Individualized Medical Education Across the Continuum

APPD/COMSEP National Meeting
Workshop
Nashville, TN
April 12, 2013
Presenters

- Dr. Ryan Bode
- Dr. Daxa Clarke
- Dr. Dana Ursea
- Dr. Grace Caputo
Objectives

1. Review recent literature regarding individualized education including recent changes within ACGME pediatric program requirements regarding the need for an individualized curriculum

2. Describe specific models of individualized medical education across the continuum from medical student to resident to fellow and faculty development

3. Discuss challenges and opportunities of individualized education – from implementation to outcomes
Deliverables

1. ACGME requirements and literature review
2. Models of individualized education curricula
3. Example of outcome dashboard
4. Thought and brainstorming – self and group – from planning to operations to evaluation
5. Better prepared to take on individualized education
What is your current role?

1. Director of Medical Education/DIO
2. Residency/Fellowship Program Director
3. Residency/Fellowship Associate Program Director
4. Medical Student Director
5. Chief Resident
6. Program Coordinator
7. Faculty, Other
Do you agree with ACGME’s recommendations for individualized resident education?

- Yes
- No
- Unsure of the recommendations
- Undecided
Does your educational program provide for an individualized curriculum?

- Yes
- No
- Unsure
Where are you in terms of individualized education?

1. In denial
2. Just starting to learn and grasp new requirements
3. Have begun planning and initial operations/planned to begin July 2013
4. Fully operational
5. Fully operational and evaluating
Are there any 1-2 specific things you want out of this workshop?
Background and Literature Review
Residency Review and Redesign in Pediatrics Project (R3P)

- 2009
- [http://pediatrics.aappublications.org/content/123/Supplement_1/S8](http://pediatrics.aappublications.org/content/123/Supplement_1/S8)
- 3 high priority goals
- “resident learning opportunities should be more flexibly directed toward the variety of career choices available to pediatricians”
Residents want more flexibility in their training

⅔ of students entering pediatric residency have decided on either primary care or fellowship

¾ maintain this choice upon completion of residency
<table>
<thead>
<tr>
<th><strong>Current RRC Requirements</strong></th>
<th><strong>Effective RRC Requirements 7/2013 – Educational Units</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inpatient</strong></td>
<td><strong>≥5</strong>&lt;br&gt;(3-4 NICU, 2 PICU, 1 Nursery)</td>
</tr>
<tr>
<td><strong>Subspecialty</strong></td>
<td><strong>9</strong>&lt;br&gt;(1 B/D, 1 Adol, 7 RSE)</td>
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<tr>
<td><strong>Ambulatory</strong></td>
<td><strong>≥5</strong>&lt;br&gt;(2 ED, 1 Community)</td>
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<tr>
<td><strong>Continuity Clinic</strong></td>
<td><strong>36 ½ days</strong></td>
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<tr>
<td><strong>Supervisor</strong></td>
<td><strong>5 months</strong></td>
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<tr>
<td><strong>Individualized Education</strong></td>
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</table>
Effective RRC Requirements

• Minimum of 6 educational units of an individualized curriculum
  – Individualized curriculum must be determined by learning needs and career plans of the resident and must be developed through the guidance of a faculty mentor
Effective RRC Requirements

• ≤ 16 inpatient educational units
  – Additional experiences should be based on goals of the individual resident
  – Inpatient experiences that are part of the individualized curriculum or subspecialty units are not included in this limit
Effective RRC Requirements

• Longitudinal outpatient experience (i.e. continuity clinic)
  – PL3 residents – if appropriate for an individual resident’s career goals, sessions in the final year may take place in a longitudinal subspecialty clinic or alternate primary care site
The individualized curriculum should not be thought of as additional “electives” for the resident. The curriculum can be unique for each resident or designed as tracks within the program. The main focus should be on providing experiences that will help the resident be better prepared for the next step in their career after residency. Experiences can be inpatient, outpatient, research, or other. They may be repeated experiences, done previously in the program, or experiences that are at a higher level with less supervision, e.g., acting as a co-fellow on a subspecialty experience. Educational units allow the experiences to be block or longitudinal. The timing (year of training) should also be determined by the program. If the subspecialty experiences for the ‘three additional educational units’ (IV.A.6.b).(3).(d) are chosen based on needed experiences for the individualized curriculum, then they can count toward this requirement (a.k.a. ‘double counting’).”
Additional factors

