Team-Based Chronic Disease Education for Residents

Margaret Lo, MD
Darlene LeFrancois, MD
Stacy Schmidt, MD
Kristina Lundberg, MD
Lisa Altshuler, PhD
Michael Rosenblum, MD

SGIM Annual Meeting 2015
A Quick Poll
What Are the Challenges?
What Are the Successes?

SUCCESS
WHAT PEOPLE THINK IT LOOKS LIKE

SUCCESS
WHAT IT REALLY LOOKS LIKE
8. Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel).  

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<tr>
<th>Critical Deficiencies</th>
<th>Ready for unsupervised practice</th>
<th>Aspirational</th>
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<tr>
<td>Refuses to recognize the contributions of other interprofessional team members</td>
<td>Understands the roles and responsibilities of all team members</td>
<td>Integrates all members of the team into the care of patients, such that each is able to maximize their skills in the care of the patient</td>
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<td>Frustrates team members with inefficiency and errors</td>
<td>Understands the roles and responsibilities of and effectively partners with, all members of the team</td>
<td>Efficiently coordinates activities of other team members to optimize care</td>
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<td>spends time with friends, family, and meals</td>
<td>Actively engages in team meetings and collaborative decision-making</td>
<td>Viewed by other team members as a leader in the delivery of high quality care</td>
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<td>Identifies roles of other team members but does not recognize how/when to utilize them as resources</td>
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<td>Frequently requires reminders from team to complete physician responsibilities (e.g. talk to family, enter orders)</td>
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Core Competencies for Interprofessional Collaborative Practice

Sponsored by the Interprofessional Education Collaborative*
The Multidisciplinary Resident Diabetes Clinic

Margaret C. Lo, MD
It Started with A Simple Vision
Doing our Homework: Assessing the Need

• No dedicated team-based chronic care education in IM Residency program

• Sample chart reviews of diabetes patients in residency continuity clinics:
  ➢ % DM pts w/ Alc ≥8% = 28%
  ➢ % DM pts w/ Alc ≥8 for 3+ mos = 23%
  ➢ % DM pts w/ Alc ≥7.5 = 37.5%
## Doing our Homework: Assessing the Need

### Internal Residency Survey

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<thead>
<tr>
<th>Service Description</th>
<th>Rank (0 to 5)</th>
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<tr>
<td>Seeing patients with ≥ 5 problems to address in single visit</td>
<td>3.23</td>
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<td>Seeing patients with 8 or more medications</td>
<td>2.23</td>
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<tr>
<td>Seeing patients with poor adherence to recommendations</td>
<td>3.35</td>
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<tr>
<td>Patients’ lack of insight into their health</td>
<td>2.97</td>
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<tr>
<td>Access to specialists for my patients</td>
<td>2.14</td>
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<tr>
<td>Ease of communication to specialists</td>
<td>2.00</td>
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<tr>
<td>Ease of communication from specialists</td>
<td>2.01</td>
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<tr>
<td>Access to ancillary services: A) Pharmacist</td>
<td>1.45</td>
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<tr>
<td>B) Nursing staff</td>
<td>1.56</td>
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Doing our Homework: Knowing the Literature

Core Competencies for Interprofessional Collaborative Practice

Sponsored by the Interprofessional Education Collaborative*
Who Were Our Champions?

Chair

Division Chiefs

Residency Program - PD & Chief Residents

Faculty - Endocrine & GIM
Building the Team Was Easy!

