More Than a Gut Feeling: Utilizing a Subspecialty Medical Home to Treat Inflammatory Bowel Disease

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Faculty Disclosure

The presenters of this session have NOT had any relevant financial relationships during the past 12 months.
Conference Resources

Slides and handouts shared in advance by our Conference Presenters are available on the CFHA website at http://www.cfha.net/?page=Resources_2017

Slides and handouts are also available on the mobile app.
Learning Objectives

At the conclusion of this session, the participant will be able to:

▪ understand how a medical home is organized to treat complex subspecialty disorders using inflammatory bowel disease as a model.

▪ learn how to use a complexity grid to organize information from patients to determine the best areas to target with treatment.

▪ understand how an integrated healthcare team including peer support specialists and the efficient use of technology can be utilized to help patients and their caregivers better cope with complex chronic diseases.

▪ review findings to date.


Szigethy, E., Oser, M., Regueiro, M. D., Weaver, E., McAnallen, S., Shrank, W., Jones, M. (2017, May). Feasibility of mobile CBT for generalized anxiety among IBD patients in medical home. Poster session accepted for presentation at the 2017 Digestive Disease Week, Chicago, IL.
Learning Assessment

A learning assessment is required for CE credit.
A question and answer period will be conducted at the end of this presentation.
Primary Care Medical Home (PCMH) Care Model

- Prominent Component of Health Care Reform Law
- Endorsed by the ACP, AAFP, AAP, AMA

- Combines primary care with systematic improvement of a patient population
Subspecialty Medical Home: Definition and Rationale

- Personal physician providing first contact and continuous care
- Use of chronic disease registries
- Implementation of information technology
- New operations for communication between physicians and pts
Moving from **Subspecialty Centers** to **Subspecialty Homes** and what is the difference?

- **Traditional IBD Center** – collaboration with hospital/medical center
  - Often the center is built around the healthcare team
  - Gastroenterologists as consultants and referred pts by providers
  - RVU based, volume proposition for payment
  - Institutional support from downstream revenue (surgery, pathology, radiology, infusions)
Moving from Subspecialty Centers to Subspecialty Homes and what is the difference?

- **IBD Patient Centered Medical Home** – collaboration with insurance company
  - Put the patient at the center of the care model
  - Gastroenterologists as principal care providers and “referred” pts by payer – population based approach
  - **Value based** – quality, preventative medicine, telemedicine, point of contact mental health care, etc..
  - Insurance/Payer support to improve value and reduce cost – shared savings or global payment models
2 Key Ingredients in considering a Specialty Home

1. A population of pts whose principle care is from a specialist
2. Partnership with a Health Plan around that disease state
   - chronic disease (spanning at least 5 years)
   - by decreasing utilization = return on investment
Inflammatory bowel disease (IBD)

- IBD consists of Crohn’s disease and ulcerative colitis
- 3 million American affected with incidence increasing
- Inflammation of the gastrointestinal tract- associated with diarrhea and pain
- Powerful, anti-inflammatory drugs with many side effects
- Leads to bowel damage that may require surgery
- Life-long disease, treatment costly- rated among top 5 most expensive chronic diseases in major medical centers

To our patients it is…

To our gastroenterologists it is…
Crohn's disease “hotspotting”: Analysis of regional patterns of admission to identify clinical factors associated with “superutilizer” patient behavior (UPMC DDW 2014, Binion et al. from PHC4 PA administrative database)

Super-utilizers 1) tertiary centers 2) surgery/mental health interventions 3) most costly

$24.3 million of total $36.9 million from UPMC PUH-SHY

34 pts account for $10.2 million inpatient charges
An IBD medical home of whole-person care must provide a plan for the high utilizers

30% of patients account for 75% of cost
What is our patient centered subspecialty medical home?

