Quality Improvement in IBD

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What is Inflammatory Bowel Disease?

“IBD”
Inflammatory Bowel Diseases

Crohn’s Disease
Ulcerative Colitis
What is “Quality” in Healthcare?

» 1990 – Institute of Medicine (IOM)
   › The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with professional knowledge

» i.e.: to do the right thing to help patients
What is “Good Quality Care” for patients with IBD? (From whose perspective?)

» Appropriate therapy? Avoiding steroids?
» Cancer screening?
» Appropriate monitoring for side effects?
» Discussion about options for shared decisionmaking?
» Preventing preventable complications?
» Reduction in hospitalization/surgery/costs?
» Prompt evaluation of sick patients? Returning phonecalls?
» Sufficient bathroom access and toilet paper?
Medicine is Changing!

» Small, private practices → Large health systems

» The way we pay for medicine is changing
  › Volume-based → value-based (“quality”)

» Individual patients → population health

» “Spare no expense” → cost-containment
What do YOU think quality of care means?

dthis...
What do YOU think quality of care means?

Or this…?
CCFA QI Mission Statement

To improve the quality of care DELIVERED to patients with IBD

- Define the standards of care for IBD
- Develop an implementation program to measure and deliver this care
- Continuous evaluation and refinement of this process
- Measure and improve the impact on patient outcomes
100 years ago...

» New era of medicine
  › Structure of training residents in medicine
  › Ethic of personal excellence, professionalism
  › Scientific methods as basis for what we do
  › Organizational structure for care delivery

» Greatest medical care in history

» What is good quality?
  › “Spare no expense!”
  › “If it might work, try it!”

Brent James, 2011
Quality Improvement: The “Triple Aim”

- Improving the patient experience
- Improving the health of populations
- Reducing the per capita cost of healthcare
Why Inflammatory Bowel Disease?

» Chronic
  › median age dx: mid 20’s

» Expensive (very!)
  › Biologic drugs, hospitalization surgery, diagnostics

» Complex decision-making

» Significant impairment in quality of life

» Lots of opportunities to assess and improve quality!
Is Quality Improving in IBD?

Bouguen and Peyrin-Biroulet. Gut 2011
Why might care fall short?

» Reliance on “the craft of medicine”

» Clinical uncertainty
  › Lack of valid clinical knowledge
  › Exponentially increasing new medical knowledge
  › Reliance on subjective recall, “pattern match” “in my experience”
  › Limitations of the mind for complex decisions

» Payment encourages utilization
We have the greatest healthcare in history but... we have “Opportunities”

1. Significant variation in practice
   » Unwarranted variation in care is often evidence of “serious and widespread quality problems”

2. Preventable complications

3. Inappropriate care

4. Waste and high costs
   → all are true for IBD
   → publishing more review articles and guidelines unlikely to solve these problems

What’s wrong with this picture?
“Identifying variation in care is an initial step in identifying a need for quality improvement”

→ overuse, underuse, or mis-use
Variation in Care in the United States

Proportion of patients with Crohn’s disease using biologics by Zip Code

**Variation in Steroid-refractory UC**

**Table 5.** Expert Versus Non-Expert Endorsement of Competing Management Strategies in Steroid-Refractory Inpatient UC

<table>
<thead>
<tr>
<th>Management strategy</th>
<th>Experts (% endorsing)</th>
<th>Non-Experts (% endorsing)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase steroid dose</td>
<td>0.0</td>
<td>3.0</td>
<td>.36</td>
</tr>
<tr>
<td>Keep steroid, add infliximab</td>
<td>54.0</td>
<td>53.0</td>
<td>.91</td>
</tr>
<tr>
<td>Stop steroid, add infliximab</td>
<td>8.3</td>
<td>9.2</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Call surgical evaluation</strong></td>
<td><strong>50.0</strong></td>
<td><strong>16.8</strong></td>
<td><strong>.0003</strong></td>
</tr>
<tr>
<td>Keep steroid, add CSA</td>
<td>33.3</td>
<td>22.6</td>
<td>.27</td>
</tr>
<tr>
<td>Stop steroid, add CSA</td>
<td>0.0</td>
<td>2.5</td>
<td>.43</td>
</tr>
</tbody>
</table>

NOTE. Respondents could choose multiple simultaneous treatments (thus totals exceed 100%).

“Experts” vs. Community GI’s

“Would you prescribe 5-ASA?”

