

PRACTICE MANAGEMENT

S1480

Clinical Burden of Electronic Health Record Use Amongst Gastroenterology Providers Associated With Differences in Sex, Provider Subspecialty, and Provider Training

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Introduction: The electronic health record (EHR) has increased time spent outside of face-to-face encounters, with higher EHR burden associated with differences in provider sex, specialty, and rates of burnout. However, the EHR burden specific to gastroenterology (GI) providers is not fully understood.

Methods: Measures of EHR use calculated through Epic Systems were retrospectively collected for GI providers from a tertiary referral center during a 6-month period starting January 1, 2021. Primary measures used to characterize EHR use included time spent performing clinical review, documentation, and in-basket management as well as quantification of efficiency, messaging, and time logged into the EHR, including time outside regularly scheduled hours (5:30 p.m. to 7:00 a.m. and weekends). EHR use patterns were compared across provider sex, sub-specialty (inflammatory bowel disease [IBD], motility/irritable bowel syndrome, advanced endoscopy [AE], and esophagus [ESO]), and training (physician vs non-physician provider [NPP]). Data was analyzed in aggregate using t-tests and analysis of variance with post-hoc Boniferroni correction.

Results: Data from 33 providers comprising 3,743 clinic days and 16,572 appointments was collected. Overall, 69.7% (23/33) were physicians, 30.3% (10/33) NPPs and 48.5% (16/33) were women, with women comprising all NPPs. Comparing EHR burden across sexes, women spent more daily time in clinical review than men (42.4 minutes vs 26.0, $P = 0.02$), though this result lost statistical significance when excluding NPPs. Comparing sub-specialties, IBD specialists spent more daily time in clinical review per appointment than AEs or ESOs (13.7 minutes vs 3.9 and 3.7, respectively; $P < 0.001$) yet had higher efficiency scores compared to these sub-specialties ($P < 0.001$). Compared to AEs, IBD specialists spent more overall daily time in the EHR (131.5 minutes vs 39.7, $P < 0.005$) as well as more daily time outside of regular work hours (60.0 minutes vs 8.9, $P < 0.01$). Comparing provider training, NPPs spent more daily time in the in-basket ($P = 0.03$), clinical review ($P = 0.02$), and overall EHR ($P < 0.001$) than physicians. Additionally, NPPs received more patient medical advice request messages per day than physicians ($P = 0.03$).

Conclusion: IBD specialists and NPPs have an increased EHR burden. More work is needed to better understand sex, sub-specialty, and training-based differences in workload to combat factors contributing to provider burnout.

S1481

Impact of Time-Motion Patient Flow Analysis on the Productivity of an Endoscopy Unit in a Large Safety-Net Health Center

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Introduction: The COVID-19 pandemic disrupted health care delivery, particularly for high-volume procedural areas. To improve productivity in the Los Angeles County + University of Southern California Medical Center (LAC + USC) Endoscopy Unit, we initiated an iterative rapid cycle quality improvement process to identify inefficiencies and implement changes to our workflow.

Methods: A time-motion analysis of patient flow through the LAC + USC Endoscopy Unit was used to construct a time-tracked flow sheet to track individual patients as they moved through the Unit. Data were collected weekly over 3 9-10 week phases, and intervening plan-do-study-act (PDSA) cycles were conducted to direct interventions for subsequent phases. Following phase 1 (9/1/21 to 11/9/21) we implemented targeted interventions at the start of phase 2 (12/1/21 to 2/1/22) and phase 3 (3/15/22 to 5/31/22). Phase 2 was focused on our anesthesia supported endoscopy room which requires greater resource coordination. Metrics were compared to published benchmarks. Linear regression was used to compare outcome parameters for the lean process flow improvement project.

Results: Our phase 1 analysis showed operational delays in room turnover time for all procedures and pre-operative assessment and first-case on time start percentage for procedures supported by anesthesia, when compared to published benchmarks (Table 1). In phase 2 we implemented an intervention of combining pre-anesthesia visits with endoscopy teaching visits for patients designated to have anesthesia support. This significantly improved both turnover time and throughput for the anesthesia room (Table 1). In phase 3 we initiated a policy of preparing the first patient of the day in the procedure room which dramatically increased first-case on time start percentage. We further streamlined inter-procedure processes by simultaneously consenting, placing monitoring equipment and documenting in the time between procedures, leading to a greater than 20% increase in total procedure volume (Table 1). Procedure throughput for the anesthesia supported procedure room increased from 4.5 to 9 procedures per room per day for phases 1, 2, and 3 respectively (Table 1). Endoscopy Unit staffing remained unchanged throughout the study period.

Conclusion: Time-motion analysis of patient flow may be used to perform targeted interventions with significant improvements in Endoscopy Unit efficiency. This may be achieved without costly interventions such as hiring additional support staff or faculty.

Table 1. Core Productivity and Efficiency Parameters of LAC+USC Endoscopy Unit

	Phase 1			FIRST INTERVENTION 12/1/ 2021: pre-anesthesia visit	Phase 2			SECOND INTERVENTION 3/15/2022: First patient prepared in-room and streamlined inter-procedure processes	Phase 3		
	Sep- 2021	Oct- 2021	Nov- 2021		Dec- 2021	Jan- 2022	Feb- 2022		Mar- 2022	Apr- 2022	May- 2022
Total Procedures	539	556	450	511	467	501	504	647	612		
Moderate Sedation	515	539	426	488	432	468	465	608	573		
Anesthesia Supported	24	17	24	23	35	33	39	39	39		
Mean Room Turnover Time (minutes - for anesthesia room)	45 (±40)			31 (±40)			30 (±24)				
First-Case On Time Start % (moderate sedation)	75.7%			78.3%			87.5%				
First-Case On Time Start % (anesthesia supported)	0%			0%			92.5%				
Anesthesia Room Throughput (mean # of procedures per day)	4.5			7.0			9.0				

S1482 Presidential Poster Award

Health Disparities in Gastroenterology in LGBTQ+ Individuals: A Rochester Pride 2022 Survey

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Introduction: As of 2022, 7.1% of adults in the United States identify as LGBTQ+. It is reported that LGBTQ+ individuals have lower rates of colorectal cancer (CRC) screening but the barriers are not well understood. Furthermore, little is known about prevalence of GI symptoms among the LGBTQ+ community.

Methods: At Rochester Pride 2022, attendees completed an anonymous online/paper survey to assess frequency of common GI symptoms, CRC screening awareness and reasons for not attending CRC screening. Odds ratios were calculated using logistic regression for dichotomized outcomes and general linearized models for categorical outcomes after adjusting for age. Outcomes were considered significant when the 95% confidence intervals do not span the null and $P < 0.05$.

Results: One hundred thirty-two respondents completed the survey (Table 1). LGBTQ+ respondents (N = 89) were younger than straight respondents (N = 43) and had higher prevalence of cumulative GI symptoms. In the past 6 months, 43.4% of LGBTQ+ individuals reported GERD, 42.1% had experienced abdominal pain and diarrhea, 30.3% with constipation, 28.9% with bloating and 23.7% with nausea/vomiting. In general, as number of symptoms increase by one, an individual was at 33% increased odds to seek/have sought care (OR 1.332; 95% CI 1.26 - 1.730). LGBTQ+ individuals are at lower odds to seek care compared to non-LGBTQ+ individuals, though not statistically significant (OR 0.855; 95% CI 0.257 - 2.850). Within the LGBTQ+ community, those with more symptoms are also of increased odds to seek

care, though not statistically significant (OR 1.127; 95% CI 0.0833 – 1.526) while within the non-LGBTQ+ community, those with more symptoms are much at higher odds to seek care (OR 4.413; 95% CI 1.305 – 14.92). LGBTQ+ individuals were familiar but less comfortable with CRC screening tests ($P < 0.0049$). 68.6% of LGBTQ+ individuals were either uncomfortable or neutral towards a colonoscopy compared to 39% non-LGBTQ+ individuals ($P = 0.136$). Fear of discrimination at healthcare setting ($P < 0.0017$) and at workplace or socially ($P < 0.0110$) were stated reasons to avoid healthcare screenings.

Conclusion: This survey highlights that LGBTQ+ individuals tend to delay care despite a higher burden of common GI symptoms. Furthermore, LGBTQ+ individuals are less comfortable with CRC screening tests with fear of discrimination being the leading reason. Further studies are required to identify barriers to care in the LGBTQ+ community.

