

Home-ECG, A telecardiology pilot implementation.
Support to nurses in home care and homes for elderly.

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Background

- An increasing number of elderly living in their own homes and occasionally requiring medical help.
- Long distance to hospitals.
- Limited medical resources.
- New technologies such as telemedicine is becoming usable and accepted.

Objectives

- Develop a routine for registering ECG:s at home, interpret these and give advice twenty-four hours.
- Learn to work with telemedicine.
- Develop the nearby care by this and other telemedicine technologies.

Material – Portable ECG-device

- Convenient size
- Easy to use
- 12-lead ECG
- Transmits ECG by an ordinary telephone



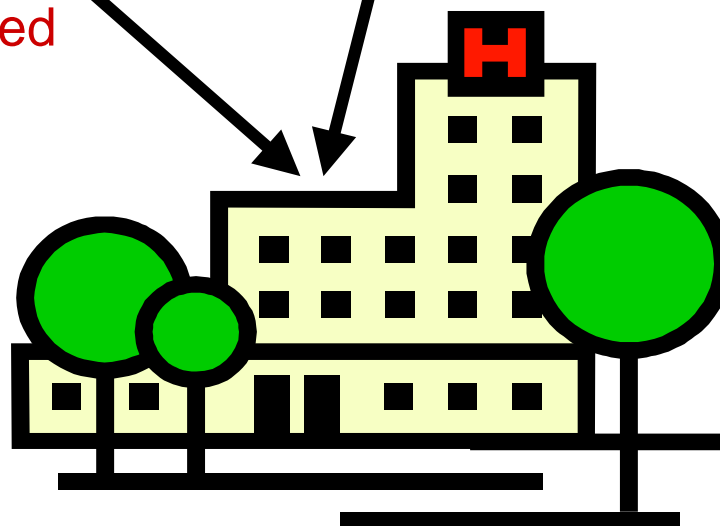
Material – Patients and nurses



Private homes



Homes for elderly



40 devices were planned
(36 are handed out)

Perstorp:

- 15 nurses
- 170 patients

Osby:

- 30 nurses
- 375 patients

Hässleholm:

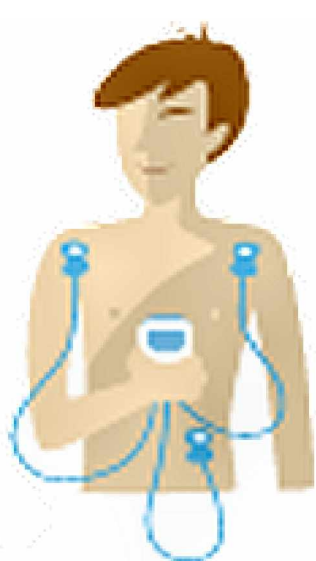
- 56 nurses
- 2400 patients

Sum:

