



Diakonhjemmet Sykehus

---

# Almost paperless - an EPR case study from a Norwegian hospital.

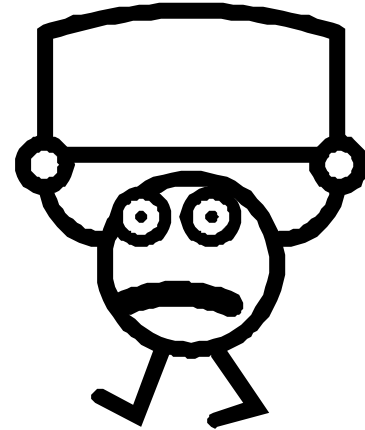
Andy Hyde  
Director of Quality and Innovation  
Diakonhjemmet Hospital  
Oslo, Norway





## Introduction

- Diakonhjemmet Hospital
- EPR overview in Norway
- EPR overview at Diakonhjemmet
- Guiding principles
- What is electronic now
- Current work in progress
- Challenges
- Future developments





## Diakonhjemmet Hospital

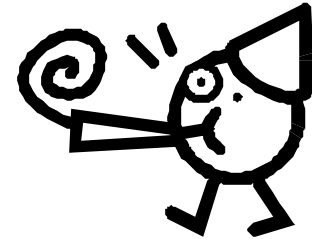


- Medium sized hospital with 280 beds in Oslo
- 7 clinical departments, 5 service departments, 6 administrative departments,
- ca. 1500 employees
- Budget 125 mill Euro
- 13000 inpatients, 76000 outpatients (2006)
- Over 1 million lab. tests. 43000 Radiology exams.





## EPR Overview in Norway



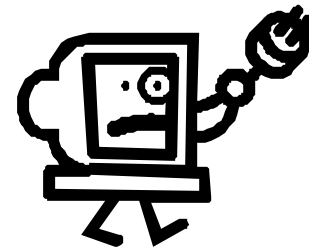
- Hospitals – 3 main EPR systems
  - DIPS, TietoEnator IMX, Siemens Doculive
- GPs – 3 or 4 systems
- Secure national Health Data Network being built, all hospital to be connected 2007
- National EPR standards by KITH (Center of IT Competence in the Health Services) including Journal and communication standards





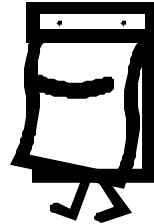
## EPR at Diakonhjemmet Hospital - history

- PAS / EPJ from DIPS
  - Implemented DOS version 1994
  - Windows version 1999
- PAS – Patient Administrative System
- EPJ – Electronic Patient Journal
- Module based system
- Paperless project 2004-2006 –  
live 10/10 (1/2006) 10:10.





## Guiding principles

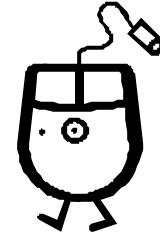


- No big bang solution - Slow paced change at the rate the organization can absorb changes. (Especially specific professional groups!)
- No detailed ROI or other effect realization calculation. (did you do this before buying Microsoft Office?)
- User involvement is essential right from the start – slower process but better result
- Projects not driven or owned by IT department!
- Clear top management commitment





## What is electronic now?



- No paper records added to paper journals and no paper journals delivered to wards or outpatient clinics
- This means:-
  - all doctors' documentation electronic by digital dictation and transcription
  - all nursing documentation electronic by nursing module





## What is electronic now – cont.?



- Radiology PACS with data exchange to EPR including requisitions
- LAB tests electronic exchange with EPR including requisitions
- Digital ECG (being tested)
- Electronic Work Flow between doctors and medical administration including electronic signatures for lab, radiology and ECG







## Current work in progress





- Reduction or removal of internal paper transactions. e.g. Electronic forms direct from EPR, internal requisition of services from other departments spes. referrals and transfer of patients between departments
- Electronic transfer to and from external services, e.g. GPs, other hospitals, community health service.





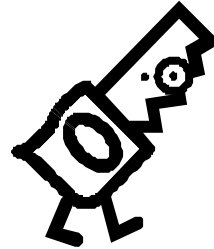
## Challenges (problems by another name)

- Computer access 
- Network Stability
- Acceptance by certain professions (or persons)
- New technology not always ready
  - Electronic transfer
  - Speech recognition
  - Integration solutions 
- Speed vs. Quality vs. continuous operation





## Future developments



- Speech recognition
- All Medical equipment connected to EPR
- Patient charting by PDA
- Electronic anesthesiology and intensive monitoring journal
- Patients' own registration of health information external to the hospital (Psychiatry, Rheumatism, other chronic illnesses)





Diakonhjemmet Sykehus

---

Thank you



Questions or comments?

(Please come and visit us!!)

