eHealth Tools for Patients and Professionals in a Multicultural World

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Abstract. In many countries today, an important challenge for health care is the fact that the population is mixed as regards cultural background and not the least with regard to preferred language. In our country Sweden almost 20% of the population has some connection to another country and many patients seeking health care do not have sufficient mastering of the dominant Swedish language to get optimal care. We propose in this study a set of eHealth services that could be implemented within a country and in multinational co-operation to deal with some of these issues in an effective way which both empowers the citizens, improves patient safety and at the same time may offer cost savings for the publicly financed health care systems in the countries of the European Union. The basic idea is to use a set of people-people communication strategies using ICT tools combined with semantic tools for information sharing and conversion. This requires new and challenging organizational contexts.

Keywords. eHealth, multilingual, multicultural, health professional services, interpreter, consumer services, dictionary, standards

1. Introduction

The most important tool of diagnostic medicine, sometimes disregarded by biochemistry and medical devices focused persons, is the medical history, including the environmental and social context obtained in an interview of the subject of care (and/or some next-of-kin). It may be complemented by stored or communicated medical records and recent examinations but oral communication is paramount. It is often difficult for a variety of reasons but frequently it becomes very difficult because the health professional and the patient do not share the same language and cultural background [1, 2]. In addition many other issues related to personal preferences for care need to be communicated and the subject of care needs to obtain information to be sufficiently empowered to make appropriate decisions regarding his/her health and possible care [3]. In modern public health system strategies it is very important to influence life styles such as food and smoking. Naturally, language and cultural context are important and both WHO and DG Sanco have taken steps to present such messages in diverse forms, e.g., see the new European health portal: www.health.europa.eu.

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The importance of providing assistance to those who do not master the language of the health professionals has received some systematic study [4]. It appears that interpretation services are not used enough [5] although some studies actually show a financial benefit if language barriers can be overcome by reducing unnecessary tests and with a reduced number of visits [6].

Linguistic barriers in health care are a common problem in many countries in Europe that have received large immigrant populations which have not yet learned to master the dominant language. In our country about 20% of the population has some immigration connection and although many of these know Swedish we also have large groups of patients seeking care who much would prefer to speak in Finnish, Serbo-Croatian-Bosnic, Arabic, Turkish, Farsi, Tigrina, Kurdish, Polish, Spanish, French, English, Chinese, Vietnamese, etc. Some European countries are legally multilingual and often healthcare is then offered in separate facilities for the different language groups which may solve some of the issues but more frequently the language barrier is quite a significant part of encounters. On the other hand, health professionals in the European Union often practice in another country than their birthplace with often some degree of language problem but as we shall discuss later, this is also an opportunity since often many of the needed linguistic and cultural skills exist in the professional community, but often not when and where needed.

Another reason for the linguistic and cultural challenge facing modern health care is of course the rapidly increasing requirement for treatment of persons temporarily in another country for vacation, studies or work. On top of this we have patients seeking elective care in another country to find special skills for rare diseases, to avoid waiting times, or as becomes more and more common, to find better economical conditions.

We believe that attention to these issues and the application of already existing eHealth techniques could assist the subjects of care/patients/citizens. This includes those in a role as next-of-kin as a parent or perhaps child of an elderly person in need of care. In addition the health care providers and professionals will benefit from these tools.

2. Methodology

This study is based on a literature search using Pubmed in January 2009 and a long term experience of both practical health care and the world of medical informatics, especially the European scene of eHealth developments and national strategies. The literature retrieval was not a complete systematic review which the limited space here would not allow but was based on the following limited search terms; multilingual, translation, cultural barrier. Retrieved articles were used to find other referenced work.

Note that this study does not address the equally important barriers to communication caused by functional impairments such as visual impairment, hard of hearing or aphasia.

The two authors combine experiences as health professionals with work in medical informatics, especially in standardization and semantic interoperability. Klein is a physician with recent experiences from work as a GP and as an emergency physician at the Karolinska University Hospital Solna, in Stockholm, Sweden and Kajbjer is a registered nurse, in recent years active in the national information infrastructure project.

This study is analyzing the problem area and proposes a set of solutions, some based on the limited reported experience, others as a hypothesis for further research.
3. Types of Interactions to Influence

3.1. Oral Doctor-Patient Interview

This is a very essential step which may vary a lot in length between 0.5 minutes to 1 hour. Different situations require different response times.

3.2. Oral Nurse-Patient Interview

This will in many situations precede the doctor’s interview and is often a brief encounter, perhaps as part of a triage system to determine the appropriate level of care and priority. During in-patient stays, nurses make routine rounds to check the patient condition.

