



VEMI-

Videobased Emergency Medical Interaction-

**dynamic online interaction in
emergency health care**

Oddvar Hagen

University Hospital of North Norway

oddvar.hagen@unn.no

How can we improve emergency therapy TODAY?

1- Quicker therapy

2- More precise and correct therapy

Two main methods to achieving this goal:

- Hospital/ emergency doctor to patient

or

- Access to shared real time data + Real time visual communication

Correct and early decisions → Rethink the patient trajectory (according to standards)



Network thinking and interaction

- How can we share data - technically?
- How can we share data – between organizations?

Answer: By standardizing and making systems and tools compatible in network

How is our

speed...



..and focus?



Necessary work going on..



- Access across the organizational borders
- EHR as a common tool- one patient, one Health Record (Essential for the access)

 DIPS arena

- National acquiring

 HELSEFORETAKENES
INNKJØPSSERVICE

- Norwegian Health Network, common WAN for all health services- access to any health institution

norsk **helsenett**

- Hardware and software compatibility (FIKS)



How to make the best emergency medical services available in rural districts...

Presence of competence - now!

How can we make clinical specialists available within seconds and wherever you are?

Specialist competence



Local health team



Access



The dynamic online interaction...



Access through call center vs point to point...

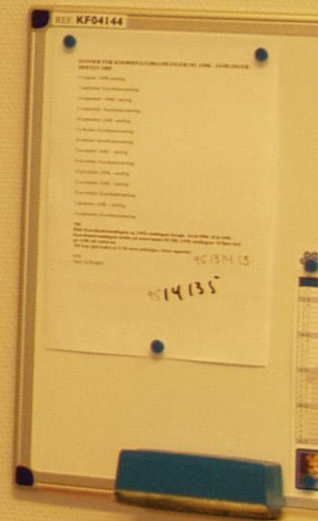
113 gives qualified, dedicated and focused access to **specialist service** and **logistics**







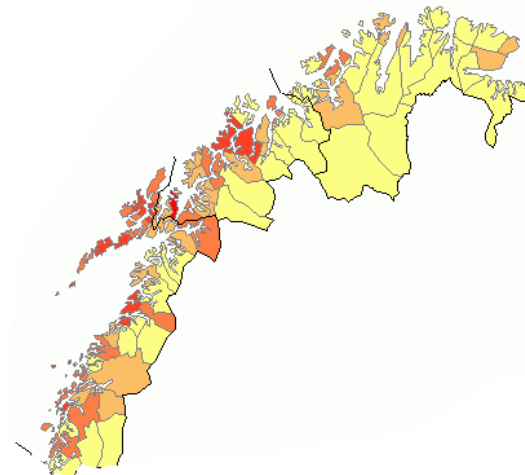
Real time Vital data





Resolution in the director board July 3. 2013:

“.....plan to introduce VEMI as a common communication solution in all health regions (Helseforetak, HF) in North Norway (Regional Health Authorities of North Norway)



Change in possibilities and thinking..

Interaction and sharing demands **compatibility**



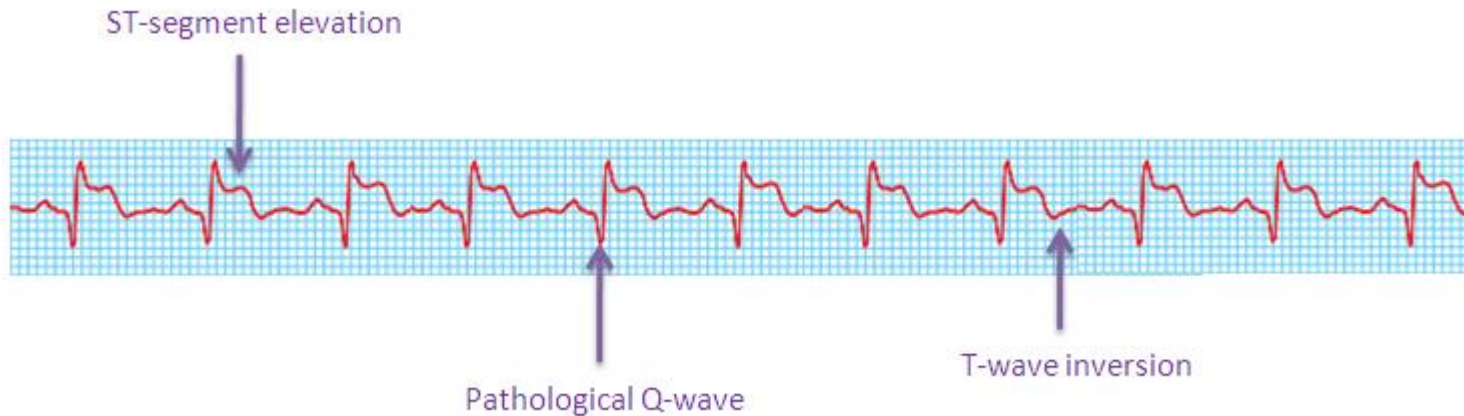
© by KaWe Germany



Classical exercise equipment...

PC connection increase
possibility for sharing
clinical data

Cardiac therapy radically improved in Norway



The population knows how to do CPR and they does...