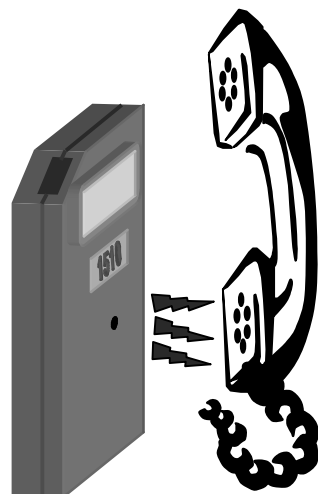
- 101 nurses
- 2945 patients

Method

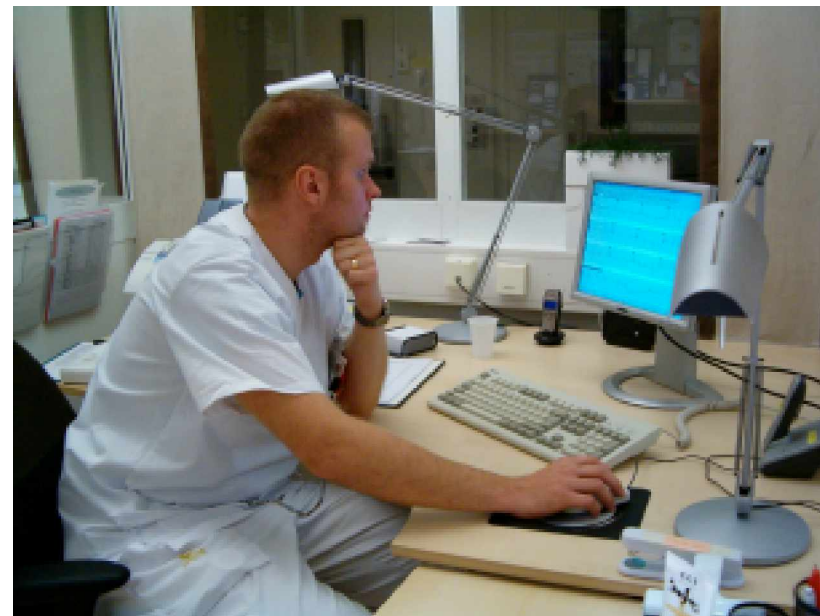
1



Register ECG

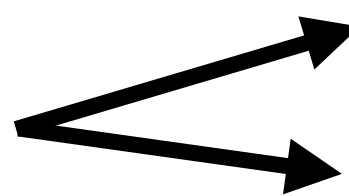


Send ECG to the
emergency department



2

Call the emergency department
and describe the symptoms

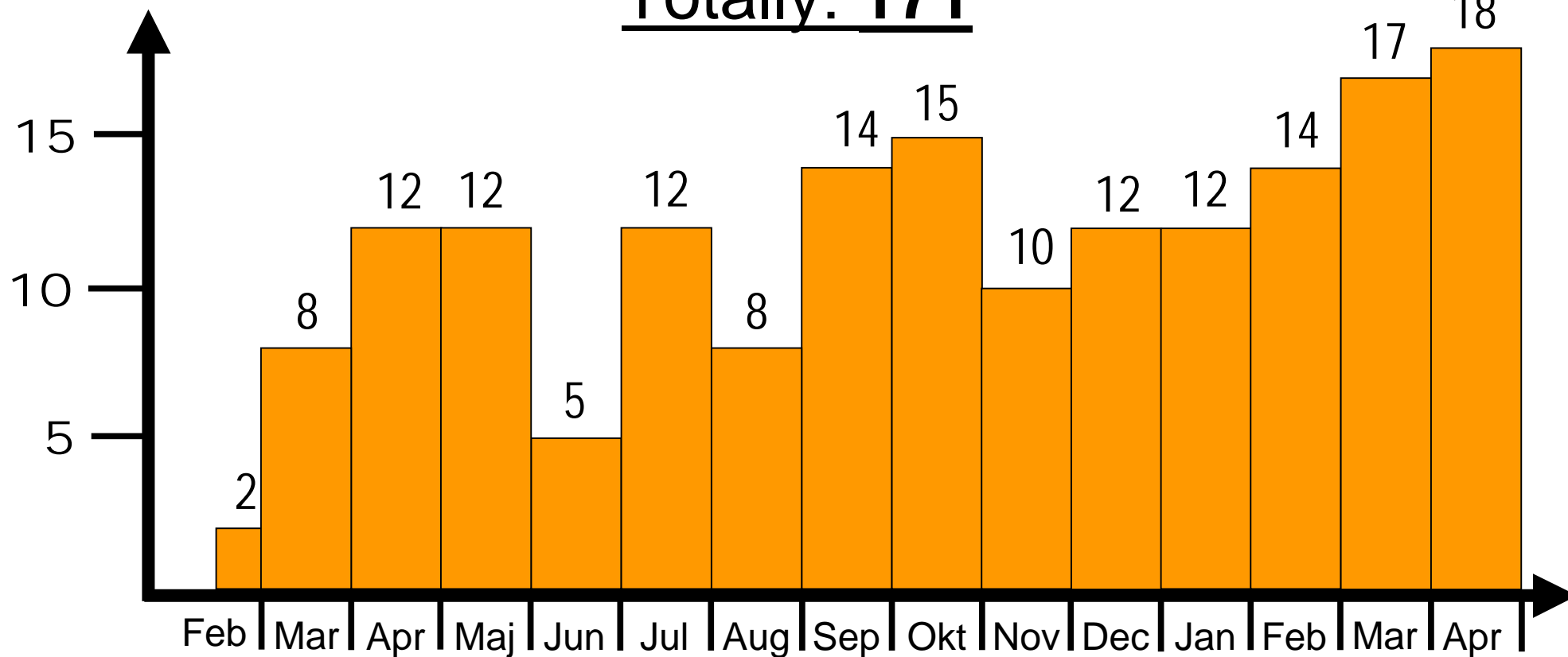


Stay at home

To the hospital

Result – Number of consultations

Totally: 171



↑
Start 060215



Result – Number of users

- Perstorp (10 of 15 nurses)
67%
- Osby (15 of 30 nurses)
50%
- Hässleholm (15 of 56 nurses)
27%