3.3. Doctor-Patient Explanation of Therapy Choices and Selected Method

This can often be prepared at least a few minutes before and in many cases therapeutic principles and instructions could be standardized and available to pick from. When language barriers exist, a combination of written information and a few simple spoken words may be sufficient.

3.4. Procedure Preparation and Instruction

This is performed by a variety of professions including nurses, laboratory technicians, radiographers, etc.

3.5. Shared Care Planning

For many complicated and especially chronic diseases such as stroke or cancer, a shared plan of joint activities performed by different professions and provider organizations need to be developed and maintained with the informed consent and participation of the subject of care. Discussion may need to be interactive and often oral but the result will be a written document, in modern systems an electronic record.

3.6. Cross-Border Care

This is an example where also the different health professionals that jointly or in succession care for a person may need to interact despite language barriers.

3.7. Other Applications Including Static Information for Life-Style Change

The above-mentioned situations are just a few examples of health care interactions where the multilingual and multicultural approach may apply and where eHealth tools could be applied. Other situations are: Portals with information on where to find appropriate health care, information on self-diagnosis and self-help, risk assessment and life style advice and medication leaflets.
4. Some Solutions

4.1. The Remote Interpreter

Firstly, we would like to emphasize that a traditional professional interpreter physically present in the dialogue room can be very useful but the main problem is that it is often not possible to have such person available for the right language in a timely manner. Non-professionals (friends) interpreter and some non-medically trained interpreters are problematic in that they do not know sufficiently the medical terminology and may introduce bias in various forms. Professional interpretation is a costly service that often uses only a small fraction of time for actual translation [7].

A variant is the interpreter available via telephone. If properly managed this can provide fast access but the lack of visual contact reduces understanding and the important trust. However, adequately trained medical interpreters or preferably health professionals available for different language combinations should be made available much more and organized also for cross-border use. ICT tools can help match demand and need and perhaps also relay actual voice allowing digital storing of the spoken words if deemed necessary.

The next step is a remote interpreter available for a videoconference [8]. Note that the development of new internet-based technologies makes it quite affordable to have at least a modest resolution using free connection services as Skype. Also noteworthy are the options to have three party conferences where a patient may be in one location (such as at home) the professional in one location and the interpreter in a third. Also modern mobile phone technology already allows video conversations in many locations but yet at substantial costs for the use albeit not for the terminals.

4.2. The Structured Interview

As part of modern evidence-based medicine and as a preparation for various eHealth services, structured interviews are being developed which use text forms, often complemented by visual scales, pictograms and other images [9]. These are easy to have available in several language versions. Often a bilingual version can be an advantage since many subjects of care have a partial understanding of the language of the professional and bilinguality can serve to further a better contact between interviewer and interviewee as well as having an educational value. Computer-based dynamic forms offer many advantages over paper and internet-based solutions can help having many different forms available and updated. There are many variants to the basic idea. It is possible to devise tools that allow a dynamic building of questions and combinations with interactive look-up tools. When asking for an anatomical concept a 2-D or 3-D image to point at has advantages to using language alone, especially for internal organs. This should be possible to use by both interviewer and the subject of care. Where appropriate a large wall mounted touch screen can be used to point at specific organ or other anatomical structure. Of course the same tools can be used for instructions and information to the subject and not only in the interview situation.

Another tool that should be readily available in an interview situation without an interpreter is a multi-lingual dictionary. Much of this already exists for certain concepts and more is coming through the ongoing translations of SNOMED to new languages such as Swedish and Danish [10]. However, today many of the languages required are
not available and are not planned for by IHTSDO. International cooperation through the EU or WHO could be of benefit to develop at least a partial coverage of such terms that may be useful in patient-professional interactions even where a country is not going to use all of SNOMED CT.

4.3. Electronic Health Record Translations

Structured EHRs following the principles developed by openEHR and standardized by CEN/ISO in the 13606 standard series should be used for many reasons. It is noteworthy that the archetypes of this model are prepared for easy automatic and semantically safe translation of much content provided they are structured enough [11]. Note that this is not only a useful tool for communication between health care providers but can also be used to communicate with the subject of care who may be presented with a different language version than the originating health professional.

5. Conclusion

A number of resources already exist that could provide very useful tools to help overcome the linguistic and cultural divide we are often facing in today’s health care. Attention to the issues is necessary and a lot of difficult organizational issues need to be solved. An interesting first example of multinational co-operation offering multilingual emergency services at sea was the EU project Mermaid [12]. Future joint research in this area is called for.

References


