The Travel to the Hidden Lives of Electronic Medical Records (EMRs)

Prepared for the 4S Conference, Pasadena (Oct. 20-22, 2005)

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The Travel to the Hidden lives of Electronic Medical Records (EMRs)

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1. Introduction

- Magic formulas: Information Communication Technologies (ICTs)= better healthcare (‘more IT for better healthcare’).
- Various initiatives are being taken in the name of quality improvement, efficiency and cost reduction, and prominent among these, is the implementation of Electronic Medical Records (EMRs).
- Following a socio-technical approach to the hidden lives of EMRs reveals multiple contingencies and ambiguities.
Overview of the Presentation

1. [Introduction]
2. Setting the Stage
3. Theoretical Framework
4. Unpacking the Black-box of the EMR
5. From Abstract Visions to Concrete Reality
6. Concluding Remarks
2. Setting the Stage

- The research is part of a large ongoing project called ACTION for Health.

- Primary Health Care sector → 6 clinics in BC.
  - Focus on one non-profit community health centre.

- Approach: Participatory Action Research
2. 1- Fieldwork

- Initiated in October 2004 → still in progress.
- Techniques for data collection:
  - Open-ended, semi-structured interviews with decision makers, administrative and clinical staff, and patients.
  - Participant observations of doctors in the charting room.
  - Formal and non-formal meetings (i.e. medical team meetings, weekly EMR meetings).
  - EMR-training sessions.
  - Practice Enhancement Collaboratives organized by the Vancouver Coastal Health Authority (VCHA) Primary Health Care Transition Fund (PHCTF).
3. Theoretical Framework

Both interdisciplinary fields:
- Bridge between the various disciplines (Berg, 1998).
- Understanding technology in the context of use.
- Focus on relation between social & technical phenomena.
4. Unpacking the Black-box of the EMR

4.1- Ontological and epistemological views of EMRs
4.2- The birth of the EMR
4.3- The EMR gaining its technical existence
4. 1- Ontological and epistemological view of EMRs

- External Programs
  - PathNet
  - Scanning SW
  - CDM toolkit
- Wolf Medical Systems
  - WolfLink
  - Billing
  - Scheduler
  - Physician WorkDesk
  - Front staff WorkDesk

Ontological views

- What is the EMR? and what exactly counts as part of an EMR?

Epistemological views

- Front staff
- Physicians
- Federal government & Health Authorities
- Administrative tool
- Clinical tool
- Efficiency & cost reduction tool

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4.2- The Birth of the EMR
4.2- Continue...
4.2- Continue...
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4.2- Continue...
Changes accumulated in the EMR implementation

- Work practices (socio-cultural)
- Training (Wolf training sessions & web) RT-CHA
- VCHA PHCTE (renovation, IT related costs, etc.)
- Economic changes

4.2-Continue...
4. 3- The EMR gaining its technical existence
4.3 - Continue...
5. From Abstract Visions to Concrete Reality

5.1- The tension between the visible and hidden changes

5.2- When abstract design principles meet work practices
5. 1- The Tension between the Visible & Hidden changes

- ‘Chart prepping’/‘filling practice’- diminish dramatically.
- The practice of signing and date-stamping paper documents was stopped.
- Changes in the division of labour (redefinition of responsibilities and interdependencies):
  - Doctors- responsible for additional administrative tasks.
  - Doctors scan information while sitting together with the patient.
- Changes in performance of activities: communication and charting practice conducted through the computer.
  - New communication channels: i.e. messaging feature
  - ‘Post-it-note’ replaced by e-reminders (prompts)
5. 1- Continue...

- These changes must be taken into account where summarizing and evaluating EMR implementations:
  - Adequate IT competencies
  - Technical support
  - Training
  - Guidelines, etc.

- Existing status ➔ Middle realm: loosely coupled systems existing on top of hybrid information infrastructure.
5.2- When abstract design principles meet work practices

Evaluating technical issues related to the EMR-technology:

- Highly configurable architecture, easy-to-use, easy navigation and user-interface, supports transparency and workflow, tailorable and supports various levels of flexibility.
- However, when there is a gap between the existing and expected practices, the system often turns to be restricting and limiting. Examples:
  - Vaccination shots.
  - Long follow-up list

Applying configurability does not automatically result in a successful CSCW application

Important to develop sensibility for the context and include the invisible, or perhaps hidden, complexities that have currently been a bottle neck in the transition process.
6. Concluding Remarks

NOTE: The division between the various issues (the technical, organizational, socio-cultural changes, etc.) is artificial as these issues are interrelated and integrated (Nina Boulos).
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