

# Internet Resources for Curriculum Development in Medical Education

## An Annotated Bibliography

Patricia A. Thomas, MD, David E. Kern, MD, MPH

Curriculum development in medical education should be a methodical and scholarly, yet practical process that addresses the needs of trainees, patients, and society. To be maximally efficient and effective, it should build upon previous work and use existing resources. A conventional search of the literature is necessary, but insufficient for this purpose. The internet provides a rich source of information and materials. This bibliography is a guide to internet resources that are of use to curriculum developers, organized into 1) medical accreditation bodies, 2) topic-oriented resources, 3) general educational resources within medicine, and 4) general education resources beyond medicine.

**KEY WORDS:** curriculum development; medical education.  
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Curriculum development in medical education is a scholarly process that integrates a content area with educational theory and methodology and evaluates its impact. When curriculum development follows a systematic approach, it easily fulfills criteria<sup>1</sup> for scholarship and provides high-quality evidence of the impact of a faculty member's educational efforts. Generalist faculty, because of their unique roles in both the delivery of health care and educational missions in academic medical centers, are often recruited to medical education reform efforts and curriculum development. Faculty are usually content experts, but may not be familiar with medical education organizations and educational resources for this work. Standard literature searches often fail to identify many of these resources. While many resources are available online and are applicable to various aspects of curriculum development, Internet resources have not previously been categorized for this purpose in the literature. We developed this bibliography to familiarize generalist faculty with easily accessible Internet resources for curriculum development in medical education.

A stepwise approach to curriculum development is outlined in Table 1.<sup>2</sup> These steps do not always follow one another in sequence, but do constitute a dynamic, interactive, and systematic process. No step is more important than the first, the general needs assessment (GNA). The goal of step 1 is to focus the curriculum, by defining the deficits in knowledge, attitude, or skills that currently exist

in practitioners, and the ideal approach to teaching and learning these objectives. When completed, the GNA makes a strong argument for the need for the curriculum, sets the stage for the generalizability of the curriculum, and identifies potential educational research questions. Research for this step can extend over many fields of endeavor: public health and epidemiology, health care systems, utilization and resources, emerging knowledge of disease, patient support groups, and educational theory and practice. Previously developed and/or validated methods and curricula are identified as part of this step, in order to inform one's efforts and prevent the duplication of work. A well-researched step 1 impacts steps beyond the learner objectives by identifying educational methodologies, faculty development resources, potential funding resources, and opportunities for dissemination of the curriculum.

### Process of Identifying Resources

The sites listed below were selected based on the personal experience of the authors as members of educational organizations or as users of these resources, discussions with fellow educators, medical librarians, and curricular experts in medical education, and exploration of the sites. The bibliography is not intended to be exhaustive. It includes those sites that provided quick access to information and were felt to be most stable. Both authors are academic general internists, who have codirected a faculty development workshop in curriculum development for the past 9 years, and are involved in medical education of students, residents, and faculty levels. We acknowledge potential bias toward inclusion of internal medicine and generalist web sites in this list.

### Organization and Use of the Bibliography

The bibliography is organized into the following 4 categories: 1) medical accreditation bodies; 2) topic-oriented resources; 3) general educational resources within medicine; and 4) general educational resources beyond medicine. When a web site could be placed in more than one category, we used the following hierarchy for placement: (1), (2), then (3) or (4). Where appropriate, the annotations refer to the steps in the curriculum development pathway most informed by the web site. Table 2 also provides an alphabetical list with highlights of the strengths of the different resources.

In using the bibliography, we suggest the following steps:

1. Review sites of the major accrediting bodies for your learners or institutions. Although multifaceted in their

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Received from the Department of Medicine (PAT, DEK), Johns Hopkins University School of Medicine, Baltimore, Md.

Address correspondence and requests for reprints to Dr. Thomas: Department of Medicine, 1830 East Monument Street, Room 9033, Baltimore, MD 21287 (e-mail: pathomas@jhmi.edu).

