations in 2021. The cluster is based on policies and ideologies to create a knowledge platform where various stakeholders from different sectors work together on projects, primarily in the field of innovation and technology in health and welfare services for citizens.

Fjallabyggð and HSN provide services to the citizens and are taking steps towards strengthening the use of technology in the welfare service.

Developing the Fjallabyggð model

The cooperation agreement between the stakeholders is in the early stage but will look at ideas and proposals for integrated health and social services for the elderly based on framework and guidelines given from the Ministry of Health.

Fjallabyggð, HSN and Veltek have confirmed their willingness to increase cooperation and to work on specified projects within innovation and technology in the health and welfare services based on eight main goals:

Fjallabyggð and HSN will, individually and collectively, have an initiating role in the implementation of welfare technology, development, and coordination of the services with the citizen of the municipality.

Fjallabyggð and HSN will, in collaboration with Veltek, work with testing, development and implementation of new service solutions.

Increase cooperation and coordination in the service offering, between institutions, divisions and employees through teamwork and formal consultation and communication channels.

Strengthen cooperation on knowledge sharing, competence development and joint education for citizens, relatives, and employees.

Strengthen the dissemination of information and the publication of educational material for stakeholders and utilize the latest technology for this purpose.

Implement and coordinate work processes and quality standards in the service of the elderly.

Inform and negotiate cooperation to ensure the financing of individual projects and the acquisition of grants for innovation and development.

Commission or carry out research, audits, progress and assessments in the welfare service and the innovation and development projects that the parties launch jointly.

Government policies

The cooperation agreement is also based on a reference to the following government policies:

- Actions A4 and A5 in the Regional Plan 2018-2024, where the emphasis is on establishing coordination, teamwork, counselling, education, and quality development in the field of social, health and education.
- Charter of the Government of Iceland, which encourages innovation, cooperation in the field of public services and administration, and the strengthening of technological infrastructure and welfare technology.
- Emphasis in the government's policy from 2016 in the field of innovation and technology in welfare services.

As the cooperation is still in an early stage, the governance set-up is still being developed between the municipality, health institution and other stakeholders.

Going forward

The key success factors and reflections from the Fjallabyggð project is at an early stage of the cooperation but below are some of the major findings and components identified:

- Sharing of data between health and social care is not a tradition and creates difficulties in thinking and designing solutions where data can be shared. Even though the law in Iceland is based on collaboration between health and social, sharing the same database has not been the case. The project aims to do so and develop a solution to make that possible. By not working with shared data, it makes the quality of care more difficult and not as holistic as it could be

- The challenge is to make a sustainable solution where the citizen has the possibility to give consent to the use of own data. The main goal is to increase quality of life and the notion on not sharing data maintains silo thinking. Breaking silos is necessary to be able to provide a holistic view and preventive service offering to the citizen so they can stay healthy longer

- Based on Fjallabyggð current infrastructure and composition of the society it can showcase a sustainable society where staying healthy long combined with preventive actions is possible because of breaking the silo thinking and make data sharing possible.

- The set-up of the cooperation has taken longer than expected and the governance around the agreement still needs to be established and aligned with the stakeholders.

- Recommendations to others thinking of a similar project cooperation agreement:

  - Start - don't wait
  - Anchor with management
  - Anchor with employees

Facts about the model area

Name of regional network	Fjallabyggð Municipality, North East region Iceland
Area in km2	364 km2
Population – number of inhabitants	1.700
When the network was established	2021/22
Number of municipalities in the network	1 municipality
Number of hospitals in the network	1 somatic
Target group	Senior citizens
Number of users	120 within home care and long-term care

Joint health care effort – ensures welfare technology integrated into services

Region Agder and 25 municipalities have successfully secured a collaboration where municipalities and hospitals work together towards better continuity of care. A regional steering group is one of the success factors.

Regional Coordination Group (RCG) for e-health and welfare technology in Agder was established in 2016. The aim with RCG is to support the effort outlined in the National Health and Hospital Plan; to get the municipalities and the hospitals to collaboratively work towards better continuity of care. Region Agder had already since 2013 worked with several telemedicine/home monitoring projects in close collaboration with the hospital of southern Norway (Sørlandet sykehus, SSHF) and general practitioners (GP).