- Information burden
- Duty hours
- Generation Y/Millennials
- GME funding
- Faculty time constraints
Other Program Experiences


  – [http://pediatrics.aappublications.org/content/127/1/1.full](http://pediatrics.aappublications.org/content/127/1/1.full)
Other Program Experiences

- http://www.chop.edu/professionals/pediatric-residency-program/
- http://www.uchc.edu/md/pediatrics/
Questions to Consider

1. How do you already OR how do you plan to meet these RRC requirements?
2. What are the barriers or potential pitfalls to an individualized curriculum?
Medical Student
Individualized Education
Purpose

• Clerkships are standardized
• ERAS residency applications are early
• Increase exposure to subspecialties
Method

- Development of individual student ILPs
- Review of ILPs by Clerkship Director
- Development of individual experience
- Selection of a mentor
- Evaluation of the experience
ILP

• Individualized Learning Plan
  – Goals for the clerkship
  – Career aspirations
  – Previous experiences in career path
Developing an Experience

• Varied opportunities
  – Examples
    • 1 week of PICU during 3 weeks of inpatient
    • OR time with Pediatric Anesthesia
    • Continuity clinic in subspecialty area
    • Research projects
    • Specialty clinics

• Selecting Mentors
Evaluation

- Structured
- Required Procedures and Patients
- NBME Score
- Evaluations
- Clerkship Grades
- Subjective Feedback from Students and Mentors
Time

• Depends on the number of students in each block and the number of students in the Individualized Track
• For a medical school class of 80 students, it required ~0.07 FTE of the Clerkship Director’s time
  – 12-15 hours per block reviewing ILPs, creating and evaluating experience
  – 16 hours at the end of the year reviewing and comparing Individualized Track to Traditional Track
Institutional Changes

• Restructuring of the 4 year Medical School Curriculum
  – Basic Sciences shortened to 21 months
  – Clinical Experiences scattered throughout Basic Sciences
  – Third Year Clerkships remain 12 months long
  – Fourth Year Begins 3 months earlier than traditional schedule
Resident Individualized Education
PCH/MMC PRP
Individualized Resident Education - Tracks
Individualized Resident Education

- **PL1**: 1 elective subspecialty experience
  - GI, Neuro
- **PL2**: 2 elective subspecialty experiences
- **PL3**: 4 elective subspecialty experiences
  - Previously required 2\textsuperscript{nd} Psychiatry/Behavior and Development month
- Tailoring of electives to be more inpatient or outpatient focused
Individualized Resident Education

• Hospital-based continuity clinic
  – At PCH, MMC, or St. Joseph’s – different areas of emphasis, patient population
  – ½ day per week for all 3 years
Individualized Resident Education

• Additional ½ day per week during PL2-3 years

• Community-based continuity clinic
  – Private practice based community practice
    • Scottsdale to Mountain Park
  – Hospital based general clinic
    • Van, Teen Tot, Special Needs, HIV
  – Specialty based clinic
  – Research
Individualized Resident Education

• Community Rotation – block month
  – Tracks:
    • Child abuse
    • CATCH grant writing
    • Hospice
    • Advocacy
Individualized Resident Education – Development of “Tracks”

- Curriculum Committee AY2010-2011
- Pilot AY 2011-2012
- Expanded AY 2012-2013
- Addition of global health track AY2013-2014
- PL3 targeted tracks
- PL2 class to select track in January – grid preparation
- Short call and back-up requirements continued
- Categorical pediatric residents only
Residency Track - Standard