Table Six-step Approach to Curriculum Development for Medical Education\*

Step	Title	Tasks Involved in the Step
	Problem identification and general needs assessment	Identification and critical analysis of the health care problem that will be addressed by the curriculum. Requires substantial research to analyze what is currently being done by practitioners and educators, i.e., the <i>current approach</i> , and ideally what should be done by practitioners and educators to address the health care problem, i.e., the <i>ideal approach</i> . The general needs assessment is usually stated as the knowledge, attitude, and performance deficits that the curriculum will address.
2	Needs assessment of targeted learners	The general needs assessment is applied to targeted learners.
3	Goals and objectives	Overall goals and aims for the curriculum are written. Specific measurable knowledge, skill/performance, attitude, and process objectives are written for the curriculum.
	Educational strategies	A plan to maximize the impact of the curriculum, including content and educational methods congruent with the objectives, is prepared.
5	Implementation	A plan for implementation, including timelines and resources required, is created. A plan for faculty development is made to assure consistent implementation.
6	Evaluation and feedback	Learner and program evaluation plans are created. A plan for dissemination of the curriculum is made.

missions and activities, these organizations are primarily concerned with quality assurance, and usually have published goals and learning objectives, and often evaluation methods. Several have had recent revisions, such as the Association of American Medical Colleges (AAMC) Medical School Objectives Project<sup>3</sup> and the Accreditation

Council on Graduate Medical Education (ACGME) General Competencies,<sup>4</sup> which have sparked the need for new curricula.

2. Explore resources related specifically to the topic of interest. For instance, the American Academy on Physician and the Patient (AAPP), Association for

Table 2. Alphabetical Listing of Internet Resources for Curriculum Development General Needs Assessment, Funding, and Dissemination

Acronym	Full Name	Helpful Content Available from the Web Site	Information on Available Funding for CD	Potential Dissemination for Developed Curricula
AAHE	American Association of Higher Education	Publications on educational issues in higher education	No	Publishes <i>Change</i>
AAIM	Alliance for Academic Internal Medicine	Links to Generalist Faculty Development Project/other academic-related societies in internal medicine	See links	See
AAMC	Association of American Medical Colleges	1. Medical School Objectives Project 2. Functions and Structure of a Medical School	No	Annual meeting; regional GEA meetings; publishes <i>Academic Medicine</i>
AAPP	American Academy on the Physician and the Patient	Directory of resources on doctor-patient communication	No	Publishes <i>Medical Encounter</i>
ABSAME	Association for Behavioral Sciences and Medical Education	Curricular guide	No	<i>Annals of Behavioral Science and Medical Education</i>
ACCME	Accreditation Council for Continuing Medical Education	Accreditation standards for CME activities	No	No
ACGME	Accreditation Council for Graduate Medical Education	Program Requirements ACGME Outcomes Project	No	No
ACP-ASIM	American College of Physicians-American Society of Internal Medicine	FCIM Internal Medicine Resource Guide	ACP-ASIM Foundation	Publishes <i>Annals of Internal Medicine</i> ; annual and regional meetings
ACE	Alliance for Clinical Education	Links to 7 student clinical clerkship sites: psychiatry, ob-gyn, neurology, surgery, internal medicine, pediatrics, and family medicine	No	No

(Continued)

Table 2. (Continued)