The reason for establishing the RCG e-health and welfare technology was to go from fragmented small-scale testing to large-scale implementation. RCG secures coordination between the municipalities and hospitals in the region.

In 2019, the municipal director committee decided to establish a joint regional steering group for projects under the auspices of RCG e-health. Representatives in the joint steering group are from the municipal and hospital management, as well as observers from the State Administrator, KS Agder, Agder County Municipality, and the General Manager level ICT reference group Agder. One of the main success factors in creating the joint regional group was that all municipalities participated based on equal says – which means that the smaller municipalities are as important as the larger ones.

Why RCG e-health?

The purpose of RCG e-health is to coordinate and have an overview of projects and activities within e-health and welfare technology to ensure that the region will:

- Be the leader in welfare technology in Norway
- Stimulate research, innovation, and business development through innovation partnerships
- Ensure municipal anchoring in projects that have regional value
- Support and facilitate service manager networks
- Encourage coordinated procurement to attack suppliers
- Equal says for all municipalities

The overall goal is to ensure welfare technology is integrated into the health and care services in all twenty-five municipalities in such way that it provides value and benefits for the citizen and the health care professionals. This will give managers in the health and care sector the possibility to use competence-enhancing measures to gain increased insight into how their own municipality and department can use welfare technology, create profit plans, measurements, and reports and map needs, initiating services, assist in implementation of new technologies.

E-health Agder 2030 program

RCG e-health introduced in the spring 2020 the program E-health Agder 2030 where the vision of the program is to ensure that "the citizens of Agder have access to simple, secure, comprehensive digital health and care services". The joint steering group have agreed on the below initiatives (not an exhaustive list) within the program and the following investments: TeleCare, safety and warning technology, digital home follow-up (DHO), national e-health solutions, FKJ Agder (One citizen one medical record) and CRANE Agder (EU Horizion 2030 pcp-project).

Based on the above purpose and goal RCG will contribute to coordinate projects and activities within e-health and welfare technology for all the municipalities in Agder.

Network cooperation as a key component

With establishing the regional structure (RCG) in 2016 an increased trust among municipalities, county and the hospital was build working towards common goals.

The cooperation between RCG, municipalities, hospitals, PGs and the joint steering group is based on network management and network organization and are driven by clear goals. The group meets regular to cooperate and reflect on challenges, needs and effects on activities across the region. These meetings run in a very structural way with a firm set agenda and facilitation but in respect for the diplomacy.

RCG have also set-up innovation partnership between the private sector, municipalities, hospitals and GP's to test and implement innovative welfare technology solutions to benefit the citizen's so they have simple, secure, seamless digital health and social care services. Focusing on the Digital home follow-up (DHO) service as the future RCG will gain more and more experience to build a knowledge base to improve good, customized services that will meet the individual citizen's needs.

RCG is a central part of the digital transformation that Agder started back in 2013, and which they still are in, and the maturity of the digitalization have changed over time. In the beginning the transformation was focus on technology within the region and its organizations, but now the focus has moved into a more end user perspective and acceptance of technology in the support and managing your own health. In projects like DHO there has been focus on user involvement from the beginning to ensure anchoring with the citizens. This has resulted in Agder Living Lab (ALL) which is based on a citizen centric perspective to develop a methodology within health technology area.

Competences – be the best in the class

To be the best in the class also requires focus on development of competences both with employees in the region and the citizens.

RCG has experienced that there was a general is need for increased competence in digitalization, welfare technology, change management and flexible working methods. This is a need within the whole organization from health personnel in the service, middle managers to C-Suite. The project DHO has received several feedbacks on the need for more expertise and knowledge among both employees and from the citizens. Involvement from start to finish, anchoring in all stages and a close collaboration can contribute to valuable knowledge transfer between the involved parties.

Communication is also important in connection with anchoring on many levels   in the region. RCG is making a big effort in having a clear tread in the information flow from information about technical platform, service information and competence development.

