Our mission:
to foster collaboration
across specialties to
promote excellence in
clinical education

AAMC October 31, 2006
Seattle, Washington

Annual Workshop
in Clinical Education

Implementing Longitudinal Themes
in Medical Education

• Stephen Leapman, M.D. Association for Surgical Education
• T. Robert Vu, M.D Clerkship Directors in Internal Medicine
• Richard Usatine, M.D. Society of Teachers of Family Medicine
• Maya Hammoud, M.D. Association of Professors of
  Gynecology and Obstetrics
• David Lee Gordon, M.D. Consortium of Neurology Clerkship
  Directors
• Robin Deterding, M.D. Council on Medical Student Education
  in Pediatrics
• Martin Leamon, M.D Association of Directors of Medical
  Student Education in
  Psychiatry
• Thomas Painter, M.D. Clerkship Directors in Internal Medicine

Topics and Agenda

• content: themes in their clerkships and
  schools, core curricula and syllabi
• methods: bridge sessions, intersessions,
  colleges, streaming of themes through
  clerkships
• format:
  – seven minutes per speaker
  – 20-30 minutes for group discussion

Horizontal across time

The mini-acceleration of training

One ACE goal:
collaboration, communication, and
resource sharing among educators in
different clinical disciplines, including
a multidisciplinary approach to core
competencies for medical students
An Undergraduate Competency Curriculum at Indiana University School of Medicine

Stephen B. Leapman, M.D. (ASE)
T. Robert Vu, M.D. (CDIM)

Background

• 1999: Indiana University School of Medicine (IUSM) implemented a competency-based curriculum
• Nine competencies:
  I. Effective Communication
  II. Basic Clinical Skills
  III. Using Science to Guide Diagnosis, Management, Therapeutics, & Prevention
  IV. Lifelong Learning
  V. Self-Awareness, Self-Care, & Personal Growth
  VI. Social & Community Contexts of Health Care
  VII. Moral Reasoning & Ethical Judgment
  VIII. Problem Solving
  IX. Professionalism & Role Recognition

Tracking Clinical Skills and Patients

• The Need:
  – LCME ED-2 (quantified criteria for types of patients)
  – LCME ED-31 (early evaluation to allow remediation)
• Students required to have P.D.A.
• All students required to log clinical skills, patients, and competency events

The Technology

1. Software: Pendragon Enterprise edition
2. Web-based entry/reporting application
3. Student enters data on a handheld device, upload to central server
4. Provides real-time web-based reporting
5. Preceptor signature image captured.

Utility of the Program

Results

• General Surgery (251 students)
  7419 surgical encounters (29/student)
  5175 clinical skills (20/studnet)

• 3rd Year (278 students)
  202,119 total encounters/diagnoses
  61,738 total procedures
  138,681 forms completed and uploaded
Conclusion

• Data evaluates training of students, monitors experiences, provides information of the teaching environment.

• Centralized system necessary because of mobile encounters and timely review.

An Undergraduate Competency Curriculum at Indiana University School of Medicine

• Nine competencies: (implemented 1999)
  I. Effective Communication
  II. Basic Clinical Skills
  III. Using Science to Guide Diagnosis, Management, Therapeutics, & Prevention
  IV. Lifelong Learning
  V. Self-Awareness, Self-Care, & Personal Growth
  VI. Social & Community Contexts of Health Care
  VII. Moral Reasoning & Ethical Judgment
  VIII. Problem Solving
  IX. Professionalism & Role Recognition

How are we teaching & evaluating professionalism at IUSM?

• Evaluation:
  – Assessed in each clerkship
  – Progress summary: competency transcript

• Teaching:
  – Failure: discussing paper/hypothetical cases
  – Success: focusing on informal/hidden curriculum
    • Effectively captured via reflective journaling
    • End-of-clerkship surveys & evaluation forms of clinical teachers have limitations

Professionalism Journal

• Occurs during Medicine Clerkship
• Web-based & password-protected
  – Complete confidentiality
  – Only clerkship director & administrative staff have complete access
• Students invited to contribute
  – Framing instructions: “be observant—look for role models”
  – Heighten awareness of professionalism issues
  – Promote self-reflection: mindfulness
• Monthly small group reflection & discussion of journal entries (de-identified & edited) with faculty facilitator

Professionalism Journal

Utilities

Submissions

Review submission by Medical Student John Doe on 5/2/2004 7:38:12 PM

Describe what you have observed and/or experienced. Be sure that your description is HIPAA-compliant (i.e., do not include any information that could potentially disclose the identity of a patient). Also do not disclose the identity of anyone else involved (nurses, attendings, interns, etc.) in the incident described.