Table 1. Demographics, Familiarity and Comfort with Various Colorectal Cancer Screening Modalities, and Reasons for not Attending Health Screening in Rochester Pride 2022 Participants
*colorectal screening tests included colonoscopy, stool based tests, flexible sigmoidoscopy and CT colonography

	Heterosexual/Straight (N=43)	LGBT+ (N=89)	Total (N=132)	P value
Age				
Missing	0 (0.0%)	1 (1.1%)	1 (0.8%)	
18-25	4 (9.3%)	37 (41.6%)	41 (31.1%)	
26-35	12 (27.9%)	28 (31.5%)	40 (30.3%)	
36-45	8 (18.6%)	10 (11.2%)	18 (13.6%)	
46-55	8 (18.6%)	6 (6.7%)	14 (10.6%)	
56-55	6 (14.0%)	5 (5.6%)	11 (8.3%)	
66-75	4 (9.3%)	1 (1.1%)	5 (3.8%)	
76+	1 (2.3%)	1 (1.1%)	2 (1.5%)	
Race				
Missing	1 (2.3%)	0 (0.0%)	1 (0.8%)	
White	37 (86.0%)	79 (88.8%)	116 (87.9%)	
Black / African American	2 (4.7%)	0 (0.0%)	2 (1.5%)	
Asian	3 (7.0%)	4 (4.5%)	7 (5.3%)	
Other	0 (0.0%)	6 (6.7%)	6 (4.5%)	
Education Level				
Missing	1 (2.3%)	0 (0.0%)	1 (0.8%)	
Less than high school	0 (0.0%)	8 (9.0%)	8 (6.1%)	
High school graduate	1 (2.3%)	8 (9.0%)	9 (6.8%)	
Some college	5 (11.6%)	28 (31.5%)	33 (25.0%)	
2-year degree	5 (11.6%)	6 (6.7%)	11 (8.3%)	
4-year degree	8 (18.6%)	20 (22.5%)	28 (21.2%)	
Professional degree	14 (32.6%)	11 (12.4%)	25 (18.9%)	
Doctorate	8 (18.6%)	8 (9.0%)	16 (12.1%)	
Prefer not to answer	1 (2.3%)	0 (0.0%)	1 (0.8%)	
Relationship Status				
Missing	2 (4.7%)	1 (1.1%)	3 (2.3%)	
Single, never married	11 (25.6%)	49 (55.1%)	60 (45.5%)	
Marriage or partnered in a marriage-like relationship	25 (58.1%)	25 (28.1%)	50 (37.9%)	
Separated	1 (2.3%)	1 (1.1%)	2 (1.5%)	
Divorced	4 (9.3%)	3 (3.4%)	7 (5.3%)	
Other	0 (0.0%)	6 (6.7%)	6 (4.5%)	
Prefer not to answer	0 (0.0%)	3 (3.4%)	3 (2.3%)	
GI Symptoms experienced in the past 6 months				
Abdominal or belly pain	12 (32.4%)	32 (42.1%)	44 (38.9%)	0.7878
Difficulty swallowing	0 (0.0%)	4 (5.3%)	4 (3.5%)	0.9494
Bowel incontinence	1 (2.7%)	10 (13.2%)	11 (9.7%)	0.1514
Heartburn/Acid reflux/gastroesophageal reflux	12 (32.4%)	33 (43.4%)	45 (39.8%)	0.3481
Bloating or swelling in belly	5 (13.5%)	22 (28.9%)	27 (23.9%)	0.1437
Diarrhea	7 (18.9%)	32 (42.1%)	39 (34.5%)	0.1770
Constipation	9 (24.3%)	23 (30.3%)	32 (28.3%)	0.9547
Nausea/Vomiting	2 (5.4%)	18 (23.7%)	20 (17.7%)	0.3219
None	15 (40.5%)	21 (27.6%)	36 (31.9%)	0.3177
Other	0 (0.0%)	1 (1.3%)	1 (0.9%)	0.9244
Did you see or are you planning to see a gastroenterologist (GI/gut doctor) for any of your gastrointestinal (GI) symptoms in the past or coming 6 months?				0.5788
Yes (yes in the past 6 months/ in the coming 6 months)	7	17	24	
No (No, No GI symptoms, If not please let us know the reason)	26	52	78	
General familiarity with colorectal screening tests*				0.0829
Missing	3	7	10	
Not familiar at all/Slightly familiar	11 (27.5%)	40 (50.0%)	51 (42.5%)	
Moderately familiar	10 (25.0%)	26 (32.5%)	36 (30.0%)	
Very familiar/Extremely familiar	19 (47.5%)	14 (17.5%)	33 (27.5%)	
How comfortable are you with colonoscopy?				0.1362
Missing	2	6	8	
Extremely / Somewhat uncomfortable	10 (24.4%)	27 (32.5%)	27 (29.9%)	
Neutral	6 (14.6%)	30 (36.1%)	36 (30.0%)	
Extremely / Somewhat comfortable	25 (61.0%)	26 (31.3%)	51 (41.1%)	
General comfort with colorectal screening tests*				0.0049
Missing	4	12	16	
Extremely / Somewhat uncomfortable	3 (7.7%)	13 (16.9%)	15 (13.8%)	
Neutral	12 (30.8%)	47 (61.0%)	59 (50.9%)	
Extremely / Somewhat comfortable	24 (61.5%)	17 (22.1%)	41 (35.3%)	

Table 1. (continued)

	Heterosexual/Straight (N=43)	LGBT+ (N=89)	Total (N=132)	P value
Reasons for not attending health screening tests:				
Do not see a reason for going since they feel they are healthy				0.9381
Missing	1	9	10	
Always / Sometimes applies to me	24 (57.1%)	55 (68.8%)	79 (64.8%)	
Never applies to me	18 (42.9%)	25 (31.3%)	43 (35.2%)	
The doctor did not recommend health screening tests				0.9763
Missing	2	8	10	
Always / Sometimes applies to me	21 (51.2%)	50 (61.7%)	71 (58.2%)	
Never applies to me	20 (48.8%)	31 (38.3%)	51 (41.8%)	
Health screenings are expensive				0.3022
Missing	2	9	11	
Always / Sometimes applies to me	21 (51.2%)	52 (65.0%)	73 (60.3%)	
Never applies to me	20 (48.8%)	28 (35.0%)	48 (39.7%)	
Health screening tests are not routine				0.4062
Missing	4	9	13	
Always / Sometimes applies to me	23 (59.0%)	59 (73.8%)	82 (68.9%)	
Never applies to me	16 (41.0%)	21 (26.3%)	37 (31.1%)	
Going for a health screening test is a hassle due to busy schedule				0.6348
Missing	2	9	11	
Always / Sometimes applies to me	25 (61.0%)	59 (73.8%)	84 (69.4%)	
Never applies to me	16 (39.0%)	21 (26.3%)	37 (30.6%)	
Health insurance does not cover screening				0.7104
Missing	4	9	13	
Always / Sometimes applies to me	16 (41.0%)	43 (53.8%)	59 (49.6%)	
Never applies to me	23 (59.0%)	37 (46.3%)	60 (50.4%)	
Fear of discrimination at workplace or socially if diagnosed with disease.				0.0110
Missing	3	9	12	
Always / Sometimes applies to me	2 (5.0%)	28 (35.0%)	30 (25.0%)	
Never applies to me	38 (95.0%)	52 (65.0%)	90 (75.0%)	
Fear of discrimination at the healthcare setting due to LGBTQIA+ status.				0.0017
Missing	3	10	13	
Always / Sometimes applies to me	1 (2.5%)	35 (44.3%)	36 (30.3%)	
Never applies to me	39 (97.5%)	44 (55.7%)	83 (69.7%)	

S1483 Presidential Poster Award

Rates of Gastrointestinal Hospitalizations in Adults With Chronic Kidney Disease

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Introduction: Adults with chronic kidney disease (CKD) have a higher rate of hospitalizations than those without CKD. Gastrointestinal (GI) hospitalizations have not been well-described in this population. This study describes the burden and factors associated with GI hospitalizations in adult men and women with CKD.

Methods: Participants were enrolled between 2003 and 2008 in the Chronic Renal Insufficiency Cohort Study (CRIC), a prospective cohort of adult men and women with non-dialysis dependent CKD. First position International Classification of Diseases-9 or -10 discharge codes were used to identify the cause of a hospitalization using an Agency for Healthcare Research and Quality classification scheme, including 'diseases of the digestive system' for GI hospitalizations. Participants were followed until onset of end-stage kidney disease, withdrawal, death, or end of follow-up. A GI readmission was a subsequent GI admission, and a 30-day GI readmission was within 30 days of discharge. Unadjusted and age, sex, race/ethnicity adjusted rates of hospitalizations and differences in rates compared across subgroups of baseline characteristics were calculated using Poisson regression.

Results: Among 3,939 CRIC Study participants followed for a median of 9.6 years, there were 2,212 GI hospitalizations. The mean length of stay for a GI hospitalization was 4.5 days (95% CI: 4.3, 4.7). The unadjusted hospitalization rate per 100 person-years (95% CI) was 6.0 (5.8, 6.3) for all GI hospitalizations, 0.8 (0.7, 0.9) for GI hemorrhage, 0.8 (0.7, 0.9) for upper GI causes, 1.2 (1.1, 1.4) for lower GI causes and 1.0 (0.9, 1.1) for liver, pancreatic, and biliary causes. The unadjusted GI readmission and 30-day GI readmission rate per 100 person-years (95% CI) was 3.0 (2.8, 3.2) and 0.6 (0.6, 0.7), respectively. Higher rates of GI hospitalizations were seen with worsening kidney function measures, which included worsening eGFR and albuminuria, as well as in non-Hispanic Blacks, in participants with anemia and those who were underweight (Table 1). Participants with a history of hypertension, diabetes, nausea, vomiting, heartburn, diarrhea, constipation, use of proton pump inhibitors and anticoagulation also had higher rates of GI hospitalizations.

Conclusion: Participants with eGFR < 30 ml/min/1.73 m² and albuminuria of ≥1000 mg/day had the highest rates of GI hospitalizations. Further investigation of the interplay between CKD risk factors and GI outcomes may help reduce hospitalizations in this high-risk population.