1. Standard Curriculum
   - 7 electives
     - No longer “require” 2nd Psychiatry/Development month as 1 of 7 elective subspecialty experiences
   - Continuity clinics
Residency Track - Hospitalist

2. Hospitalist Track – 3 months
   - Eliminate 1 of 2 senior clinic months as PL3
   - No longer “require” 2nd Psychiatry/Development month as 1 of 7 elective subspecialty experiences
   - Eliminate 1 of ED months as PL3
Hospitalist Track

• Replace eliminated rotations with:
  – **Advanced Hospitalist Rotation**
  – Menu of suggested additional subspecialty experiences
    • Research
    • Radiology/Interventional Radiology
    • Infectious Disease
    • Surgery
    • Transport
    • PICU
Advanced Hospitalist Rotation

- Hospitalist Menu
  - Administration
  - Clinical Development
  - Academics
  - Mentoring
  - Community Partnering
Advanced Hospitalist Rotation - Administration

• Billing and Coding
  – Three part lecture series with pre and post test
  – Practice Cases
  – Direct supervision by ward faculty

• Documentation
  – Included in billing and coding lecture series
  – Direct observation and feedback
  – Clinical Documentation Improvement Committee

• Meetings
  – Attend hospital administration meetings
  – Perspective on the role of the hospitalist in business and clinical activity of the hospital

• Administrative/CQI project*
  – Develop a quality initiative or improvement project for the flow of hospital medicine patient care delivery.

• AAP Section of Hospital Medicine
  – Listserve
Advanced Hospitalist Rotation - Clinical Development

- Private Hospitalist Experience
  - Los Ninos & Hacienda de Los Angeles venues
  - PCH Inpatient including Rehab Coverage

- Autonomous patient care/subspecialty consults
  - Initial evaluation and consults on surgical subspecialty patients needing a general pediatrics consult.

- Clinical Pathway/Protocol*
  - Research and build reference admission order sets or evaluation pathways for common inpatient disease processes.

- Procedural Sedation Training
  - During Procedure with Anesthesia.
  - Two lecture series

- Procedural Training with IR

*A project in one category must be completed during the month*
Advanced Hospitalist Rotation - Academics

• Resident Supervision/bedside teaching
  – Develop competence in supervising family centered rounds

• Formal Didactics
  – Present a 30-60 minute noon conference style lecture to the ward team

• Research Project*
  – Hospital Medicine based senior project over 1-2 years with hospital medicine faculty preceptor

*A project in one category must be completed during the month
Advanced Hospitalist Rotation - Mentoring

• Developing a lifelong learning plan

• Balancing your roles

• Finding a niche

• Starting the job search

• Giving and receiving feedback
Advanced Hospitalist Rotation - Community Partnering

• Communication to primary care
  – Phone communication
  – Effective transmission of the written record

• Community CME*
  – Visit a local pediatrics practice and give a lecture on a current topic in inpatient pediatrics

*A project in one category must be completed during the month
<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1 AM</td>
<td>Orientation (Daxa Clarke)</td>
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<td>5 AM/PM Cont Clinic</td>
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<td>2 AM</td>
<td>C&amp;B pretest C&amp;B I &amp; II (Lisa Cooper)</td>
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<td>8</td>
<td>9</td>
<td>10 AM/PM</td>
<td>Anesthesia Procedure Day 1</td>
<td>11 AM/PM Anesthesia Procedure Day 2 (1p Division Mtg)</td>
<td>12 AM/PM Cont Clinic</td>
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<td>Admissions (10A-4P) (Sarjita Shukla)</td>
<td>18 AM/PM Admissions (10A-6P) (Kristi Boles)</td>
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<td>AM/PM</td>
<td>PM Journal Club Prep Time</td>
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<td>20 AM/PM Cont Clinic</td>
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<td>23</td>
<td>24 AM/PM</td>
<td>Round PCH Inpatient/Rehab (TBD)</td>
<td>25 AM/PM Project Time</td>
<td>26 AM/PM Cont Clinic</td>
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<td>27 AM/PM Cont Clinic</td>
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<td>28</td>
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<td>30</td>
<td>31 AM/PM</td>
<td>MMC Sedation (Salil Pradhan)</td>
<td>1 AM/PM IR Procedure Day</td>
<td>2 AM/PM Cont Clinic</td>
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<td>AM/PM</td>
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<td>AM/PM Project Time</td>
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<td>AM/PM Project Time</td>
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</tbody>
</table>
Residency Track - Ambulatory

