Building a Better Mousetrap: Innovations in Primary Care Training

Michael Rosenblum, Gina Luciano, Sudeep Aulakh, Sara Tischer, Donna Windish, Alaka Ray, Brandon Auerbach
April 25, 2014, 10:00-11:30 a.m.
SGIM
Do we have a problem?
• Senior medical students from 1990 (1,244) and 2007 (1,177).
• Primary-care medicine as a reason for entering internal medicine fell from 57% to 33%.
• 41% of the 2007 respondents said the primary-care aspect of GIM pushed them away from the field, compared to 21% in 1990.
• Those choosing to practice GIM in 2007 fell from 9% to 2%.
• Students felt that internal medicine involved a heavier workload and more stress.
• 80% of internal medicine-categorical residents subspecialize (AAFP)
Where Have All the Primary Care Doctors Gone?

• Almost half the residents in a 50,000 person survey who began their training wanting to become primary care doctors changed their minds.

• By the time residency was finished, only one out of five wanted to become primary care physicians.

Pauline Chen, MD, NYT
2013 Match

Medicine-Primary

• Number of Positions 335  (1999: 575 positions)
• Number Filled 331
• U.S. Senior 200
• Osteopathic 17
• U.S. IMG 50
• IMG 61
• Unfilled slots 4

Medicine-Categorical: 6,277 positions

Results and Data 2013 Main Residency Match®
What can (and what *should*) WE do about it?
Baystate Innovations

The Problems

• Tension between inpatient and outpatient rotations
  – Inpatient >> Ambulatory
• Fragmented continuity in the clinic
• Poor understanding of the PCP’s role
• Developing broad skills to “avoid” referrals

Our Solutions

• 2-week alternating block schedule
• Longitudinal elective experiences for PC residents
Baystate Medical Center

- 659 beds, established 1883
- Springfield, MA
- Community academic program/Tufts
- 54 Categorical IM residents
- 12 Primary Care residents
- 32 Med-Peds residents
- 10 residencies/16 fellowships
- Original EIP program 2006
We like to blow things up!!
Demographics

- Springfield, Massachusetts
- 49,000 visits annually
- 48% Spanish Speaking
  - Medicare: 29.8%
  - Medicaid: 23.4%
  - Managed Medicaid: 30.6%
- High Prevalence of Chronic Illnesses
  - Diabetes: 23% of patients

Ranked 14 of 14 for mortality and morbidity, SE factors
NCQA PCMH 2011 Standards Level 3

Hours

- Monday and Friday 8am-5pm/ Tue-Thu 8 AM- 8 PM

Providers

- 47 categorical medicine residents/ 8 Primary care residents
- 6 full-time NP/PA (8 direct PC sessions, 2 Admin)
- 11 part-time Faculty (1.0 FTE: 6 direct PC, 2 admin, 2 Precepting)
- 10 Provider teams + specialty clinics
- Hybrid model of ambulatory blocks and continuity days
Primary Care Residency

• HRSA grant (ends 2015)
• Up to 4 residents/year
• Mission: train residents through a balance of supervision and autonomy to provide effective, efficient, equitable and patient-centered care.
# 14 Day Alternating Mini-Blocks

## Traditional and New Models

<table>
<thead>
<tr>
<th>OLD</th>
<th>NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1 (28D) Manager (M)</td>
<td>2 Ambulatory (A)</td>
</tr>
<tr>
<td>(14D) M</td>
<td>A</td>
</tr>
</tbody>
</table>

**NEW**

- Block 1 (28D) Manager (M)
- 2 Ambulatory (A)
- 3 CCU (28D)
## Resident Comments

<table>
<thead>
<tr>
<th>Questions (abridged):</th>
<th>N=10 (max)</th>
<th>Selected Comments</th>
</tr>
</thead>
</table>
| Which type of schedule do you prefer? | 90% Mini-blocks | “Better focus on wards and clinic, better time management.”  
“Improves learning and overall satisfaction.” |
<p>| Opportunity for follow up? | 80% prefer Mini-blocks | “I can see my patient in the clinic, give 3-4 weeks appointment, do 2 weeks of manager and then see the patient again in the clinic. I like that.” |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Satisfaction</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>What effect has the new schedule had on your fatigue level?</td>
<td>60% less fatigue, 40% same level, 0% more</td>
<td>“You don’t get fatigue, you can think about your hospital pt w/o thinking or worrying about your outpatient…it improves outside hospital life with your family/SO/loved ones”</td>
</tr>
<tr>
<td>How satisfied are you with the new scheduling model and its impact on your ambulatory training?</td>
<td>90% more satisfied</td>
<td>“I enjoy having more primary care patient panels when I'm at clinic. I find it less stressful than squeezing in clinic during inpatient.”</td>
</tr>
<tr>
<td>Overall, how satisfied are you with your ambulatory care experience?</td>
<td>1-5 Scale Average= 3.5</td>
<td>“Overall this has been a <strong>GREAT change</strong> in the program. It has increased the ability to focus on care, not get exhausted and learn more.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I have learned more ambulatory medicine, I feel better prepared for out pt medicine now.”</td>
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</tbody>
</table>
PC Rotation Structure