• Use a **team-approach** to provide high quality, comprehensive, cost-effective healthcare to patients with inflammatory bowel disease (IBD) (n=700)
  – 20% have high medical utilization yet poor outcomes at baseline
  – 45% have high psychosocial morbidity

• **Integrated** medical, behavioral, dietary, social services care at medical point of service

• **Joint project with UPMC Health Plan** = unique partnership between clinicians, medical system, and health care payer.
IBD Subspecialty Medical Home

- Collaborative care
- Interdisciplinary care
- Transdisciplinary care
  - Medical staff trained in behavioral screening, motivational interviewing and triage for behavioral care
• Developed in 2012- offers support and education to hospitalized IBD patients

• Over 1500 visits to over 700 unique patients from 2012-2016

• Communication coordination with IBD Medical Home Team

• Provide educational materials

Hashash, Sigal, Wein-Levy et al, IBDJ, 2016
Medical subspecialty home for whom?

- **Inclusion criteria**
  - UPMC HP Insurance with Crohn’s or UC (n=3000)
  - 18 to 50 years of age
  - The primary need for their medical care is IBD

- > 50% of IBD patients have pain, stress, coping difficulties, anxiety/depression, and fatigue that lead to worsening disease course and increased healthcare utilization.

- IBD ranks as top three expensive medical diseases in most tertiary care medical centers due to relapsing remitting course, expensive medications, surgery AND unmet psychosocial needs.
IBD Total Care - Psychosocially and Medically Complex

• Total #  455
• Psychopathology
  • 24% depression
  • 38% anxiety
  • (40% have anxiety and or depression)
  • 60% self-reported pain
  • 15% opioids

• IBD Activity (active disease, surgical, IBD complications)
  26% highly active disease
4 factors important for success in Patient Centered Medical Home

• Team-based care

• Measurement of outcomes/process to iterate quickly to improve quality

• Integration of behavioral care

• Smart use of technology
Re-defining team roles

- **Training medical team** as psychosocial experts
  - Didactics, role-play, simulated patient cases
- **Focus on team logistics** from initial patient contact through assessment through follow-up
  - Pre-processing clinical information, team huddles, stream-lined hand-off sheet between team members for shared decision making
- **Medical nurse = care manager**
- **Soft-roll-out of pilot** Total Care patient (n=16) using iterative process of refining process
  - Practice patient flow for assessment and follow-up plans for different levels and types of complexity levels (e.g., high biological versus high psychosocial severity vs. both)

- Training entire team on improving patient communication
IBD Total Care Medical Home: Team-based, patient-centered, coordinated care

Gastroenterologist serving as PCP
Nurses and Nurse practitioner
Dietitian
Psychiatrist
Social worker

Regueiro, Greer, Szigethy, 2016
Behavioral Targets

• Psychiatric comorbidity - Depression, anxiety, chronic pain, substance abuse (opioids)

• Life - Stress

• Illness self-management - Coping, perceptions, self-soothing
Target Psychopathology: Stepped Behavioral Treatment

Tele-medicine Availability

- Screening
  - UPMC Health Coaches
- Virtual coaching/therapy
- Social worker (behavioral therapy)
- Psychiatric consultation (medications)

Pain Service

Worried well

Extreme psychopathology
Utilizing a Complexity Grid
IBD Biopsychosocial Complexity Grid (modeled from one developed by Kathol et al in primary care)

- Organizes health information collected into biological, psychological, social, and healthcare use domains.

- Information quantified to provide a total complexity score but also to quantify current and past history contributions of these 4 domains.

- The total and domain-specific sub scores easy to calculate and provide an algorithm-driven treatment plan – to meet patient needs and also wisely allocate medical home team resources.
# Adult Integrated Case Management - Complexity Assessment Grid (Kathol, 2010)

<table>
<thead>
<tr>
<th>Baseline</th>
<th>HEALTH RISKS AND HEALTH NEEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucinda</td>
<td></td>
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<tr>
<td><strong>Total Score = 38</strong></td>
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</tr>
</tbody>
</table>

### Biological Domain
- **Chronicity (HB1)**: Score 3, Symptom Severity/Impairment (CB1) Score 3
- **Diagnostic Dilemma (HB2)**: Score 0, Diagnostic/Therapeutic Challenge (CB2) Score 3

### Psychological Domain
- **Barriers to Coping (HP1)**: Score 1, Resistance to Treatment (CP1) Score 2
- **Mental Health History (HP2)**: Score 2, Mental Health Symptoms (CP2) Score 2

### Social Domain
- **Job and Leisure (HS1)**: Score 1, Residential Stability (CS1) Score 0
- **Relationships (HS2)**: Score 0, Social Support (CS2) Score 1