Table 1. Age, Race and Sex Adjusted Rates of Gastrointestinal Hospitalizations by Baseline Characteristics

Characteristics	Number of GI hospitalizations	Adjusted GI hospitalization rates per 100 person-years (95% CI)	P-value
Age			
21-44 years	300	4.98 (4.36, 5.69)	0.79
45 - 64 years	1318	5.16 (4.70, 5.66)	
65 + years	594	5.23 (4.68, 5.84)	
Sex			
Men	1175	5.33 (4.84, 5.88)	0.06
Women	1037	4.92 (4.45, 5.44)	

Table 1. (continued)

Characteristics	Number of GI hospitalizations	Adjusted GI hospitalization rates per 100 person-years (95% CI)	P-value
Race/ethnicity			
Non-Hispanic White	775	4.42 (4.09, 4.76)	< .0001
Non-Hispanic Black	1148	7.99 (7.49, 8.52)	
Hispanic	248	6.97 (6.14, 7.90)	
Other	41	2.80 (2.06, 3.81)	
Diabetes			
Yes	1158	6.44 (5.83, 7.10)	< .0001
No	1054	4.20 (3.80, 4.64)	
Hypertension			
No	209	3.21 (2.75, 3.75)	< .0001
Yes	2003	5.63 (5.14, 6.17)	
Hemoglobin (g/dL)			
< 12.5	1246	6.87 (6.23, 7.58)	< .0001
≥ 12.5	966	3.92 (3.54, 4.33)	
Urine Albumin (mg/day)			
< 30	708	2.99 (2.66, 3.61)	< .0001
30 - < 300	613	4.77 (4.24, 5.37)	
300 - < 1000	366	6.24 (5.45, 7.15)	
≥ 1000	417	10.62 (9.35, 12.08)	
eGFR (mL/min/1.73m ²)			
< 30	500	10.54 (9.38, 11.85)	< .0001
30 - < 45	882	6.74 (6.08, 7.48)	
45 to < 60	573	3.94 (3.51, 4.41)	
≥ 60	257	2.35 (2.03, 2.72)	
BMI (kg/m ²)			
< 18.5	22	9.41 (6.15, 14.39)	0.013
18.5 - < 25	314	5.35 (4.68, 6.11)	
25 - < 30	653	5.26 (4.72, 5.86)	
30 - < 40	910	4.77 (4.29, 5.30)	
≥ 40	311	5.33 (4.63, 6.14)	
Medication Use			
Anticoagulation			
no	2045	5.03 (4.60, 5.51)	< .0001
yes	159	7.51 (6.29, 8.96)	
NSAID use			
no	1062	5.08 (4.60, 5.60)	0.60
yes	1142	5.19 (4.70, 5.74)	
Proton Pump Inhibitors			
no	1665	4.83 (4.41, 5.29)	< .0001
yes	539	6.82 (6.05, 7.68)	
History of Reported Symptoms at Baseline			
Nausea			
No	1437	4.45 (4.04, 4.89)	< .0001
Yes	775	6.91 (6.23, 7.68)	
Vomiting			
No	1829	4.62 (4.22, 5.06)	< .0001
Yes	383	9.61 (8.46, 10.91)	
Heartburn			
No	1370	4.72 (4.29, 5.20)	< .0001
Yes	842	5.87 (5.29, 6.51)	
Abdominal Bloating			
No	1041	4.59 (4.15, 5.07)	< .0001
Yes	1171	5.68 (5.16, 6.26)	
Diarrhea			
No	1528	4.81 (4.38, 5.28)	< .0001
Yes	684	6.01 (5.39, 6.70)	
Constipation			
No	1509	4.77 (4.34, 5.24)	< .0001
Yes	703	6.01 (5.39, 6.69)	

Abbreviations: GI: gastrointestinal; CI: confidence interval; eGFR: estimated glomerular filtration rate; BMI: body mass index; NSAID: non-steroidal anti-inflammatory drug.

S1484 Presidential Poster Award

Paracentesis Team: An EPIC Chat Opt-In Group for Hospital Procedures

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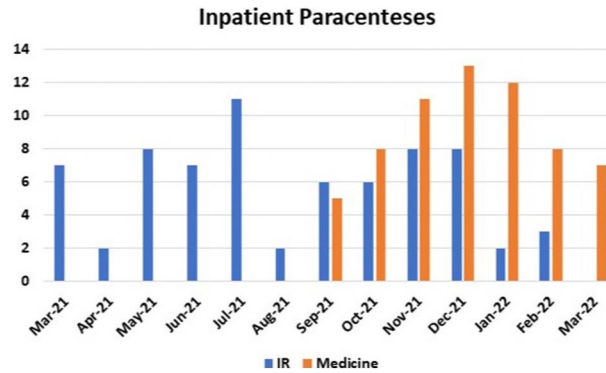
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Introduction: At our institution, a lack of certified providers able to perform a bedside paracentesis has led to increased utilization of interventional radiology for both diagnostic and therapeutic paracenteses. With increased turnover of providers and low numbers of hospitalists able to perform the procedure, minimal supervision existed to train and certify new providers in paracenteses. Through a hospital initiative, a paracentesis team was formed, led by both hospitalists and certified residents, to increase the number of certified providers able to perform this procedure.

Methods: To pair providers together for training as well as to expedite patient care through timely paracenteses, an EPIC Chat Opt-In group was created in September 2021 titled "Medicine Paracentesis Priority List." Any provider in the hospital could message the group requesting a paracentesis be completed. Providers in the chat could then offer to perform or to supervise another provider. Patient charts were saved for data collection. Requests to interventional radiology first were directed to the paracentesis team instead.

Results: Prior to the intervention, there were only 3 hospitalists and 3 certified residents available to supervise the procedure. Over the course of the 8 months, around 70 paracenteses were performed through chat request, and 10 new providers completed the minimum 5 paracentesis to become certified. A total of 30 different providers performed the procedure. Less than 10 needed to be referred to interventional radiology due to unsafe bedside paracentesis. There were 30 inpatient IR paracentesis in the 6 months prior to intervention, and 33 in the 6 months after start (Figure 1). However, March (month 7 after intervention) saw 0 paracenteses completed by IR, with only 5 in the past 3 months (months 5-7).

Conclusion: The creation of a paracentesis team accessible through an EPIC Chat Opt-In group has increased certification of hospital providers and led to multiple beneficial outcomes for the hospital. Total numbers of Interventional Radiology paracenteses have stayed the same, followed by a sharp decrease over months 5-7, suggesting a lag period. Additional outcomes were centralized collection of paracentesis materials and standardized policies for performing the procedure and escalating care to IR. With our hospital support and continued growth of certified providers, we expect this intervention to lead to improved hospital outcomes and many more certified providers.



[1484] **Figure 1.** Interventional Radiology and Internal Medicine inpatient paracentesis numbers from our intervention starting September 2021.

S1485 Presidential Poster Award

Increasing Inpatient Endoscopy Volumes Using the Model for Continuous Improvement

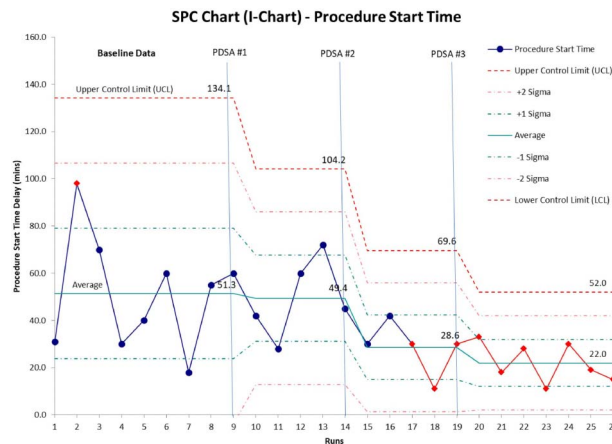
David Hudson, MD, Ziad Hindi, MD, Mohammed Alsager, MD, Christopher Lavalle, MD, Abdulaziz Alajmi, MD, Vadim Iablokov, MD, PhD, Jamie Gregor, MD, Nitin Khanna, MD, Brian Yan, MD, Karim Qumosi, MD, Mayur Brahmnia.
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Introduction: Inpatient endoscopy volumes can affect patient care at many levels in a hospital system. At our academic center, inpatient procedural volume efficiency is 65% (defined as the number of completed procedures compared during the designated in-patient endoscopy time period). As a consequence, excess procedures are being completed on-call or on weekends. Our aim was to increase procedural volume by one (14%) additional procedure completed/day over a 12-month period.

Methods: An interprofessional team of Gastroenterology fellows and staff along with endoscopy nurses and managers was created to investigate throughput concerns. Baseline data was collected via direct observation and completion of a time study over 2 months. Subsequently, a process flow diagram was completed. A combination of root cause analysis tools (ie, Ishikawa diagram and Pareto chart) were then utilized to identify areas for improvement. A delay in procedural start time was identified as a strong culprit for reduced efficiency. Potential PDSA (plan-do-study-act) cycles included: early physician handover start time, constructing a standardized patient procedure list, and improving timeliness of patient transfer to the endoscopy suite.

Results: Baseline data identified that the first case start time was delayed by 51 min when our actual start time is 08:00 am. Our first PDSA cycle involved a 15-minute earlier physician handover start time. PDSA cycle #1 reduced our mean procedural start time to 08:49 am [UCL: 104 minutes; LCL: -5.4 minutes]. Our second PDSA cycle, involved the standardization of a planned procedural list and mandate for the first procedure to be esophagogastroduodenoscopy (EGD). PDSA cycle #2 reduced start time reduced to 08:29 am [UCL: 69.6 minutes; LCL: -12.4 minutes]. Our third PDSA cycle, involved utilizing the standardized procedural list to pre-emptively organize timely patient transfer to account for delays secondary to hospital portering services, which reduced the mean start time further to 08:22 am [UCL: 52.0 minutes; LCL: -8.0 minutes] (Figure 1).

Conclusion: Using the model for continuous improvement we were able to increase procedural volumes by one (14%) per day. The most effective intervention included developing a standardized procedure list and mandating the first case as an EGD minimizing delays due to inadequate or incomplete bowel preparation.



[1485] **Figure 1.** A statistical process control chart (SPC) demonstrating baseline data on endoscopy procedural start time and interventions (PDSA #1, PDSA #2, PDSA #3) that were effective in reducing the delay in procedure start time and resulted in a subsequent increase in endoscopy unit efficiency.

