

SWEDEN

Transforming primary health care during the pandemic

ACCESS TO RURAL SERVICES BY STRENGTHENING PRIMARY CARE WITH DIGITAL TOOLS IN REMOTE AREAS OF SWEDEN

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MOTIVATION

The use of new innovative approaches for equitable access to health and patient empowerment in remote and rural areas in Sweden has been part of a long-term strategy to meet the increasing challenges of demographic changes, an ageing population and an increase in chronic disease and multimorbidity. Growing health-care needs of the population and rapid technological advances in combination with resource constraints in publicly funded health care have spurred a shift in policy and practice. In Swedish southern Lapland, the transformation started already in the early 1990s as a necessity and means of ensuring access to health care for residents of remote, rural and sparsely populated areas. The research, development, innovation and implementation of telemedicine solutions is thus an inherent part of the health-care services in southern Lapland (virtual community rooms in southern Lapland).

With the COVID-19 pandemic and the growing need for rapid yet sustainable digital transformation in health care, the lessons learned from southern Lapland have been in demand nationally and internationally. This vignette will focus on key success factors for increased access to rural health care by strengthening primary care with the help of digital tools.

DECENTRALIZED HEALTH CARE AND SHARED RESPONSIBILITIES FOR TRANSFORMATION

Sweden's health-care system is decentralized and primarily publicly funded through general taxes. Three elected political levels together with their administration share responsibility for the social and health-care system. Private health-care providers can also operate within the system.

Private health-care providers that operate under contract with the regional and/or local authorities do so with publicly funded reimbursement and therefore pose no additional cost for patients.

National level

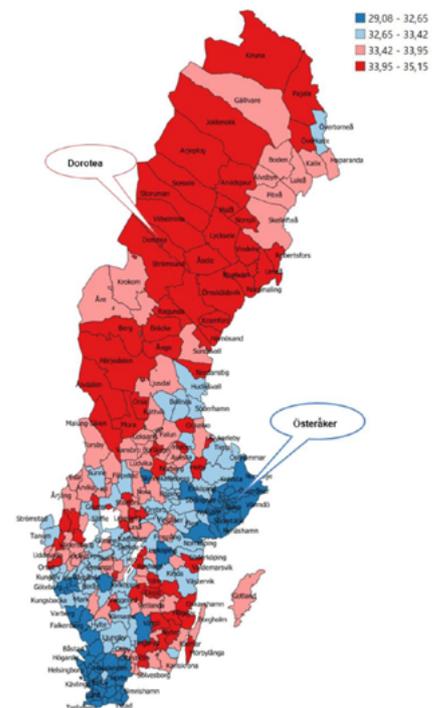
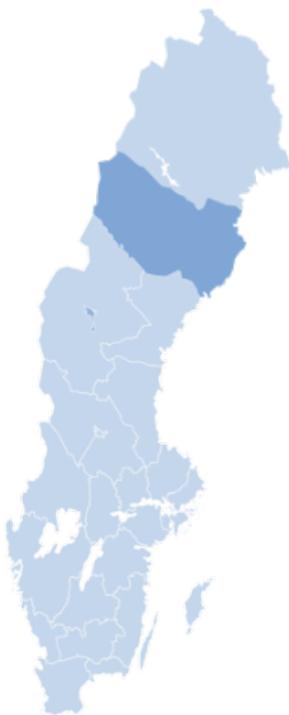
Swedish parliament responsible for central government agencies
Rules through legislation

Regional level

Regional council responsible for organizing, financing and providing most health-care services such as hospitals and primary care

Local level

Municipal council responsible for care for older people and for people with disabilities



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PRIMARY HEALTH CARE IN RURAL AREAS – SOUTHERN LAPLAND AND REGION VÄSTERBOTTEN IN SWEDEN