- First 6 blocks: orientation and core rotations
- Next 30 blocks: alternating 2-week ambulatory and inpatient experiences to maximize continuity

<table>
<thead>
<tr>
<th>YEAR 1</th>
<th>BLOCK 1</th>
<th>BLOCK 2</th>
<th>BLOCK 3</th>
<th>BLOCK 4</th>
<th>BLOCK 5</th>
<th>BLOCK 6</th>
<th>BLOCK 7</th>
<th>BLOCK 8</th>
<th>BLOCK 9</th>
<th>BLOCK 10</th>
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<th>BLOCK 12</th>
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</thead>
<tbody>
<tr>
<td>ORIENT-</td>
<td>AMB</td>
<td>WARDS</td>
<td>ICU</td>
<td>AMB/</td>
<td>AMB</td>
<td>ED/AMB</td>
<td>WARDS/</td>
<td>ED/NF</td>
<td>CCU/</td>
<td>AMB/WARDS</td>
<td>AMB/WARDS</td>
<td>AMB/WARDS</td>
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<tr>
<td>ATION</td>
<td></td>
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<td></td>
<td>NF</td>
<td></td>
<td></td>
<td>CCU</td>
<td></td>
<td>WARDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YEAR 2</td>
<td>AMB</td>
<td>WARDS/</td>
<td>WARDS/</td>
<td>QUALITY/</td>
<td>AMB</td>
<td>WARDS/</td>
<td>AMB/</td>
<td>AMB/NF</td>
<td>AMB/</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB/CICU</td>
</tr>
<tr>
<td></td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>CONSULT</td>
<td>AMB</td>
<td>AMB</td>
<td>CCU</td>
<td>WARDS</td>
<td>WARDS</td>
<td>WARDS</td>
<td>WARDS</td>
<td>WARDS</td>
</tr>
<tr>
<td>YEAR 3</td>
<td>CONSULT/A</td>
<td>AMB</td>
<td>AMB/</td>
<td>AMB/</td>
<td>ADMIT/</td>
<td>AMB/</td>
<td>ICU/</td>
<td>ICU/</td>
<td>WARDS/</td>
<td>AMB</td>
<td>AMB/CONSULT</td>
<td>AMB</td>
</tr>
<tr>
<td>AMB</td>
<td>AMB/WARDS</td>
<td>WARDS</td>
<td>AMB/WARDS</td>
<td>AMB</td>
<td>AMB/ADMIT</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB</td>
<td>AMB/CONSULT</td>
<td>AMB</td>
<td></td>
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</tr>
</tbody>
</table>
# A Week in the Life of a PC Resident

<table>
<thead>
<tr>
<th></th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Gastroenterology</td>
<td>Community Project Time</td>
<td>OFF</td>
<td>Endocrine</td>
<td>Continuity Clinic at HSHC</td>
</tr>
<tr>
<td>PM</td>
<td>Geriatrics</td>
<td>Academic Half Day*</td>
<td>Nephrology</td>
<td>Private Practice Primary Care (Second site)</td>
<td>Continuity Clinic at HSHC</td>
</tr>
<tr>
<td>EVE</td>
<td>Continuity Clinic at HSHC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Outcomes

• Increased engagement in managing ambulatory patients
  – Networking with elective preceptors
  – Home visits

• PC residents focus on continuous, dynamic process of healthcare

• Advocacy (community projects)

• PC jealousy!
The Resident Experience

Staying On Track for Primary Care
A Conversation with Resident Sara Tischer

Q: What has been especially beneficial?
   In oncology we often discuss the latest advances in cancer diagnoses, treatment, and research. This prepares us to discuss controversial ideas that relate to oncology and primary care. When patients ask for my advice on preventive screening, for example, I have the knowledge and experience to discuss pros, cons, and current recommendations to assist my patient with decision-making.

