Review of Year 2 Introduction to Themes course

- Course occurs as the first week of Term 1 in Year 2

- Course Director – David Nierenberg, MD

- Course has 22.5 curricular hours and takes place over one week (five days)

- Course is relatively new (about 4 years) and has not previously been formally reviewed
  - It was designed to replace several other official courses that were “outside” of SBM, and were not successful in their previous form (Pediatric Growth and Development, Oncology, Nutrition, etc.)
Action Plan from Prior Review

- N/A (course has not been formally reviewed)
Course Objectives (for Aug 2015)

- MEDICAL KNOWLEDGE
  1. Describe several unique features of pediatric healthcare compared to adult healthcare
  2. List the typical elements that determine the stage of a cancer
  3. List typical histologic features of cancer found in a pathology specimen
  4. Summarize the mechanisms of action of chemotherapy and radiation therapy in cancer care
  5. Define important features of screening, treatment and survival statistics
  6. List the most common types of imaging used in healthcare and their attendant risks and advantages
  7. Describe how and why some patients develop elements of malnutrition while being cared for in the hospital
Course Objectives

• SKILLS FOR DELIVERING EXCELLENT CLINICAL CARE
  8. Explain the impact of age and stage of development on the differential diagnosis of presentations of disease in childhood
  9. Summarize the usefulness of clinical staging and principles of cancer care
  10. Summarize the principles of genetic counseling
  11. Describe the special challenges involved in following a pediatric cancer survivor
  12. Describe the advantages of different imaging modalities for helping to establish the origin of a mediastinal mass, or a mass of the upper arm
  13. Describe the advantages and disadvantages of oral, enteral, and parenteral nutritional supplementation
  14. List several specific approaches that athletes take to optimize their nutritional preparation for optimizing their performance at various types of athletic events
Course Objectives

• INTERPERSONAL AND COMMUNICATION SKILLS
  15. Explain how you might counsel the parents of a pediatric cancer survivor in terms of long term risks and optimal follow-up plans

• FORMATION OF YOUR PROFESSIONAL IDENTITY
  16. Demonstrate personal responsibility for your own education by attending all required classes, and by completing essential components of the course in a timely fashion

• HABITS OF LIFELONG LEARNING AND IMPROVEMENT
  17. Demonstrate your ability to find recent and reliable sources of information to answer focused clinical questions
  18. Identify your own style of learning that works best for you when specific learning issues are raised indirectly by cases, rather than directly by a teacher

• SYSTEMS-BASED PRACTICE AND THE SCIENCE OF HEALTHCARE DELIVERY
  19. Describe the components of the PDSA cycle in improvement work in general, and related to improving the compliance of students and others with handwashing in particular
  20. Demonstrate how a system of healthcare delivery can be analyzed by dividing it into a series of discrete processes
Course Objectives – Comments

• Course is designed to introduce students to the “major curricular themes” of year 2
  – Pathology (builds on Y1 course)
  – Pediatrics
  – Pharmacology
  – Imaging (builds on Y1 material in Anatomy)
  – Improving the HC System (builds on Y1 course)
  – Nutrition
  – Neoplasia (genetics, staging, vocabulary, statistics, etc.)
  – Medical Genetics (builds on Y1 material)
  – Rehabilitation Medicine (new two years ago)
  – Newest: Medical ethics, social justice, Psychology of disease
Course Objectives – Comments

• Course objectives capture the main ideas of the course

• Objectives address some USMLE “interdisciplinary” content areas that may not be specifically addressed in other course objectives (e.g. nutrition)

• Course currently addresses USMLE objectives related to “Biostatistics, Epidemiology/Population Health, & Interpretation of the Medical Literature”
  – Some of this material may eventually be covered in the “Patients and Populations: Improving Health and Healthcare” course in Year 2
Format of Course & Session Objectives

• Course objectives are provided in the syllabus

• Course objectives are written in the correct format

• Session objectives are provided in the course materials for most (but not all) individual sessions

• Session objectives, when present, are generally written in the correct format
Issues of Redundancy