Average

40%



Result – Evaluation forms

- Municipality nurse
22% answered
- Emergency department nurse
70% answered
- Doctor on the emergency department
63% answered

Result – Experienced benefit

- Did the doctor feel that it was worth the time spent:
 - Yes: **55%**
 - Difficult to decide: **32%**
 - No: **13%**
- Did the home care nurse feel that it was worth the time spent:
 - Yes: **70%**
 - No difference compared to earlier: **18%**
 - No: **12%**
- Did the patient think that the consultation was of value:
 - Yes: **59%**
 - No: **6%**
 - The patient had no opinion: **35%**

Result – Less patients in the hospital?

- What happened with the patients?
 - Stay at home: **59%**
 - To the hospital and home thereafter: **15%**
 - To the hospital and stay: **26%**

Result - Quality

- ECG-quality in limb leads:

- Good: **41%**
- Acceptable: **43%**
- Bad (unusable): **16%**

- ECG-quality in chest leads:

- Good: **32%**
- Acceptable: **49%**
- Bad (unusable): **19%**

Result – Technical problems

- Technical problems (home care nurse)?

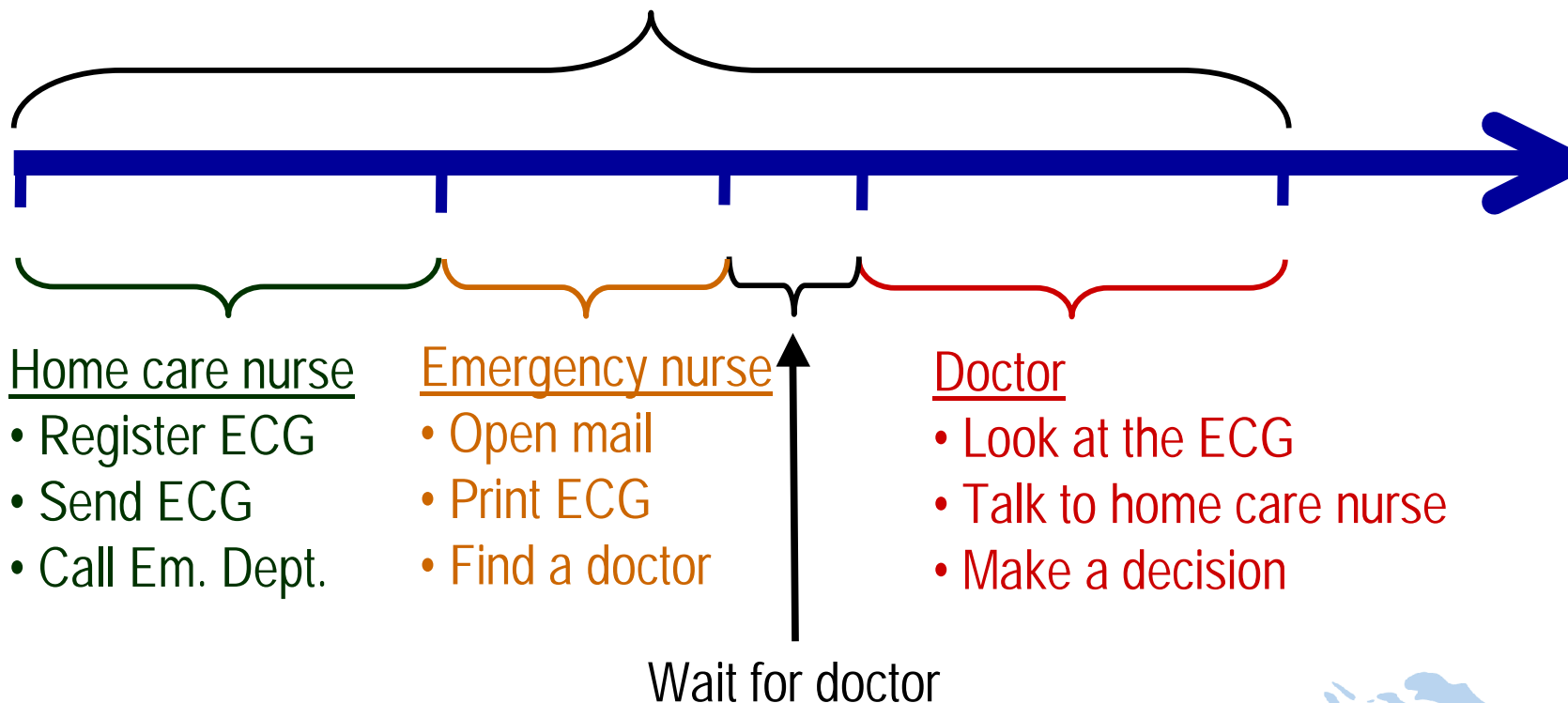
{ - Yes: **59%**
- No: **41%**

- Technical problems (emergency department nurse)?

{ - Yes: **19%**
- No: **81%**

Result – Time required

Total time for the consultation =
The time spent by the home care nurse



Result – Time required

- Total time required for the consultation:

- Less than 10 min: **15%**
- 10 to 20 min: **39%**
- More than 20 min: **45%**

