HealthShare Final Report

A Study on Methods to Increase Interoperabilty and Unify Electronic Healthcare Records

for

Uppsala County Council

by

Uppsala Universitet and **Rose-Hulman Institute of Technology**

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Contents

Abstract

Our abstract goes here...

1 Introduction

Define the problem and in what context (maybe contextualize, write a story, describe a scenario? a concrete relevant scenario that occurs with persons involved)

1.1 Background

Romel hah The setting of problems in EHR/EMR interoperability situations. Describe what the problems related to interoperability are within healthcare. The situation in Uppsala County, why we are doing this. What is being done on interoperability in other areas. Describe the problems related to interoperating EHR. describe the ideal interoperating system

1.2 Purpose and Scope

To investigate the interoperability of EHR/EMR systems taking in regard what the people involved want, the limitations, standards and organizational issues.

Explain what we will look into and why, limit the scope to what we will be discussing in the paper.

1.3 Reading Instructions

instructions for different audiences, so people who already know, or don't care about certain sections, don't have to sift through the paper to find information relevant to them. For the rest of the report.

1.4 Project Organization

(How, and our own organization)

1.5 Interviews

(preparations, structure, outlines/protocols, focus of the interviews)

- phone interviews
- regular interviews
- hybrids between the two

How did we prepare the interviews, how they where/wasn't structured, transcibed(?).

1.6 Reading

methods for searching for information

1.7 Other?

2 What the people involved want

(maybe move to introduction if too small)

- physicians
- nurses
- patients
- administrative personal
- the public
- politicians
- technicians
- legal authorities
- lab workers

3 Interoperabilty

- Introduction to what this chapter should be about. (relevant, not too long, not too short)
- Define what interoperability is. Talk about interoperability in general, and also in this specific case. Why interoperability is important and how it works.
- What the current situation is regarding interoperability. Why it is a big problem.
- Prerequisites for interoperability on a national level

  To achieve European wide solutions for cross-border transfer of patient information certain requirements need to be fulfilled. There has to be an agreement on the definitions of data sets for both patient summaries and e-prescription, a legal framework

for data transfer, a technical framework to connect the systems at each level and a working semantic interoperability. [1]

- Subsections on different interoperability solutions.
- Standardized care plans

4 Current limitations and obstacles for adoption of future systems

4.1 Technical

Security? Limitations for what that can technically be done?

5 Technical Standards

5.1 What is a Technical Standard for Computer Software?

A technical standard is a recognized and established requirement about software systems that establishes the "way things should be done." They are responsible for everything from the uniformity of web browsers (although not all browsers strictly conform to the standard) to the ability for nearly any laptop to connect wirelessly to any access point. Such standards specify aspects of a program such as a commont format for a file or data transfer that allow different developers to develop separate software programs while allowing for interoperability between the different systems. Software standards are the foundation for the interoperability of different software systems.

5.2 The Creation of a Standard

Typically for different parties (software development companies) to agree on a specific software standard they create a software standards organization that consist of members and representatives of the various software companies who contribute ideas and opinions about making a single, unifed standard addressing the data interoperability problem that needs to be addressed.

5.2.1 Examples of Software Standards Organizations

- World Wide Web Consortium (W3C) - Responsible for web standards such as HTML, HTTP, and XML
- Institute of Electrical and Electronics Engineers Standards Association (IEEE Standards Association) - Responsible for a wide range of standards for engineering such as the 802.11 standard
- Internet Engineering Task Force (IETF) - Responsible for providing standards for new internet related technology

5.3 Adherance to Standards

Adherance to a particular software standard can be either manditorally regulated or volunteerly

5.4 Software Standards and EHR Software

With the growing ubiquitousness of the internet, computers, and modern technology as well as the geographic diversity of medical tallent and information it is doubtless that someday a standard specifying the transmission, storage, and format of electronic healthcare records will be developed; the benefit of such a standard is too great to be ignored for long.

5.4.1 Alternative to a Software Standard

The only other option for sharing healthcare records would be to have a unified software system doctors all over the world would use to view and modify patient records. However, such a solution is unrealistic as for one there are already too many EHR software companies to resonably plan for one, new company to globally take over the entier electronic healthcare record industry. Furthermore, with anti-trust laws as well as fair competition clauses in many countries (such as the United States) a single organization would not be legally allowed to be the sole producer of EHR software systems.

5.5 Legal

What does the laws allow?

The new Swedish legislation provides new opportunities, but not obligations. [2]

5.6 Organizational

current organizational issues that limit the adoption of interoperating systems

6 Results/ Discussion

6.1 Prerequisites for increased interoperability

6.2 Types of solutions and implications for the end user

7 Conclusions

References

[1] epSOS. Overview slides, 2011.

[2] Klara Antemar, Gudrun; Denckert. Rätt information vid rätt tillfälle inom vård och omsorg – samverkan utan verkan?, 2011.