S1486

Outcomes of a Duodenoscopy Surveillance Culture Protocol in Response to a Carbapenem-resistant *Enterobacteriaceae* Outbreak

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Introduction: In 2013, Advocate Lutheran General Hospital (ALGH) was one of many healthcare organizations worldwide that reported an outbreak of multi-drug resistant infections linked to duodenoscopes, specifically with carbapenem-resistant *Enterobacteriaceae* (CRE). In 2016, our institution transitioned to manual cleaning of each duodenoscope (Olympus TJF-Q180) followed by use of the manufacturer automated endoscope reprocessor (OER-PRO). Culture of the scope channel for CRE after reprocessing followed by temporary quarantine of the scope has been performed since that time. The role of routine surveillance cultures in a non-outbreak setting is not well-defined. We proposed that routine culture of duodenoscopes for CRE in non-outbreak settings does not confer additional benefit following current duodenoscope reprocessing methods and results in excess cost.

Methods: We performed a retrospective review of culture reports from scopes used during patient cases at ALGH between January 4, 2021 and December 31, 2021. All scopes that underwent the standardized reprocessing method and culture of channel for CRE were included. Culture reports of scopes from outside institutions or those that did not undergo our current reprocessing method were excluded. An electronic spreadsheet of culture results was provided by ACL Laboratories and indexed by scope serial number. We also reviewed costs of implementing scope quarantine after culture.

Results: Four hundred eighty-two ERCPs were performed during this time period. All scopes were cultured after reprocessing. There were 0/482 (0%) positive culture results (Table 1). Zero scopes required additional processing. The average time to receive the culture result was 48 hours. The cost of each culture was \$28 for a total of \$13,496 for the year. In order to implement the quarantine policy, we purchased 7 additional duodenoscopes to have 14 scopes in circulation. Each device cost \$42,000 for a one time total of \$294,000.

Conclusion: Based on our preliminary review of 1 year of culture results, following the manufacturer recommended process for disinfection of scopes has been successful at eliminating CRE, the organism identified during our initial outbreak. In a high volume ERCP center, the cost of implementing a culture and quarantine policy may be prohibitive. Our initial data support discontinuation of routine culture after reprocessing in a non-outbreak setting. Further investigation includes review of long-term data and benefit-cost analysis.

Table 1. Over a 1-year period, 482 ERCPs were performed and culture of the scope channel after manual cleaning followed by high level disinfection using the manufacturer automated endoscope reprocessor yielded zero positive culture results for CRE

Scope Serial Number	Total Number of Cultures	Number of Positive Cultures	Number of Negative Cultures
SCAA831 SC2506684	37	0	37
SCAA831 SC2506690	31	0	31
SCAA831 SC2506697	34	0	34
SCAA831 SC2506775	31	0	31
SCAA831 SC2506856	32	0	32
SCAA831 SC2506885	35	0	35
SCAA831 SC2506897	39	0	39
SCAA831 SC2506932	34	0	34
SCAA831 SC2507071	32	0	32
SCAA831 SC2507075	36	0	36
SCAA831 SC2507136	36	0	36
SCAA831 SC2507300	35	0	35
SCAA831 SC2507315	35	0	35
SCAA831 SC2507334	35	0	35
All Scopes Combined	482	0	482

S1487 Outstanding Research Award in the Practice Management Category (Trainee) Presidential Poster Award

Gastroenterology Consults Had Little Utility Prior to Transesophageal Echocardiograms in a Prospective Cohort Study

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Introduction: Despite the low complication rate of Transesophageal Echocardiograms (TEE), the inpatient GI service is sometimes called to clear patients for a TEE when patients have active GI symptoms or a significant GI medical or surgical history. There is a paucity of data regarding whether the GI team is needed to evaluate such patients to prevent any complications from a TEE.

Methods: We performed a prospective cohort study of all inpatients who had a TEE ordered at our institution from 7/1/2021 through 5/31/2022. Patients' demographic information, indications for TEE, complications from TEE, GI team recommendations, and the results of any interventions were collected. We also recorded 30-day readmission rates for all patients had a TEE ordered. We used Chi square analysis to compare categorical variables and t-tests to compare numerical variables.

Results: There were 502 patients who had a TEE ordered during our study period, of whom 442 (88%) underwent the procedure. Of the 60 (12%) who did not have a TEE, none were canceled due to a GI concern. There were 15/442 (3.4%) patients with complications from the TEE, none of which were GI-related. The GI team was consulted on 15/442 (3.4%) patients overall (Table 1), and cleared 8/15 (53.3%) with no further testing. Of the 7/15 (46.7%) patients on whom the GI service ordered imaging or endoscopic evaluation, all the workup was normal and all 7/7 underwent a TEE with no complications, though their length of stay was extended by an average of 3.6 days. There were 2/15 (13.3%) patients who were readmitted within 30 days, neither of which was for an upper GI etiology or that would have been prevented by an EGD.

Conclusion: This is the first prospective study aimed at determining whether a GI consult prior to a TEE prevented any complications. In our analysis, there were no GI-related complications of any TEE that a preceding GI consult could have prevented, and the involvement of the inpatient GI team often led to unnecessary procedures and increased length of stay. Future plans include the creation of a risk stratification tool for inpatients planned for TEE to help identify individuals who could benefit most from a GI team consultation and thereby prevent inefficiencies in clinical care.

Table 1. Characteristics of Inpatients Evaluated by GI Team Prior to TEE (n=15)

Variables (n=15)	Number (Percent)	
	Men	Women
Sex	12/15 (80)	3/15 (20)
Mean Age (Years)	74.2	-
Race	White	13/15 (80)
	Non-White	3/15 (20)

Table 1. (continued)

Variables (n=15)	Number (Percent)	
	Men	12/15 (80)
Sex	Women	3/15 (20)
Insurance	Medicare	11/15 (73.3)
	Medicaid	2/15 (13.3)
	Commerical	1/15 (6.7)
	Self-Pay	1/15 (6.7)
TEE Done During Admission	Yes	12/15 (80)
	No	3/15 (20)
If TEE Not Done, Was There a GI-Related Reason	Yes	0/3 (0)
	No	3/3 (100)
If TEE Done, Were There Complications?	Yes	0/12 (0)
	No	12/12 (100)
Any Pre-Existing GI Comorbidities?	Yes	12/15 (80)
	No	3/15 (20)
Did GI Team Clear Patient for TEE without Further Tests?	Yes	8/15 (53.3)
	No	7/15 (46.7)
What Tests Did GI Team Advise?	Imaging	3/7 (42.9)
	Upper Endoscopy	4/7 (57.1)
What Were the Results of the Extra Testing?	Normal	7/7 (100)
	Abnormal	0/7 (0)
Was Length of Stay Extended?	Yes	5/15 (33.3)
	No	10/15 (66.7)
Was there a Readmission within 30 Days?	Yes	2/15 (13.3)
	No	13/15 (86.7)
Was the Readmission for GI-Related Issues?	Yes	1/2 (50)
	No	1/2 (50)
Would a GI Consultation pre-TEE have Prevented Readmission?	Yes	0/2 (0)
	No	2/2 (100)

TEE=Transesophageal Echocardiogram, GI=Gastroenterology.

S1488

Characteristics and Healthcare Patterns of Super-Utilizers Among Patients Hospitalized With a GI Diagnosis

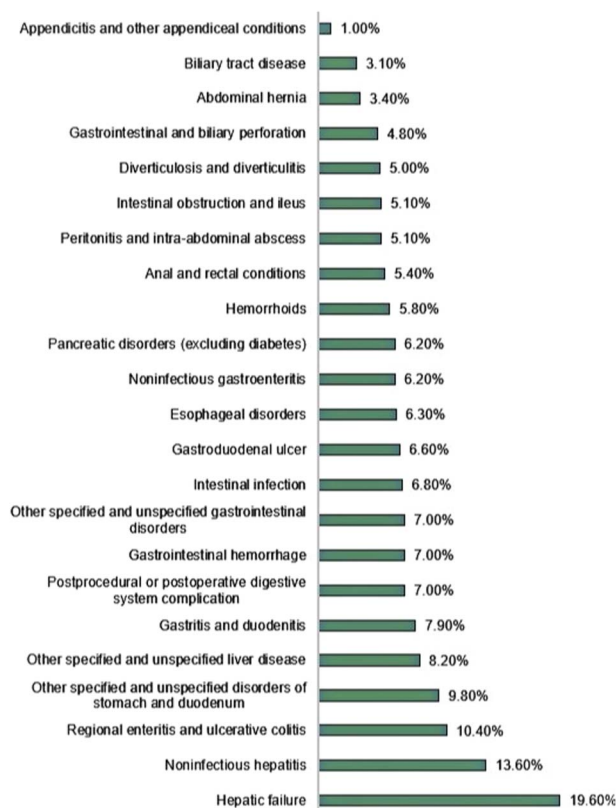
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Introduction: In the United States, a small number of patients, labeled as super-utilizers accounts for a disproportionately large fraction of healthcare expenditure. The knowledge about the characteristics of super-utilizers and their impact on healthcare utilization would be helpful to various stakeholders to target interventions aimed at reducing the disproportionate use of the healthcare system.

Methods: We extracted data from the Nationwide Readmission Database (NRD) 2019, on patients admitted primarily with a gastrointestinal (GI) pathology. We used Agency for Healthcare Research and Quality's definition for super-utilizers (2 standard deviations above the average number of hospital stays for patients in each payer category which were ≥ 4 for Medicaid/Medicare and ≥ 3 for privately/uninsured in 2019). We collected data on demographics, readmission rates, and hospitalization costs.