I saw a patient in clinic who has had hyperlipidemia since 2002 and has not received treatment for this condition—it had been overlooked. My attending then said, ‘That’s my fault. Thanks for catching my mistake.’ We started her on simvastatin that day. I was impressed at the responsibility my attending had taken in admitting his own mistake. He could have easily told me any number of reasons why the patient was not being treated. His frankness was very impressive.

Journal Excerpt from Class of 2005

I was taking care of a patient admitted for severe abdominal pain, nausea, and diarrhea due to a Crohn's flareup. …
Journal Excerpt from Class of 2005

Our team & the ICU team were rounding and we all entered a patient’s room. There were at least 15 of us in the room…”

Models of Longitudinal Curricula

- Doctoring
- College Models
- Inter-sessions between clerkships
- Longitudinal clerkships

Richard P. Usatine, MD
Professor and Vice Chair
Department of Family Medicine
University of Texas HSC San Antonio

Integration

- The integration of basic, clinical & social sciences is essential to clinical practice and research in the future.
  - Interdisciplinary courses & clerkships
  - Integration as part of all 4 years
  - Design, implementation, and evaluation by multidisciplinary teams

New Year 3 Clinical Core 2000

- 2-week Clinical Foundations
- Integrated clerkships
  - Neurology/Psychiatry
  - Family Medicine/Internal Medicine
  - Surgery/Anesthesiology/Ophthalmology
- On campus orientation of 1-5 days
  - Essential physical exam skills
  - Case studies and lectures
- Longitudinal elements
  - Doctoring 3
  - Career Preceptorship
  - Radiology

PDA:
- Web Log
- Epocrates
- MedMath
- Avant Go

Academic Colleges:
A New Year 4 in 2001

- A curricular structure to...
  - Update new scientific and medical findings relevant to specific careers
  - Enhance clinical skills & reasoning
  - Provide individual feedback
  - Control elective system
- A society of faculty and students to...
  - Provide career advising and mentoring
  - Promote habits of inquiry
Topics Covered in Doctoring Style
Longitudinal Curricula

- Professionalism
- Ethics and law
- Health promotion and disease prevention
- Public health and community medicine
- Clinical decision-making
- EBM and analysis of the medical literature
- Cost containment

Diseases of the Curriculum

- Curriculosclerosis
- Curriculoarthritis
- Curriculomegaly

Goals of Doctoring 3

- Reinforcement of knowledge, skills, and attitudes developed in Doctoring 1 and 2
- Introduce students to curricular content areas that have been inadequately taught in the traditional clerkship-based curriculum

Content by Year in a Longitudinal Curriculum

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence based medicine</td>
<td>→</td>
<td>→</td>
<td>⇔</td>
</tr>
<tr>
<td>Health care financing</td>
<td>→</td>
<td>→</td>
<td>⇔</td>
</tr>
<tr>
<td>Cost issues</td>
<td>→</td>
<td>→</td>
<td>⇔</td>
</tr>
<tr>
<td>Prescribing practices</td>
<td>→</td>
<td>→</td>
<td>⇔</td>
</tr>
<tr>
<td>Legal issues</td>
<td>→</td>
<td>→</td>
<td>⇔</td>
</tr>
<tr>
<td>Chronic illness</td>
<td>→</td>
<td>→</td>
<td>→</td>
</tr>
<tr>
<td>Ethics</td>
<td>⇔</td>
<td>⇔</td>
<td>⇔</td>
</tr>
<tr>
<td>Behavioral aspects of medicine</td>
<td>→</td>
<td>→</td>
<td></td>
</tr>
</tbody>
</table>
Association of Professors of Gynecology and Obstetrics (APGO)

Maya M. Hammoud, MD
University of Michigan

Longitudinal Themes

• APGO
• University of Michigan Medical School

APGO Learning Objectives

APGO Curriculum Builder

• Curriculum: Defined learning objectives and skills, integrated through all 4 years
• Tracked through the students’ learning and tracking portfolio
• Regular Meetings of Curriculum Committee and Clerkship Directors
• “Longitudinal” evaluation forms