Acronym	Full Name	Helpful Content Available from the Web Site	Information on Available Funding for CD	Potential Dissemination for Developed Curricula
ADMSEP	Association of Directors of Medical Student Education in Psychiatry	Educational objectives for psychiatry clerkship; films; annotated bibliography	No	No
	American Education Research Association	None on the site	Funding program	Several educational research journals
	Association for Medical Education in Europe	Best Evidence in Medical Education	No	Publishes <i>Medical Teacher</i>
	American Medical Informatics Association	No	links for funding	Publishes <i>Journal of the American Medical Informatics Association</i>
APDIM	Association for Program Directors in Internal Medicine	Educational Clearinghouse	No	Annual meeting; publishes <i>Educational Clearinghouse</i>
	Association of Professors of Gynecology and Obstetrics	Women's Health Education Organization list of model curricula	Links	Web site
	Association for Surgical Education	Educational clearinghouse of curricula, videotapes, faculty development	Yes, through its Center for Excellence in Surgical Education, Research, and Training	No
ASE	Association for the Study of Medical Education	Lists of texts and links to British medical school curricula	No	Publishes <i>Medical Education</i>
	Association of Subspecialty Professors	Resources for fellowship directors	No	No
ATPM	Association for Teachers of Preventive Medicine	Curricular materials and objectives in preventive medicine	Yes, with CDC	Publishes <i>American Journal of Preventive Medicine</i>
CDIM	Clerkship Directors in Internal Medicine	CDIM/SGIM Core Medicine Clerkship Guide	No	Publishes meeting proceedings in <i>Teaching and Learning in Medicine</i>
	Consortium of Neurology Clerkship Directors	Core Clerkship Curriculum Guide	No	No
COMSEP	Council on Medical Education Student Education in Pediatrics	Core clerkship curriculum, multimedia and case-based resources	No	Publishes <i>Pediatric Educator</i>
CIS	Center for Instructional Support	Annotated bibliographies of resources	Links to funding sources	No
EPERC	End-of-Life/Palliative Care Resource Center	Core resources	Funding sources listed	Peer review on web site
ERIC	Educator's Reference Desk	Searchable educational database	No	No
IAMSE	International Association of Medical Science Educators	Learning objectives for basic science disciplines	No	No
	NBME	National Board of Medical Examiners	Funded proposals posted. Information on assessment.	Stemmler Research Fund
SDRME	Partnerships for Quality Education	Curricular resources on site	Funding program	Web site
	Society of Directors of Research in Medical Education	Reviews of medical education topics	No	Web site
SGIM	Society of General Internal Medicine	See CDIM	Web site links to funding resources	Publishes <i>Journal of General Internal Medicine</i> ; annual and regional meetings
Slice of Life	Society of Teachers of Family Medicine	Educational multimedia Preceptor Education Project	No	Annual meeting
STFM			No	Publishes <i>Family Medicine</i>

CD, curriculum development.

Behavioral Sciences and Medical Education (ABSAME), and Association of Directors of Medical Student Education in Psychiatry (ADMSEP) web sites might provide useful information for development of a curriculum in behavioral medicine or psychiatry.

- a. Identify resources that target your level of learner (e.g., medical student, resident, practicing clinician, or faculty member).
  - b. Think about potential faculty development needs for your curricula. Several sites, such as the AAPP, AIM, American College of Physicians-American Society of Internal Medicine, and Society of Teachers of Family Medicine have faculty development resources.
3. Consider what educational methodology will be used. Look for methods that are congruent with your educational objectives.<sup>1</sup> General educational resources will have information related to educational theory, educational strategies, teaching and learning, and education technology.

## BIBLIOGRAPHY

### Medical Education Accreditation Bodies

1. The Association of American Medical Colleges (AAMC) <http://www.aamc.org>.

- The AAMC represents 125 accredited U.S. and 16 accredited Canadian medical schools, 400 teaching hospitals and health systems, and 90 professional societies. The AAMC publishes *Academic Medicine*, which accepts papers related to curriculum development. For curriculum developers, the most helpful subgroups are the Group on Educational Affairs (GEA), which has its mission to sponsor professionalism and scholarship in medical education: <http://www.aamc.org/members/gea>. The ideal approach of educators can be seen in the Medical School Objectives Project<sup>3,4</sup>; current approaches of educators can be found in the Graduation Questionnaires as well as the CurrMitt database, which contains current curricular content of member medical schools, all of which can be linked from this site.

2. Liaison Committee on Medical Education (LCME) <http://www.lcme.org>.

This is a joint committee of the American Medical Association (AMA) and the AAMC, which has been the official accreditation body for medical schools since 1968. The LCME criteria for a medical school curriculum, which would inform the general needs assessment and learning objectives, as well as the evaluation step, is the following document, available from the AAMC or LCME web site: Functions and Structure of a Medical School: Accreditation and the Liaison Committee on Medical Education. Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree.