Q: How do you see the role of the primary physician in Accountable Care Organizations and how does this training help?
   In Accountable Care Organizations, primary care providers are often expected to lead the team in providing high quality, coordinated care to improve outcomes and the health of populations in the most cost-effective, evidence-based manner possible. Many conditions can be diagnosed and treated within a highly functional primary care medical home. Our specialist colleagues will focus their energies and unique skills on the more complex and challenging disease processes and diagnoses in our ACO model. I am learning from the subspecialists how to be more efficient and effective in assessing the need for subspecialist referrals.
Lessons Learned

• Maintaining continuity during continuity electives
• Faculty development
• Scheduling challenges
Next Steps

• Qualitative measurement PC: Cat
• Long-term outcomes for PC residents
• Community of Practice
• Ambulatory Chief Resident
Yale Primary Care Program (YPC)

Donna Windish, MD, MPH
Associate Program Director
YPC Program Demographics

50 Residents
  3 Residents PC/HIV track
  3 Residents PC/VA Center of Excellence track

No Outside/HRSA funding
Primary Care Program History

- Established in 1989
- First graduating class – 1992
- Over 100 graduates of the residency work in Connecticut
  - 70% of whom are in general internal medicine (academics, practice and hospitalists)
- Move community training site to New Haven- July 2014
Educational Philosophy

• Clinical Training

• Didactic Curriculum

• Role of Core Faculty

• Meeting Individual Goals
Educational Philosophy – Clinical Training

Align clinical sites of training with educational goals of the experience

- Inpatient Training – Mix of General Medicine and Subspecialty Rotations
  - General Medicine Rotations at the St. Raphael Campus
    - Primary Care, Community Hospital Environment
  - Subspecialty Medicine Rotations at the York Street Campus
    - Subspecialty, Referral and Tertiary Care Hospital environment

- Longitudinal Primary Care Training - Faculty/Resident Practices
  - Yale Primary Care Residency Ambulatory Care Center
  - VA Center of Excellence in Primary Care
  - Nathan Smith HIV Clinic for trainees in the HIV Primary Care Track

- Community-Based General Medicine Training
  Primary Care Practices

- Outpatient Subspecialty Training
  University and Community-Based Practices

- International Health
  Fully-Funded Global Health Program
West Haven VA

- VA grant – primary care education COE
- Patient centered medical home (PACT)
- Continuity clinic and ambulatory blocks at West Haven VA
- Inter-professional learning
- Educational domains
  - Sustained relationships
  - Shared decision-making
  - Performance improvement
Educational Philosophy – Didactic Curriculum

• All the usual suspects
  – Morning Report
  – Core Conferences
  – Firm Conferences
  – Grand Rounds
  – Morbidity and Mortality
  – Professors Rounds

• YPC Special Didactics
  – “Ambulatory Fridays”
  – Biostats Curriculum
  – Evidence-Based Medicine Curriculum
  – Physical Exam Curriculum
  – Yale Office-Based Medicine Curriculum
Educational Philosophy – Role of Core Faculty
To advise, mentor, guide and inspire the housestaff

- Continuity practice preceptors
- General medicine ward attendings
- Research advisors for many residents
- Primary academic advisors for all residents
- Curriculum development, implementation and evaluation
- Local, regional, and national leaders in medical education
Educational Philosophy – Individual Goals
Assist each resident in finding their most rewarding niche in medicine

- Academic Advising and Career Mentoring
- Individually Tailored Electives
  - Advocacy
  - Education (goal of creating an education track)
  - Research
- Rotation Selection
  - Specific subspecialty services
  - Range of general medicine services
  - Wide range of ambulatory training settings
Educational Innovation
Day-Night Teaching Teams

• Geographically Localized

• True Day and Night Team Structure
  – No day-floats, night-floats or holdovers
  – Evening overlap and transition of care from day team to night team
  – Morning overlap and transition of care from night team to day team
  – One Hour “Firm Rounds” every morning, all team members including attendings, with bedside presentation of admissions and warm handoff of patients
### Rotation Schedule – number of weeks per experience

