Infobuttons Linked to Indivo, a Patient Controlled Health Record

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Abstract

We created automatic links to online knowledge resources at the NLM through Infobuttons in Indivo, a patient controlled electronic health record system. We made Infobuttons available for both patients and healthcare providers. Through Infobuttons, users can access current, relevant medical information as popup Web pages quickly, as the need arises.

Introduction

Indivo is an open source, Web-based, patient-controlled electronic health record (EHR) system[1]. Patients can share medical records with physicians and others. Infobuttons are icons or text that link to information sources or other EHRs. MedlinePlus[2] is a consumer-oriented resource, providing information from the National Library of Medicine and other health-related Web sites. PICO[3] (Patient, Intervention, Comparison, Outcome) is a search framework that can improve the relevancy of results from PubMed[4]. A direct path between Indivo and MedlinePlus or PICO may help users to find their information needs.

Methods

We installed Indivo (version 3.1) on an Apache Web server. The source code was modified by adding Infobuttons to the patient and the healthcare provider's views.

For patients, we linked Infobuttons to MedlinePlus, which directed to patient oriented Web pages.

Figure 1. Infobuttons on Indivo – patient's view

For healthcare providers, Infobuttons directed to the PICO (Patient, Intervention, Comparison, Outcome) search page. Search terms are automatically entered on the form. Infobuttons are located adjacent to 'Problem List' or 'Medications' on Indivo. Searches only retrieve articles from core clinical journals with abstracts. Clinicians can modify the search if needed. PICO search is powered by E-utilities, an API provided by PubMed. PICO results provide the TBL[5] ("the bottom line"), short summaries of abstracts for quick reading. Direct text messaging tool is available for users registered to receive SMS through cell phone.
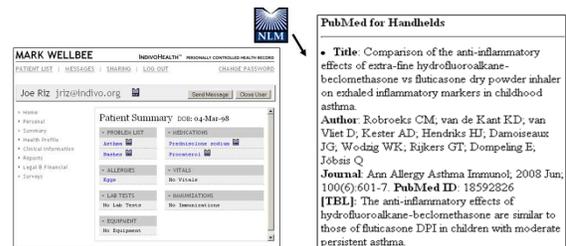

Figure 2. Infobuttons on Indivo - physician's view

Results & Discussion

Infobuttons provided convenient links to relevant medical information for patients and physicians. The PICO search format can enhance the relevancy of search results. Comparison of diagnostic and treatment options can be made through PICO.

Infobuttons added on Indivo retrieved relevant information quickly. Users do not have to design their search strategy on MedlinePlus or PICO. The method we applied on Indivo may be adaptable to other open-source EHR systems. It not only saves users' time, but also benefits those who are not familiar with the PubMed search strategy.

Conclusion

If evidence is easily accessed, it is likely to be used in patient care. Infobuttons may encourage accessing these resources. Patient compliance may improve and healthcare provider update facilitated. This method can be integrated into other open source, modifiable EHRs. The messaging tool can facilitate patient-provider communication and health education.

References
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