Which Parts of a Clinical Process EPR Needs Special Configuration

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User-Driven IT innovation
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EPR: Generic vs. Dynamic

Research Questions

• Which parts of an EPR can be generic configured and initially form a stable standard solution to be used by all clinicians?

• Which parts of an EPR can we predict are subject to initial as well as on-going re-configuration in order to meet the needs from diverse medical specialties?

Research project: www.Effects-DrivenIT.dk
Research method

- **IT-strategy**: Experimental, Participatory and Effects-Driven

- **Implementation**: Clinical Process EPR configured for stroke unit (acute apoplexy) at Roskilde Hospital
  - EPR configured workshops with clinicians
  - EPR in use for 24 hours a day for one week for all patients
  - All Clinicians used EPR (no paper records used)

- **Hardware**: Portable and stationary PC, PDA and large projected screens

- **Analysis**: All screens analyzed with regard to systematically recorded changes during configuration and use
  - In total 243 screens – 222 changes.
Preliminary Indications

• Clinical Process EPR can successfully be configured to a specific medical specialty
• The majority of screens are remarkably stable (no need for reconfigurations)
• Relatively few screens need on-going experimentation and several re-configurations
• These screens reflect new ways of working due to EPR - decoding, information sharing, coordination support
• Some parts of this configuration may be reduced over time since they address new but also general ways of working with EPR
• Only few specific screens seem necessary per medical specialty – and they can efficiently be configured through an experimental and participatory approach
Top-level change pattern

- Views/Forms ratio 4:1
- Change trigger: innovation and content requirements feedback from views
- Large group of first hitters - 76%
- 59 screens required experimenting at some degree

<table>
<thead>
<tr>
<th>Total screens</th>
<th>None (0)</th>
<th>Few &amp; initial (1-2)</th>
<th>Several &amp; sustained (&gt;2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>243</td>
<td>184</td>
<td>27</td>
<td>32</td>
</tr>
<tr>
<td>100%</td>
<td>76%</td>
<td>11%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Table 1: Changes made to the screens during the entire project.
Detail: Several & sustained (>2) Category

- **Doctors** - few extra needs for registration, good at designing views for themselves.

- **Nurses** - difficulty stating their data requirements and information usage.

- **Multidisciplinary** - supporting collaboration and feedback to content requirements contributed.

<table>
<thead>
<tr>
<th></th>
<th>Professional discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>doctor</td>
</tr>
<tr>
<td>Form</td>
<td>5</td>
</tr>
<tr>
<td>View</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2: Screens in the Several & sustained category, distributed among the professional disciplines or shared.
Detail: Several & sustained (>2) Category

- **Specific** – Not as many as expected, however many changes
- **General** – investment benefitting the next implementations

<table>
<thead>
<tr>
<th></th>
<th>Specific</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>View</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Change</td>
<td>39</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 3: Screens in the Several & sustained category, distributed among the Specific for the Clinical Speciality (Apoplexy) or the General Clinically category.
IT - Patientsikkerheds perspektivet

- Problem at kliniske eksperimenter kræver meget af implementeringen for ikke at kompromitere patientsikkerheden
  - Relative store initial investeringer
  - Høje kvalitetskrav
  - Driftsikkerhed
- Krav til IT-systemerne for at kunne følge med efterhånden som innovative anvendelser tager form.
  - Hvad skal være dynamisk?
- Projektorganisation
  - Filosofi i design processen
  - Prioritering i projektet set i forhold til den prioritering der ses i sundhedsvæsnet -> effektivitet/kvalitet