<table>
<thead>
<tr>
<th></th>
<th>PGY I</th>
<th>PGY II</th>
<th>PGY III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>26 weeks</td>
<td>22 weeks</td>
<td>18 weeks</td>
</tr>
<tr>
<td>Outpatient</td>
<td>16 weeks</td>
<td>18 weeks</td>
<td>20 weeks</td>
</tr>
<tr>
<td>Flexible</td>
<td>4 weeks</td>
<td>6 weeks</td>
<td>8 weeks</td>
</tr>
</tbody>
</table>

No true 4x4, but working on it.
Still do ambulatory continuity practice during 2 of 4 weeks on the wards
Working on decreasing the number of ICU blocks
Intern Ambulatory Blocks (18-20 weeks)

- Immersion (4 wk)
- Immersion (4 wk)
- Immersion/QI (2 wk)
- Neuro Selective (2 wk)
- Yale ED (2 wk)
- Geriatrics (4 wk)
# Sample Intern “4 + 4” Block

<table>
<thead>
<tr>
<th>Block</th>
<th>Intern A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CCU</td>
</tr>
<tr>
<td>2</td>
<td>Neuro/Vacation</td>
</tr>
<tr>
<td>3</td>
<td>Floors-York</td>
</tr>
<tr>
<td>4</td>
<td>Ambulatory-A</td>
</tr>
<tr>
<td>5</td>
<td>Floors-SRC</td>
</tr>
<tr>
<td>6</td>
<td>Jeop/Elective</td>
</tr>
<tr>
<td>7</td>
<td>Floors/ED</td>
</tr>
<tr>
<td>8</td>
<td>MICU</td>
</tr>
<tr>
<td>9</td>
<td>Geriatrics</td>
</tr>
<tr>
<td>10</td>
<td>Floors-SRC</td>
</tr>
<tr>
<td>11</td>
<td>Ambulatory-B</td>
</tr>
<tr>
<td>12</td>
<td>Floors-York</td>
</tr>
<tr>
<td>13</td>
<td>Vacation/Amb-QI</td>
</tr>
</tbody>
</table>
PGY2 Ambulatory Blocks (14-22 weeks)

- Community Office: 4 weeks
- Multi-Clinic/Immersion: 4 weeks
- Amb Selective: 4 weeks
- QI/Immersion: 2 weeks
- Amb Subspecialty: 2-8 weeks

* ½ day per week research option
Community Based Teaching Sites

• Range of settings
  – Rural
  – Suburban
  – West Haven VA
  – Inner city community health centers
• Clinical faculty appointments / teaching awards
• Immersion (6-7 half-days / week)
• Night call, hospital and nursing home rounds
• Exposure to office management and finances
• Practice opportunities
Ambulatory Fridays

• Supplement to office clinical experience

• In depth exploration of ambulatory themes

• Instructional strategies
  – Knowledge: Interactive seminars, peer teaching
  – Skills: Workshops, in-service
  – Attitudes: Site visits, debates
Ambulatory Friday Themes (2012/13)

- Psychosocial medicine
- Geriatrics
- Health care systems (local and national)
- Infectious disease
- Thyroid disease
- Renal disease/nephrolithiasis
- Home visits/transitions of care
- Primary care ophthalmology
- Primary care dermatology/skin biopsy
- Addiction Medicine
- Pulmonary Medicine
Overview of the MGH Primary Care Program
Massachusetts General Hospital

• 184 residents – Cat (126), MP (15), prelim (16), GPC (6), PC (21)

• 16 continuity clinic sites
  – PC residents get 1st choice
The MGH Hybrid Model

• Higher concentration of clinics during ambulatory months (2-3 per week)

• Lower concentration of clinic during inpatient months
  – Allows greater patient continuity and access

• ACGME goal of 130 clinics in residency is exceeded
MGH Hybrid Model: Ambulatory Structure for All Residents

• Three 4-week ambulatory blocks, occur in trimesters (12 weeks of ambulatory time)
  – 2 weeks - general ambulatory skills (i.e. orthopedics, gynecology, practice immersion, panel management)
  – 2 weeks - focused Ambulatory Subspecialty Rotation

• Longitudinal bi-level gen med curriculum

• Continuity clinics also occur during inpatient rotations
1st & 2nd Year Through The Ambulatory Lens

