Does eHealth literacy impact patients’ opinion on the Electronic Health Record?

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Healthcare of the Future, 5 April 2019
Outline

- Motivation and Background
- Methods
- Results
- Conclusion and Prospects
Motivation

- learn how to perform a study
- in our opinion only little publicity on EHR was performed
- find out what people think and know about EHR
Background

- opt-in solution: patients and general practitioner
Background

- nationwide EHR by 2020

- coordination by eHealth Suisse

- today
  2 of 26 cantons with EHR
  Geneva, Basel-City
Background

- EHR in Geneva called MonDossierMedical started 2013
- 14’000 registered patients (March 2016)
- 28’000 registered patients (September 2017)
- 495’249 citizens (2017)
- Equals 5.7% of people opt-in
Background

- EHR in Austria called ELGA started 2014
- 2014 - 2018: ~260’000 opt-outs
- 9 million citizens (2018)
- Only 3% of people against the EHR

![Graph showing EHR opt-outs from 2014 to 2018]
Question and Hypotheses

Can the acceptance in the Swiss EHR be increased through comprehensively communicated knowledge?

1. An informational video has a positive effect on people’s viewpoint on health data sharing.

2. There is a correlation between lack of trust in electronic health data protection and skepticism about the EHR.
Methods

- practical task of lecture

- survey distributed through online media channels (no randomization)

- exchanged results and progress on weekly basis
Study design

- goal: 1200 answers to receive significant results
Intervention Group - Video
Survey

- 13 questions

- topics:
  - general healthcare system
  - EHR
  - digital data storage
  - data sharing

- Likert scale

- demographics
Response rate

intervention group

Mail, Facebook, WhatsApp 1633
611 responses
no responses: 1022
minors: 16
valid answers: 595

control group

Mail, Facebook, WhatsApp 1770
634 responses
no responses: 1136
minors: 10
invalid age: 7
valid answers: 617
Results

Question 2) Have you ever heard of the EHR?
- without healthcare and IT

- No: 46.6%
- Yes: 53.4%
Question 2) Have you ever heard of the EHR? - only healthcare and IT

Results

No: 69.6%
Yes: 30.4%
Results

Question 2) Have you ever heard of the EHR?
-all people

54.9% No 45.1% Yes
## Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>Control group (n=617)</th>
<th>t-Test p-value</th>
<th>Intervention group (n=595)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. I would agree that my health data is stored electronically</td>
<td>3.15 (0.88)</td>
<td>0.034</td>
<td>3.04 (0.93)</td>
</tr>
<tr>
<td>9. Health data on paper are well protected against misuse</td>
<td>2.47 (0.93)</td>
<td>0.022</td>
<td>2.35 (0.90)</td>
</tr>
<tr>
<td>13. I agree that health professionals can access my treatment data across institutions (e.g. from hospital to family doctor)</td>
<td>3.25 (0.87)</td>
<td>0.0075</td>
<td>3.12 (0.93)</td>
</tr>
</tbody>
</table>

**Table 2**
Results

- significant results from between group analysis
  - in favour of the control group

- people of the control group rather agree...
  - ... that their data is stored electronically
  - ... that paper based health records are secure against misuse
  - ... that their health data can be used cross-institutional
Results

Health data is safe against misuse on following media – Intervention group

<table>
<thead>
<tr>
<th>Media</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paperbased</td>
<td>17.6%</td>
<td>41.5%</td>
<td></td>
<td>29.4%</td>
</tr>
<tr>
<td>Electronically</td>
<td>12.9%</td>
<td>40.8%</td>
<td></td>
<td>39.5%</td>
</tr>
</tbody>
</table>

Berner Fachhochschule | Haute école spécialisée bernoise | Bern University of Applied Sciences
Results

Health data is safe against misuse on following media – Control group

paperbased
- Strongly disagree: 15.2%
- Disagree: 37.9%
- Agree: 31.8%
- Strongly agree: 15.1%

electronically
- Strongly disagree: 13.6%
- Disagree: 42.6%
- Agree: 34.5%
- Strongly agree: 9.2%
Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Age</th>
<th>1</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.160</td>
<td>1</td>
<td>0.255</td>
<td>0.312</td>
<td>0.057</td>
<td>0.181</td>
<td>-0.064</td>
<td>0.028</td>
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<tr>
<td>3</td>
<td>0.030</td>
<td>0.255</td>
<td>1</td>
<td>0.718</td>
<td>0.172</td>
<td>0.663</td>
<td>-0.152</td>
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<td>0.718</td>
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<td>0.229</td>
<td>0.667</td>
<td>-0.125</td>
<td>0.321</td>
</tr>
<tr>
<td>5</td>
<td>-0.113</td>
<td>0.057</td>
<td>0.172</td>
<td>0.229</td>
<td>1</td>
<td>0.098</td>
<td>0.145</td>
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<td>1</td>
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<td>0.324</td>
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<td>9</td>
<td>-0.138</td>
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<td>-0.146</td>
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Figure 2: correlation in intervention group

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<td></td>
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<tr>
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<td>0.156</td>
<td>0.248</td>
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<tr>
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<td>0.271</td>
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<td>0.329</td>
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<tr>
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<td>0.321</td>
<td>0.743</td>
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<td>0.287</td>
<td>0.580</td>
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<td>0.305</td>
</tr>
<tr>
<td>5</td>
<td>-0.089</td>
<td>0.156</td>
<td>0.271</td>
<td>0.287</td>
<td>1</td>
<td>0.205</td>
<td>0.163</td>
<td>0.446</td>
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Figure 3: correlation in control group
Results

some correlations could be found:

▶ people who are in favour of the introduction of the EHR also…
▶ … are likely to open a record for themselves
▶ … rather accept the electronical storage of their health data.

and vice versa
I myself would open and use an EHR...

Swiss eHealth Barometer

- Yes: 49
- Don’t know/no answer: 11
- No: 40

2018

Our survey

- Agree & strongly agree: 76
- Disagree & strongly disagree: 24

2018
Conclusion

- only 47% of people not working in healthcare or IT know about EHR

- correlation acceptance of stored data electronically and opening EHR
  **Hypothesis 2 confirmed**

- intervention group says it’s safer to store health data electronically

- video “worsened” the trust
  - maybe not right information displayed
  - maybe a «too strong» control group
  **Hypothesis 1 not confirmed**
Prospects

- randomization

- open questions: How do people react to information?
  - more information -&gt; more critical viewpoint?

- further investigation proposed:
  - Which occupational group shows more trust into EHR than others?
Questions

- Do you have any questions?