

INFORMATICS

Medical Informatics is the rapidly developing scientific field that deals with resources, devices and formalized methods for optimizing the storage, retrieval and management of biomedical information for problem solving and decision making. ¹

Goals

Understand how to use current technologies for information management

- Understanding their strengths and limitations
- Understanding the issues involved in implementing them in clinical practice
- Understanding how to use for patient education, self education and education of one's peers

Be able to adapt as new tools become available

Please see following table for specific competencies to be developed. Numerous opportunities exist to teach and practice these competencies in the course of all the standard rotations. Projects in the R1 CORE rotation, conferences (Journal Club and Case conferences) that advanced residents present give an opportunity for residents to begin and/or polish these abilities.

¹ Edward Shortliffe, M.D., Ph.D. What is medical informatics?
<http://camis.stanford.edu> Stanford University, 1995

WEB RESOURCES

I. Medical Search Engines

MEDLINE (OVID) - <http://gateway.ovid.com>

- Access code required
 - Login **svc 001** or **svc 002** or **svc 003**
 - Password: **vince99**
- MEDLINE (OVID) indexes the international literature on biomedicine, including the allied health fields and the biological and physical sciences, humanities, and information science as they relate to medicine and health care. Information is indexed from approximately 3,600 journals published world-wide, as well as selected monographs of congresses and symposia.
- MEDLINE (OVID) offers an easy to use web interface. Once connected, click on "Advanced" if you would like to search MEDLINE using the National Library of Medicine's Medical Subject Headings (MeSH) and all available search limits, including age groups, publication types, languages, and animal types
- Full text available in most searches

Pubmed – <http://www.ncbi.nlm.nih.gov/PubMed>

- Article search, offers simple and advanced keyword searching
- Provides abstracts of some articles and publication information
- Updated frequently
- Full text orders requires payment

Sumsearch (University of Texas HSC) – <http://SUMSearch.uthscsa.edu/sgim>

- Simultaneously searches Pubmed (limited full text available), Practice Guidelines from the National Guidelines and textbook search (limited textbook search, searches only 3 textbooks – Merck Manual, Canadian Task Force on Preventive Health Care and AIDS knowledge base).
- Search could be focused as to diagnosis, treatment, prognosis, etc.

II. General Sites

Clinical Guidelines – <http://www.guideline.gov>

- Lists almost all available guidelines there are: search by disease, treatment or by which organization made the guideline.

Center for Disease Control – <http://www.cdc.gov/>

CRWU School of Medicine – <http://mediswww.meds.cwru.edu/>

- Go to Electronic Curriculum then Electronic Resources
- Must have Login Name and Password to enter – forms available in Chief Resident's Office) * Domain – SOM
- Provides links to relevant medical websites.

Physicians online – <http://www.pol.net>

- Register first to be able to login (two options to log in):
 - Access thru your own ISP (free, must have AMA # or fax a copy of residency contract) also provides free email
 - POL as your ISP – charges a monthly fee
- Provides medical news, discussion groups, quizzes, clinical references, outlines, and links to Pubmed (mostly abstracts).

Medscape – <http://www.medscape.com>

- Free registration
- Provides medical news, clinical references, discussion rooms, conference schedules and summaries, links to medline (mostly abstracts) and practice guidelines, job market
- Provides free email and webpage
- Start page organized into specialties

Integrated Medical Curriculum – <http://www.imc.gsm.com/>

- Links together the study of anatomy, physiology, histology, pharmacology, immunology and medical ethics via the Internet.
- Good resource for basic sciences (ie. Cross-sectional Anatomy – Cadaveric, Radiologic)
- Free registration

III. Online Textbooks

Emedicine – <http://www.emedicine.com/>

- Medical topics listed according to specialties, provides a comprehensive coverage of most diseases.
- Some parts are still under construction

Harrison's online – <http://www.harrisonsonline.com/>

- Login: **CWRUSOM**
- Password: **kesonmot98**

CMDT – <http://www.appletonlange.com/weblinks/cmdt/>

- Main page lists chapters of the book organized by organ system.
- Each Chapter provides links to websites relevant to that organ system, ie. Heart – hearts sounds, etc.
- To see what links are listed go to the Chief Resident's Office to see a printed version or visit the website.

IV. Resources in Radiology

Virtual Hospital – University of Iowa –
<http://www.vh.org/Providers/Lectures/icmrad/Opening.html>

- Provides information and films regarding normal and basic pathologies of the chest, abdomen, and skeletal system, some information on nuclear imaging.

UH-CWRU – Radiology <http://www.uhrad.com/>

- Provides a list of available teaching files in Radiology (Format – film/s, history, finding, diagnosis and discussion) (lots of rare birds but also provides some usual cases)

Indiana University Teaching Files – <http://www.medlib.iupui.edu/hw/rad/radteach.htm>

- Links to teaching files of other universities and links basic radiologic anatomy demonstrations.

V. Pain Resource

<http://mayday.coh.org/>

- Excellent source of information regarding pain.
- Covers issues as legal aspects, pharmacology, pain assessment tools, patient education materials, ethics, end of life care, management of acute, chronic pain, pain in HIV, pain in Sickle cell, etc. Has links to valuable pain resources.

VI. Journals

New England Journal of Medicine – <http://www.nejm.org/>

- Access to the full text of some articles requires password
 - Access code: **luke**
 - Password: **Vincent**

Annals of Internal Medicine – <http://www.acponline.org/journals/annals/annaltoc.htm>

JAMA – <http://jama.ama-assn.org/>

British Medical Journal - <http://www.bmj.com>

VII. Medical Student Resource

(or those interested in refreshing their basic sciences)

<http://www.people.bu.edu/skorvek/content/ems2html>

- Offers links to various medical sites – emphasis on basic sciences, also has links to study guides.

VIII. PalmPilot Resources

- <http://www.pdamd.com>
- <http://www.palm.com>
- <http://www.tucows.com>

Competencies for Medical Informatics

Competency	Learn in a seminar or conference (specify)	Learn as part of clinical rotation (specify)
Know enough basic computer concepts and terminology to be well-informed in purchasing and using computer and peripheral devices, computer communication hardware, operating systems, general-purpose software, and important patient care-related clinical software	X	CORE
Know essential aspects of file organization, hard and floppy-disk information storage, protection from data loss, and basic issues to computers and copyright law	X	CORE
Be able to use basic word processing, spreadsheet, database, desktop publishing, and desktop presentation technology; know how to adapt these programs to medical use	X	CORE
Be able to identify, evaluate, select, and appropriately use electronic sources of medical knowledge, e.g., CD-ROMs, the Internet, decision support, and continuing medical education software, and literature searching programs	X	Wards, ICU, selected offices
Be able to identify, evaluate, select, and appropriately use computer systems for managing patient and practice, information*	X	Selected offices
Be able to identify, evaluate, select, and appropriately use computer systems for educating patients	X	Selected offices
Be able to identify, evaluate, select and appropriately use portable computing devices to facilitate the mobile management of patient and practice data and medical knowledge*	X	Selected rotations

Illustrative Clinical Settings: Anywhere that provides residents with the necessary equipment, instruction, and encouragement to apply these tools to actual clinical situations and needs.