Results: Of 1,704,913 patients who were discharged alive, 6.3% were categorized as super-utilizers. The highest proportion of super-utilizers was observed among patients with hepatic failure (19.6%), non-infectious hepatitis (13.6%), and inflammatory bowel disease (10.4%) (Figure 1). On multivariate analysis, several characteristics were independently associated with super-utilizers, especially the comorbidity burden and disease severity (Table 1). The mean number of admissions for an average super-utilizer was ~ 4 times compared to other patients (mean admissions: 5.5 vs 1.4; $P < 0.001$). Super-utilizers were mostly admitted for medical diagnosis (83.4% vs 67.3%) as compared to surgical (16.5% vs 31.4%) and for non-elective reasons (92.1% vs 88.9%). The 30-day readmission rate was ~ 6 times higher among super-utilizers compared to other patients (36.6% vs 6.4% $P < 0.001$). Compared to other patients, super-utilizers had longer hospital stays (mean days: 5.8 vs 4.4; $P < 0.001$) and higher average hospitalization costs (mean US\$: 15060 vs 13023; $P < 0.001$). Super-utilizers although only 6.3%, accounted for 31.5% of hospitalization days, 28.2% of costs, 19.6% of hospital stays, and 27.3% of all-cause 30-day readmissions. These findings were consistent across the different payer types on subgroup analysis.

Conclusion: 6.3% of patients admitted with a GI diagnosis were classified as super-utilizers. Comorbidity burden and disease severity were strongly associated with super-utilizers. Super-utilizers accounted for a disproportionate share of hospital days, costs, stays, and 30-day readmissions compared to other patients.



[1488] **Figure 1.** Percentage of super-utilizers among various GI pathologies resulting in hospitalization in 2019.

Table 1. Multivariate analysis showing association between super-utilizer status and various patient- and hospital-level characteristics

Characteristics	Odds Ratio [95% CI]	'P' value
Charlson Comorbidity index	1.70 (1.68-1.73)	< 0.001
Severity	1.37 (1.35-1.38)	< 0.001
Teaching hospital	1.21 (1.15-1.28)	< 0.001
Hospital Bed size	1.05 (1.03-1.07)	< 0.001
Hospital control	1.04 (1.01-1.07)	0.006
Age	0.98 (0.98-0.98)	< 0.001
Income	0.98 (0.97-0.99)	< 0.001
Female gender	0.97 (0.95-0.98)	< 0.001
Urban location	0.88 (0.83-0.92)	< 0.001

S1489

The Impact of the GI Hospitalist Model on Hospital Metrics and Outcomes: Experience of a Large Academic Medical Center

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Introduction: Within internal medicine the implementation of a hospitalist care model has shown an improvement in hospital outcomes (length-of-stay and readmissions), quality metrics (in-hospital mortality) and cost savings. The hospitalist model has been increasingly adopted by subspecialties including gastroenterology (GI) given its benefits and the growing need to have physicians onsite for inpatient emergencies. A GI hospitalist is a physician who spends the majority of their clinical time overseeing the care of hospitalized patients with gastrointestinal disorders. Additionally, they may be involved in coordinating and executing endoscopic procedures when indicated. Limited data exists on the impact of a GI hospitalist on inpatient care. In this study we evaluate the impact of hiring a GI hospitalist on hospital metrics at a large quaternary care academic medical center.

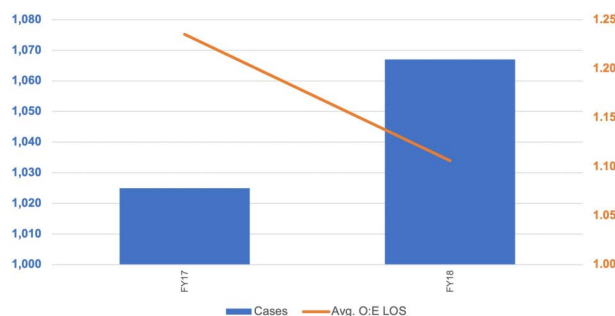
Methods: We performed a retrospective single center study of patients who received inpatient endoscopic general GI procedures (endoscopy, colonoscopy, and enteroscopy) at an academic quaternary care medical center in the fiscal year before and after hiring a GI hospitalist (September 2016 through August 2018). We compared patient outcomes of interest including mean observed-to-expected length of stay (O:E LOS), discharge before noon (DBN), in-hospital mortality and 30-day unplanned readmission.

Results: A total of 2,092 general GI procedures were included in the analysis. Table 1 summarizes metrics and outcomes before and after hiring a GI hospitalist. We observed a 4% increase in case volume and a significant decrease in the average O:E LOS from 1.21 to 1.11 ($P < 0.05$) which suggests more efficient endoscopic and periprocedural care (Figure 1). There was also a significant increase in the number of patients discharged before noon with a GI hospitalist onsite (37% vs 31%, OR 1.3 (95% CI: 1.1, 1.6)). We observed a trend towards reduced in-hospital mortality and unplanned readmissions after hiring a GI hospitalist.

Conclusion: Having a GI hospitalist onsite was associated with an increase in general GI procedure volumes and improved hospital outcomes in patients undergoing inpatient general GI procedures. As the role of a GI hospitalist continues to evolve, our data offers nascent evidence to support the utility in embracing this model into more hospitals nationwide.

Table 1. Metrics and Outcomes Before and After Hiring a GI Hospitalist

	Before a GI Hospitalist (FY17: Sept 2016-Aug 2017)	After a GI Hospitalist (FY18: Sept 2017-Aug 2018)	P-value
Inpatient General GI Procedures	1025	1067	
Average Observed to Expected Length of Stay (O:E LOS)	1.21	1.11	<i>P</i> < 0.05
Discharge Before Noon (DBN)	31%	37%	<i>P</i> < 0.05
In-Hospital Mortality	2%	1%	NS
30-day Unplanned Readmission	174	164	NS



[1489] **Figure 1.** Average Observed to Expected Length of Stay (O:E LOS).

S1490

Impact of the COVID-19 Pandemic and Social Determinants of Health on Missed Visits

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Introduction: The emergence of the COVID-19 pandemic led to dramatic changes in clinical practice, such as increased usage of telehealth services. Though these changes may have facilitated healthcare access for some, they can be detrimental to patients unfamiliar with utilizing technology, which may be reflected in missed visit rates. Therefore, we aimed to identify the trends and factors associated with missed visits.

Methods: The study population consisted of patients receiving outpatient care in the Cleveland Clinic Gastroenterology department during the lock-down period from March 9, 2020 to June 18, 2020 and representative samples from corresponding periods in 2019 (before COVID-19) and in 2021 (after the flattening of the COVID-19 surge). "Missed" visits were defined as those in which patients either cancelled or did not show up to scheduled visits. The following variables were collected and compared between the 2 groups (missed and completed visits): demographic data, substance abuse, insurance data, employment status, and median household income obtained from zip codes. Univariate and multivariable logistic regression analyses were performed to determine factors associated with missed visits.

Results: There was increase in missed visit rates since the onset of the pandemic (751 (4.2%), 1340 (10%) and 1693 (10.4%) missed visits in 2019, 2020, and 2021, respectively (*P* < 0.001)). During the study periods, there were a total of 3768 missed visits and 43262 completed visits. Missed visits were more frequent among the following groups: age < 65 years, non-White race, Medicaid or other public insurance, the lowest 2 quartiles of median income, unemployed and unknown employment status, single marital status, tobacco and illicit drug use, and non-English speakers (Table 1). On multivariate analysis, missed visits were 1% less likely for every one-year increase in age; more prevalent with non-White race, Medicaid and other public insurance, unemployment, single status, tobacco and illicit drug use, and non-English/Spanish speakers; and less prevalent for those in the 2 highest quartiles of median income (Table 1).

Conclusion: The ever-increasing missed visit rate since the onset of the pandemic is concerning. The increased association of missed visits with certain demographic groups is also notable. Future efforts must target these underserved groups as healthcare systems adapt to the pandemic.

Table 1. Patient Characteristics Associated with Missed Visits

Factor	Missed (N = 3768)	Completed (N = 43262)	P-value	Adjusted Odds Ratio for Missed Visits (95% CI)	P-value
Age in Years (Mean ± SD)	52.9 ± 17.8	56.6 ± 17.5	< 0.001	0.99 (0.98 - 0.99) for every one-year increase in age	< 0.001
Age ≥ 65 Years	1098 (29.1%)	16260 (37.6%)	< 0.001		
Sex			0.46		
Male	1456 (38.6%)	16459 (38%)			
Female	2312 (61.4%)	26804 (62%)			
Race			< 0.001		
White	2471 (65.7%)	33423 (77.3%)		Reference	
Black	808 (21.5%)	5993 (13.9%)		1.42 (1.29 - 1.57)	< 0.001
Hispanic	216 (5.7%)	1577 (3.6%)		1.34 (1.13 - 1.57)	< 0.001
Others	268 (7.1%)	2220 (5.1%)		1.44 (1.25 - 1.66)	< 0.001
Type of Insurance			< 0.001		
Private	1955 (53.3%)	26461 (62.4%)		Reference	
Medicare	693 (18.9%)	8981 (21.2%)		1.05 (0.95 - 1.16)	0.29
Medicaid and other public	984 (26.8%)	6433 (15.2%)		1.35 (1.23 - 1.48)	< 0.001
No insurance	35 (1%)	504 (1.2%)		1.04 (0.73 - 1.47)	0.81
Median Household Income by Zip Code (by quartile)			< 0.001		
Lowest	1304 (34.6%)	10321 (23.9%)		Reference	
Second	1093 (29%)	10698 (24.7%)		1.02 (0.92 - 1.12)	0.64

Table 1. (continued)