- Medicine Residents
- GIM Attendings
- Endocrinology Attending
- Certified Diabetes Educator
- Clinical Pharmacist
- Social Services
- Nursing
- Clerks
“A Clinic Within A Clinic” Structure

- Integral part of the 1-month ambulatory rotation for categorical IM residents
- 1 afternoon per week within the UF Medical Plaza Resident Clinic
  - Resident-led, GIM Faculty supervised & billed
  - Multidisciplinary-assisted, team-based
  - 5 patients per clinic, 30-minute visits each
- Internal referrals from resident & faculty PCPs
**BOX Multidisciplinary-Assisted Resident Diabetes Clinic Standardized Enhancements**

- Interactive, 30-minute preclinic diabetes-related lectures by the endocrinologist or certified diabetes educator
- Preclinic medical record review of patients in the multidisciplinary resident diabetes clinic by the endocrinologist for patient-specific recommendations
- Real-time pharmacists and certified diabetes educator involvement at patient visits
- Postclinic “wrap-up sessions” with the endocrinologist and internal medicine attending for patient-specific case discussions
- Discussion of 2 required, evidence-based readings\(^{24-25}\)
“A Clinic Within A Clinic” Structure
Sample Resident Schedule

- “Wrap-up sessions” with team on patient-specific cases
- Telephone follow-up calls to clinic patients

Pre-clinic
1 pm - 1:30pm

During Clinic
1:30 - 3:30pm

- Real-time Pharm-D alongside resident at every patient visit
- Immediate CDE availability for clinic patients

Post-Clinic
4pm+
“A Clinic Within A Clinic” Structure - Additional Curricular Components

- Pre-test and post-test Diabetes Awareness Questionnaire to gauge diabetes knowledge
- Review diabetic patient charts to monitor self-performance improvement (Quarterly PIP)
- Discussion of required based readings
1. Compare **resident knowledge & behaviors** on diabetes management before and after rotation

2. Compare **patient outcomes** (3) among diabetic patients managed by IM residents in their continuity clinics 6 months before and 6 months after rotation;

3. Compare **process outcomes** (9) among diabetic patients managed by residents in their own clinics 6 months before and 6 months after rotation
Improvement in Resident Diabetes Knowledge

- Pre-test Resident Score: 8.2 ± 2.8
- Post-Test Resident Score: 10.9 ± 2.8

N = 14
P value = 0.02
Oct 2008 to Jan 2010
<table>
<thead>
<tr>
<th>Patient Outcomes</th>
<th>All Patients With Diabetes, n = 47</th>
<th>Patients With Uncontrolled Diabetes, n = 21</th>
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<tr>
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<td>Before MRDC, mean (SD)</td>
<td>After MRDC, mean (SD)</td>
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<tr>
<td>A1C, %</td>
<td>7.32 (1.42)</td>
<td>7.28 (1.24)</td>
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<tr>
<td>LDL-C, mg/dL</td>
<td>90.76 (29.09)</td>
<td>86.70 (26.34)</td>
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<td>Systolic BP, mm Hg</td>
<td>138.39 (16.83)</td>
<td>132.61 (22.74)</td>
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<tr>
<td>Diastolic BP, mm Hg</td>
<td>75.95 (11.60)</td>
<td>75.68 (12.06)</td>
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<tr>
<td>Process Outcomes</td>
<td>Before MRDC, mean (SD)</td>
<td>After MRDC, mean (SD)</td>
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<tr>
<td>Frequency of A1c checks</td>
<td>71.11 (0.29)</td>
<td>89.26 (0.27)</td>
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<tr>
<td>Frequency of BP checks</td>
<td>99.00 (0.07)</td>
<td>100.00 (0.00)</td>
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<tr>
<td>Frequency of LDL-C checks</td>
<td>82.61 (0.38)</td>
<td>88.89 (0.32)</td>
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<tr>
<td>Frequency of microalbumin:creatinine ratio checks</td>
<td>48.89 (0.51)</td>
<td>62.22 (0.49)</td>
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<tr>
<td>Frequency of retinal referral</td>
<td>53.33 (0.50)</td>
<td>66.67 (0.48)</td>
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<tr>
<td>Frequency of foot monofilament exam</td>
<td>55.56 (0.50)</td>
<td>75.56 (0.43)</td>
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<tr>
<td>Frequency of diet and exercise education</td>
<td>51.11 (0.51)</td>
<td>68.89 (0.47)</td>
</tr>
<tr>
<td>Frequency of tobacco cessation counseling</td>
<td>33.00 (0.58)</td>
<td>100.00 (0.00)</td>
</tr>
<tr>
<td>Frequency of aspirin prescription</td>
<td>47.00 (0.50)</td>
<td>63.00 (0.49)</td>
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<tr>
<td>Overall composite score</td>
<td>74.00 (0.18)</td>
<td>84.50 (0.18)</td>
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</table>
Lessons Learned at UF

