Adoption of ePrescription in the Czech Republic: Resistance to change or justified worries?

Michal Doležel

University of Economics, Prague, Czech Republic

Summer School of Applied Informatics, Bedřichov, 14-15.9.2018

ERECEPT

Paper

Doležel, M. 'We must ignore ePrescription': An empirical analysis of Czech physicians' attitudes against eHealth

Paper accepted for presentation at IEEE HealthCom | 20th International Conference on E-health Networking, Application & Services, 17-20 September 2018, Ostrava, Czech Republic. http://healthcom2018.ieee-healthcom.org/

Preprint available at Researchgate

Presentation Outline

1. Motivation

2. Research question and methods

3. Findings

4. Summary and conclusion

ePrescription

- A "prescriber's ability to electronically send an accurate, error-free and understandable prescription directly to a pharmacy from the point-of-care" (Kierkegaard, 2013)

Motivation

- **Existing body of knowledge:** Lack of empirical studies focused on ePrescription in the V4 countries (Czech Republic, Hungary, Poland, Slovakia)

- **Common problem in eHealth programs:** Resistance of key stakeholders (e.g., Hackl et al, 2011)

Technical soundness of eHealth solutions is not always the only factor of success during the implementation process => we need to understand the causes of resistance and effective coping mechanisms

Hackl et al.: Why the Hell Do We Need Electronic Health Records?" EHR Acceptance among Physicians in Private Practice in Austria: A Qualitative Study), Methods of Information in Medicine, 50 (1), 53-61.

Goal and grounding

- **High-level goal:** To empirically explore the first major eHealth implementation program in the Czech Republic
- **Paradigmatic grounding:** A qualitative study within the tradition of Information Systems research

Czech ePrescription program

- The history of the ePrescription project ("eRecept") in the Czech Rep. started in 2007

- The initiative has been driven by the State Institute for Drug Control (SIDC, in Czech: SÚKL)

- In 2011 a first software implementation was ready
  - Plan: to move to full-scale ePrescribing in 2015
  - Reality: In 2014 postponed for 3 years due to strong resistence

- In 2015 a court action against SIDC raised (IP rights), resulting in abandoning the original solution

- In 2017 a new software solution developed (560,000 EUR) and introduced in September
  - Declared as mandatory for all types of prescribing as of 1 January 2018
  - Result: strong physicians' resistance => the locus of this paper

Research Question

What opinions do Czech physicians have about the coming ePrescription initiative?

Research Method

- Exploratory approach - qualitative, interpretive research strategy

  - to map the terrain and understand *What physicians think and how they lay out their arguments*
  - to make sense of their social worlds, not to judge them or articulate doubtless conclusions about the ePrescription initiative

Data Collection

- Four subsequent issues (9-12/2017) of Tempus Medicorum*), an official, monthly issued communications/magazine of the Czech Medical Chamber
- Inidentified 33 relevant articles, 4 of them excluded

Included articles	Physicians and pharmacists reject mandatory ePrescription! Why? (9/P1); Promises and reality of electronic prescription project from viewpoint of General Practitioners Association (9/P2); Mandatory electronic prescription: Whose fault is it anyway? (9/P3); Electronic prescription at any cost (9/P4); And what about us – non-working elderly physicians? (9/P5); Open letter for minister (9/P6); Against boisterous and powerful bureaucracy (9/P7); Vote for [political] parties that will revoke ePrescriptions (9/P8).
Excluded articles	Czech Patient Association's statement on mandatory ePresciptions (a patient statement); From New Year Czech physicians becoming criminals (a re-published blogpost); Experiment that delays and jeopardizes treatment (the Czech Chamber of Pharmacists' statement)

*) http://www.lkcr.cz/czech-medical-chamber-cmc-443.html

Data Analysis

- The process of thematic analysis (Braun & Clarke 2006) followed
- Data chunks systematically open coded
- Codes then aggregated into high-level themes – descriptive vs. theoretical
- Themes were defined and named

Table 1 Phases of thematic analysis

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77-101.

Results

	Descriptive themes derived from the data
1.	*Deterioration of care*
2.	*Missing benefits*
3.	*Medicine is not about IT*
4.	*High costs of adoption and contract overpricing*
5.	*State despotism*

Theme 1

Theme 1: ***Deterioration of care***

- First subtheme: lower availability of healthcare services due to (senior) physicians leaving

- Second subtheme: threats to patient safety due to technical features or limitations of the solution

"*A portion of physicians (it is impossible to estimate its size) may quit, being pushed by the transition to ePrescription. [This will make even worse]* **by far the biggest problem of Czech healthcare, which is the personnel problem**."

(12/P35; bold in original)

It is easier to "*produce mistakes by misclicking, and the patient will be unable to check for them*"

(10/P14)

Theme 2

Theme 2: *Missing benefits*

- In physicians' opinion, the ePrescription solution is far from ideal because only a basic ePrescribing functionality has been implemented

- Examples of then missing features: EPR, automatic checks of drug interactions, mobile ePrescription, "dispensing done" notifications etc.

"It is self-evident that the utility of ePrescriptions has remained the same as was 9 years ago. Considering that it [ePrescription] does not bring anything new, and has no principal benefit neither for patient nor for physicians, there is no rational reason for making it mandatory."
(9/P2)

Theme 3

Theme 3: _Medicine is not about IT_

- Stereotypes played a significant role (opinion: young patients could benefit from the solution, but in fact they don't need it)

- IT was perceived as an elusive phenomenon, which has not yet become part neither of medicine, nor Czech society

"Electronic communication [and ePrescription] might be valuable for young people living in a virtual world. However, those people are mostly healthy, and they thus don't need any medicaments."

_(12/P38)_

An organized computing education does not exist at Medical nor Pharmaceutical faculties [= schools]. A negligible percent of the [Czech] society is well versed in IT. The rest of it is just playing with computers, included the ones who pass themselves off as the "IT guys". In this environment, it is impossible to kick off a countrywide paradigm change impacting all citizens."
_(12/P40)_

Summary

A strong level of physicians' resistance to adopt ePrescription was observed

Putting this into context, however, the resistance was partly due to the improper implementation strategy and timing chosen by SIDC

Problem: How to balance solution benefits among diverse stakeholder groups?

- for the state (benefit: financial control)

- for some patients (benefit: repeated ePrescribing is easier, digitalization is natural for younger patients)

- for physicians (benefit: ?)

Key limitations and critique

- Qualitative research – in particular interpretivism – does not reflect reality, just subjective "perceptions of reality"

- This was further strengthened due to using Tempus Medicorum as the source of data
  - Czech Medical Chamber is an important "political player" => selection bias because mainly "moaners" published their opinions
  - Possible solution: subsequent interviews with more diverse group of physicians

Future research

- The role of paternalism (i.e. the subordination of patients to physicians in terms of differences in status and power of both the groups). Important contextual factor in V4 countries!

- The political dimension of ePrescription initiative

- Will there be a shift in physicians' attitudes as they get familiar with the solution?

- The technical dimension of the solution also deserves future attention

Thank you!

Michal Doležel

https://nb.vse.cz/~qdolmo5/

Artwork used in this presentation:

https://www.erecept.cz