3. Accreditation Council for Graduate Medical Education (ACGME) <http://www.acgme.org>.

The ACGME is the organization responsible for accrediting residency programs, made up of 5 sponsoring organizations: American Hospital Association, AMA, AAMC, American Board of Medical Specialties, and the Council of Medical Specialty Societies. The web site has a list of program requirements for each specialty, which outlines expectations regarding learning objectives, educational strategies, and evaluations. Curriculum developers should look at the section under "Competencies,"

which includes the ACGME Outcomes Project toolbox, background on assessment methodology, and suggested methods for the 6 core competencies: <http://www.acgme.org/Outcome/>.

4. National Board of Medical Examiners (NBME) <http://www.nbme.org>.

The NBME prepares and administers qualifying examinations (the USMLE) for the practice of medicine in the United States. The NBME annually funds research proposals in the assessment of clinical skills through its Stemmler Research Foundation. Funded proposals as far back as 1995 are posted on the web site. This is a good source for GNA, potential funding (implementation), and evaluation steps.

5. Accreditation Council for Continuing Medical Education (ACCME) <http://www.accme.org>.

The ACCME is a voluntary accreditation body for continuing medical education (CME) activities. The most pertinent information for curriculum development here is the "Accreditation standards, Essential Area 2: Educational Planning and Process," available on the web site, which lists minimum standards for an educational program, which informs the program objectives. The site also posts "exemplary programs" with contacts (i.e., current/ideal approach).

### Topic-oriented Resources

**Basic Science.** International Association of Medical Science Educators (IAMSE) <http://www.iamse.org>.

Association of basic science health educators, formed within the AAMC. The site has a listing of learning objectives for basic science disciplines, and also links to a number of other medical education resources, such as "Best Evidence in Medical Education." Informs the GNA, learning objectives, educational strategies, and evaluation steps.

**Clinical Sciences.** Alliance for Clinical Education (ACE) <http://med.uvm.edu/MedEd/ace/>.

An umbrella organization that links medical student clerkship sites. ACE produces the Guidebook for Clerkship Directors, available from the AAMC web site.

**Family Medicine.** Society of Teachers of Family Medicine (STFM) <http://www.stfm.org>.

This group publishes *Family Medicine*, which publishes medical education papers, and has several helpful Internet resources for outpatient-based medicine, including the *Preceptor Education Project*, a faculty development program for office-based teachers. Also under the Preceptor Education tab is a "Basic Book List" for residency and predoctoral medical education, which lists helpful resources. Resource for the GNA, especially current approach of educators, also educational strategies and implementation through faculty development.

**General Medicine.** 1. Alliance for Academic Internal Medicine <http://www.im.org>.

This recently formed organization is a merger of major academic-related professional societies related to internal medicine: Association for the Professors of Medicine (APM), Association of Program Directors in Internal Medicine (APDIM), Clerkship Directors in Internal Medicine (CDIM), Association of Subspecialty Professors (ASP), and the Administrators in Internal Medicine (AIM). Mostly a political grouping, the web site does link to all of the above organizations, as well as the Generalist Faculty Development Project.

2. American College of Physicians (ACP) <http://www.acponline.org>.

The largest professional organization for internists maintains active educational resources for all levels of learners. The teaching tab links to "Community-based Teaching" for faculty development resources, teaching materials, videos, etc., as well as to the FCIM curriculum, a resource guide for residency training. Informs GNA, learning objectives, educational strategies, and faculty development.

3. Association of Program Directors in Internal Medicine (APDIM) <http://www.apdim.med.edu>.

This organization consists of residency program directors in internal medicine. It maintains an Educational Clearinghouse (<http://www.apdim.med.edu/ec/index.htm>) online for anything related to residency education. It is a good resource for needs assessment and should be considered as well for dissemination. In addition, there is a new page "Resource Locker" (<http://apdim.med.edu/locker/index.html>) that includes recent workshops and resources related to the new ACGME competencies (see above) and outcomes.