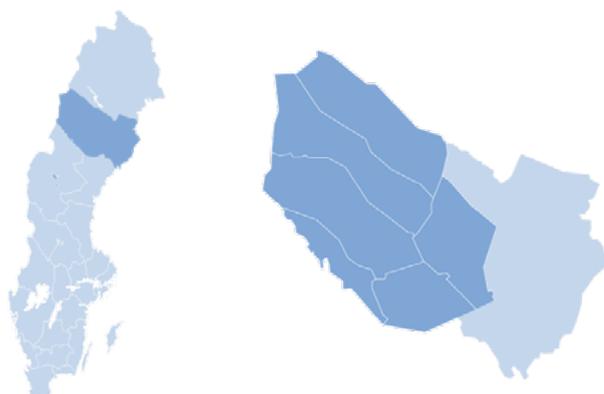
The northern area of Sweden comprises four regions: Västerbotten, Norrbotten, Västernorrland and Jämtland Härjedalen.

It comprises half of Sweden's geographical area but only 10% of the country's 10 million inhabitants. In the very extreme areas, the population density is as low as less than one person per km². This makes Västerbotten and southern Lapland one of the most sparsely populated areas in Sweden and Europe, with long distances to travel. It also has a high proportion of older people with recurring need for health care. By virtue of necessity, the region has a long history of working proactively with the challenges of providing remote and rural health care.

Why is southern Lapland unique and what can be learned from its primary health care approach?

In southern Lapland, the health-care needs of the inhabitants in combination with long distances to travel and difficulties with recruiting and retaining health-care personnel in remote and rural areas have been the main driver behind new innovative and disruptive approaches to primary health care – engaging health-care professionals, patients and collaborating partners to harness the full potential of new digital tools.

The foundation of primary health care services in sparsely populated areas rests on the cottage hospital model, which has been in place for more than a century. The cottage hospitals are small primary care units staffed with general practitioners. Their scope of practice is broader than in more urban areas, since they provide traditional family medicine, emergency care, obstetrics and gynaecology, paediatrics as well as minor surgery, rehabilitation medicine and palliative care. The cottage hospitals are equipped with X-ray equipment, ultrasound examination equipment and a local laboratory to perform the most common blood tests. The logistical connection to ambulance services as well as the broader hospital network ensures patient access to advanced hospital care and highly specialized care.



Västerbotten and southern Lapland

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Since telemedicine solutions were introduced in the cottage hospitals in the early 1990s, southern Lapland has been in the national forefront in applying new digital tools to improve primary health care services. From a patient perspective, this has resulted in better access to health care, including but not limited to the possibility to virtually consult a hospital specialist located 350 km away together with the general practitioner. From a personnel perspective, this has meant increased multidisciplinary collaboration, knowledge exchange and collegial and adaptive learning. This also means expanded medical capabilities in health-care facilities, enabling far more advanced procedures than what is traditionally considered primary care.

Today, southern Lapland is running remote doctor consultations for traditional primary care, emergency care, rehabilitation and care for older people. More than 40 telemedicine applications are actively running everyday care, such as the hand-surgery rehabilitation team serving remote patients and emergency care doctor services in remote locations, many of which are connected to the Umeå University Hospital and others within primary care. The region also has eight virtual community rooms aiming at strengthening patient access, participation and empowerment in health-care services. In these rooms, located in rural and remote villages, people can check their blood pressure and blood glucose and other tests and can also have scheduled video consultations with health-care professionals instead of travelling longer distances to the closest health clinic. These self-care rooms also help in understanding how new technology needs to be designed to work for an ordinary old population. To improve medical services to nursing homes, a digital remote doctor service teams with local nurses and assistant nurses to take care of most of the needs of these chronically ill patients with good quality. This system can provide continuity in a better way than before.

