FACULTY OF MEDICINE



DEAN'S TASK FORCE ON MD UNDERGRADUATE CURRICULUM RENEWAL



APPENDIX J | MAY 2010

Scholarly Concentration programs in the USA

Angela Towle

Dean's Task Force on Curriculum Renewal

Monday 8 February 2010

Why…?

"Contemporary medical education must harness the passions of today's medical students and help them translate their interests into the rigorous process of analytic, synthetic and creative thought that comprises scholarship."

Green et al.

Background

- Purpose to provide opportunities for scholarship beyond those available in traditional medical curricula.
- Move away from one-size-fits all curriculum.
- Increasing interest (>15 SC programs in last 10 years).
- Variations in goals, focus, format and organization.
- In Canada: included in FMEC recommendation IX.

Goals

- Common goal of SC programs: to produce clinicians with improved analytic, creative and critical thinking skills.

Beyond this:

- Some SC programs aim to promote the training of physician scientists, especially for translational research.
- Some SC programs aim to prepare future physicians to contribute to improvements to the health care system (e.g. through promoting skills in advocacy, public health, policy, healthcare administration).
- Most also aim to foster relationships between students and faculty (on going mentoring relationships).

Required or Elective?

- Elective and required programs usually involve different philosophical approaches and goals.
- Some programs begin as elective and develop into required.

Required SC programs

- Goals may include development of skills believed to be essential for **all** graduates (e.g. critical thinking, application of the scientific method).
- May reflect institutional goals (e.g. production of clinician-scientists).
- Institutional commitment of more resources to training students (and faculty) to enable them to produce substantive work.

Elective SC programs

- Philosophical approach that students participating will be highly motivated, increasing the chances of high quality products.
- Faculty mentors work exclusively with students engaged in program out of personal interest.
- Smaller student numbers require fewer administrative and financial resources.

Format

- Number and foci of concentration areas from which students can choose varies across institutions; they frequently increase in number and breadth over time.
- Wide variation in amount of dedicated time for scholarly work.
- Most involve completion of an independent project.
- Some SC programs also include a ‘core curriculum’ with required courses (e.g. research methodology, statistics).

Products

- Traditional research programs require presentations at conferences, manuscript for publication, grant proposal etc.
- SC programs involving other areas of scholarship or interdisciplinary study may require a capstone project (design of new curriculum, publication of review article, development of bioengineering tool, creation of original piece of literature or art, public health project).

Examples of required programs

- Yale School of Medicine
- *University of Pittsburgh School of Medicine
- *Stanford School of Medicine
- *Vanderbilt University
- Case Western Reserve College of Medicine
- Duke University

U Pittsburgh: the Scholarly Project (SP) program

- Mentored longitudinal (over 4 years); 140 students / class.
- Year 1 to Jan Year 2: course work + possible summer research project; Jan year 2 submit SP proposal; quarterly reports during year 3; final report year 4.
- Projects can be in any area related to medicine (basic, clinical, translational research + health services and health outcomes research).
- Final report consists of product such as journal paper, piece of educational material, novella, etc.
- Also have an Area of Concentration certificate program (e.g. Geriatrics, Global Health, Underserved Populations, Patient Safety).
- Students may change projects / mentors.
- Information technology used extensively for administration, storing information, student collaborative learning, reporting, tracking, queries.

Stanford: the Scholarly Concentrations program

- Purpose to develop critical thinking, skills in evaluating new data, and hands on experience with the methods by which new scholarly information is generated.
- Faculty-mentored scholarly experiences in areas of individual interest combined with structured coursework.
- Areas of study include 7 Foundation areas and 6 Application areas.
- Foundation areas develop skills & tools for application to problems in health care (e.g. Bioengineering, Biomedical Informatics, Clinical Research, Community Health).
- Application areas allow application of research skills to particular areas (e.g. Cancer Biology, International Health, Immunology, Women's Health).
- In year 1 students explore and compare SC opportunities (e.g. through introductory courses, seminars, websites, talking with mentors).
- All students declare their SC program by Oct of year 2.
- Students do one to four quarters of full time research, often funded through the Medical Scholars Endowment.

Vanderbilt: the 'Emphasis' program

- During the first two years of the medical school curriculum.
- Linked to general curriculum objectives that students will practice medicine in a scholarly manner, acquire capacity to recognize and accept limitations of their knowledge and clinical skills, rectify shortcomings through self reflection and self assessment.
- Students acquire specialized knowledge in one of eight focus areas, including Biomedical Informatics, Community Health, Laboratory-based biomedical Research, Medical Education, Patient-Oriented Research.
- Students given an overview of the areas in the program in first half of Fall semester then choose mentor and project.
- During spring semester students devote one half day a week to planning project which is conducted full time for 8 weeks in the summer.
- In year 2 students have one half day a week to complete project and prepare for presentation.

Examples of elective programs

- U Cincinnati: the Medical Student Scholars Program.
- *Alpert Medical School (Brown U): the Scholarly Concentrations program.
- *U California, San Francisco: Pathways to Discovery.
- Sanford School of Medicine University of South Dakota: Scholarship Pathways program.
- University of Nebraska College of Medicine: Enhanced Medical Education Tracks (EMET).
- University of South Florida College of Medicine: Scholarly Concentration.

Alpert: the Scholarly Concentrations program

- For students to translate personal interests and activities into scholarship.
- Emphasis on cross-disciplinary enquiry,
- For students who do not undertake basic biomedical or clinical research.
- Implemented in 2007: 41 students enrolled (45% of class); 10 students left program during first year (7 because prefer to spend time on other things).
- Ten concentration areas (most popular: global health; advocacy & activism; women's reproductive health, freedom & rights; aging).
- Applications Feb year 1; in-depth summer experience between years 1 and 2; independent work during year 2 (every Wednesday a self study day); integration of scholarly work into clerkships; independent work in years 3 and 4. Submission of scholarly project year 4.
- No centrally required courses but each concentration area sponsors meetings, panel discussions, didactic sessions etc.
- Diverse products: e.g. manuscript of publication quality, conference presentations, curriculum product…
- Students also take leadership roles in various activities: e.g. led student groups, organized conference, served on committees.

UCSF: Pathways to Discovery

- Evolving: built on a pre-existing Areas of Concentration program.
- Goal: to foster the pursuit of discovery, inquiry and innovation as part of the career of every health professional trained at UCSF.
- Trainees provided with opportunities for in-depth study in one of several areas of inquiry that go beyond the routine practice of health care.
- Five pathways: Clinical & Translational Research; Global Health; Health & Society; Health Professions Education; Molecular Medicine.
- Program available to students from all four professional schools (Medicine, Dentistry, Nursing, Pharmacy), residents & clinical fellows.
- Program includes coursework (skills needed to undertake a project), a mentored project, and the production of a lasting legacy.
- Projects can include traditional biomedical, clinical or social scientific research, development of a piece of new curriculum, a new method to deliver health care in an underserved community in the US or abroad, an analysis of proposed health care legislation.

Points for discussion

- Definition of scholarly / scholarship?
- Link decision about required or elective to curriculum outcomes (what is core for all students)?
- Link between topic areas of scholarly concentrations and societal needs?
- Start small and evolve?
- Start with enthusiastic faculty – RFP?
- How to get everyone on the same page?