4. Clerkship Directors in Internal Medicine (CDIM) <http://www.im.org/cdim>.

The "resources for the clerkship" links to the CDIM/SGIM Core Medicine Clerkship Curriculum Guide, as well as to about 30 internal medicine clerkship web sites ("what is currently being done"). The site also includes the reports of 6 task forces on "Evaluation" with reviews of the literature. Informs GNA, learning objectives, educational strategies, and evaluation steps.

5. Federated Council in Internal Medicine Resource Guide is located at the ACP web site <http://www.acponline.org/fcim/index.html>.

This is a very detailed curriculum resource guide for internal medicine residency programs, which lists learning objectives in multiple disciplines, competencies, learning sites, and evaluation strategies. The second edition, recently published, incorporates competency-based evaluations.

6. The Generalist Faculty Development Project <http://www.im.org/facdev/gimfd/index>.

This was a joint project of HRSA and several internal medicine organizations, to encourage faculty development of community-based teachers. Workshop materials from 3 regional meetings are accessible from the site, as well as a series of "TIPS for Teaching." If the curriculum project addresses teaching in outpatient settings, or faculty development (step 5), useful workshop materials can be found here.

7. Society of General Internal Medicine (SGIM) <http://www.sgim.org>.

The mission of SGIM is research, education, and clinical practice in primary care. SGIM publishes the *Journal of General Internal Medicine*, which has an open call for papers describing Innovations in Medical Education (a potential dissemination resource). The web site links to funding resources with shared missions, such as the National Library of Medicine. Most useful for dissemination step.

**Informatics.** American Medical Informatics Association (AMIA) <http://www.amia.org>.

While primarily concerned with use of medical informatics in the broad area of health care, this organization is concerned as well with education in this area. There is not much in spe-

cific curricula on its web site, but it has links for funding. The group also publishes a peer-reviewed online journal, *Journal of the American Medical Informatics Association*. Informs the GNA, educational strategies, and dissemination steps.

**Managed Care/Systems-based Knowledge.** Partnerships for Quality Education (PQE) <http://www.pqe.org>.

This is a joint program funded by the Pew Charitable Trusts and the Robert Wood Johnson Foundation to promote medical education in systems-based care, through collaborations between academic medical centers and managed care organizations. It has a funding program for educational initiatives. The web site maintains a number of curricular resources, under the Managed Care Education Connection, <http://www.mceconnection.org/mce/>, which have been developed in managed care, including papers, case presentations, and curricula. This site informs GNA, learning objectives, educational strategies, and is a potential dissemination site.

**Neurology.** Consortium of Neurology Clerkship Directors/American Academy of Neurology (CNCD) <http://www.aan.com/students/clerkship>.

Contains a Core Clerkship Curriculum Guide, including a "checklist" for the neurologic physical examination. Informs the GNA, learning objectives, and evaluation steps.

**Palliative Care/End-of Life Care.** End-of-Life/Palliative Education Resource Center (EPERC) <http://www.eperc.mcw.edu>.

The purpose of EPERC is to assist educators in physician end-of-life education efforts. The web site, which requires registration, includes a list of core resources for training and funding sources. In addition, the center provides peer review of submitted educational materials (step 4), and is a potential resource for dissemination of curricula in this topic area.

**Pediatrics.** 1. Ambulatory Pediatrics Association <http://www.ambpeds.org>.

Published guidelines for training in ambulatory pediatrics, 1996 available online; in process of revision. Also links to "TIDE," an online program from the Medical University of South Carolina for teaching immunization delivery and evaluation (requires registration). Informs the GNA, learning objectives if pertinent to the topic, educational strategies, and implementation steps.

