

# Remote on-call support in rural areas



# Summary

Remote on-call support from Kalix hospital to the health centres in Övertorneå and Överkalix has been a routine practice for three years. During the evening, at night and at weekends there is no doctor at the health centre in Övertorneå. Emergency cases, where appropriate, are handled remotely via video conference. People who contact the healthcare hotline on 1177 (a national service for healthcare counselling) are prioritized based on their symptoms and also the acuteness of their situation. The cases that are deemed most acute – priority level 1 – are transported directly to Kalix hospital, while other less acute cases are handled at the health centre in Övertorneå.

The patient is examined by a nurse at the health centre. The nurse takes samples, carries out ECGs, etc. If required, the on-call doctor at Kalix hospital will be contacted. The doctor will carry out an assessment and, if necessary, can prescribe medication and admit the patient to a bed at the health centre.

This working model has currently been established at the health centres in Övertorneå and Överkalix and will shortly be extended to the health centres in Pajala and Jokkmokk. Övertorneå health centre also works with skills transfer in which it educates AKS nurses (advanced clinical specialist nurses) who can relieve doctors by handling a higher number of patients. Education for AKS nurses will start in both Luleå and Östersund.

## Main effects of the solution

This working model enables patients to receive health care closer to their homes to a greater extent. Patients feel an increased sense of safety and the working model reduces the number of acute cases that are treated at Kalix hospital. The increased level of coordination results in a more efficient use of available resources for care givers.

## Users

- Citizens who require health care outside normal working hours, for example, elderly people with multimorbidity or patients with infections.
- Nurses at the health centres.
- The on-call doctor at the hospital.

## Quotes/Testimonials

"These days we are used to using technology for communication purposes. Health care at a distance has been well received, even by our elderly patients. They like receiving an assessment at their home and avoid having to travel."

— Elisabeth Eero, Head of Operations at the health centre in Övertorneå

# Elaboration

## Needs and challenges

Region Norrbotten is responsible for health care in Norrbotten, which has the largest area of all counties in Sweden. The county covers close to a quarter of Sweden's total area but its population comprises only around 2.5% of the entire Swedish population. The county also faces major challenges regarding demographic development in which the elderly will comprise over 30% of the population within 10 years.

Demography and geography paired with challenges regarding skills supply means that health care must find new and effective working models that focus on the needs of inhabitants and patients. To enable safe health care, regardless of long distances, new working models need to be implemented in both acute and planned care.

## Solution and function

When a person listed at the health centre in Övertorneå or Överkalix requires health care after normal working hours and does not need to physically visit the casualty department at Kalix hospital, the person will be directed by 1177 to the health centre. The patient will be received by a nurse who will examine them and take the required samples. If necessary, the nurse will contact the doctor at Kalix hospital and, in a joint consultation between the patient, nurse and doctor, the need for a video consultation will be assessed. If a video consultation is necessary, the doctor will call the health centre via video and can then see and talk to the patient and nurse. The doctor can perform an assessment remotely to see if further examinations or samples are required locally or at the hospital and will prescribe treatment or medication to the patient. The doctor can also admit the patient to a bed at the health centre for observation, if necessary.

This solution is based on standardized video communication technology that has been routinely used in Region Norrbotten for 15–20 years.

## Economy

The health centres split the cost of the on-call doctor from the hospital based on the number of listed patients. The cost of on-call doctors has decreased from around EUR 350,000 to EURO 80,000. Treating patients at the correct level of health care also represents a cost saving.

## Process

The health centres in Övertorneå and Pello in Finland have shared on-call duties for 37 years, whereby the health centres have been responsible for providing an on-call doctor every other weekend. Phones and faxes have been the primary means of communication. The new solution established with Kalix hospital provides added value in the form of video communication that provides a full picture of the situation from the perspective of both the health centre and the hospital, for example, regarding the number of available beds. The extensive experience of cooperation with on-call duties means there is a level of maturity amongst the doctors and nurses that has simplified the implementation. There is also full trust between the healthcare units and the different professional roles. This is a prerequisite in order for this type of working model to function. During the period that this cooperation has been active there have been no reports of incidents or deviations.

