Understanding Disparities in Surgery for African-Americans with Inflammatory Bowel Disease (IBD) through Health Literacy

Daniel I. Chu MD FACS FASCRS
K12 Scholar
Assistant Professor | Division of Gastrointestinal Surgery
• IBD includes Crohn’s and Ulcerative Colitis
  • Affects >3.1 million people in the United States
  • 2008 cost estimates: $6.3 billion direct, $5.5 billion indirect
  • Chronic, costly, debilitating with sometimes fatal consequences
  • >75% Crohn’s and 25% UC undergo at least 1 major operation
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- **Surgical disparities exist**
  - IBD is the “worst of the worse”
  - **African-Americans** with IBD have particularly worse outcomes

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**ORIGINAL ARTICLE**

*Rates of hospitalization among African American and Caucasian American patients with Crohn’s disease seen at a tertiary care center*

Caroline H. Walker¹, Sumant S. Arora², Lisandro D. Colantonio³, Donny D. Kakati¹, Paul S. Fitzmorris⁴, Daniel I. Chu⁵, Talha A. Malik⁶
Research Plan | Significance

- IBD includes Crohn’s and Ulcerative Colitis
  - Affects >3.1 million people in the United States
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- Surgical disparities exist
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Why does this happen... and what can we do about it?
How we got to **health literacy in surgery**...

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1. LOS disparities eliminated with ERAS
2. We weren’t doing something before...
3. ERAS emphasizes patient education


What is the role of **health literacy** in determining surgical outcomes (and disparities) for patients with IBD?
Research Plan | Conceptual Model → Approach

- Demographics
  - Race/Ethnicity
  - Age
  - Gender

- Social Determinants of Health
  - Education
  - Occupation
  - Employment
  - Income
  - Social Support
  - Culture
  - Language

Health Literacy

Healthcare System
- Health Education / Readability
- Support Technologies
- Mass Media

Provider
- Communication Skills
- Teaching Ability
- Time spent at each encounter

Patient
- Self-Efficacy and Motivation
- Navigation Skills

Outcomes

**SA1**: Assess health literacy levels in an adult IBD surgical population.

### NVS
- **Limited**: 20 (White), 24 (Black)
- **Possible inadequate**: 10 (White), 10 (Black)
- **Adequate**: 55 (White), 35 (Black)

### REALM-SF
- **4-6th grade**: 0 (White), 20 (Black)
- **7-8th grade**: 15 (White), 45 (Black)
- **>9th grade**: 85 (White), 35 (Black)

### S-TOFHLA
- **Inadequate**: 2 (White), 0 (Black)
- **Marginal**: 4 (White), 10 (Black)
- **Adequate**: 93 (White), 90 (Black)
SA1: Assess health literacy levels in an adult IBD surgical population.
SA1: Assess health literacy levels in an adult IBD surgical population.

Preliminary data suggests:

1. **Low health literacy** exists in IBD patients
2. **More common** in African-Americans
3. **Older African-American males** with IBD may be at particularly high-risk for low health literacy
Breakdown of Readability by Surgical Subspecialties

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Readability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic surgery</td>
<td>6.5</td>
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<tr>
<td>Endocrine Surgery</td>
<td>7.0</td>
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<tr>
<td>Transplant Surgery</td>
<td>7.5</td>
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<tr>
<td>Cardiac Surgery</td>
<td>8.0</td>
</tr>
<tr>
<td>GI Surgery General</td>
<td>8.5</td>
</tr>
<tr>
<td>Bariatric Surgery</td>
<td>9.0</td>
</tr>
<tr>
<td>ENT</td>
<td>9.5</td>
</tr>
<tr>
<td>Surgical Oncology</td>
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<tr>
<td>Colorectal Surgery</td>
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<tr>
<td>Vascular Surgery</td>
<td>11.0</td>
</tr>
<tr>
<td>Pancreas Surgery</td>
<td>11.5</td>
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<tr>
<td>All UAB Surgery Packet</td>
<td>12.0</td>
</tr>
<tr>
<td>Thoracic Surgery</td>
<td>12.5</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>13.0</td>
</tr>
</tbody>
</table>
Percent of Materials at Recommended 6th Grade Level

Specialty
- Bariatric Surgery
- Colorectal Surgery
- Pancreas Surgery
- All UAB Surgery Packet
- Neurosurgery
- Surgical Oncology
- Thoracic Surgery
- Cardiac Surgery
- Vascular Surgery
- Transplant Surgery
- Endocrine Surgery
- GI Surgery General
- ENT
- Plastic surgery

Percent at 6th Grade Level
Research Plan | Specific Aim 2

**SA2:** Determine association of health lit to IBD surgical outcomes

**Hypothesis:** Low health literacy is associated with:
- Readmissions
- Length-of-stay
- Post-Op Complications

**Potential Difficulties**
- Insufficient power
  - 150 African-Americans
  - 300 Caucasian-Americans
  - 80% power to detect differences of 10%
- Patient recruitment

**Diagram:***
Implications:
1. Low health literacy may affect surgical outcomes.
2. To improve surgical outcomes (and reduce surgical disparities), we need to address health literacy.
**SA3: Explore factors that impact low health literacy in IBD patients.**

*Expected outcomes:* We expect to identify several barriers at the healthcare system and provider-level that impact a patient’s capacity to obtain, process and understand surgery info.

**Analysis**
1. Grounded Theory
2. Identify Themes
3. Achieve Thematic Saturation
4. Develop Better Understanding
5. Inform next steps

**Potential Difficulties**
- Recruitment
- Logistics

- For more information about IBD, visit the Crohn’s & Colitis Foundation website.

- IBD Advisory Panel
- 6-8 focus groups Patients with IBD
- White
- Black
- > 10 stakeholders
- Interview Guides
• Variations in knowledge about surgery and recovery
• Major differences in methods to obtain information
• Poor quality of information
• Mixture of expectations for surgery

• African-Americans described more experiences of:
  • Having no expectations
  • Being provided inconsistent information
  • Being misled about the surgical process
Future Direction

- Develop surgical care models that are more health literate
- Modify existing pathways such as ERAS (v1.0 → v2.0)
- Adapt “best-practice” health literacy techniques to surgery
  - Improve readability
  - Teach-back methods
  - Engage in conversation

https://health.gov/communication/interactiveHLCM/index.html
Questions?

✉️ dchu@uab.edu

@DChu80