Going forward

RCG will going forward and also investigate how to improve and get a more society economic view into the network by involving both national and regional economists, include more research in the field of integrated health and care by involving universities, be better to anchoring results on a local, national, and political arenas and support the new transformation of the society which is under development related to which society Agder would like to be in the future.

Success factors

The key success factors and reflections from the RCG e-health up until now are many and below are some of the major findings and components identified:

- Establish a structure is important to create a common framework and governance for all municipalities and the region to succeed with the network cooperation and network management.
- Anchoring and buy in from top management C-Suite on both the strategic and operational levels, and a continuous focus on communicating the vision and goals for the network.
- You need common goal and strategy across silos! This is important to chase value and have a constant focus on value for all parts of the network and not only in your silo.
- Ensure ownership and anchoring in all levels of the entire network and ensure a red tread in all you do.
- Understand common needs and challenges and cooperate to be the best in class. All municipalities are equal even though they are different in size. Be ready for change and open for iterative processes to build, test and learn from new services.
- Create trust by working together as an Agder Team that works on behalf of the whole region. Creating arenas (yearly conference) for the employees in to meet a share knowledge and get inspiration for the universities and the private sector. Improve communication competences to ensure the right information to the right target groups on the right platforms.
- Continuous developing the competences by the employees and the citizen in using technologies, so they can manage the transformation in a safe and trustworthy way. But also make it clear that you as citizen and employee have a responsibility for developing your own competences as well.

- All projects have worked with profit realization, baseline and value based. However, the system to support the data collection for profit realization needs to be improved.
- Putting the patients first should not only be a slogan but a true mandate. This is a strong focus going forward.
- The network has been built around individual persons drive and willingness to change. Going forward it is important to involve society and economic perspectives as well.
- Common technical platform. Common procurement and common implementation via innovation partnership that will ensure anchoring of the infrastructure in the long run.
- Improve regional management network across sectors and to connect activities to the national political strategies.

Statements for citizens and health professionals

Citizen

"I have that security in the back all the way. The fact that someone is watching it my daily form and getting in touch if there is anything is worth gold "- Patient

"I am absolutely convinced that I would have been hospitalized this summer if I had not had this follow-up (DHO)"- Patient

Health professionals

"The big win with DHO lies in interaction in dynamic teams around the patient" - Anonymous from survey

Facts about the model area

Name of regional network	Regional Coordination Group (RCG)
Area in km2	16.434 km2
Population – number of inhabitants	300.000
When the network was established	2016
Number of municipalities in the network	25 municipalities
Number of hospitals in the network	1 somatic with 3 departments in the region: Arendal, Kristiansand and Flekkefjord
Target group	Chronic groups, mental health and habilitation, as well as open to other patient
Number of users	Approximately 100 and growing

Useful link

Below you will find link to platform that could be useful to dive into for more details.

eHelse Agder

Health and social care where you are - a seamless chain

Tiohundra has a unique constellation with integrated healthcare and social care in the same organization. A partnership focus is the main driver to plan and carry out the care together with the patient, user and/or relatives. It provides conditions for a seamless health and care chain for people.

Tiohundra AB is a collaboration between Norrtälje municipality, Region Stockholm and Tiohundra AB. It provides a health and care chain for citizens in Norrtälje municipality, which extends beyond traditional county council and municipal boundaries.

Tiohundra was establish in 2006 as the merger between healthcare and social care in Norrtälje municipality. The mission included developing new and integrated services of operation to increase efficiency and create well-functioning care chains between healthcare and social care in the municipality.

In 2016 the last step was taken to merge primary care and the Norrtälje Hospital into a common area of activity within Tiohundra. The benefit of this merger was in line with the Swedish government healthcare proposal, to coordinate health and social care to improve innovation and develop effective health care for the citizens.

Tiohundra is owned by the Municipality Association for Health and Social care in Norrtälje (Kommunalförbundet Sjukvård och Omsorg - KSON) together with Region Stockholm. Funding comes from the same organizations (50/50) as all healthcare and care in Sweden, is based on contracts on either volumes or assignments.

