

# E-Health in Practice - No. 1 (May 2008)

HealthConnect International



## E-Health in Practice

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Produced by HealthConnect International, the E-Health in Practice Bulletin aims to highlight useful tools, resources, and examples of e-health applications that health professionals in developing countries can apply in their own environments. It is also intended to serve as a forum for readers to share resources and experiences. To suggest or contribute ideas or content for future issues of the bulletin, please contact: [bulletin@healthconnect-intl.org](mailto:bulletin@healthconnect-intl.org)

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#### **In this issue:**

The bulletin is organized into departments covering four broad e-health subject areas. Each department includes one or more tools, resources, projects, or opportunities. Future issues of the bulletin will also include a calendar of upcoming conferences, trainings, and events relevant to e-health in developing countries.

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# 1. Evidence-based Practice and Access to Health Research

## **RESOURCE: Guide to Electronic Health Care/Medical Libraries on the Internet**

<http://www.eurasiahealth.org/eng/health/resources/81628/>

<http://toolkit.lrcnetwork.info/English/Training/LibGuide-Eng.pdf>

The Internet provides a vast and growing library of healthcare research and educational materials. The trick is knowing where and how to find the information you need. A lot of resources are available for free, especially to health professionals and organizations in developing countries, but many fail to take advantage of these resources-often because they are simply unaware of their availability.

One resource that strives to provide users with a comprehensive and up-to-date guide on the major sources of free full-text health books and journals is *The Guide to Electronic Health Care/Medical Libraries on the Internet*. This 12-page resource is updated once a year and provides links and instructions for how to access online collections which include over 25,000 full-text books and journals in English and other languages. Some of the key featured libraries include:

- WHO Health Internetwork Access to Research Initiative (HINARI) - 3,770 journals, books, and other full-text resources
- Program for the Enhancement of Research Information (PERI) - over 20,000 full-text journals as well as document delivery services (access to resources varies by country)
- Highwire Press (Stanford University) - nearly 2 million full-text articles from the most influential medical and scientific journals

Please note that some of these resources are only available to organizations in developing countries.

The guide is produced in both English and Russian for the American International Health Alliance and the EurasiaHealth Knowledge Network by Irina Ibraghimova, who is also a member of the HealthConnect International team.

## **TOOL: Anne O'Tate - A tool to summarize, drill-down and browse PubMed search results**

[http://128.248.65.210/cgi-bin/arrowsmith\\_uic/AnneOTate.cgi](http://128.248.65.210/cgi-bin/arrowsmith_uic/AnneOTate.cgi)

For those searching for the latest biomedical research, PubMed ([www.pubmed.org](http://www.pubmed.org)) provides one of the most comprehensive and popular web-based search interfaces for accessing the US National Library of Medicine's MEDLINE database. MEDLINE includes bibliographic citations for over 5,200 current journals in 37 languages. Citations, which currently total over 16 million, go as far back as 1949.

Users of PubMed searching for journal articles can take advantage of the PubMed interface's robust features, including the ability to map search terms to indexed subject headings (MeSH). Oftentimes, the search results can be quite daunting. One tool designed to help PubMed users drill down to the specific resources that they need is *Anne O'Tate*. This web-based search tool will help users to obtain an overview of the set of articles (up to 25,000 most recent articles) retrieved by a PubMed query. After a query is processed, you can select different types of summary information to view. The search results are grouped by pre-defined categories such as the most important words found in titles or abstracts; topics; journals; authors; publication years; and affiliations. Clicking on a given item opens a new window that displays all papers that contain that item. Search results are also presented in clusters - organized by MeSH headings. You can navigate by drilling down through the categories progressively, e.g., one can first restrict the articles according to author name and then restrict that subset by affiliation. You can also expand small sets of articles to display the most closely related articles.

More information about this tool can be found in the following article:

"Anne O'Tate: A tool to support user-driven summarization, drill-down and browsing of PubMed search results."

## **2. Information Systems and Electronic Health Records**

### **RESOURCE: Open MRS - An Open-source Electronic Medical Record System Framework for Resource-constrained Environments**

[www.openmrs.org/wiki/OpenMRS/](http://www.openmrs.org/wiki/OpenMRS/)

Developing an electronic health record system from scratch can be an intense and expensive prospect for health organizations with limited resources. For some organizations, it can be useful to start with an existing software tool that can be adapted to fit your specific data needs. One such tool that has been developed is OpenMRS.