• Are there major issues of redundancy with other courses?
  – Nutrition appears in no other courses as either a course objective or session objective in ILIOS
  – Many other themes are designed to be deliberately longitudinal (pediatrics, imaging, neoplasia)
  – Will need to watch for redundancy with new Patients and Populations course and coordinate material carefully
  – Students felt there was some redundancy with year 1 courses by a new Y2 faculty member in Nutrition unaware of what students had previously learned (e.g. ATP production) and in the area of biostats
Exploration of Ethics and Humanities

• Ethical issues are explored as part of CPC case discussions and are discussed specifically in sessions on:
  – Screening for cancer
  – Providing palliative care for cancer patients
  – Rehabilitation medicine: focus on function

• Students are encouraged to explore ethical issues in their essay assignment for the course
Summary regarding Objectives

• Objectives correlate well with course content and fill important gaps in the curriculum

• A few sessions are missing session objectives

• Course’s emphasis on working through a complex CPC case (adapted from a real case presented in a 2000 NEJM CPC) as a class lends itself to discussion of ethical issues
Course Learning Opportunities

- Course is framed by a single extended case of a child with a malignancy
  - There are two 1-hour CPC sessions with full class participation
  - There are three 1-hour “panel discussions” with full class participation that are structured with specific questions relevant to the case
- Lectures 15 hrs. (67%)
- Large group discussions 7 hrs. (31%)
  - Case presentation/discussions and panel discussions
- Tour of Radiation Therapy Unit 0.5 hrs. (2%)
  - Tour was not required, but was well received by students who attended
Summary regarding Pedagogy

• Course is delivered in large group format, which includes a number of “standard” lectures
  – Most large group sessions were case-based and interactive
• CPC sessions and Panel discussions offer additional opportunity for student engagement and active participation
Assessment

- **Written Quizzes**
  - A short quiz (3 items, 5 minutes) is provided following most of the course lectures
  - Total of approximately 45 questions across all quizzes
  - Standard SBM grading policies apply (failing score is $\geq 2.5$ SD below the mean, and an outlier from the class and below 70%)

- **Final Exam**
  - No final exam is offered in this course

- **Other**
  - Students are required to write a 3 page essay addressing one of the topics of the course (or a related topic chosen by student)
  - Specific essay questions are provided; students may choose which to answer
  - Students are expected to incorporate and properly cite quality references from the medical literature
Assessment for Course Objectives

- Objectives are assessed in quizzes, class discussions and in the final essay.
- Students choose which essay question to answer, so may spend more time on particular objectives than others.
- SBM Directors grade the final essays (1-5 scale) and provide written comments to students.
  - A small minority of students are asked to re-write their essays incorporating this feedback, if their essay does not meet minimal passing standards.
  - This year, 3 students out of the class of about 94 students were asked to re-write in order to receive credit.
Summary regarding Assessment

• Course effectively assesses learning objectives, with most being assessed in quizzes, and several being assessed in depth with a final essay.

• Course allows students to be assessed in both MCQ and non-MCQ formats:
  – Students are rarely asked to produce a research paper with references over the course of year 1 and year 2.
  – Students receive a grade from 1-5 (score of 3 required to pass) as well as written feedback on their essays.
  – Students writing unacceptable essays are given a grade of incomplete with the opportunity to re-write based on feedback.
## Measures of Quality – Course Evaluation

<table>
<thead>
<tr>
<th>Year 2 courses</th>
<th>Overall Satisfaction AY 2014-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBM Themes</td>
<td>3.54 (2014-2015)</td>
</tr>
<tr>
<td></td>
<td>3.35 (2015-2016)</td>
</tr>
<tr>
<td>GI</td>
<td>4.47</td>
</tr>
<tr>
<td>Hematology</td>
<td>4.44</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>4.40</td>
</tr>
<tr>
<td>Respiration</td>
<td>4.38</td>
</tr>
<tr>
<td>Cardiology</td>
<td>4.27</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>4.20</td>
</tr>
<tr>
<td>FEK</td>
<td>4.19</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>4.15</td>
</tr>
<tr>
<td>Dermatology</td>
<td>4.11</td>
</tr>
<tr>
<td>Endocrine</td>
<td>4.09</td>
</tr>
<tr>
<td>CT &amp; Bone</td>
<td>3.62</td>
</tr>
<tr>
<td>Nervous system</td>
<td>3.46</td>
</tr>
<tr>
<td>Reproduction</td>
<td>3.29</td>
</tr>
</tbody>
</table>

*scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]*
# Measures of Quality – Course Evaluation

*Scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]*

<table>
<thead>
<tr>
<th></th>
<th>Themes 2014 (55%)*</th>
<th>Themes 2015 (21%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction of course</td>
<td>3.54</td>
<td>3.35</td>
</tr>
<tr>
<td>Clarity of learning objectives工夫</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Organization of the course工夫</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>How well the course introduced me to this discipline工夫</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Congruence of assessment questions to material emphasized in course工夫</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Overall mean score for course evaluation</td>
<td>--</td>
<td>3.83</td>
</tr>
</tbody>
</table>

*Student participation rate on course evaluation
+ These questions were not asked on Themes course evaluation
Measures of Quality – Student Comments

Strengths:

• *CPC case worked well to frame the course*
• *Panel discussions were helpful for putting material into context and were highly interactive*
• “Discussions were my favorite part of Themes”
Suggestions for Improvement:

- **Students felt course could have been condensed and that some sessions were redundant**
  - Some nutrition material was redundant to year 1, and faculty member did not seem aware that students had already learned metabolism
  - Other redundancy was helpful (e.g. in imaging sessions)
  - Screening session covered some material previously taught in biostats (some students may have found this helpful, but others found it repetitive)

- **Students would appreciate a comment indicating that the faculty member is aware material has already been taught**
• **Students felt** sports medicine session was not related to the remainder of the course and might be better placed elsewhere (such as Year 1 Metabolism)

• **Students would like** for all quiz questions to be visible at once (navigation was difficult in Canvas—formatting issue)

• **Students felt** no more than a few minutes should be spent by faculty in presenting their career/specialty

• **Some students did not feel** the relationship of the course to “Themes” of SBM/year 2 was clear
Summary regarding Measures of Quality

• Course evaluation response rate was only 21% of class (compared to 55% in 2014-2015)
• Course evaluation did not include all questions asked in other course evaluations
• Students felt CPC case worked well to frame the course
• Students recommended that faculty be familiar with what has already been covered in year 1 and acknowledge any “review” material as such
Recommendations

• Ensure all sessions have session objectives
• Reformat quizzes on Canvas to improve navigation
• Add questions to student course evaluation to match evaluations for other SBM courses (clarity of learning objectives, organization of course, etc.) and allow free text for comments at the end of evaluation
• Ensure faculty are aware of what has been covered in year 1 and acknowledge planned redundancy or review
• Consider moving Sports Nutrition session to year 1 metabolism course
Action plan from course director (1)

• Ensure all sessions have session objectives
  – Continue to require this from all lecturers
• Reformat quizzes on Canvas to improve navigation
  – This is a simple formatting issue
  – Make sure that all questions display at the same time in Canvas once quiz is opened
• Add questions to student course evaluation to match evaluations for other SBM courses (clarity of learning objectives, organization of course, etc.) and allow free text for comments at the end of evaluation
  – This can be easily arranged with Diane Grollman, and will make it easier to compare this course to other Y2 courses
• Ensure faculty are aware of what has been covered in Year 1 and acknowledge planned redundancy or review
  – This was a problem with a new lecturer in Nutrition (Ms. Al-Nimr), who arrived on campus the day before the course began.
  – Dr. Nierenberg will meet with this faculty member, and review the areas of unintended overlap (e.g. ATP production) present in Y1 curriculum
  – This problem of unintentional redundancy was also an issue with some screening and statistics topics in the lecture by Dr. Arrick about screening for cancer;
  – Dr. Nierenberg will discuss this issue with Dr. Arrick as well for next year
  – While some students may find this useful, at least its presence in Year 1 should be recognized
Action plan from course director (3)

• Consider moving Sports Nutrition session to Year 1 metabolism course
  – May fit better in that slot
  – Will arrange conversation between lecturer and Y1 course director

• Will discuss with our new Nutrition faculty member a different third topic to discuss in this Y2 courses, to further strengthen this introduction to Nutrition at this point in Year 2