The development of Tiohundra from 2006 to 2016 has subsequently been called the Norrtälje Model and is noticed both in Sweden and internationally and is highlighted by the Ministry of Social Affairs as a role model for other municipalities, county councils and regions in Sweden. A Norrtälje Model 2.0 was started in 20218 with focus on a more person-centered health care, and the patient's needs where they are in life as well as physically – Health and social care where you are.

The Norrtälje model

The Norrtälje model is a further development of the Tiohundra project. The model supports and develops new cross-border methods for collaboration for the benefit of the citizen in the municipality. In addition, it has also laid the foundation for:

- political cooperation by creating a joint municipal association with its own political leadership from both the municipality and the region
- joint management and leadership training and quality advice that create a strong common culture
- collaboration in recruitment which builds a strong employer brand. Tiohundra is the municipality's largest employer
- digitalization and welfare technology innovation, development, and cooperation in the IT area (as test bed for 5G, robotization etc.)
- common focus areas for Equal care, Mental Health, and Children's physical and mental health
- improved citizen dialogue through joint investment in proposals from the citizens and forums for business development.
- supports the cooperation and removes barriers that are not needed between public and private and between municipalities and regions.

The vision for the Norrtälje Model and Tiohundra is health and care where you are. The latter part of the phrase refers to both geographically and where the patient is in their life circle.

The vision reflects the focus on health and the wish to work preventively and ensure that as many of the citizens as possible receive help in good time so that they can stay at home longer and maintain a good quality of life. No one feels good about being in hospital unnecessarily, so when help from care or nursing is still needed, it should be done on the patients' terms and if possible, at home. A partnership focus is the main driver to plan and carry out the care together with the patient, user and/or relatives. The vision also reflects the investment in digitalization, innovation and new technical solutions that make it easier to be a patient whether it is via a video meeting with the doctor or with digital aids for self-care.

The vision is also supported by the values which all employees in Tiohundra thrive to deliver a high quality in all efforts and actions through participation, good accessibility to creates security and equal treatment to show respect for the citizen.
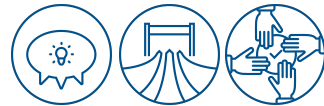
Tiohundra collaboration and service deliverables

Tiohundra runs the emergency hospital, health centers, psychiatry, nursing homes, Child Care Center (BVC), Personal assistance activities (LSS), and home care - activities that were previously run respectively under the auspices of the municipality and the region.

Tiohundra works according to a long-term operative management plan that consists of clear goals and with focus on integrated health care combined with increased use of digital ways of working, change management and partnership with users and customers. The goals are updated annually based on the overall wish to be top ranked, cost-efficient care in time and no waiting lists no queues. There is a well formulated process to update and renew the goals and the strategic work behind it. When updated meetings and forums associated with the new goals set are launched on different levels of the organization to ensure anchoring and communication of the updated plans and strategies.

Collaboration at all levels

The management of Tiohundra is organized in a management board with a CEO and representatives from all part of the operations in the organization (healthcare, social care, primary care, psychiatric care etc.) including research, development, HR, and IT. In total there are 13 Operation Managers and the CEO in the board and the operation managers are reporting directly to the CEO.

The management board is meeting up weekly (Mondays) to cooperate about the current challenges, needs, knowledge sharing

for the operation of Tiohundra. The main characteristic about the Monday meetings is that everyone is taking part in solving challenges across the different operations.

The operation managers are then sharing the information to their areas the following day, to ensure that the organization is fully aware of activities and actions happening in the company.

In addition, there is a monthly full day meeting with colleagues and managers of the organization to follow up on certain perspectives on work e.g.: economy, safety, improvement work, new assignments, occupancy etc.

New working methods

Based on the partnership and collaboration in the operation of Tiohundra, several new working methods have been developed, which both promote patient safety and increase efficiency. Many are based on the use of technical solutions, which is far from self-evident in health and care. Some of the examples of technical solutions that have been implemented to improve health services and efficiency are mentions below:

Mobile way of working with new technology

Nurse assistants in nursing homes has been equipped with Smartphones to be able to document, for example, wounds. The nurse then sent the pictures to geriatricians at the hospital for assessment.