Early defibrillator – access to defibrillators

Telemedicine: ECG by the first responders → cardiologist

The telemedicine diagnose (STEMI) →

Thrombolytic Therapy .than → to the hospital an do

Coronary Intervention Percutaneous

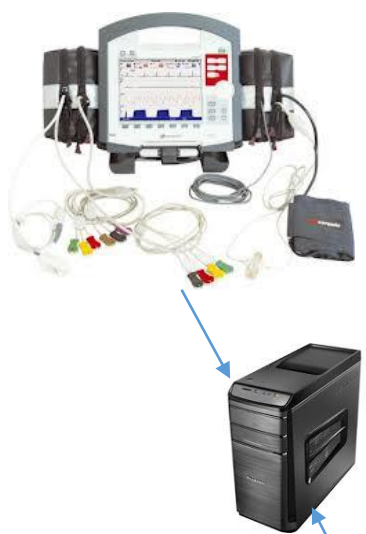
...save life save years

Standardized monitor for pre-hospital Norway



Corpulse3

Dynamic online interaction in field...



Corpuls server



Work in progress

+ VC



The real time adviser

Initial thrombolytic therapy given...



Towards the physical and organizational health network...

- More and more of the needed data in emergencies are sharable..
 - There are no clear standard in our communication tools
 - High quality (H.232/Sip) video vs S4B, WebRTC and more...but:
 - **We need them all** seamless and compatible (...NHN?)
-
- And we desperately need operation and service on the equipment.
 - Today up to three organizations for Video, IT/IKT and medical equipment → medical staff can not act in accordance with this

Catastrophe: up scaled online solution



Medical Staff
Name
Title
Room
Phone
Fax
Email
Mobile
Pager
Notes

Make video conference and data sharing solutions a part of municipal health care

- Sharing data → correct decisions → right patient to right service
- **Alone vs a healthcare system as backup?**



Kompetansekrav i KAD

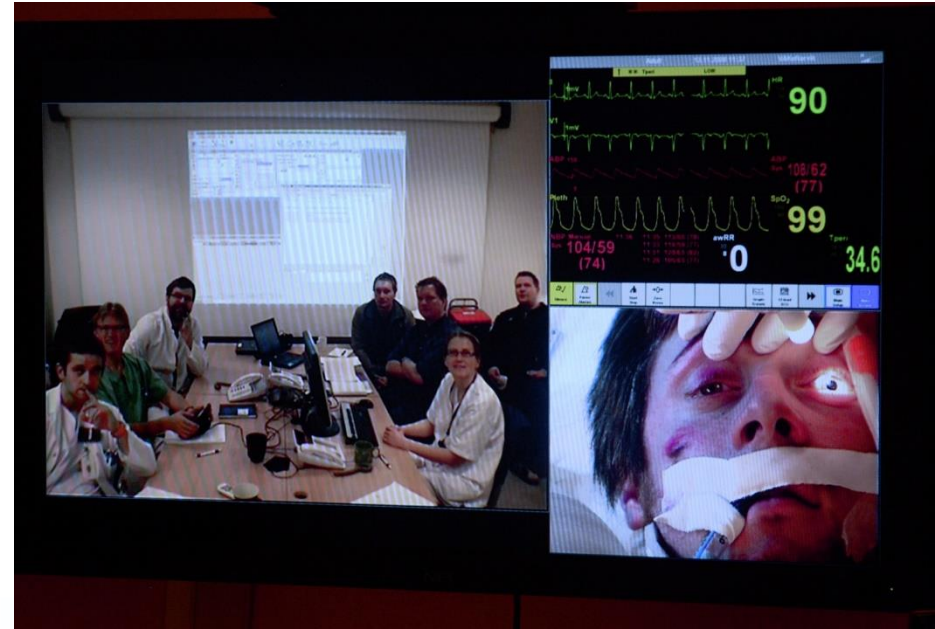
- **Alle pasienter må ha hatt legetilsyn før innleggelse i KAD, eventuelt blitt konferert per telefon.**
- Sykepleiertjeneste 24/7 (bachelor i sykepleie)
- Pasienten kan behandles av en allmennlege
- Tilgang til lege 24/7 (allmennlege)
- Tilgang til røntgen (egen dagtid og tilgang kveld)
- Tilgang til lab-tjenester (egen dagtid og tilgang kveld)

Clinical VC

The future in health is dynamic and online

The future is visual

The future is network, cooperation and borderless access to resources



VEMI in Helse Nord

Documentation VEMI

NST project reports

O Hagen, E Sjaaeng ,S R Bolle «**Videobasert Akuttmedisinsk Konferanse (VAKe)**
Videokonferanse som kommunikasjonsmedium i akuttmedisin»

Bolle, Stein Roald, Gilbert, Mads, Larsen, Frank., Hagen, Oddvar. (2009).
"Video conferencing versus telephone calls for team work across hospitals: a
qualitative study on simulated emergencies."

BMC Emergency Medicine, 9(22), 16.

- SR Bolle, AH Lien, R Mjaaseth, M Gilbert «Videobasert Akuttmedisinsk konferanse»
- Tidsskr Nor Lægeforen 2013; 133: 136-7
- M Gilbert, SR Bolle «Virtuell kriseledelse, ikke felles nødnummer»
- Tidsskr Nor Lægeforen 2013; 133: 138-9
- O Hagen, S Konradsen «VAKe-Videokonferanse som arbeidsredskap for raskere deling av pasientdata» *Utposten* 2014-2; 37-39
- Meld.St.9 (2012-13) En innbygger - en journal. Boks 6.4, s55

Dette innlegget bygger også på: Hagen, Oddvar «To use, or not to use, that is the question" *MUNIN*

<http://www.ub.uit.no/munin/handle/10037/2614>