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## Problem

- For patients with inflammatory bowel disease (IBD), monitoring is critical for therapeutic regimens and prevention of disease flare-ups.<sup>1</sup>
- While colonoscopy remains the gold standard biomarker of inflammation, an alternative, non-invasive and inexpensive method is measuring fecal calprotectin (Fcal). However, patient compliance with this test is variable and incompletely described.<sup>2</sup>

## Goal

- The goal of our project was to assess institutional Fcal rates and identify factors associated with non-compliance at the University of Chicago IBD Center.

## Strategy

- We performed a retrospective chart review of all patients who were ordered a Fcal test and visited the IBD Center from August 2021 through December 2021.
- For all patients with incomplete Fcal tests, a secondary survey was administered to better understand patients' difficulties with the test and perspectives.
- Simple statistical analysis, multivariable regression modeling, Bayesian factor analysis (BFA), and thematic analysis were all performed.

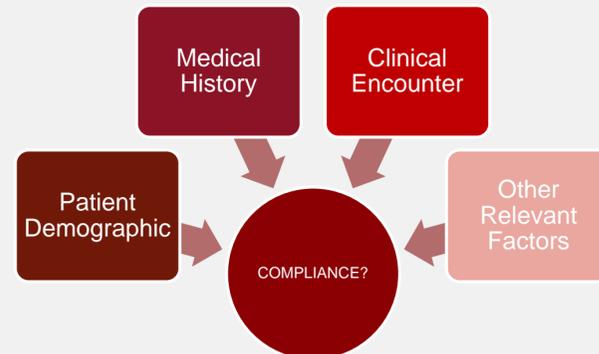


Figure 1: Variables assessed in our IBD Center retrospective chart review

## Results

- Of 303 patients who visited the IBD Center, 54% (165/303) were ordered a Fcal test
- Of 165 patient charts reviewed found 66% (110/165) completed their Fcal test. Greater compliance at our center than prior findings.<sup>2</sup>
- Across cohorts, patients who were in IBD remission, had no prior history of taking the test or had a history of incomplete tests, or had the test ordered through a third-party testing center were significantly less likely to complete the test (Figure 2).

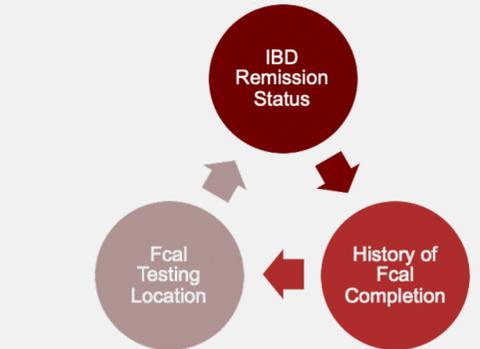


Figure 2: Variables significantly different in patients with completed and incomplete Fcal tests

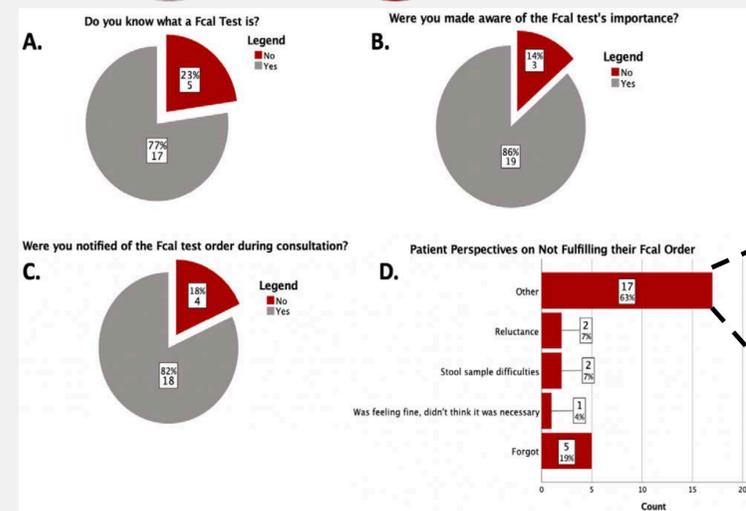


Figure 3: Secondary survey results from patients with incomplete Fcal tests

Factor	Logistic Regression for Test Completion				Regression for Delayed Testing Completion			
	Estimate Effect Size (B)	Std. Error	P-Value	95% Confidence Interval	Estimate Effect Size (B)	Std. Error	P-Value	95% Confidence Interval
Age (years)	0.017	0.015	0.248	0.988 – 1.048	0.148	0.104	0.163	-31.309-7.575
Gender (female)	-0.441	0.543	0.417	0.222 – 1.866	0.877	3.635	0.810	0.062 – 0.357
IBD Remission	-0.949	0.624	0.128	0.114 – 1.316	-0.331	3.895	0.933	-6.421 – 8.176
Clinic Visit Type	-0.523	0.528	0.322	0.210 – 1.570	0.102	3.992	0.980	-8.151 – 7.490
History of Fecal Calprotectin Completion	2.116	0.741	0.004	1.942 – 35.493	6.628	2.625	0.357	-7.699 – 20.956
Fecal Calprotectin Testing Location	-1.304	0.668	0.050	0.073 – 1.005	12.875	3.843	0.002	5.160 – 20.591

Table 1: Multivariable regression for Fcal test completion and test delays

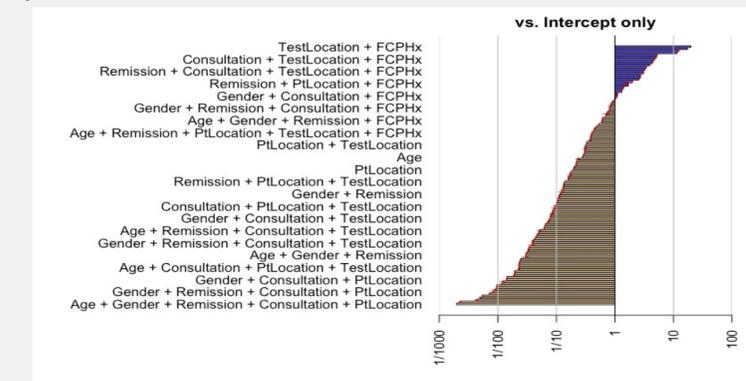


Figure 4: Cumulative variable effects on patient compliance conducted through a BFA

## Conclusions and Next Steps

- We found that patient non-compliance with Fcal tests was associated with third-party testing center usage, a lack of prior testing, and pandemic-related effects.
- We plan to improve compliance by implementing EHR dot phrases (FAQs), educational videos surrounding stool sample collection, and a 1-week post-order phone call.

## References

- Bouguen G, et. al. Clin Gastroenterol and Hepatol J. 2015;13(6):1042-1050
- Maréchal C, et al. United Eur Gastroenterol J. 2017;5(5):702-707