3. Ambulatory Track – 3 months
   – Eliminate 1 of 3 daytime ward senior months
   – No longer “require” 2\textsuperscript{nd} Psychiatry/Development month as 1 of 7 elective subspecialty experiences
   – Eliminate 1 ED months in PL3 year
Ambulatory Track

• Replace eliminated rotations with:
  – Advanced Ambulatory Rotation
  – Menu of suggested additional subspecialty experiences
    • Combined surgical subspecialties (ENT, Urology, Ophthalmology)
    • Advanced Behavior and Development
    • Dermatology
    • Ortho/Sports Medicine
    • Rural
Residency Track - Specialty

4. Specialty Track (GI, Cards) – 3 months
   • Eliminate 1 of 2 senior clinic months as PL3
   • No longer “require” 2nd Psychiatry/Development month as 1 of 7 elective subspecialty experiences
   • Eliminate 1 of ED months as PL3
Specialty Track – GI, Cardiology

• Replace eliminated rotations with:
  – **Advanced Specialty Rotation** (GI or Cards)
  – Menu of suggested additional subspecialty experiences
    • Research
    • Radiology/Interventional Radiology
    • Pathology
    • Surgery
    • NICU, PICU
Outcomes

1. Survey of all residents – Individualized Resident Education
2. Survey of residents selecting tracks
3. Quantitative data comparing residents exposed to standard versus track:
   • ABP certifying exam score and 1st time pass rate
   • Tracking of scholarly activity (quality or research projects, teaching presentations, abstracts, grants, publications, etc)

RB
### Study Participant Test Scores:
- USMLE 1
- USMLE 2
- In-Training PL1
- In-Training PL2
- In-Training PL3
- ABP Exam Score
- ABP Pass on 1st attempt (Y/N)

### Scholarly Activity Within Track:
- Quality project
- Clinical pathway/protocol
- Journal Club presentation
- Educational/teaching presentation
- Research: Background, Protocol

### Scholarly Activity Within Residency:
- Quality project
- Clinical pathway/protocol
- Research
- Local abstract/presentation
- National abstract/presentation
- Grant
- Scholarly award/recognition
- Attendance at national meeting
- Publication: submitted, accepted

### Ultimate Career Choice:
- Community pediatrician
- Chief Resident
- Academic General Pediatrician
- Community Hospitalist
- Academic Hospitalist
- Fellowship
- Other
Outcomes

• 91% answered that flexible and individualized curriculum was important in selection of residency program

• 73% felt need for more individualized education within current curriculum

• 88% indicated 2\textsuperscript{nd} continuity clinic which could be tailored to their career interest was important in selection of program

• 60% considered availability of track when selecting a program

• 69/84 (82%) have selected a track during their 3\textsuperscript{rd} year
Next Steps

• Evaluations and Outcomes
• Expansion of tracks:
  – Rural component of Ambulatory track
  – Global Health
  – Additional subspecialties
  – Advocacy
Fellow and Faculty
Individualized Education
Faculty Learning Community (FLC)

6th year of fellow and faculty development program at PCH/MMC

784 total attendees over 5+ year period
Components of Successful Fellow and Faculty Development Programs

- Specific
- Sustainable
- Commitment
- Structured learning
- Accomplished “on the job”
- Flexible
- Evaluate and demonstrate outcomes
Faculty Learning Community

• “A cross-disciplinary faculty group...active, collaborative, yearlong program...curriculum about enhancing teaching and learning... frequent seminars and activities...learning, development, (foster) interdisciplinary (approaches)... the scholarship of teaching and learning...community building.”
FLC: Historical Perspective

