

Remote cardiac auscultation & health parameter assessment

– *Examples of telemedicine applications
in Sweden*

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Telemedicine – *“Healing at a distance”*

Definition according to WHO: *“The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities*

Four elements are germane to telemedicine:

- Its purpose is to provide clinical support.
- It is intended to overcome geographical barriers, connecting users who are not in the same physical location.
- It involves the use of various types of information and communication technology - ICT.
- Its goal is to improve health outcomes.

Introduction to Västerbotten County

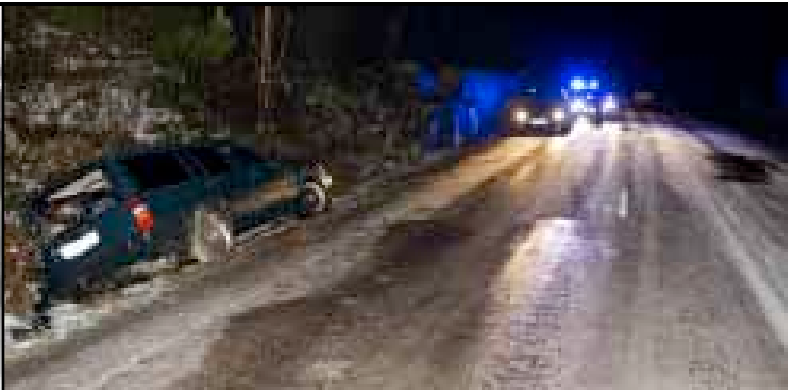
Total area 55 432 km²

260 217 inhabitants (2012)

4,69 inhabitants/km²

About 50.000 reindeers

The county is mainly covered by forest and stretches from coast to "fjäll"



Introduction to the VB county council

~ 32 primary health centers and community hospitals

3 hospitals, including one teaching hospital – Umeå University Hospital

Due to the special conditions in Northern Sweden, “rural medicine” can since 2009 be the focus of the residency (specialist training/ST training)



Telemedicine in Västerbotten county & The Northern care region



Administrative meetings

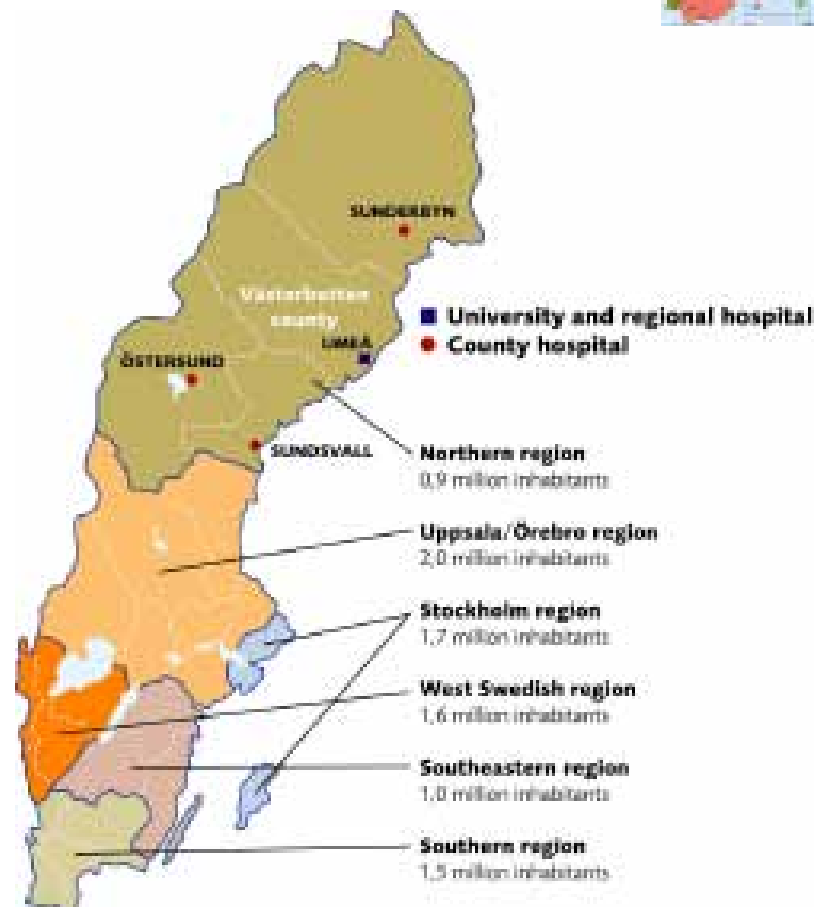
Project meetings
Economy
Procurement

Business meetings

Education
Conferences

Clinical applications

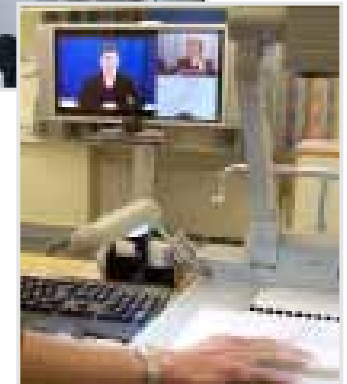
Consultations
Follow-up visits
Rehabilitation
Hospital rounds
Remote control of
diagnostics instruments



The North-south distance of the northern care region is about 1000 km

Examples from Västerbotten

Example from a ground breaking project in Västerbotten
- Speech therapy at distance.



194 Patients (e.g. aphasia, Parkinson's disease, children with speech impairments), of which 36 in their own home,
779 treatments, of which 219 in the home,
25 care facilities participated in the study

Environment

154 840 kilometers of travel was saved for the patient

Economy

1 million SKR or about 100.000 EUR were saved during approximately one year – based only on reduction in patient travels. Staff reduced their time on the road with 1-3 days.

Patient benefits

The telemedicine treatment resulted in better results and compliance and fewer patients dropped out of rehab.





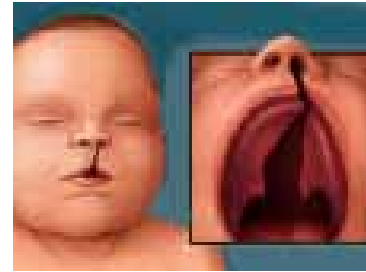
Bacteriology Umeå – Östersund (400 km)



Teleradiology Umeå - Spain (3700 km)

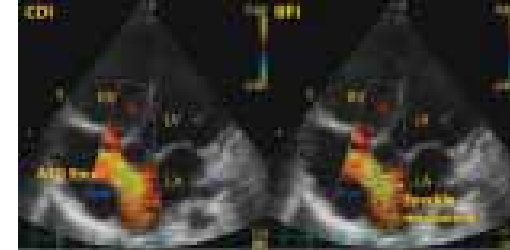
Children with cleft palate

- First meeting with specialist and speech therapist via video



Newborn with suspected heart disease

- Cardiologist in Umeå diagnoses the ultrasound examination via video



Rehabilitation after hand surgery

- Patient get treatment and rehabilitation in their home or at the nearest primary care center



Distributed radiotherapy

- Treatment planning and education



Presentation and Demo



Remote consultant and CheckUp®

Kenji Claesson