2. Council on Medical Education Student Education in Pediatrics (COMSEP) <http://www.comsep.org>.

In addition to curricula, this site has a page of multimedia resources including online cases, such as web-based clinical cases, the pediatric physical examination, and CD-ROM cases for use in problem-based learning. Informs the GNA, learning objectives, educational strategies, implementation, and evaluation steps.

**Population-based Medicine.** Agency for Healthcare Research and Quality (AHRQ) <http://www.ahrq.gov>.

While there is little that is strictly educational, there is a wealth of information regarding population-based health, which would be helpful for a general needs assessment in a population of interest, such as women's health, minority health, or child health. The AHRQ has a funding program that could also be explored for funding of educational projects in the priority areas. Roadmaps for Clinical Practice: Primer on Population-Based Medicine, is an expert consensus clinical

practice guideline on population-based medicine available by mail order from the web site. Addresses evidence-based medicine, health disparities, and cultural competence; a good resource for ideal approach in the newer competencies. Informs the problem identification and GNA, learning objectives, and potentially, the educational strategies steps.

**Preventive Medicine.** Association for Teachers of Preventive Medicine (ATPM) <http://www.atpm.org>.

This web site includes curricular materials, including an interactive course in immunization, curricular guidelines, and case studies for use in teaching preventive medicine. Partners with CDC for funding in projects with ultimate goal of achieving Healthy People 2010 goals. Informs the GNA, learning objectives, and educational strategies steps.

**Psychosocial Behavioral Medicine.** 1. American Academy on Physician and the Patient (AAPP) <http://www.physicianpatient.org>.

This society is devoted to research and education in doctor-patient communication and fosters a strong faculty development component. The society publishes *Medical Encounter*. There is not much directly available from the web site, but the society maintains a videotape library, and a directory of educational resources on doctor-patient communication that can be ordered. Informs the GNA, educational strategies, and implementation through faculty development steps.

2. Association for Behavioral Sciences and Medical Education (ABSAME) <http://www.absame.org>.

ABSAME is concerned with behavior science curricula in medical school and residency programs. It publishes the *Annals of Behavioral Science* and *Medical Education*. There is a curriculum guide for behavioral sciences in the medical profession, which lists knowledge, attitudes, and skills objectives in each of the subject areas, including clinical reasoning and interpersonal skills. The outline of the curriculum guide is available from the web site. Informs GNA and learning objectives, and potentially evaluation steps.

3. Association of Directors of Medical Student Education in Psychiatry (ADMSEP) <http://www.admsep.org>.

This site contains published learning objectives for the junior psychiatric clerkship. Under resources is a list of films demonstrating disorders. In addition, there is an annotated list of cultural video material and lectures related to cross-cultural interviewing and counseling. Informs the GNA, learning objectives, and educational methods steps.

**Subspecialty Medicine.** Association of Subspecialty Professors (ASP) <http://www.im.org/asp>.

These are the internal medicine fellowship program directors and subspecialty division chiefs; there is a page for curriculum, which will eventually link to published subspecialty fellowship curricula, but has no content posted as yet. If interested in a particular subspecialty, curriculum developers should go directly to the subspecialty organization. For instance, the American College of Rheumatology has published its medical student, residency, and fellowship educational resources in rheumatology on its web site <http://www.rheumatology.org>. Some specialties, such as ACR, fund faculty awards in education.

**Surgery.** The Association for Surgical Education (ASE) <http://www.surgicaleducation.com>.

The web site contains an Educational Clearinghouse of curricula, videotapes, faculty development, and a host of other useful resources for needs assessment. Although not necessarily generalist content, there are helpful examples that may apply to generalist curricula, such as Resident Teaching Skills, Teaching in Outpatient Clinic, and Ethics Curriculum for Residents. The site also links to non-ASE educational and faculty development materials. Informs the GNA, educational strategies, and faculty development, as well as learning objectives and evaluation in topic-specific areas, such as ethics.