- Dr. Milton Cox at Miami University in 1979
- Expanded and adopted by multiple (60 at last count) institutions of higher learning
- Very little (if any) expansion into medical education
FLC – Characteristics

• Self-directed learning
• Creation of “educational experts”
• Honest educational self-disclosure
• Most include expectations that participants complete a scholarly teaching project which is presented to other educators
• Evaluation and assessment
FLC: 10 Necessary Qualities

• Safety and trust
• Openness
• Respect
• Responsiveness
• Collaboration

• Relevance
• Challenge
• Enjoyment
• Esprit de Corps
• Empowerment
FLC - Outcomes

• Increased faculty interest in teaching and learning
• Greater retention
• Faster intellectual development
• Better academic performance
• More focus on student learning, assessment and learning objectives
• Increased support of faculty for scholarly activities
University of Arizona: FLC Outcomes

• Survey data
  – Traditional pre/post self-assessment
    • Statistically significant improvement in 10 of 35 areas surveyed
  – Retrospective pre/post self-assessment
    • Significant improvement in 23 of 35 areas
  – Clinical Teaching Effectiveness Instrument

• Increased academic productivity
  – Increased from 24 to 41 in 1 academic year
Assessment

• Retrospective pre and post-FLC self rating
  – 1-10 Rating scale on:
    • 19 Teaching Skills
    • 12 Professionalism Skills
    • 3 Knowledge Areas

• Overall program evaluation
  – 1-10 Rating scale on components of the program as well as impact and outcomes
## Retrospective pre and post-FLC self rating

<table>
<thead>
<tr>
<th></th>
<th>Average mean increase</th>
<th>Paired t-test (degrees of freedom = 13)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Skills</td>
<td>1.94</td>
<td>9.17</td>
<td>&lt;.0001</td>
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<tr>
<td>Professional Skills</td>
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<td>Knowledge Areas</td>
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## Overall Program Evaluation

<table>
<thead>
<tr>
<th>Selected Questions:</th>
<th>Mean score (1-10 rating scale)</th>
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<tbody>
<tr>
<td>Goal of promoting collegiality and a sense of community</td>
<td>9.3</td>
</tr>
<tr>
<td>Impact on your interest in the teaching process</td>
<td>8.7</td>
</tr>
<tr>
<td>Impact on your view of teaching as an intellectual pursuit</td>
<td>8.4</td>
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<tr>
<td>Impact on your awareness of integrating teaching and research experience</td>
<td>8.1</td>
</tr>
</tbody>
</table>
FLC – Monthly Seminars

- Particular area of interest
- Two 25-30 minute sessions per seminar
- Work individually or as a team
- Facilitate and promote discussion
- Resources and references
- Seminar evaluation
FLC Annual Themes

• “Patient Safety and Quality Improvement: Improving Ourselves, Teaching Others and Impacting Outcomes” – AY 2012-13
• “Integrative Medicine” – AY 2011-12
• Teaching and Academics in an Era of Clinical Productivity” – AY 2010-11
• “Advanced FLC: Medical Education Research” – AY 2009-10
• “Teaching Residents - Ensuring Success and Satisfaction” – AY 2009-10
• “Going Green…Teaching and Learning in the 21st Century” – AY 2008-09
• “Motivating Learners” – AY 2007-08
Small Group Discussion
Large Group Discussion
<table>
<thead>
<tr>
<th>Planning considerations</th>
<th>Challenges</th>
<th>Opportunities</th>
<th>Action Plan</th>
<th>Timeline</th>
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<tr>
<td>Operational issues</td>
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<td>Challenges</td>
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<td><strong>Outcome measures</strong></td>
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Take Home Points

1. Just Do It!
2. It does involve a paradigm shift
3. Tailor your message to your audience
4. Evaluation and outcomes are essential
Compared to prior to attending this workshop, are you better prepared to start/continue individualized education within your program?

- Yes
- No
- Not sure
Additional Discussion, Questions

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