Southern Lapland as a key driver of the national primary health care reform

In recent years, the cottage hospital model has also been adapted to fit more populated areas in Sweden as one integral part of the national primary health care reform and the development of good-quality, local health care. Southern Lapland serves as a key driver, model area and innovation hub for the current reform agenda. The aim is to strengthen patient access and empowerment, better coordinate health and medical care services and local-level care and more cost-effective use of public resources. The reform entails a paradigm shift in Sweden's health care that will require transformative policies and practice at all three administrative levels of the social and health-care systems.



With the COVID-19 pandemic, the need for new digital tools and true digital transformation in health care has become even more evident.

The long-term strategy of Region Västerbotten

The long-term strategy of Region Västerbotten in rural health is to systematically move technology closer to the patients. This fundamental idea has been pursued since the early days of telemedicine three decades ago. Southern Lapland has proven that, by unleashing the creative power of personnel and with the help of technology, the geographical distances can be eliminated, and demographical challenges can be bridged. Enabling self-monitoring and self-care solutions is currently being explored as the next step towards bringing health and medical care closer to the patients. Ongoing projects have primarily focused on patients with chronic conditions such as heart failure, diabetes and hypertension. With the latest drone technology, southern Lapland is also testing and evaluating, at a small scale, remote-controlled delivery of medicines and laboratory samples from primary health care clinics and cottage hospitals to patients. New collaborative approaches are also being explored with municipalities to bridge the gaps between health and medical care and between social care and care for older people.

SWEDEN'S INNOVATION MODEL AND HOW IT IS APPLIED TO RESPOND TO POPULATION NEEDS

Innovations are new solutions, successfully implemented, to serve needs and demands in daily life and in the world around us. As such, innovation focuses on new or better ways of creating value. Sweden's innovation model largely builds on the idea of collaboration. In recent years, Region Västerbotten has worked actively towards the goal of being an attractive and innovative partner – applying a multistakeholder approach for broader collaboration between public institutions, industry partners, academia and civil society.

In 2015, Region Västerbotten enhanced its innovation partnerships with industry. This meant a shift from supply-driven to demand-driven innovation. As such, the innovation process is always needs-based, and the overall goal is to contribute to improving the quality of health-care services and health for patients as well as more cost-effective, cost-efficient and long-term sustainable use of public resources. Through this approach, industry partners obtain opportunities to test, evaluate and adapt the product, market and price fit of their solutions. Innovations that clinically benefit patients, are user friendly for health-care professionals and are economically viable solutions from a payer perspective can be scaled. The results from the innovation project are then transferred to the health-care management for decision-making. The lessons learned from the partnerships are also useful for user adoption and implementation of other innovations and enable better fitted solutions in health care.

THE CENTRE FOR RURAL MEDICINE IN VÄSTERBOTTEN – A CATAPULT OF RURAL PRIMARY HEALTH, DIGITALIZATION AND INNOVATION

In southern Lapland, a major driving force for research, development and innovation in rural primary health was the establishment of the Centre for Rural Medicine. The Centre is a research and development unit in Region Västerbotten, located in the rural Municipality of Storuman, with a specific focus on rural health care, new approaches to health and medical care, health for the indigenous population the Sami and skills supply in rural settings (1–15). It also facilitates courses and capacity-building initiatives for health-care professionals working in the sparsely populated and rural areas. The Centre currently serves as an innovation environment and a test bed for new digital tools and solutions.

For many years, the Centre has taken strategic roles in several European innovation networks as well as national and international innovation and research projects for rural digital health, integrated care and distance-spanning health-care solutions in counties and municipalities. Innovations are tested in real clinical practice by health-care practitioners and evaluated by researchers at the Centre in collaboration with connected organizations. A key factor has also been to involve the rural population in early stages in both research and development. To strengthen the innovation capabilities and enhancing capacity for needs analysis, create better insights on how to harness the full potential of new technology and for the purpose of facilitating the introduction of new digital tools, southern Lapland is now training personnel at all levels in service innovation.



