Virtual Evidence Cart - RP (VEC-RP)

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Abstract
VEC-RP (Virtual Evident Cart) is an open, Web-based, searchable collection of clinical questions and relevant references from MEDLINE/PubMed for healthcare professionals. The architecture consists of four parts: clinical questions, relevant articles from MEDLINE/PubMed, "bottom-line" answers, and peer reviews of entries. Only registered users can add reviews but unregistered users can read them. Feedback from physicians, mostly in the Philippines (RP) who tested the system, is positive.

Introduction
PubMed's E-Utilities search engine is an efficient method of searching for medical journal articles from PubMed/MEDLINE. However, the number of results retrieve overwhelms busy doctors. Finding relevant answers to clinical questions can be frustrating. Digesting information is challenging even for experienced users. Our goal was to build a collection of researched clinical questions and brief bottom-line answers that other users with similar interests might find useful. VEC-RP is modeled after POEMs (Patient Evidence that Matters) [1], a subscriber based resource. The British Medical Journal (BMJ) publishes a POEM every week [2].

Description
Registration and login through Web interface is required to add a review. The user has two options in the first step: answer a question, or submit a question for other users. Searching for references is done through four search interfaces embedded in the utility: 1) PICO (Patient, Intervention, Comparison, Outcome), 2) Clinical Queries, 3) Journal browser, 4) askMEDLINE. From retrieved citations, users can select relevant articles for the review. After reviewing references, the user formulates a bottom-line answer that summarizes the articles and answers the question. The completed review is then posted to the server. An example of a review is seen in Figure 1.

Users who are domain or specialty experts may volunteer as reviewers for their areas of expertise. All entries and comments posted to the collection are open to the public.

Implementation
VEC-RP system is implemented on an Apache server, PHP interpreter, MySQL database server and PubMed's E-Utilities search engine. It supports browsers of both PC and handhold devices. Registration requires that users create a personal profile. Posting a clinical question is required before searching is permitted.
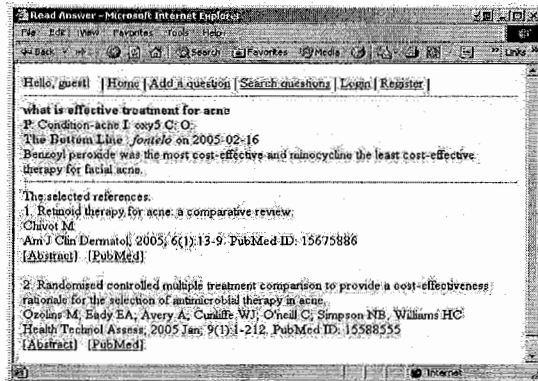

Fig 1. VEC-RP interface in a web browser

When a clinical term is searched, the VEC server sends a request to E-utilities search engine. An online form allows the user to select relevant references for the review page. Posted reviews are searchable by MeSH terms, most recent, most viewed or author. All reviews can also be listed. Future enhancements include posting questions or informing registered users by e-mail, SMS or RSS.

Conclusion
VEC-RP is a user-supported, publicly available resource that creates an environment for health professionals to share reviews of clinical questions of interest. All cited references are derived from MEDLINE/PubMed. Links to abstracts and related citations are provided. A simple peer-review of entries allows validation of the reliability of entries. The interface is Web-based, simple and user-friendly. Enhancements are planned for future releases. Early feedback from users is positive.

References
[1] http://www.infopoems.com/index.cfm

[2] Richard Smith. A POEM a week for the BMJ BMJ 2002 325: 983

[3] http://pubmedhh.nlm.nih.gov