### Health System Domain
- **Access to Care (HHS1)**: Score 2, Getting Needed Services (CHS1) Score 3
- **Treatment Experience (HHS2)**: Score 3, Coordination of Care (CHS2) Score 3

<table>
<thead>
<tr>
<th>Complexity Item</th>
<th>Score</th>
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<th>Score</th>
<th>Complexity Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronicity</td>
<td>3</td>
<td>Symptom Severity/Impairment</td>
<td>3</td>
<td>Complications and Life Threat</td>
<td>VB</td>
</tr>
<tr>
<td>Diagnostic Dilemma</td>
<td>0</td>
<td>Diagnostic/Therapeutic Challenge</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barriers to Coping</td>
<td>1</td>
<td>Resistance to Treatment</td>
<td>2</td>
<td>Mental Health Threat</td>
<td>VP</td>
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<tr>
<td>Mental Health History</td>
<td>2</td>
<td>Mental Health Symptoms</td>
<td>2</td>
<td></td>
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<tr>
<td>Job and Leisure</td>
<td>1</td>
<td>Residential Stability</td>
<td>0</td>
<td>Social Vulnerability</td>
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</tbody>
</table>
## Development of Scoring Grid for UPMC IBD Complexity Grid Subscales

### IBD Complexity Grid Scoring Item Examples

<table>
<thead>
<tr>
<th>IBD Complex</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOLOGICAL</strong>-Current</td>
<td>None</td>
<td>mild</td>
<td>mild-mod</td>
<td>moderate</td>
<td>mod-severe</td>
<td>severe</td>
<td>extreme</td>
</tr>
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<td><strong>PSYCHOLOGICAL</strong>-Current</td>
<td>None</td>
<td>mild</td>
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<td>moderate</td>
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**IBD Activity Scale**
- Labs (inflammation)
- Depression and anxiety scores
- Chronic pain
- Opioids

**TOTAL SCORE:** 0-60

Mapping Complexity Scores to Determine: 1) Level of Care; 2) Focus of Care

**Level 1: Score < 20; Low impact:** Routine IBD care; little need for comprehensive team; health coaching, education or help coming out of acute situation (inpatient stay). Brief management involvement. Psychological issues stable. Transient challenges in coping.

**GOAL:** PREVENTIVE

**Level 2: Score 21-32; Moderate impact:** Standard case management- physical, social, behavioral and health system domains; develop care plan with priorities based on subscores; assistance to patient in coping and health system factors impeding appropriate care; untreated psychiatric comorbidity; social, coping, and health system challenges.

**GOAL:** REMISSION

**Level 3: Score >33; High impact:** extended care management with persistent, complex and multiple problems with long-term high service use; Complex clinical situation; concurrent physical and mental conditions with long-term service use.

**GOAL:** STABILIZATION
Telemedicine and Technology Advancements used within Medical Home

1. Prescription for Wellness
2. Telepsychiatry through MyChart
3. Augr
4. Vivify
5. Lantern
Current data available in IBD Medical Home Research Registry

- Depression (PHQ9)
- Anxiety (GAD7)
- DSM-V psychiatric screen if PHQ9 or GAD7 >9
- Quality of Life (SIBDQ)
- IBD symptom severity (HBI, UCAI)
- IBD Biopsychosocial Complexity Grid
- Top 3 patient complaints at each visit
- Brief Pain Inventory
- Self-efficacy to Manage Chronic Disease
- Inflammatory biomarkers
- Genetic samples
- EHR Information- demographics, medications, surgical history, medical comorbidities
- Medical utilization (phone calls/texts, ER visits, radiologic tests, hospitalizations, hospital days
- Medical costs- provided by Health Plan
- Patient satisfaction
- Medical home team-member probes: Team dynamics, burnout, direct and indirect psychosocial care time for each team member (minutes); behavioral treatment characterizations

In real-world clinic setting: Protocolize the way all this data is pooled to predict best-fit treatment tracks for patients.
We prescribe wellness. 
Ask us about it.

Our doctors know that healthy choices are important for feeling your best and treating medical problems. They also know it's hard to make changes without someone to help you along the way.