Open Medical Record System (OpenMRS) formed in 2004 as an open source medical record system framework for developing countries. OpenMRS is a multi-institution, nonprofit collaborative led by Regenstrief Institute, Inc. (<http://regenstrief.org>), a world-renowned leader in medical informatics research, and Partners In Health (<http://pih.org>), a Boston-based philanthropic organization with a focus on improving the lives of underprivileged people worldwide through health care service and advocacy. These teams nurture a growing worldwide network of individuals and organizations all focused on creating medical record systems and a corresponding implementation network to allow system development self reliance within resource constrained environments. To date, OpenMRS has been implemented in several African countries, including South Africa, Kenya, Rwanda, Lesotho, Zimbabwe, Mozambique, Uganda, and Tanzania. This work is supported in part by organizations such as the [World Health Organization \(WHO\)](#), the [Centers for Disease Control \(CDC\)](#), [The Rockefeller Foundation](#), and the [President's Emergency Plan for AIDS Relief \(PEPFAR\)](#).

OpenMRS is an application which enables design of a customized medical records system with no programming knowledge (although medical and systems analysis knowledge is required). It is a common framework upon which medical informatics efforts in developing countries can be built. The system is based on a conceptual table structure which is not dependent on the actual types of medical information required to be collected or on particular data collection forms and so can be customized for different uses.

In addition to downloading the software, users can visit the OpenMRS website to participate in community forums, join mailing lists, and take advantage of other support functions.

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## **3. Telemedicine**

### **PROJECT: RAFT - A Telemedicine Network for Africa**

<http://raft.hcuge.ch/>

### **RESOURCE: iPath - an Open-source Telemedicine Platform**

<http://telemet.ipath.ch/ipath/>

A project of the Geneva University Hospitals, RAFT (Reseau en Afrique Francophone pour la Telemedicine) is a telemedicine and distance learning network that supports health professionals in French-speaking Africa. Since 2000, the Geneva University Hospitals have been involved in coordinating the development of a network for eHealth in Africa, first in Mali, then in Mauritania, Morocco, Cameroon, and since 2004, in Burkina-Faso, Senegal, Tunisia, Ivory Coast, Madagascar, Niger, Benin, Burundi and Chad.

The core activity of RAFT is the webcasting of interactive courses targeted to physicians and other care professionals,

the topics being proposed by the partners of the network. These sessions put the emphasis on knowledge sharing across institutions, usually in the form of presentations and dialogs between experts in different countries. The technology used for the webcasting works with an Internet connection and a Java-enabled Web browser. A bandwidth of 30 kbits/second, the speed of a basic telephone modem, is sufficient and enables the participation of remote hospitals. About 80 courses are produced each year, webcast live on Thursdays, and usually followed by several hundreds (up to 1,200) healthcare professionals throughout Africa (up to 42 sites connected simultaneously). RAFT's educational sessions are delivered through a software called Dudal, which is designed to work effectively in low-bandwidth environments (at least 30 kbps). Access to the sessions is free to anyone; the schedule of upcoming events and information about how to access them can be found on the RAFT website at <http://raft.hcuge.ch>.

RAFT also supports teleconsultations to health organizations affiliated with its network. For this, it uses a software platform called iPath. iPath is a collaborative platform designed to facilitate the exchange of medical knowledge, distance consultation, group discussions and distance teaching in medicine. The RAFT program enables physicians located far from central referral centers to consult with colleagues remotely in order to resolve difficult cases, to follow a continuing education course over the Internet, or to access medical information from digital libraries or knowledge bases. These same tools can also be used to facilitate exchanges between centers of medical expertise. The potential of these tools is particularly evident in countries where specialists are few, and where distances and the quality of the infrastructure hinder the movement of physicians or patients.

For more information, please contact:

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<http://raft.hcuge.ch>

Note: The iPath platform also supports other telemedicine projects and networks. Any medical professional who is interested in participating is welcome to register with the iPath Association and get a free user account at the iPath website at <http://telemed.ipath.ch/ipath/>. The Association maintains a directory of telemedicine networks that are currently using the iPath platform at: <http://ipath.ch/site/networks>

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## 4. Distance Learning and Continuing Medical Education

### **RESOURCE: OR-Live - Online surgical and health care educational videos and webcasts**

<http://www.or-live.com>

OR-Live produces live and recorded video of surgical procedures for the education of professionals and patients. The videos cover procedures in a wide range of specialties including pediatrics, cardiology, obstetrics, gynecology, and orthopedics. Currently, the most popular webcasts include:

- Heart Transplant Procedure
- Total Knee Replacement
- Mitral Valve Repair Surgery

During live webcasts, users can interact in a discussion forum with a moderator to learn more about /the procedure being demonstrated. The website also provides more than 400 recorded webcasts, podcasts and archived discussion forums.

After you complete a simple user registration process, access to all educational videos and discussions is free.

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## **Call for participation**

Have you developed any resources (for example, educational materials, software applications, networks) that would be valuable to share with others? Have you been involved in any e-health projects that provide useful lessons learned or models that others can follow? Please send any ideas or suggestions for items to include in future issues of this bulletin to [bulletin@healthconnect-intl.org](mailto:bulletin@healthconnect-intl.org).