Esrailian et al APT 2007; 26:1005-1018
Variation in Colectomy Rate for UC
Race and Geography

Nguyen, et al. CGH 2006;4:1507
Is there variation in the Surgical Outcomes of patients with UC?

n=7502 colectomies

Variation in Pediatric IBD Process of Care

- 10 Centers in the Pediatric IBD Registry (US and Canada)
- Evaluated medication use within the first 3 months of dx.

Immunomodulator Use By Center

Kappelman, et al. IBD 2007;13:890
There is real variation in care for IBD

**Provider level:** “Experts” and “non-experts”
- Guidelines awareness?

**System level:** High volume and low volume
- Colorectal surgeon availability? Diagnostics?

**Patient level:** “Tertiary care” and community patients

Variation may associate with outcomes
Why is there variation?

» 18 GI practitioners in KPNC: attitudes and practice
  › IBD more of an art than science
  › IBD difficult to protocolize
    » Often several “right” answers for a given situation
    » Patient preferences differ
  › Lots of different “kinds” of IBD!
    » Multiple phenotypes
    » Progression over time
  › Insufficient education materials / guidelines

Altscheuler et al. IBD 2008
“Opportunities”
(care falls short of its potential)

» Significant variation in practice
» Inappropriate care (risk>benefit)
» Preventable complications
» Lots of waste and high costs
What is “best practice”? 

What is “best practice” for my patient? (less than 20%)
How much room is there for improvement in IBD care?

» Based on significant variation in care...

And poor uptake of recommended preventive care...

» there appears to be significant room for quality improvement!

» BUT…
How do we improve Quality for IBD?

• *Before quality can be improved, it must be defined and measured*
Can Healthcare Learn from the Restaurant Industry?

- Quality control
- Cost control
- Innovation
The Cheesecake Factory vs Medicine

Cheesecake Factory

» Mass production without feeling mass produced
  › Fresh, from scratch at every restaurant
» Consistent level of quality
» Reasonable cost

Healthcare

» Costs are soaring
» Service is mediocre
» Quality is unreliable

Atul Gawande “Big Med” The New Yorker 2013
Can we learn from the cheesecake factory?

The critical question is how soon that sort of quality and cost control will be available to patients everywhere across the country. We’ve let health-care systems provide us with the equivalent of greasy-spoon fare at four-star prices, and the results have been ruinous. The Cheesecake Factory model represents our best prospect for change. Some will see danger in this. Many will see hope. And that’s probably the way it should be. ♦

Big Med by Atul Gawande, New Yorker, August 13, 2012
An example of successful QI in Medicine

- Cystic Fibrosis
- 115 Centers accredited by the CF foundation
- Steps in their quality improvement process

Define clinical microsystem

Establish Quality Indicators

Data Transparency

- All results online
- Good and bad

Annually gaining 1.1 years of predicted survival!

Continual Improvement Process

- Patients
- Providers
- Parents
- Dieticians
- Social workers
Quality: Define, measure, (report) and improve!

- Define Quality
- Measure Quality
- Improve Quality
- Accountability (P4P)
Measuring Quality

“Quality Measures” (QIs)

- specific, measureable elements of care for which there is evidence or consensus that can be used to “assess the quality of care provided and hence change it.”
- offer uniform, minimally acceptable level of care to all patients
- Distinguish good quality from bad

MacLean CH et al. *Arthritis Rheum* 2004;51:193-202
Measuring Quality of Care for IBD

» **Process measures**
  › Well suited for chronic illness
  › Processes of medical care
  › Including specifics of diagnosis, treatment, referral, prescription
  › Easy & quick to measure
  › Eg. “Checkboxes”

» **Outcome measures**
  › Processes linked to outcomes
  › Steroid-free remission, improved quality of life, etc.
  › Takes longer to study, but measurement that really matters
  › At the end of the day… what’s important to patients!
Why your doctor cares about quality reporting

- If you do not report for PQRS, you will not be able to participate in the VBPM, and you will receive PENALTIES for both programs.

<table>
<thead>
<tr>
<th>Year Performance Judged</th>
<th>Year Payment Affected</th>
<th>Penalty for Not Reporting PQRS</th>
<th>Penalty for Not Participating in VBM</th>
<th>Total Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>2016</td>
<td>-2.0%</td>
<td>-2.0%</td>
<td>-4.0%</td>
</tr>
<tr>
<td>2015 (1-9EP)</td>
<td>2017</td>
<td>-2.0%</td>
<td>-2.0%</td>
<td>-4.0%</td>
</tr>
<tr>
<td>2015 (10+EP)</td>
<td>2017</td>
<td>-2.0%</td>
<td>-4.0%</td>
<td>-6.0%</td>
</tr>
</tbody>
</table>

- By 2020: -9% \(\iff\) + 9% = 18% difference!
Accountability or Improvement?