Factor	Missed (N = 3768)	Completed (N = 43262)	P-value	Adjusted Odds Ratio for Missed Visits (95% CI)	P-value
Third	664 (17.6%)	11182 (25.8%)		0.64 (0.58 - 0.72)	< 0.001
Highest	707 (18.8%)	11059 (25.6%)		0.71 (0.63 - 0.71)	< 0.001
Employment Status			< 0.001		
Employed	1234 (23.8%)	16868 (39%)		Reference	
Unemployed	1959 (52%)	16783 (38.8%)		1.45 (1.33 - 1.58)	< 0.001
Retired	488 (13%)	8709 (20.2%)		0.99 (0.88 - 1.13)	0.99
Unknown	84 (2.2%)	852 (2%)		0.98 (0.73 - 1.30)	0.88
Marital Status			< 0.001		
Married	1565 (41.5%)	21463 (49.6%)		Reference	
Single	2153 (57.1%)	21206 (49%)		1.09 (1.10 - 1.17)	0.023
Others	50 (1.3%)	593 (1.4%)		0.94 (0.68 - 1.29)	0.71
H/o Tobacco Use	756 (20.4%)	5903 (13.8%)	< 0.001	1.23 (1.12 - 1.35)	< 0.001
H/o Alcohol Use	1555 (43.2%)	18694 (45%)	0.074		
H/o Illicit Drug Use	352 (9.7%)	2657 (6.4%)	< 0.001	1.14 (1.01 - 1.29)	0.03
Primary Language			< 0.001		
English	3639 (96.6%)	42355 (97.9%)		Reference	
Spanish	64 (1.7%)	413 (1%)		1.20 (0.89 - 1.63)	0.21
Other	64 (1.7%)	495 (1.1%)		1.37 (1.03 - 1.82)	0.028

S1491

Gender Gap in Total CMS Reimbursements for Gastroenterologists: A Medicare Claims Analysis

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Introduction: Despite increased demand for gastroenterology services, in 2017 only 17.6% of gastroenterologists were women. On average, physicians receive approximately 19% of their income from treating Medicare patients. The aim of this study was to evaluate the total amount of CMS reimbursements for gastroenterologists and identify any differences between male and female providers after adjusting for multiple factors previously identified to affect differences in salary.

Methods: The CMS Physician and Other Supplier Public Use File (POSPUF) Database displays Part B claims organized by provider. For each unique NPI registered under "Gastroenterology" the total standardized amount reimbursed by Medicare was extracted for 2019. One univariate and one multivariate-adjusted linear regression model were used to analyze gender and CMS reimbursement. Reimbursement amounts greater than 97.5 percentile and less than 2.5 percentile were excluded. The multivariate model evaluated gender after adjusting for region, practice setting, number of services performed, average complexity and age of Medicare beneficiaries, and physician experience.

Results: For 2019, there were 2577 female and 11215 male gastroenterologists. Men had higher median total payments (\$94416.28 vs \$56014.14), higher median total services (1047 vs 633) and higher median unique HCPCS codes billed (39 vs 32). Men also had higher median years of experience since graduation (28 vs 17). Of the 13,792 gastroenterologists billing to Medicare in 2019, 13,500 (97.9%) had data regarding number of years of experience (2503 females, 10997 males). This subset was used for the linear regression models. The univariate unadjusted model demonstrated that female gastroenterologists received less total CMS reimbursement than their male counterparts (log b = -0.42 [-0.46 to -0.39]). After adjusting for region, practice setting, number of services performed, average complexity and age of Medicare beneficiaries, and number of years of physician experience, female gastroenterologists still received less CMS payments (log b = -0.15 [-0.18 to -0.12]).

Conclusion: Much of the discussion regarding gender pay gaps can be subjective. However, even after adjustment for multiple factors, female gastroenterologists are receiving less CMS payments, which can comprise a significant portion of their annual income. Further objective data is warranted to provide a more accurate understanding of reimbursement inequity and help drive change from a national level to address gender-pay gaps.

S1492

Women's Participation and Representation at the ACG Meetings: An In-Depth Analysis of Trends

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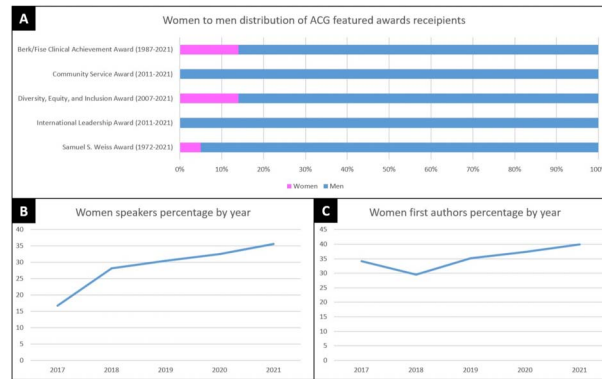
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Introduction: Gender gap in medicine is real. Top male dominated specialties include orthopedic and neurological surgeries, but gastroenterology (GI) does not lag far behind. According to an article published by the American Medical Association (AMA): 82.4% of all gastroenterologists are men, and only 25% to 30% of trainees in the field are women. This study aims to describe women participation and representation at national ACG meetings.

Methods: Data from the ACG database and conference materials was gathered for analysis in the different categories. These categories included presidents of the ACG for the years (2000-2021), masters of the ACG and featured faculty awards over the years, first authors and faculty speakers including post-graduate course faculty and featured lectures over the past 5 years (2017-2021). Statistical analyses on first authors and faculty speakers data were conducted with the Cochran-Armitage trend test. A P-value of < 0.05 was deemed to be statistically significant.

Results: In the 21-year period, ACG had 18 men (86%) and 3 women (14%) serve as Presidents. Eight percent of all Masters of the ACG were women. Proportions of women receiving ACG featured awards over the years are shown in (Figure 1A). Looking at trends from 2017-2021, the proportion of women serving as faculty speakers increased from 16.7% to 35.6% with statistically significant results (z = 4.28; P < 0.0001), detailed percentages and trend are shown in (Figure 1B). There was a noted increase in participation of women as abstract first authors between (2017-2021), the percentage has increased from 34.1% to 39.9%, also with statistically significant results (z = 5.51, P < 0.0001), detailed percentages and trend are shown in (Figure 1C).

Conclusion: Overall, there has been an increase in representation and potentially subsequent encouragement of participation of women at the ACG meetings in the past years, especially when comparing proportions of women participants from different levels of training and practice to percentages of practicing women gastroenterologists in the field.



[1492] **Figure 1.** (A) Percentages of women recipients of featured ACG awards over the years. (B) Percentages of women serving as faculty speakers between (2017-2021). (C) Percentages of women participating as abstract first authors between (2017-2021).

S1493

Impostor Phenomenon and Microaggression Education and Self-Assessment in Female Healthcare Professionals in the Field of Gastroenterology

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Introduction: Many high-achieving individuals, despite contrary evidence, believe their successes are due to luck rather than their own competence. This experience is termed “impostor phenomenon (IP),” IP and another experience, called micro-aggressions (MA), in the workplace may limit an individual’s ability to achieve career goals and professional satisfaction. A lecture was provided at a womens leadership conference to raise awareness about the prevalence of and strategies to mitigate IP and MA. Herein, we describe attendees’ assessment of their understanding of and exposure to IP and MA in order to understand the prevalence of these phenomena in female healthcare professionals and to guide future educational programming.

Methods: Attendees were invited to complete an anonymous survey for self-reflection, including demographic information, experience with IP and micro-aggressions, and completion of the Clance IP Scale, a validated survey assessing the level of IP characteristics. Surveys were collected at the conclusion of the lecture on IP and MA. We report group demographics, prevalence of IP and MA, and factors associated with level of IP. Demographic data is reported as percentages and survey scores reported as means.

Results: 86/132 (65%) attendees completed the survey and 97.7% were female. (Table 1) 50% were practicing gastroenterologists, 21.3% GI fellows, 13.8% medical residents, 6.3% advanced practice providers, and 1.3% medical students. 88.2% reported having experienced feelings of IP and 92.7% reported being a target of MA. The mean Clance IP scale score was 66.8 (ranging from 39 to 91). Only 1.2% of respondents reported few IP experiences while 69% scored in the frequent to intense feelings of IP. Black, younger, and medical trainee respondents had the highest IP scores compared to practicing gastroenterologists, advanced practice providers, and other respondents. IP scale scores decreased with age (Figure 1).

Conclusion: Exposure to IP and MA is experienced almost universally by female healthcare professionals in the field of gastroenterology. IP is quantified as frequent and severe in nearly 3 of every 4 respondents. Based on our survey results, future educational programming to increase awareness of these issues and provide solutions to addressing them should be tailored towards early identification and intervention in trainees and young professionals as well as creating inclusive work environments that address systemic bias and fostering a work culture that supports diversity.