54% less than 20 min.

- Time spent by the emergency nurse:

- Less than 5 min: **32%**
- 5 to 10 min: **37%**
- 10 to 15 min: **25%**
- More than 15 min: **5%**

95% less than 15 min.

- Time until the doctor could begin with the consultation:

- Less than 5 min: **26%**
- 5 to 10 min: **40%**
- More than 10 min: **33%**

66% less than 10 min

- Time spent by the doctor:

- Less than 5 min: **57%**
- 5 to 10 min: **25%**
- More than 10 min: **14%**

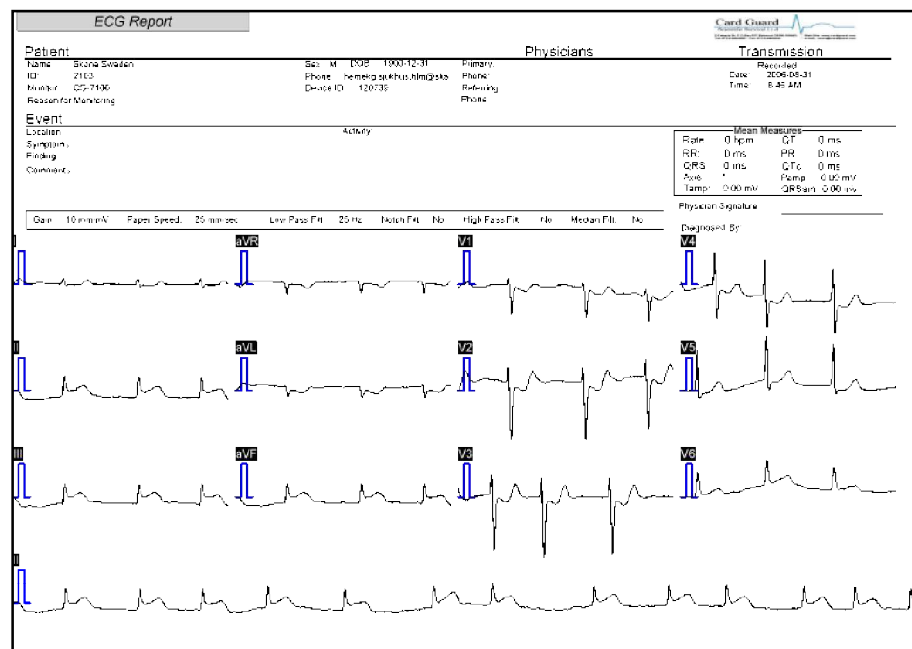
82% less than 10 min



Example of acute infarct

Healthy lady of 90 years. Living alone with a daily visit by home care.

- A tight feeling across the chest.
- She called the home care nurse.
- A tele-ECG was sent.
- Acute myocardial infarct was seen.
- Ambulance was called.
- Ambulance-ECG confirmed the diagnosis.
- PCI was done.
- She is still healthy.



Tele-ECG

Conclusions

- The pilot shows that telemedical consultations with ECG works.
- Contributes to improve the co-operation between the municipality and the hospital.
- The majority of the users are satisfied.
- The time required is acceptable.
- There are still technical and quality problems to be solved.

What happens after may 2007?

- Active users are offered to continue.
- All routines, instructions, educations etc will be updated.
- A new study will start to evaluate especially medical and economical benefit.

- We are planning to participate in new e-health projects.



Thank you for your attention!