NEXT STEPS – THE FUTURE OF RURAL HEALTH CARE

The underlying challenges in the health-care sector are universal. Southern Lapland in Sweden is not unique. Considering the growing health-care needs of the population and the limited human and financial resources available, new approaches will definitely be necessary for the primary health care reform to be successful. New solutions, however, have to be developed in ways that enhance patient empowerment, integrate with the broader ecosystem of health-care services and align with new patient flows and processes in daily clinical operations. More than anything, these solutions will have to be introduced at a cost that is reasonable in relation to the value created and the resources available, in the short and long term.

The early encounter with these challenges and necessities, however, has spurred the innovation capacity and spearheaded the digitalization efforts in northern Sweden. Southern Lapland and Region Västerbotten are in the national forefront in new disruptive approaches for enhancing access to health care for residents of remote, rural and sparsely populated areas. The future of rural health care holds an array of possibilities. In southern Lapland, the first steps towards data-driven processes and information-based health care have been initiated. Personalized health care is on the rise, which also requires a balance with broader population health challenges. Working with the patient perspective at the heart and centre of health-care service delivery is therefore even more important in the future.

Many health-care systems are also traditionally organized like industries with standardized patient flows leading to a central location for treatment. This is not functional for rural and sparsely populated health care. The future of rural health care is therefore distance-spanning. This will enable easy access to health-care services and advice, patients with chronic diseases and multimorbidity will contact their personal digital physicians, with the possibility to monitor sensory data that are relevant for various diseases. The shift towards more independent, empowered patients and self-care solutions is also important for the sustainability of the transformation. This will also enable scarce resources to be allocated to patients with more advanced and specialized health-care needs.

Collaborative approaches will be key also in the future, in terms of identifying and setting priorities for needs and finding suitable solutions and new approaches on how to introduce, implement and adopt digital tools in a way that strengthens primary health care and enhances patient access, participation and empowerment, including in very remote and sparsely populated areas.

LESSONS LEARNED

1. Local collaboration between key stakeholders is fundamental for providing health care in remote, rural and sparsely populated areas. The cottage hospital model from southern Lapland, building on collaboration between regions and municipalities, provides.

2. One size does not fit all, and the primary health care model needs to be tailored to the population it serves. In rural and sparsely populated remote areas, this involves expanding the scope of practice of general practitioners and nurses and applying innovative and remote delivery solutions, including drone technology and digital solutions with a wide range of telemedicine applications.

3. Developing, testing and evaluating innovations in practice and creating real-world incubators of innovations are key to ensure that widely adopted new technology matches needs. Bridging between the voices of clinical practice and policy is key for effective and sustainable innovation adoption in health care. Patient participation is key in research on, development of and innovation of new health-care services. Health-care professionals need to be co-creators in how new solutions are developed, tested, evaluated and implemented, focusing on what is best from patients' perspectives and finding ways to make it sustainable organizationally. The Centre for Rural Medicine has good experience from this kind of bottom-up innovation process.

4. Change, at any level, needs to be thoroughly anchored throughout the organization and across relevant stakeholders. Develop or adapt a proven implementation model according to what is contextually relevant and make sure to work systematically. Ensure the scalability already from the beginning and identify potential bottlenecks along the way. Flexible and agile approaches are necessary when working with innovation and implementation of new solutions.

5. Innovation partnerships with industry often tend to focus on product or service innovation. Experiences from Sweden's health-care system, however, show that the main challenge is seldom developing new technology but testing, evaluating, implementing and applying new solutions in daily clinical practice. A more systematic approach to innovation is thus needed in more transformative initiatives.

6. A more systematic approach to innovation could entail new patient flows and work processes, organizational structures, reimbursement, and business models as well as policy innovation and adaptation of regulations. Experience from Region Västerbotten shows that this kind of system-wide innovation requires an active and supportive leadership as well as a collaborative culture.

7. For health-care services to become more accessible and move closer to the patients, such as through the practice of community hospitals or community rooms, medical equipment needs to be easy to use and designed for use by citizens and patients themselves and not only by health-care professionals.

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