That's why we're partnering with UPMC Health Plan to support the healthy changes you want to make in your life.

Do you want to:
- Get more active?
- Feel healthier?
- Quit smoking?
- Reduce stress?
- Manage anxiety or depression?
- Feel more positive?
- Manage your health condition?
- Better understand your medications?

Ask your doctor for a Prescription for Wellness.

Your doctor will give you information about changes that can have the most benefit for you. You'll also get help from a health coach to meet your goals.

79% of health coaching completers increase their physical activity

63% of health coaching completers attain their recommended amount of physical activity

58% of health coaching completers move up to a higher activity level
Vidyo Telemedicine Follow-up

Vidyo Telemedicine (35% of total behavioral follow-up visits)- ANYWHERE ANYTIME
Mobile alerts proactively pushed to providers and care teams as soon as their patient enters an ER or hospital facility.
Remote Monitoring Pathways (Vivify)

Monitored weekly

- **Physical Health**
  - Symptoms
  - Medications
  - Surgical

- **Psychosocial**
  - Symptoms
  - Stress

- **Wellness**
  - Diet/Exercise
  - Sleep
  - Smoking

Receive motivational communications
Access brief educational health videos
IBD MH team receives alerts and decides action plan
Call center triages alerts

http://rms.upmc.com/
Lantern – provides mobile, personalized CBT programs for stress/anxiety/sleep using web-based tools and non-clinical coaches to reinforce learning.

https://go.lantern.com/

Dr. Eva Szigethy is an employee of University of Pittsburgh Physicians, which is an affiliate of UPMC. UPMC has a financial interest in Thrive Network, Inc., which develops and commercializes the Lantern products and services.
IBD  Medical Home Findings to Date
Year 2 Goal: Reduction in Depression

All PCMH patients to date with baseline, 6 month (n=224) and 12 month (n=78) depression (PHQ9) scores 2015-2016

Reduction in depression in all patients

Reduction in depression (PHQ9) over time in depressed cohort

P < .005 (5-point drop)
### Baseline (Total n=214)
- Green = 120
- Yellow = 56
- Red = 38 (18%)

### 9-12 month follow-up (n=214)
- Green = 143
- Yellow = 53
- Red = 18 (10%)

**Complexity Scores**
- Green
- Yellow
- Red

![Complexity Scores Diagram](image)

- Reduced unplanned care
- Reduced opioids
- Improved QOL
Clinical Improvement over first 3 months in IBD Medical Home (n=191)

IBD Complexity and Quality of Life from Baseline to Visit 3 in PCMH

Crohn's disease Harvey Bradshaw Index and Psychosocial Impairment from Baseline to Visit 3 in PCMH
50.5% decrease in ER visits total cohort

Total ER visits 1 year prior to Total Care in all enrolled patients: 348

Total ER visits since enrollment in Total Care to date in all enrolled patients: 172
47.9% decrease in hospitalizations

- Total hospitalizations 1 year prior to Total Care in all enrolled patients: 169
- Total hospitalizations since enrollment in Total Care to date in all enrolled patients: 88
ER visits prior to and 1 year after enrollment in IBD Medical Home (pts with at least 6 mos follow-up)

Hospitalizations prior to and 1 year after enrollment in IBD Medical Home (pts with at least 6 mos follow-up)
Figure 1: Unplanned healthcare utilization in the first year of IBD patient-centered medical home enrollment for all patients
Total Cost of Care: added to the lowest cost band and PMPM decreased within the highest cost band

- **largest growth** occurred within the **lowest cost band** (grew by 17 members or 9% points).

- **Highest cost band** decreased by 6 members.

- **No change in volume across the two most costly bands collectively.**
Decrease in unplanned care compared to baseline (p=0.001). 25 members with previous unplanned care had none since enrollment.

Significant 20 point decrease in the proportion of members who had any unplanned care during the program year compared to baseline (p=0.001).

Indicates that unique members presenting to ER or urgent care centers have decreased, and represents a positive trend toward coordination of care improvement.
Member migration to the highest cost band, which indicates an increase in the volume of members on specialty drugs. This migration to higher drug cost bands does not appear to be adversely impacting TCOC to date.
Session Evaluation

Use the CFHA mobile app to complete the evaluation for this session.

Thank you!