**Women's Health.** Association of Professors of Gynecology and Obstetrics (APGO) <http://www.apgo.org>.

This organization of women's health educators is focused on undergraduate medical education, specifically the ob-gyn clerkship. The web site has a number of useful resources, especially under the Women's Health Education Office, including a listing of medical school Women's Health Curriculum Models, an annotated bibliography in women's health, and a guide to fourth-year student electives in women's health. The APGO foundation provides awards for innovative education in women's health education; an annual call for member proposals occurs on October 1. In addition, there is a link to other Women's Health Grants and Awards Announcements. The site is useful for needs assessment, potential funding, and dissemination of curricula.

## General Educational Resources Within Medicine

1. Association for Medical Education in Europe (AMEE) <http://www.amee.org>.

A European medical education organization that sponsors the journal *Medical Teacher* (<http://www.medicalteacher.org>), which is now available online. In addition, it sponsors Best Evidence in Medical Education (BEME) (<http://www.bemecollaboration.org>), devoted to an evidence-based approach to teaching. A bibliography of systematic reviews in medical education is available on the web site. Informs the GNA, educational methods, evaluation, and dissemination steps.

2. Association for the Study of Medical Education (ASME) <http://www.asme.org.uk>.

This is a British organization of physicians and medical educators concerned with education from undergraduate through CME. The web site lists a number of published texts in medical education, as well as links to British school curricula. The official peer-reviewed journal is *Medical Education* (<http://www.mededuc.com>), which has a number of helpful online features, including a "reading room" of important reviews and randomized trials in medical education. This is a good place for both needs assessment and dissemination.

3. Center for Instructional Support, University of Colorado Health Sciences Center (CIS) <http://www.uchsc.edu/CIS/>.

This is an educational support site maintained by the University of Colorado. It requires registration (but not payment). It has a wealth of resources for what is currently being done, with annotated bibliographies and links to funding sources.

4. Generalists in Medical Education <http://www.thegeneralists.org>.

This organization of educators includes basic scientists and clinicians interested in generalist education from the predoctoral to the postgraduate level. The organization hosts

an annual meeting linked to the AAMC meeting, which is an opportunity for dissemination. No curricular material is available on the web site.

5. Society of Directors of Research in Medical Education (SDRME) <http://www.sdrme.org>.

Membership here is open only to directors of office of education-type units that are responsible for educational research, program development, and evaluation. There is an annual call to the members for written reviews of topics of interest in medical education. Four of these are available from the web site under "sponsored scholarship." Informs the evaluation and dissemination steps especially.

6. Slice of Life. <http://medstat.med.utah.edu/sol/>.

A nonprofit-based project based at the University of Utah devoted to the development of educational multimedia applications in health sciences education. A variety of multimedia resources are available on order from the web site. The project hosts an annual workshop to share developmental efforts in multimedia and interactive computer software. Particularly useful for educational methodology using technology.

7. World Federation for Medical Education (WFME) <http://www.sund.ku.dk/wfme/>.

A global organization interested in medical education. Not much on the web site; links to *Medical Education*.

### General Educational Resources Beyond Medicine

1. American Education Research Association (AERA) <http://www.aera.net>.

This is an international professional organization with the primary goal of advancing educational research and its application at all levels. The division most helpful to medical education is Division I: Education in the Professions. The organization sponsors several journals in educational research, which may be helpful in the dissemination step (available from the web site). The AERA also has a funding program for research proposals. There is no curricular information directly available from the web site.

2. American Association of Higher Education (AAHE) <http://www.aahe.org>.

This is a professional body of educators in higher education who are concerned with a variety of issues as well as the body of knowledge related to teaching and learning. The association sponsors a number of publications that could relate to medical education including, *Communication: Learning Climates that Cultivate Racial and Ethnic Diversity: Assessment, Teaching, and Learning*; and *Educational Technology*. Publishes *Change*. Potentially informs the GNA, educational methodology, faculty development, and evaluation steps.

3. Educational Reference Desk. <http://www.eduref.org>.

Formerly the Educational Resource Information Center (ERIC), maintained by the US Department of Education, this is a resource guide and searchable database for educators. Can be used to provide background on effectiveness of an educational approach.

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