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Reflexive Standardization

Interpreting Side-effects and Escalation in Standard-making

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Context and Research Question

- What historical and contingent events and factors influence the creation of ICT standards, and in particular, their success or failure?
- Electronic Patient Record implementation in a large Norwegian hospital



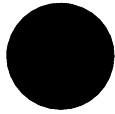
Case study: three stories

- From unity to fragmentation
 - Between vision and reality
- The quest for integration
 - Integrating needs more integration
- Escalating the standards war
 - Closure in the making



Analysis: Side-effects of Standard-making

| Aim and action | Observed effect |
|---|---|
| Achieve unity of media and location of clinical information | Clinical information fragmented in different media and (physical and logical) locations |
| Achieve integration of systems under MedEPR | Need to implement new integration framework over MedEPR and other systems |
| Achieve closure of standardization by managing its complexity | Increase complexity of standardization by escalating its scope and ambition |



Reflexive Standardization

- Standardization action
- Unawareness
- Side-effects
- Include side-effects in new standardization
- Increased unawareness
- More side-effects
- ...



Conclusions

- Standardization as control of complex reality
- Paradoxical outcomes
- Interpretation as side-effects
- Mechanism: Reflexive property of standardization



Methodology

- Interpretive Case Study
- 2001-2003...
- 32 Interview
- 8 instances of observation
- Plus:
 - 1996-1999
 - ~10 MSc course reports
- Use of theories:
 - Socio-technical perspective on complexity
 - Reflexive Modernization to understand mechanisms



EPR as a standard

| Category | Example |
|-----------------------|---|
| <i>Design</i> | <i>-Clinical information organization in chapters -Electronic forms layout -Departmental templates for discharge letters</i> |
| <i>Terminological</i> | <i>-ICD 10: international diagnosis coding system -Formal and informal abbreviation systems for hospital, departments, or disciplines</i> |
| <i>Performance</i> | <i>-Availability and completeness of information according to national laws -Security levels -Database performance</i> |
| <i>Procedural</i> | <i>-Workflow routines between doctors and secretaries -Departmental agreements on documentation procedures -Request and reply routines between departments and laboratories</i> |

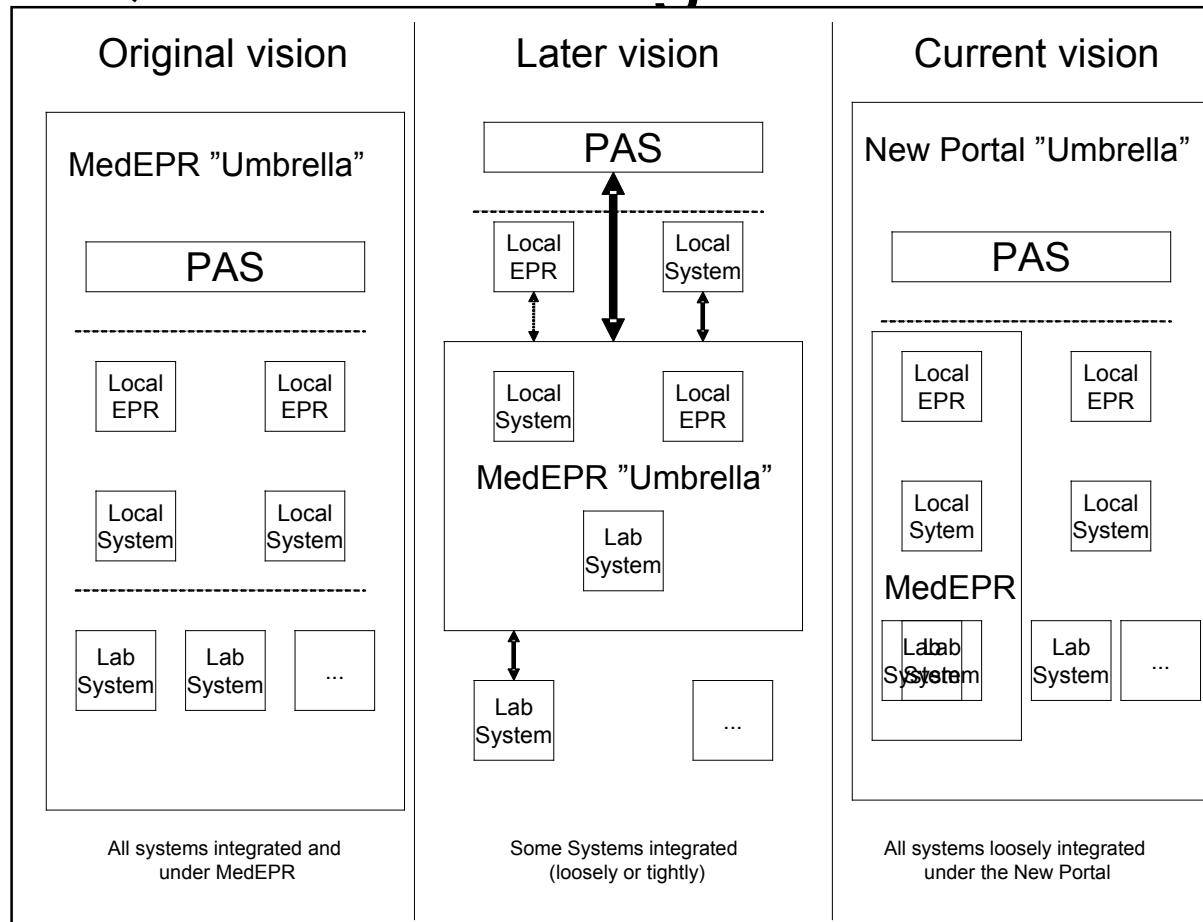


From Unity to Fragmentation

| | Centralized paper record | MedEPR Vision | Current Situation |
|---|-------------------------------------|---------------------------------------|---|
| Location of Clinical Information | All on paper | All on MedEPR | Most text on MedEPR. Drawings and Graphs on paper or on local systems. Old information scanned and linked to MedEPR. Concurrently, the central paper record has a copy of all the clinical information. |
| Relation with Local EPR systems | Co-existing with paper record | Substituted with central MedEPR | Loosely integrated with central MedEPR. Negotiations still ongoing. |



The Quest for Integration





Side-effects

| Aim and action | Observed effect |
|---|---|
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CURSOR:

CIO who discovers that
his expensive new integration
system needs yet another
integration system.

[Adv. in *The Economist*, Oct 11th-17th 2003]