- Find key champions
- Ensure faculty, staff, & trainee buy-in
- Cultivate relationships
- Adapt to change - faculty/staff attrition
- Evaluate and innovate...a work in progress
Teaching Interdisciplinary Team-Based Chronic Disease Management to Residents

Darlene LeFrancois, MD
Sweethearts Clinics: Why, When & How

• “Ground-up” IM resident ambulatory block QA/QI project across all clinic sites
• 3/1/00-6/30/02: A1c>9.5% continuity patient charts abstracted after 6 month blackout
• Treatment failure predictors tallied
• Brainstorming solutions according to themes: Sweethearts!
Sweethearts Clinic: The Model

- weekly clinic-within-the-clinic
- interdisciplinary team-based
- resident staffed
- preceptor supervised and billed
- PCP generated referrals from:
  - continuity visits
  - outreach - abnormal lab triggered
  - panel management - DM report cards
Sweethearts Clinic: Meet the Team

• PGY2 & PGY3 Residents
• Attending Generalist
• Nutritionist
• Pharmacist
• Social Services
• Nursing
• Clerical
• Remote: Subspecialist
• HealPros iComply™
  retinal imaging
Sweethearts Clinic: The Curriculum

- Interdisciplinary team-based
- Hands-on, practical
- Supervised panel management
- Critical appraisal of evidence
- Guideline awareness
- Telephone follow-up
Sweethearts Clinic: Snack Talk!
Sweethearts Clinic: What Residents Think

• “It is very well-run and has a great team approach, which makes the sessions more enjoyable and efficient, which results in better care of the patients.”

• “Helpful to be able to focus on this [one disease and complications], which allows us to learn more.”

• “Having the other team members there is helpful. It's great to have the pharmacist there, who brings different literature for us to review and provides different teaching points.”

• “It increases follow up with patients, because there is always a diabetes clinic on Mondays.”
Sweethearts Clinic: What Residents Think

• This clinical experience had high educational value overall: 4.20

• The quality of precepting in this clinic was high: 4.42

• The information I learned in this clinic will improve my ability to care for my patients: 4.32
Sweethearts Clinic: A1c Results

Mean absolute hemoglobin A1c reductions at 6 months by baseline A1c:

Spatz Morrison 2009 personal communication
PCMH Curriculum

- Initiated 2013, required rotation for PGY3s
- Provides community ambulatory experience
- ½ session per week shadowing site’s interdisciplinary team members
- Chronic care nurse, health educator, clinical diabetes educator, and off-site pharmacist
- Attendance at one PCMH planning meeting
Teaching Interdisciplinary Team-Based Chronic Disease Management to Residents

Emory University
J Willis Hurst Internal Medicine Residency Program
Stacie Schmidt, MD and Kristina Lundberg, MD
Setting

• Primary Care Center (PCC) at Grady Memorial Hospital
• Academic, safety net, hospital-based clinic
• ~60,000 visits a year
• Mostly uninsured, low-literacy patients with multiple chronic illnesses
• As of 2008:
  • 90% with family household incomes less than 20K
  • 62% reporting 4+ chronic diseases
  • 57% reading below an 8th grade level
• ~150 IM residents, most of whom host primary care continuity clinics at Grady
PCMH Curriculum

• Implemented in mid-2012
• Designed to teach team-based, patient-centered care
• Multiple revisions based on experience and feedback
• Done during ambulatory months
  • Orientation lecture at beginning of month
  • Half-day protected time each week to participate in experiential learning exercises
• Occurs longitudinally over PGY-1 through PGY-3 years
PGY-1 Intern Shadowing of Team Members

• Occurs for one half-day each week during PGY-1 ambulatory months

• Interns spend 2 hours each week shadowing:
  • Pharmacists (in pharmacotherapy clinic)
  • Clinic social worker
  • Clinic CA/Nurse
  • PT delivering services to ambulatory patients

• Interns given role-specific questions to answer for each team member they shadow
PGY-1 Team Shadowing: Sample questions when shadowing pharmacists

• How do I check whether someone is adherent to their medications?