“Would you rather your doctor won the quality contest by doing good list management and robust box checking or spent that time listening to you?”

- Dr. Victoria McEvoy, Wall Street Journal, February 13, 2014
What are the current IBD Quality Measures?
CCFA “Top Ten” Process Measures

• Test for TB before anti-TNFα therapy
• Test for *C. difficile* in flares
• Flex sig. for CMV in steroid-refractory hospitalized UC
• Check TPMT before starting thiopurines
• Recommend steroid-sparing agents if >4m steroids
• Recommend colectomy or close surveillance for low-grade dysplasia in colitis
• Recommend smoking cessation if smoker with CD
• Educate patients regarding vaccinations
CCFA “Top Ten” Outcome Measures

- Steroid-free clinical remission
- Days lost from work/school
- Days hospitalized
- ED visits
- Malnutrition
- Anemia
- Narcotic use
- Incontinence
- Normal health related QOL
- Nighttime BMs or leakage

• Others – phone calls, timeliness of appts, results followup, reminders for followup

Melmed, et al. Inflamm Bowel Dis 2013
Quality Improvement Tenets:

- Every system is perfectly designed to get the results that it gets.
- To improve results, you must *redesign your system*. Simply trying harder at your old system won’t work.
- “It’s better to do it the same than to do it right”
CCFA Adult Quality of Care Program

- Percent of visits with a complete bundle (Aggregated, %)
- Cumulative Number of Patients - (Aggregated, [n])
- Percent of visits where TPMT has been measured when treatment with thiopurine is started (Aggregated, %)
- Percent of Patients where the dose of infliximab is at least 4.5 mg/kg (Aggregated, %)
- Percent of Patients where the dose of methotrexate is at least 10 mg/m² or 15 mg/week (Aggregated, %)
- Components of Classification Bundle - Nutrition/Growth (Aggregated, %)
A Collaborative Learning Health Network can:

- Optimize medication use by clinicians and patients
- Track real-world outcomes
- Measure real-world & long-term effectiveness of drugs
- Generate data to inform cost management for all stakeholders
- Identify clinical care paths that improve outcomes
- Support value-based transformation in healthcare
- Use data for comparative effectiveness research
- Inform & increase efficiencies related to trial design and recruitment
A Partnership for *Co-Production* of Care
Selected images of the IBD Smartform depicting how (A) historical data, (B) phenotype, and (C) selected physical exam findings are recorded. (D) is the automated disease activity index calculator.
Identification, Assessment, and Initial Medical Treatment in Crohn's Disease

Clinical Decision Support Tool

A. Assess inflammatory status
B. Assess comorbidities and disease and therapy related complications
C. Assess current and prior disease burden

D. Identify as low-risk patient
   D1. Perform initial treatment (low-risk)
   F. Perform treatment for patient in remission (low-risk)
   G. Perform treatment for patient not in remission (low-risk)

E. Identify as moderate/high-risk patient
   E1. Perform initial treatment (mod/high risk)
   H. Perform treatment for patient in remission (mod/high risk)
   I. Perform treatment for patient not in remission (mod/high risk)
IBD Quality Improvement Network: Where can we be in 2020?

» Growth
  • > 100,000 adults with IBD
  • > 50,000 children with IBD

» Strength
  • Able to demonstrate value

» Research
  • What works to improve outcomes, what doesn’t

» Leadership
  • Ability to affect/introduce ideas in a dynamic network
  • Late adopters, colleagues looking for help

» Partnerships
  › Patients, payors, industry, researchers
How does this impact individual patients with IBD?

› Soon, you should be able to ask your doctor:
  » How do you perform on IBD quality measures?
  » Do you track patient outcomes?
  » Do you have an improvement strategy in place?

› How can I help?
  » Quality improvement teams with patient input
  » “suggestion box”
  » Participate in registries and programs designed to look at populations
Summary

• “Quality of Care” is a buzzword today in medicine
• Your doctor’s view:
  • Checkboxes, reimbursement
• Variation drives Quality Measurement/Reporting
• Lots of opportunities for improvement
• Evolving area – change is good!
• Get involved with your doctor’s office / center / CCFA