Similarly, the district nurses at a care center were equipped with reading tablets. This way, they always have the patients' medical records available for home visits, which increases patient safety and saves precious time. This process has attracted a lot of attention and has been awarded several awards.

Cohesive medical record system

At the start of Tiohundra, eleven different record systems were identified in the municipality, which did not communicate with each other.   Today there is a cohesive medical record system for both primary care and hospitals as well as psychiatry. However, there is still work to be done in this area as part of the continuous digitalization transformation, and with a focus on using the same system in social and care services, which is highly needed.

Digital drug management

To make drug management safer at care and nursing homes paper drug lists have been replaced with a digital tool, easily accessible to employees with the help of a standard tablet.

Restaurant pucks reduce stress

At Norrtälje Hospital, the so-called restaurant pucks are now an obvious part of the business. When a patient is ready for an X-ray and is going back to the care ward, the puck flashes in the care staff's pocket.

However, for Tiohundra digitalization is the engine for development, but they do not need to be front runners or develop solutions themselves but are satisfied by buying existing solutions that will bring added value to the organization and the user and customer. This is an important strategy choice not always being a development partner but a user champion. It is also, right not possible to manage and drive the digital development themselves because of lack of resources in the organization.

Generate and learn from insights

One of the main components in the success of Tiohundra is the willingness to collaborate and share with each other across functions and units. When talking to representatives from the organization the common denominator is working in partnerships and cooperate to achieve a common understanding of the challenges and needs at the citizen and not at least the organization.

The picture below illustrates how Tiohundra work with partnership, employees, and management on one side, and how to involve, create safety and respect on the other side. Getting this right will create innovation and possibility for growth.
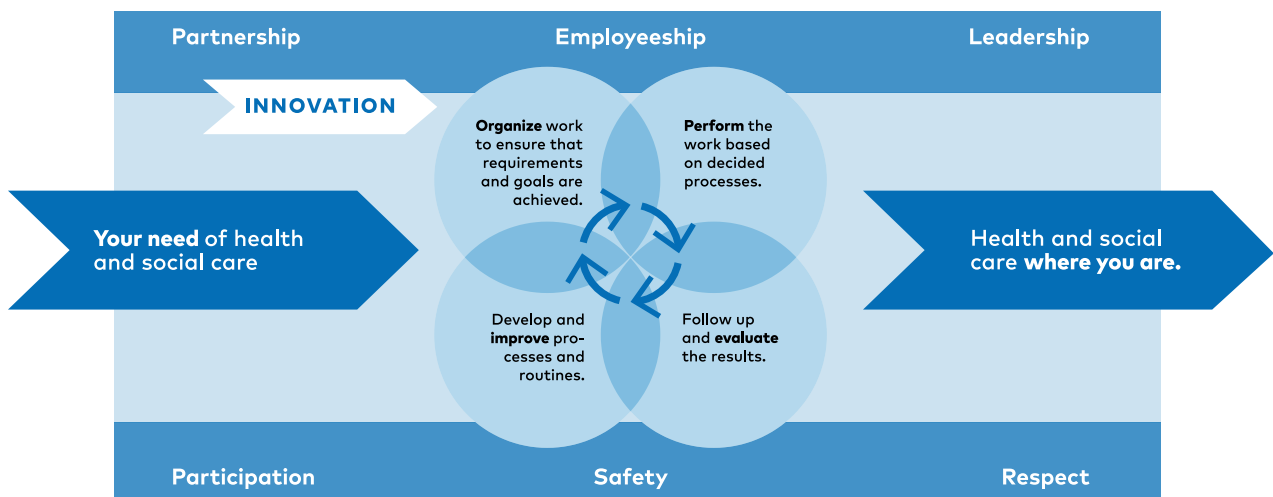
Success factors

The key success factors and reflections from the Tiohundra up until now are many and below are some of the major findings and components identified:

- Be brave. To sit in the boat and keep your head clear even though you do not know what the next step is. Ensure that the processes are clear and that there is a common agreement about where to go and what the goal is. Be humble and learn from others at all levels in the organization from top to bottom – both the success stories but also the not so good experiences – and learn from both.