• Who is a candidate for an ambulatory blood pressure monitor?

• What types of insulin can be pre-drawn into syringes?

• A homeless patient tells you he can’t carry around his insulin because it must be refrigerated.
  • What types of insulin should be refrigerated?
  • Once taken out of the fridge, how long does it last for?
PGY-1 Team Shadowing: Intern Feedback on Shadowing

- **Social Worker**: “Ms. Beasley puts a lot of sweat and emotion into her clients…I was moved by her professional and caring demeanor and respect for her clients. Our clinics and patients would be at a great disadvantage without her.”

- **Charge Nurse**: “Charge Nurse Robinson is a vital asset to our clinic…I learned that her EPIC in basket has over 600 messages ranging from liver clinic referral to medication refills to patient complaints…I volunteered to help her and made some return phone calls, and found the process to be incredibly time consuming. I value and respect her role in clinic even more, now that I have seen what does on behind the scenes.”
PGY-2 Multidisciplinary Clinic (MDC)

- Occurs one half-day each week during PGY-2 ambulatory months
- **Week 1:** Resident identifies four patients with a severely uncontrolled chronic condition (DM or HTN) and invites them to MDC
- **Week 2:** Resident meets with clinical pharmacist to discuss patient panel and develop a preliminary care plan
- **Week 3:** Resident and clinical pharmacist meet with patient in clinic SIMULTANEOUSLY as a care team
- **Week 4:** Resident calls patients to follow-up on progress with care plan
PGY-2 MDC Resident Feedback

• See printed form
Longitudinal Team-Based Clinical Discussions

• Once a quarter, first two appointment slots of clinic blocked
• All residents / attendings in clinic that day meet with clinic nurses / Cas
• Goal is to discuss issues affecting clinic in case-based format
• Topics include issues related to:
  • Reducing patient wait times
  • Improving clinic efficiency
  • Identifying appropriate team member roles
Sample Discussion Case

Discussion of Team Member Roles

Case 1:

A patient comes to clinic with his prescription bottles in a bag. He walks with a cane, and drops them on the floor as he is being brought back to his room.

• His blood pressure is 180/95, but he says he takes all of his antihypertensives. How can one determine if he is really taking them? Who is best equipped to go through the med rec with him, and update the EPIC chart?

• It is determined that he as actually not been taking his lisinopril, and only some of his coreg. The patient lives alone, and the person doing the med rec suspects he may not be able to see or read. How can one assess this, and whose responsibility is it to assess this?

• You determine that the patient has difficulty reading. What can be done to assist him? Who on the team can help get this assistance?
Challenges to Implementation of Interdisciplinary Education

• Cumbersome to create schedules for residents
  • Resident and team member schedules difficult to align
  • Communication challenging given volume of learners and staff involved (email and posted in clinic)
• Need dedicated clinical pharmacists with protected time to meet with resident / host MDC clinic
• Finding time to orient residents to monthly PCMH experiences challenging
  • Orientation lecture at beginning of month requires faculty time, some residents on vacation then
• Faculty precepting in clinic often unaware of initiatives, or how to help
  • More faculty education in PCMH principles needed
• Residents do ambulatory block only twice per year – principles don’t “stick”
• Interdisciplinary meetings
  • Staff in clinic all week, hears same theme discussions multiple times
  • Blocking clinic slots affected volume and revenue
  • Engaging all faculty to lead the discussions challenging
Adventures in designing and piloting an interprofessional obesity counseling curriculum

Lisa Altshuler PhD, Shonna Yin MD, Tamasyn Nelson DO, Melanie Jay MD MS

PrMEIR
Program for Medical Education Innovations and Research
Obesity curriculum with clinical outcomes

- 23 primary care residents were randomized into 5 hour Obesity Curriculum vs. control group

- Curriculum consisted of obesity counseling using the 5As framework

- Patient chart reviews (12 months post intervention) showed small but significant mean weight loss in patients from the intervention group as compared to those in the control group.