1st Learning Block

2nd Learning Block

3rd Learning Block

Ambulatory Block = 1 month in each learning block

Inpatient rotations, elective time, vacation

MASSACHUSETTS GENERAL HOSPITAL
DEPARTMENT OF MEDICINE
PC v Categorical

- PC residents rotate together through ambulatory blocks in 1\textsuperscript{st} & 2\textsuperscript{nd} year
- Ambulatory time structured differently, unique experiences for PC residents
- Extra month of self-design ambulatory time in 3\textsuperscript{rd} year for career exploration
- Extra 2 week urgent care block for JARs
- 2 program retreats per year, quarterly program meetings/events, additional mentors
Experiential Learning: General Ambulatory Rotation

• 2 weeks during each ambulatory block
  – 3-4 continuity clinics per week
  – 1 community medicine experience/week
  – Relevant subspecialty clinics (e.g. dermatology, orthopedics, gynecology)
  – Protected time for organizing their practice
  – Opportunity to work on a practice-based quality improvement project
Community Medicine Experiences

- Healthcare for the Homeless
- HIV, TB, and Hepatitis C Care
- Substance abuse - Baycove Methadone Clinic
- Family planning + women’s health - Planned Parenthood of MA
- Refugee care - Chelsea Health Center
- Boston Medical Center
Primary Care Immersion Block

• See what being a PCP is really like:
  – 4-6 clinic sessions in a week
  – Practice management sessions with nurse and NP
  – Attend practice leadership meetings
  – 1:1 sessions with preceptor
    • Shadowing
    • discussing challenging patients
    • feedback
  – Attend diabetes education and nutrition clinics
  – Practice based improvement project
Ambulatory Subspecialty Rotations

• Focused rotations in a specific subspecialty or population (all outpatient!)
  – e.g. Cardiology, Dermatology, Healthcare for the Homeless
  – Currently 22 options...and growing!

• Primary Care residents additionally do 2 weeks of urgent care clinic to gain proficiency in urgent care approaches and procedures
Bi-level Didactic Curriculum

• Intern curriculum – repeats annually
  – Basic outpatient topics
  – Interactive skills workshops (e.g. diabetes, women’s health)

• Resident curriculum
  – More advanced topics
  – Runs over 2 years

• Goal – no repeat talks
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00-8:00</td>
<td></td>
<td>Ambulatory Intern Report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00-9:00</td>
<td>Lecture</td>
<td>Lecture</td>
<td>Lecture</td>
<td>Grand Rounds</td>
<td>GIMU Rounds</td>
</tr>
<tr>
<td>9:00-12:00</td>
<td>Online Hopkins Modules</td>
<td>Dermatology Clinic</td>
<td>Continuity Clinic</td>
<td>Lectures/Workshops</td>
<td>Thyroid Clinic</td>
</tr>
<tr>
<td>12:30-1:30</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
<td>Noon Conference</td>
</tr>
<tr>
<td>1:30-5:00</td>
<td>Continuity Clinic</td>
<td>Ortho Knee Clinic</td>
<td>QI Project</td>
<td>Continuity Clinic</td>
<td>Practice Organizing</td>
</tr>
</tbody>
</table>
Primary Care Training: Intern Year

• Clinic Immersion Block
• Global Primary Care curriculum
  – Month-long comprehensive curriculum focused on primary care systems at the local and global level
• 2 Ambulatory Subspecialty Elective Rotations
• Ambulatory Care Block

12 weeks of ambulatory time
Primary Care Training: Junior Year

- Urgent Care Rotation
- Leadership Curriculum
- Clinical Immersion Block
- Ambulatory Care Block
- SGIM Annual Meeting
- 3 Elective ASRs

14 weeks of ambulatory time
Primary Care Training: Senior Year

• Ambulatory Elective – “Designer Block”
  – Focus can be clinical, research, health policy, coursework
• Primary Care Teaching Senior Rotation
  – Comprehensive curriculum
  – Scheduled teaching sessions (various formats)
  – Observed precepting sessions
• 2 Ambulatory Subspecialty Elective Rotations
• 2 Ambulatory Care Blocks

16 weeks of ambulatory time
Primary Care Program Retreats

Two Annual Retreats – Fall and Winter
– 2013: Focus on Leadership
– 2012: Procedures in Primary Care
– 2011: Career pathways in primary care and general internal medicine
– 2010: Primary Care Health Policy On The Ground: What Clinicians Need to Know
Future Directions

- Pleased with 42 weeks of ambulatory over 3 years...could we fit in more?
- Expanding ambulatory offerings for PC residents
- Tailored pathways based on career plans
- Increase # PC residents/class
Contact us:

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• kpalamara@partners.org