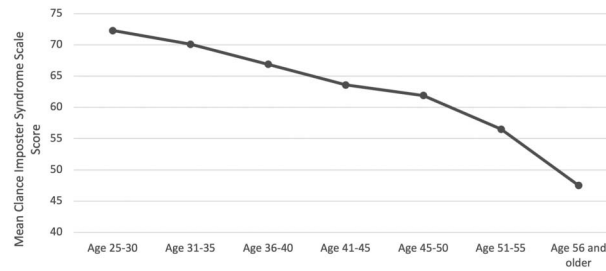
Table 1. Demographic Information and Clance Impostor Phenomenon Scale Scoring

Demographics	N (%)
Age (N = 86)	
25-30	15 (17.4%)
31-35	24 (27.9%)
36-40	19 (22.1%)
41-45	12 (14.0%)
45-50	10 (11.6%)
51-55	4 (4.7%)
56 and older	2 (2.3%)
Gender (N = 86)	
Female	84 (97.7%)
Male	2 (2.3%)
Ethnicity (N = 86)	
Black or African American	2 (2.3%)
Asian	33 (38.4%)
White	41 (47.7%)
Hispanic or Latino	5 (5.8%)
Prefer not to answer	5 (5.8%)
Current employment status (N = 80)	
Medical student	1 (1.3%)
Medical resident	11 (13.8%)
GI fellow	17 (21.3%)
Practicing gastroenterologist	40 (50.0%)
Advanced practice provider	5 (6.3%)
Other	6 (7.5%)
Practicing gastroenterologist years in practice (N = 39)	

Table 1. (continued)

Demographics	
1-5	17 (43.6%)
6-10	9 (23.1%)
11-15	7 (17.9%)
16-20	3 (7.7%)
21 and more	3 (7.7%)
Have you ever had feelings of Impostor Phenomenon? (N = 85)	
Yes	75 (88.2%)
No	4 (4.7%)
I don't know	6 (7.1%)
Have you ever been a target of micro-aggression? (N = 82)	
Yes	76 (92.7%)
No	1 (1.2%)
I don't know	5 (6.1%)
Clance Impostor Phenomenon Scale*	
Mean score (range) (N = 86)	66.8 (39 - 91)
Number (%) of respondents scoring in each category	
Score \leq 40: few IP experiences/feelings	1 (1.2%)
Score 41 - 60: moderate IP feelings/experiences	26 (30.2%)
Score 61 - 80: frequently IP feelings/experiences	45 (52.3%)
Score > 80: often has intense IP feelings/experiences	14 (16.3%)
Mean score by age (N = 86)	
25-30 (N = 15)	72.3
31-35 (N = 24)	70.1
36-40 (N = 19)	66.9
41-45 (N = 12)	63.6
45-50 (N = 10)	61.9
51-55 (N = 4)	56.5
56 and older (N = 2)	47.5
Mean score by ethnicity (N = 86)	
Black or African American (N = 2)	81.5
Asian (N = 33)	68.2
White (N = 41)	64.8
Hispanic or Latino (N = 5)	64
Prefer not to answer (N = 5)	70
Mean score by employment status (N = 80)	
Medical student (N = 1)	71
Medical resident (N = 11)	73.6
GI fellow (N = 17)	73.7
Practicing gastroenterologist (N = 40)	64.9
Advanced practice provider (N = 5)	54.6
Other (N = 6)	61.5
Mean score by practicing gastroenterologist years in practice (N = 39)	
1-5 (N = 17)	68.3
6-10 (N = 9)	60.3
11-15 (N = 7)	68.9
16-20 (N = 3)	56
21 and more (N = 3)	61.3

*Clance Impostor Phenomenon Scale (CIPS). From *The Impostor Phenomenon: When Success Makes You Feel Like A Fake* (pp. 20-22), by P.R. Clance, 1985, Toronto: Bantam Books. Copyright 1985 by Pauline Rose Clance, Ph.D., ABPP. Use by permission of Dr. Pauline Rose Clance. Do not reproduce/copy/distribute without permission from Pauline Rose Clance, drpaulinrose@comcast.net, www.paulinroseclance.com.



[1493] **Figure 1.** Mean Clance Impostor Phenomenon Scale Score by Age.

S1494

Gastroenterology Fellowship Virtual Interviews: Applicant and Faculty Perceptions on Virtual Interview Advantages and Barriers

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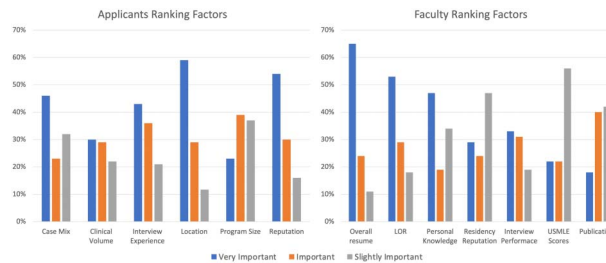
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Introduction: During the COVID-19 pandemic, virtual interviews for resident and fellowship applicants became the standard. However, studies evaluating the experience of virtual interviews format are lacking. Accordingly, we sought to survey both gastroenterology fellowship applicants and interviewing faculty members about their experiences with the virtual interview process.

Methods: Interviewees and faculty at 13 different gastroenterology fellowship programs at academic medical centers across the United States completed a post-interview survey. The online survey was conducted during the 2020 ERAS fellowship interview season via Google Forms. The survey responses were anonymously collected and reported.

Results: A total of 177 gastroenterology fellowship applicants and 83 faculty members completed the electronic surveys. Most participants reported a positive experience with 91% and 84% of applicants and faculty respectively, scoring at least 4 points on a 5-point scale. Eighty-8 percent and 85% of applicants and faculty respectively, reported that they had enough insight about the applicant or the fellowship program during the interview. Over 67% of applicants reported cost-savings of greater than \$1,000 per interview. Thirty-6 percent of applicants reported that they missed the personal interaction with the current gastroenterology fellows in the respective programs and the experience of physically touring the facility. Twenty-7 percent and 25% of applicants and faculty experienced technical difficulties during the interview process, respectively. Thirty-one percent and 22% of applicants and faculty would like for the virtual interviews to be the standard of future fellowship interviews, while 35% and 42% of applicants and faculty would consider it in the future, respectively. Figure 1 shows the ranking process for both applicants and faculty.

Conclusion: Virtual interviews were perceived as effective and cost-saving by both gastroenterology fellowship applicants and faculty members. The virtual experience was widely accepted by most applicants and faculty, with high potential to become the standard of fellowship interview process in the future. However, a substantial portion experienced technical difficulty. Further improvements in technology are needed to optimize the process and increase the acceptance of the virtual interview experience.



[1494] **Figure 1.** Applicants and faculty perspectives on the ranking process. LOR, letters of recommendation.

S1495

Efficacy of a Curriculum Teaching Healthcare Disparities in Gastroenterology Fellowship

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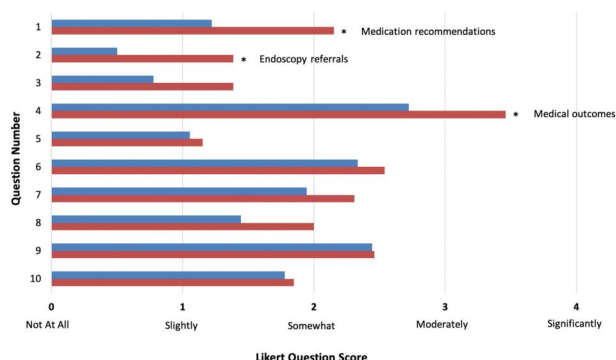
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Introduction: There are many studies identifying healthcare disparities based on sex, race, and economic status in gastroenterology (GI) influenced by the social determinants of health. The Accreditation Council for Graduate Medical Education (ACGME) recently mandated that medical training programs provide education about healthcare disparities. Tools to provide this education are lacking, and methods to address health equity remain unfamiliar to many health care systems, their leaders, and medical educators. The aim of this study was to pilot a healthcare disparities curriculum for our GI fellowship program.

Methods: Using the Kern 6-step method, we designed a year-long health disparities curriculum and implemented it in our GI fellowship from 2020 to 2021. During weekly academics, a fellow presented a journal article identifying a disparity in GI followed by guided group discussion about how to apply that study to our own practice and patient population. We developed a validated survey to assess knowledge and attitudes about healthcare disparities before and after implementation of the curriculum.

Results: Eleven fellows and 7 attendings completed the survey before, and 8 trainees and 5 attendings completed the survey following completion of the curriculum. We found that awareness and knowledge about health disparities improved through the curriculum. As seen in Figure 1, there were statistically significant differences in recognizing the impact of patient race on medication recommendations ($P = 0.03$) and referrals for endoscopy ($P = 0.01$), as well as the effect of socioeconomic status and race on medical outcomes ($P = 0.03$). We also observed that individuals were open to recognizing and sharing personal bias and engaging in discussions about how to improve our systems to reduce disparities.

Conclusion: Our results show that implementation of our curriculum increased awareness of healthcare disparities amongst gastroenterology fellows and attendings. Our curriculum is the first of its kind validated through pre- and post-survey results and fulfills an important new ACGME requirement for training programs. This was our first iteration and we have subsequently modified this curriculum to include guided academic sessions and educator tools through an online platform to be implemented at several GI training programs in the US in the 2022-2023 academic year.



[1495] **Figure 1.** Pre- and post-survey response data. Pre-survey data appears in blue. Post-survey data appears in red. Asterisk represents statistically significant questions, $P < 0.05$. Graph demonstrates an overall improvement in awareness about existing healthcare disparities following the implementation of our curriculum.

S1496

Addressing over Prescription of PPI in an Outpatient Underserved Population

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Introduction: Long term use of PPIs has been associated with increased risk of mineral and vitamin deficiencies and in some studies with *C. Difficile* Colitis. It is estimated that 25%-70% of PPI prescriptions are without an appropriate indication. The aim of this study was to discontinue at least 10% of the patients on PPIs who do not have an appropriate indication for therapy over the course of a 6-week period.

Methods: This study took place at a medically underserved resident clinic in Hartford Connecticut. Patients scheduled between 09/16/21 and 10/01/21 were pre-screened using EMR review. Any patient with a PPI on their medication list was included in the data set. Patients were stratified based on clinical need for PPI and potential for tapering using ACG Clinical Guidelines. Providers were educated on the clinical guidelines for PPI therapy. Patients on standard dosing were reduced to 50% dosing for 2 weeks and then discontinued. Patients were provided with as needed H2 Blocker for possible rebound symptoms. A total of 114 patients on PPI with appointments during the time window were identified. On the date of their visit, providers assessed individual patient PPI usage and discontinuation eligibility. Patients eligible for discontinuation of PPI were advised to dose reduce by 50% for 2 weeks and prescribed as needed H2 blocker. Providers also provided education on how to take PPI appropriately. Patients were called 2 weeks later for follow up. At that time if symptoms tolerated, PPI was discontinued.