- Be communicative. Be open and communicate to all by motivating, engaging and be honest in everything you do. Ensure to share goals even though the steps to get there not always is known.

- Participation. Make sure to understand the needs by all interested parties – patients, employees and loved ones. Involve all necessary interested parties and co-create ideas, challenges and problem solving together. Cooperation is very important and can often be done by sitting together around a table and share.

- What have others done. Investigate what others have done and learn. Ensure to measure the effects and communicate them. Create small iterative projects, and design, build and test in short incremental circles. Based on insights bring forward the good solutions and make them into guidelines and processes for others to use.

Statements for citizens and health professionals

Health professionals

"Our patients are not guests in our organisation, we are guests in their lives"

Facts about the model area

Name of regional network	Tiohundra 10100
Area in km2	2.000 km2
Population – number of inhabitants	64.000
When the network was established	2006/2016
Number of municipalities in the network	1 municipality
Number of hospitals in the network	1 somatic
Target group	All citizens, customers in home care and elderly living in homes
Number of users	All citizens in the municipality and double during summer

Useful links

Below you will find links to documents or platforms that could be useful to dive into for more details.

[Det här är Tiohundra](#)

[Norrtäljemodellen](#)

[God och nära vård med hög kvalitet](#)

Afterword

The Nordic countries are built on the principle of democracy and on universal access to high-level health and social services. But the societies we live in have become more complex, and face challenges in the years to come: the demographic is changing with an aging population and lack of manpower. Nordic inhabitants have high expectations of what the health and social services should solve. At the same time the complexity both in service provision, towards the inhabitants, and the society in general has increased.

Integrated healthcare and care that is well coordinated is one of the largest challenges facing modern health- and social care services in the Nordic countries. Research, reports, white papers, and experiences from both healthcare professionals and users show that it is in the transitions between service levels that errors occur: inadequate interaction, communication, and coordination contribute to patient injuries, unnecessary hospitalizations, unnecessary waiting time, and extra strain for patients, relatives, as well as healthcare and social care professionals.

We can therefor see, in all Nordic countries, national initiatives to achieve a more integrated healthcare and social care service model based on the needs of the citizens. Resources have been added and many projects has been carried out. In regions and municipalities, politicians have made decisions to cooperate to a greater degree between healthcare and social care for a more integrated service offer. Regulations have been adjusted to facilitate implementation and there are also agreements entered between the actors. Despite high ambitions and the fact that political decisions have been made, resources added, regulations changed and agreements signed, development is slow in the vast majority of regions and municipalities in the Nordic countries. There is a lack of knowledge sharing, communication, common goals and trust between the actors. The components that the Norwegian Centre for E-health Research highlights in their research as the most significant components for successful implementation of integrated healthcare and care with support of distance spanning solutions.

In this report we have given five examples of regions with cross-sectoral collaboration within health care and social care in focus. The regions are examples of how system structures can be organized to ensure new integrated healthcare and social care services. All regions have components as communication and knowledge sharing,

common goals, and trust that strongly contribute to better collaboration between service levels and adopting of digital health services and distance follow-up solutions. The five regions are examples of regions that work to maintain universal access to high level health and social services.

Nordic Welfare Centre and their collaboration partners, Norwegian Centre for eHealth Research and Centre for Rural Medicine have through this publication shed lights on models for cross-sectoral collaboration, involving multi level governance to secure integrated healthcare and social care services. The identified key system componants to make it work are communication, knowledge sharing, common goals and trust. For Nordic Welfare Centre, a publication of this kind is important. More regions and municipalities can be inspired to further develop their service portfolio to become more sustainable and more adapted to the citizens needs. This publication will be followed by additional initiatives during the years 2022-2024, to develop integrated service models for citizens across the Nordics

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About the publication

Integrated Healthcare and Care through distance spanning solutions – for increased service accessibility

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