UMMS
IMPLEMENTING LONGITUDINAL THEMES IN CLINICAL EDUCATION - NEUROLOGY -

David Lee Gordon, M.D.
Chair, Consortium of Neurology Clerkship Directors, AAN
Director, Medical Student Education, Dept. of Neurology, UMMSM
Assistant Director, GCRME, UMMSM

Michael S. Gordon
Center for Research in Medical Education
MILLER SCHOOL OF MEDICINE
UNIVERSITY OF MIAMI

LONGITUDINAL THEMES: CORE COMPETENCIES THAT TRANSCEND A SPECIFIC DISCIPLINE

AAMC OBJECTIVES PROJECT & ACGME OUTCOMES PROJECT

AAMC
- Altruistic
- Knowledgeable
- Skillful
- Dutiful

ACGME
- Patient care
- Medical knowledge
- Practice-based learning & improvement
- Interpersonal & communication skills
- Professionalism
- Systems-based practice

Anderson et al., 1999
ACGME Outcome Project, 1999

9 KEY ABILITIES IN BROWN’S COMPETENCY-BASED CURRICULUM

- Effective communication
- Basic clinical skills
- Using basic science in the practice of medicine
- Diagnosis, management, & prevention
- Lifelong learning
- Self-awareness, self-care, & personal growth
- Social & community contexts of health care
- Moral reasoning & clinical ethics
- Problem solving

Smith et al., 2003

AMERICAN ACADEMY OF NEUROLOGY & LONGITUDINAL THEMES

- PDFs available on web
  – Evidence-based medicine curriculum
  – Case-based ethics curriculum
  – Clerkship core curriculum
  - Objectives include examination and communication skills
- CNCD no formal recommendations regarding longitudinal themes
MIAMI NEUROLOGY CLERKSHIP

CLINICAL SKILLS

- Essential neurologic exam
  - Based on AAN guidelines & consensus of neuro educators from Miami, Wake Forest, Rush
  - Orientation-day training
  - Pocket card and website
  - Final-day neuro exam OSCE
- Neuro exam top-10 errors
- Essential neurologic findings
- Aphasia & coma SP sessions
- Longitudinal consistency
  - Same exam taught to M1s by M3-4s
  - End-of-M3 schoolwide OSCE

APHASIA & COMA SP SESSIONS

Formative assessment, mandatory attendance.
Aphasia exam 15 min; Coma exam 5 min, counseling 10 min

APHASIA & COMA SP SESSIONS

Student examines SP
Facilitator and peers evaluate student performance on monitor
Self-evaluation and feedback from peers, SP(s), and facilitator

MIAMI NEUROLOGY CLERKSHIP

PROFESSIONALISM

1. Pre-session student preparation
   - Read ethics monographs
     - Written for laypersons
     - Brain death, end-of-life
   - Write professionalism critiques
     - Progress note
     - Photo of physician encounter
2. Scenarios
   - 2 volunteer students act as doctors
   - Other students critique, take notes
3. Discussion
   - Faculty-led
   - Tie together personal experiences, readings, and scenarios
   - Review and discuss critiques

APHASIA & COMA SP SESSIONS

End-of-life decisions
Ventilator withdrawal

TEAMWORK

- 2-h session w/ ID Jeopardy game followed by quiz
- Students prepare for game by reading ID-team-meeting narrative re: 4 pts (mock ID rounds)
  - Students encouraged to know pts *as if MD of record*
  - Students take notes on 3"x5" cards (1 per pt) for game
  - Game Qs re: ID Team, D/C-planning, medical issues
  - Students divide into 2 teams
- After game, 50-Q matching quiz re: ID team roles

Neurotransmission Jeopardy:
A Game of Interdisciplinary Communication

COMMUNICATION SKILLS / LIFE-LONG LEARNING

- Lecture & pocket card on orientation day
- Caregiver counseling (SP & ethics sessions)
- Case presentations
  - Regular ward presentations
  - Written & oral in WBT session
- Case summaries
  - Written (x 4) & oral (x 4)
  - Formative & summative assessments
  - Journal article each case

Longitudinal Themes Across Clinical Medicine

Robin Deterding, MD
President, COMSEP
Assistant Dean for Clinical Curriculum
University of Colorado
Longitudinal Clinical Themes