Switching to shared on-call duties is a greater challenge for the health centres that currently have their own on-call doctor, as this could initially be perceived as having less available resources.

## Organisation and politics

The development of primary care in rural areas has become a politically prioritized area. The decision to implement this working model that features remote on-call support was part of a proposal for actions made by the County Council Assembly in order to balance the economy.

Great emphasis has been placed on making the population part of defining the working model and ensuring that everyone has their say. Initial concerns about the working model have been transformed into confidence and trust in the healthcare system. Meetings and discussions have been held with the local inhabitants. The working model has also been thoroughly anchored within the responsible healthcare units. Politicians and administrative management have provided support in developing effective working models using state-of-the-art technology and new healthcare processes.

## Follow-up/monitoring

This working model has formed part of routine practice for three years and specific evaluations are no longer performed. Data on how volumes have changed with regards to emergency visits to Kalix hospital and to the health centres in Övertorneå and Överkalix can be accessed from the healthcare and production systems.

- The number of emergency visits to Kalix hospital in terms of patients listed at Övertorneå health centre decreased from 292 to 224 from 2016–2018, a reduction of 23%.
- The cooperation regarding on-call duties has resulted in a significant reduction in the amount of compensatory rest for doctors at the health centres. In turn, this means that accessibility to doctors during the daytime has increased. Even though the number of physical visits to the hospital has decreased, the number of visits to the health centres after normal working hours has remained approximately the same.

## Communication

The working model has been communicated via the intranet and an internal magazine (Insikt) and in Region Norrbotten's magazine for the general public, Utsikt, in order to explain how the service works and how it benefits patients.

## More about effects

### Effects for the patient

- Patients can receive health care close to their homes. Many patients would otherwise have had to travel 80–120 km to Kalix hospital.
- Patients feel safe, for example, elderly people with multimorbidity.
- Family and relatives are closer to the patient.
- When necessary, doctors can admit patients to a bed at the health centre for observation.
- Shorter waiting times for patients – immediate access to a hospital bed when needed.
- Fewer hours spent in the casualty department.

## Effects for the care giver

- Reduction in the number of on-call cases at the hospital.
- More efficient use of resources. Previously, on-call doctors might have the equivalent of a full-time position in compensatory rest.
- Patients receive the appropriate level of care.
- Healthcare staff feel more satisfied when they can meet patients' needs in a better way.

## Other effects

- Positive effects on the environment with less transport.

## Learning and tips

It is important that the technology is easy to use so that staff can focus 100% on the patient. The joint involvement of primary care and the hospital in on-call duties is a success factor as it provides a more complete picture of the patient's entire care.

## Further information

- [Read about the working model in "Utsikt" »](#)
- [The region has also produced a film that describes the service »](#)

## Context

Cooperation with remote on-call duties could be established at all health centres that have a ward: throughout Norrbotten, the whole of Sweden and all of the Nordic countries. Urban culture is different to rural culture, which could make it more difficult to establish the working models in an urban environment. People are used to having the competence they need locally.

Something which might complement the co-operation between health centres and hospitals with on-call duties could be a solution that incorporates a mobile on-call unit that visits patients in their homes. This solution has been implemented in Eksote, Finland, using a car equipped as an ambulance. This enables support to be offered directly to the home after normal working hours.

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# Remote on-call support in rural areas of Västerbotten

A working model featuring remote on-call support after normal working hours has been running for almost 10 years at the cottage hospitals in Storuman, Tärnaby, Sorsele and Malå in Västerbotten. The solution comprises a video conferencing system with a high-resolution ceiling-mounted camera in the casualty departments. The doctor responsible for on-call support can connect to the casualty department via video. The doctor will either be at home or staying in other accommodation in one of the towns. Video connection is either via a computer, tablet or smartphone. The cottage hospitals have experienced nurses available around the clock.

Since a doctor can handle on-call duties for a large geographical area, the working model can be streamlined while maintaining the quality of care for patients.

The working model will be expanded to another three cottage hospitals in South Lapland local healthcare district.



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