Jay, MR et al. The Impact of Primary Care Resident Physician Training on Patient Weight Loss at 12 Months. Obesity 2013
5As and Obesity Counseling

• Assess/Ask
• Advise
• Agree
• Assist
• Arrange
Extending the obesity curriculum…

• Discipline specific, inter-professional obesity counseling curriculum (Pediatrics, OB/GYN, Primary Care)
  • 5As
    • Motivational Interviewing
    • Health Literacy

• Build in interprofessional perspective to promote communication and collaboration

• Generate a “toolbox” of curricular materials that can be adapted to suit the varying needs across disciplines and professions.
Motivational Interviewing and Health Literacy – Core Skills for Obesity Counseling

• Motivational interviewing (MI), a patient centered approach, effective in behavior change—shown to have promise in obesity counseling

• Health literacy (HL) is the ability to acquire, process and understand basic health information in order to make informed health care decisions
Core Content:
- HL & MI Skills
- Profession Specific Training & Perspective
  - OSCE

Needs Assessment

Pediatrics:
- Developmental & Parent-child issues in counseling

ON/GYN:
- Obesity counseling for pregnancy

Internal Medicine:
- Management with medications, indications for bariatric surgery
Interprofessional Training Challenges

• Different levels of exposure to topic
• Different clinical experiences
• Unspoken comparisons of skill levels
• Hesitancy to speak up or disagree
• Need to develop trust and safety for collaborative learning to occur
Evaluation

1. Objective Structured Clinical Examination (OSCE) station. The task was to counsel a resistant patient on weight reduction and utilize appropriate health literacy materials -- which were provided.

2. Trainees provided qualitative feedback via a written survey and audio-taped focus group debriefing session.
Observations of trainings thus far…

1. Initial resistance to the curriculum - based in part on past frustrations in counseling obese patients. These aspects needed to be addressed before learners were willing to try MI and health literacy practices.

2. Learners highly valued the opportunity to learn in an interprofessional setting, but need time to develop comfortable communication with each other.
Trainee Feedback:

• Interprofessional learning environment:
  • Appreciated learning different professional training models
  • Uncertain how to replicate such collaboration in their busy clinical environments

• Obesity Counseling content:
  • Reported increased efficacy in assessing patients’ readiness to change, goal setting, and choosing appropriate literacy materials
Q & A

You have Questions

We have Answers
Break Out Session
20 minutes
Wrap-Up Session
Instructions for Small Group Exercises

1. Discuss the following with your small group/ your Think-Share-Pair partner:
   
   - Decide the educational setting to implement your team-based chronic disease management (CDM) curriculum – hospital vs. ambulatory
   - Define the specific curricular contents of your CDM curriculum while keeping in mind the goals & objectives of your curriculum. Ex: directly supervised patient care activity, team-building simulation exercises, web-based modules, etc
   - Perform a needs assessment for this curriculum at your institution. Ex: what is currently being done? What are possible barriers to implementation?
   - Discuss the key stakeholders involved and resources needed. Ex: faculty, other team-based members, administrative support, clinic space, financial costs, etc
   - Summarize strategies for implementation of your CDM curriculum

1. As you discuss these topics/questions, make note of where you find yourselves stuck, excited, confused, etc. This will help guide our large group discussion, and prepare you to bring this tool back to your institution!

2. Next steps - present this tool to your home institution and help move the process along!
Creating an effective team-based Chronic Disease Management Curriculum

**Setting:** Hospital or Ambulatory

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<thead>
<tr>
<th>Specific curricular content Goals &amp; Objectives</th>
<th>Needs Assessment – What is currently done? Barriers to implementation?</th>
<th>Key Stakeholders to be involved</th>
<th>Resources needed for implementation?</th>
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