- COMSEP: National Curriculum for pediatrics
  - Competencies:
    - Professionalism: Richard Sarkin & Steve Miller
    - Child Abuse
    - Child Advocacy
  - Task forces and sharing ideas
- Institutional: Local development & implementation
  - Structure - access
  - Human resources
  - Culture
- ACE: Common content across clerkships?

http://www.comsep.org

University of Colorado School of Medicine

Structure for longitudinal Threads
- Access to curriculum - all 4 years
- Faculty Plan & Map: Course directors committees:
  - Essential Core – integrated with blocks and PBL cases
  - Clinical Core
    - Foundations of Doctoring
    - Intra-clinical clerkship block – required time to integrate with each block
    - Intersession – required time between clerkships and advanced studies electives
  - Other

Overview of Structure

University of Colorado School of Medicine

HEP Thread:
- Examples of HEP:
  - Essential core: Ethics course, activities integrated with blocks and PBL cases (research ethics, vaccinations)
  - Foundation of Doctoring: Hidden curriculum and professionalism

A case study:
University of Colorado School of Medicine

- Curriculum reform – all four years
- Central oversight but faculty owned
- Thread concept:
  - Humanism, Ethics, Professionalism (HEP)
    - + communication, law, spirituality, palliative care
  - Medicine and Society
    - Policy, economics, safety, systems, population health
- Human Resource Support: FTE for thread and block directors
Medicine and Society Thread
• Structure similar to HEP
• Medicine and Society examples
  – Uninsured patients – ED Block
  – Interview patient, follow up call, debrief
  – Economic M&M – Inpatient Adult
    • ID case, analyze cost of decisions, impact of clinical decisions, debrief
  – Child Advocacy / Child Abuse– Infant, children and adolescent
    • Child abuse didactics, PBL case and OSCE

Summary: Longitudinal Themes
• Organizations can guide discipline specific content and provide idea sharing
• Institutions can provide
  – Structure and access to curriculum
  – Human resources
  – Local expectations and culture
• Could ACE help coordinate domains /threads content across specialties?
• Should this look different?

Association for Directors of Medical Student Education in Psychiatry
Martin Leamon, MD
University of California, Davis

Longitudinal Themes
• ED-1-A: student progress
• ED-19: communication skills
• ED-20: common societal problems
• ED-21/22: culture and gender issues
• ED-23: medical ethics and human values

ED-1-A: student progress
• Within clerkship
  – logbooks, evaluation forms, inter-site meetings
• Between clerkships
  – Clerkship directors’ meetings
  – historical concerns about “fairness” to student superseded by educational value of monitoring progress
Older model

- Pre-clinical
  - Human Behavior & Development and Psychopathology courses
    - interviewing skills; awareness of differences and of emotional suffering
- Clinical
  - Psychiatry Clerkship
    - Consult-Liaison, Inpatient, Outpatient
  - Outreach to other clerkships

Newer model

- Preclinical
  - “Doctoring,” “The Doctor and Patient,” etc.
    - multidisciplinary, integrated, small groups
- Clinical
  - Clerkships
    - regular Clerkship Directors’ meetings
    - Doctoring, continued
      - multidisciplinary, across all clerkships

Tom Painter, M.D.
University of Pittsburgh

Pittsburgh - Bridge Sessions

- Timing
  - Clinical Curriculum begins spring of year 2
  - 25 months of required clerkship and electives
  - 3 Bridge sessions
    - 3 days after month 6
    - 1 week after month 11
    - 3 days after month 23

- Content
  - Bioethics
  - Communication skills
  - Quality improvement
  - Economics
  - Student identified unmet needs
    - Radiology
    - ECGs
    - To be determined

- Questions
  - Timing
  - Format
  - Content
  - Faculty Commitment
Longitudinal Themes:

- Reservations

Zero Sum Curriculum

Stolen from Faith Fitzgerald

- Evidence Based Medicine
- Bioethics
- Health Care Economics
- Quality Improvement
- Systems Based Practice
- Practice Management

- Prevention
- Clinical Epidemiology
- Women’s Health
- Telephone Medicine
- Occupational Medicine
- Geriatrics
- Adolescent Medicine
- Reinforcing basic science principles

Thank you!

TIME FOR DISCUSSION AND QUESTIONS