Results: Of the total population, 28% (32/114) were on long term PPI appropriately. Seventy-two percent (82/114) of the patients prescribed PPI lacked a true medical indication. Of these, 44 patients were seen and provided a taper plan. PPI was discontinued successfully in 22% (18/82) of the population of inappropriately prescribed PPI within the 6-week window.

Conclusion: The aim of this study to achieve 10% population reduction in inappropriate PPI use was exceeded with roughly 22% discontinuation. Frequent medication reconciliation, patient education on proper PPI use and physician education with ACG Clinical Guidelines were simple changes to successfully improve clinically indicated PPI therapy. Many patients are aware of their triggers and use PPIs as a means of avoiding lifestyle and dietary change. When prescribing PPI, placing a "stop" time on the prescription may further reduce PPI burden.

S1497

Optimizing Percutaneous Endoscopic Gastrostomy Tube Placement Wait Times in a Safety Net Hospital

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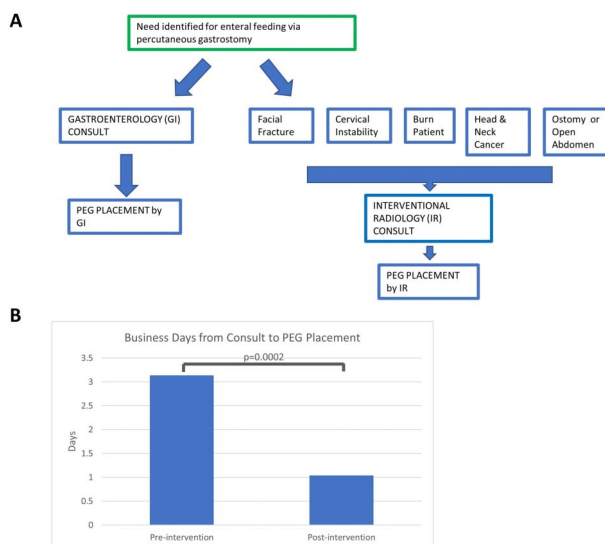
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Introduction: Percutaneous endoscopic gastrostomy (PEG) tube placement is an endoscopic procedure offered for patients with insufficient oral intake or contraindications to oral feeding. It is often the final procedure for patients prior to placement or discharge. Delays in PEG placement lead to longer hospital stays and increased healthcare costs. We sought to evaluate the impact of a streamlined PEG placement algorithm on PEG wait times at a safety net hospital.

Methods: On 1/7/22 at the Los Angeles County + University of Southern California (LAC + USC) Medical Center, our multidisciplinary team (Interventional Radiology (IR), Gastroenterology (GI) and Surgery) implemented an algorithm based on consensus criteria to clarify which PEG consults should be directed to GI versus IR (Figure 1A). Consults meeting GI criteria were staffed by one specific GI faculty member with 2 designated alternates to facilitate prompt PEG placement. If an endoscopy attending was unable to supervise, the PEG was placed by the specific attending that staffed the consult. An observational cohort of adult patients (>18 years) who received a PEG consult from the GI service from 7/1/21 to 5/21/22 was analyzed. The primary outcome of the study was the wait time (measured in business days) from consult to PEG placement pre-intervention (7/1/21 to 1/6/22) and post-intervention (1/7/22 to 5/21/22). Secondary outcomes were the relative proportion of successful PEG placements. Statistical analysis included Wilcoxon rank sum tests and logistic regression.

Results: A total of 61 consults occurred during the study period, 33 prior to the intervention and 28 post-intervention. After the intervention was implemented, the mean wait time from consult to PEG placement decreased from 3.1 days to 1.0 days ($P = .0002$) (Figure 1B). Post-intervention, PEG placement was more likely following consultation (OR 5.7 [95% CI 1.1 - 28.8]) (Table 1) with no difference in placement success (OR 2.0 [95% CI 0.5 - 7.5]). Cohort characteristics were similar in both groups. During the study period, only one major complication was observed when a patient removed the PEG on post-procedure day one, causing peritonitis and required surgical intervention.

Conclusion: Integration of a streamlined inpatient protocol significantly reduced wait times for PEG placement and increased probability of placement without differences in adverse outcomes. This specialized approach holds promise to improve inpatient care and reduce healthcare costs.



[1497] **Figure 1.** (A) PEG Placement Consult Algorithm. (B) Mean Wait Times from Consult to PEG Placement Pre- and Post-Intervention.

Table 1.

	Pre-Intervention (N=33)	Post-Intervention (N=28)
Total PEG Consults	33	28
Male	20	19
Female	13	9
Average Age (years)	54.4	56.8
Average Weight (kg)	71.9	73.1
Demographics		
Hispanic	12	21
Asian	8	3
African American	5	1
Caucasian	4	0
Unknown	4	3
Requesting indication		
Neurology	26	23
Pulmonary	6	4
Oncology	1	0
Burns	0	1
Total Planned PEG	22	26
Reason why PEG was not planned		
Deemed to not be medically optimized	6	0
Transferred to outside hospital	2	0
IR performed first	1	0
Obesity	1	0
Complex surgical or oncologic history	1	1
Ethics (no consent)	0	1

S1498

Temporal Analysis of Medicare Physician Reimbursement for Common Gastroenterology Procedures From 2007 to 2022

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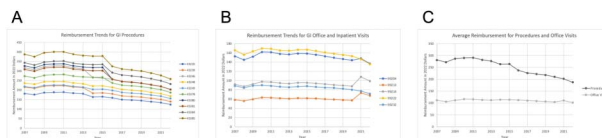
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Introduction: As the U.S. population ages, gastroenterologists will provide care for an increasing number of older patients – many of whom use Medicare. In recent years there have been significant policy changes surrounding Medicare reimbursement for physicians. Understanding reimbursement trends can help reveal the financial impact of these policies on gastroenterologists. Our study aims to analyze the trends in Medicare reimbursement of common gastrointestinal (GI) services from 2007 to 2022.

Methods: The top 10 GI procedures and their respective CPT codes were identified through a joint list published by the American College of Gastroenterology, American Society of Gastrointestinal Endoscopy, and American Gastroenterological Association. The top 5 CPT codes relating to office/inpatient visits provided by gastroenterologists to Medicare Part B beneficiaries was identified using data from CMS. The Physician Fee Schedule Look-Up Tool from CMS was queried for the selected CPT codes from 2007 to 2022, to determine the facility reimbursement rate by Medicare for each service. The reimbursement data were adjusted to January 2022 U.S. dollars using the U.S. Department of Labor’s Bureau of Labor Statistics’ consumer price index inflation calculator.

Results: The unadjusted physician reimbursement for GI procedures exhibited an average decrease of 7.0% (95% CI, -9.9% to -4.1%) from 2007 to 2022. After adjusting for inflation, the mean decrease in physician reimbursement for procedures was 33.0% (95% CI, -35.1% to -30.9%). The mean annual growth rate in reimbursement was -2.6% (95% CI, -2.8% to -2.4%). The unadjusted physician reimbursement for inpatient and outpatient visits exhibited an average increase of 32.1% (95% CI, 4.8% to 59.3%). After adjusting for inflation, physician reimbursement for patient visits exhibited a mean decrease of 4.92% (Figure 1).

Conclusion: The analysis revealed a steady decline in adjusted and non-adjusted reimbursement between 2007 and 2022. Decreasing Medicare reimbursement may impact health outcomes, healthcare access, and patient satisfaction. Reimbursement policies must be scrutinized particularly in the light of high inflation and increased costs due to additional costs associated with care during the COVID-19 pandemic, staffing shortages, and increased staffing salaries.



[1498] **Figure 1.** (A) Adjusted reimbursement for GI procedures (B) Adjusted reimbursement for office/inpatient visits (C) Mean adjusted reimbursement trends for GI procedures and inpatient/office visits from 2007 to 2022.

Table 1. Mean adjusted reimbursement trends for GI procedures and inpatient/office visits from 2007 to 2022

	CPT Code	Procedure Description	Mean CAGR	Mean Annual Change	Mean Unadjusted Total Percentage Change	Mean Total Percentage Change
Procedure	43235	Upper GI endoscopy, diagnosis	-2.5%	-\$4.19	-5.0%	-31.6%
	43239	Upper GI endoscopy, biopsy	-2.8%	-\$5.67	-9.8%	-35.1%
	43246	Place gastrostomy tube	-2.9%	-\$8.64	-11.0%	-36.0%
	43248	Upper GI endoscopy/guide wire	-2.3%	-\$4.83	-1.4%	-29.0%
	43249	Esophagus endoscopy, dilation	-2.2%	-\$4.40	-1.2%	-28.8%
	45378	Diagnostic colonoscopy	-2.5%	-\$6.10	-5.0%	-31.6%
	45380	Colonoscopy and biopsy	-3.1%	-\$9.52	-13.8%	-37.9%
	45381	Colonoscopy, submucous injection	-2.8%	-\$7.88	-8.7%	-34.2%
	45384	Lesion remove colonoscopy	-2.6%	-\$7.99	-6.3%	-32.5%
	45385	Lesion removal colonoscopy	-2.7%	-\$9.60	-7.7%	-33.5%
Office/Inpatient Visits	99204	New patient office or other outpatient visit, typically 45 minutes	-0.8%	-\$0.79	24.4%	-10.4%
	99213	Established patient office or other outpatient visit, typically 15 minutes	1.1%	\$0.37	60.8%	15.8%
	99214	Established patient office or other outpatient, visit typically 25 minutes	0.6%	\$0.29	49.5%	7.6%
	99222	Initial hospital inpatient care, typically 50 minutes per day	-1.5%	-\$1.35	13.6%	-18.2%
	99232	Subsequent hospital inpatient care, typically 25 minutes per day	-1.6%	-\$0.81	12.0%	-19.4%

S1499

Improving First-case On-time Procedure Starts in a Large Health Care Network

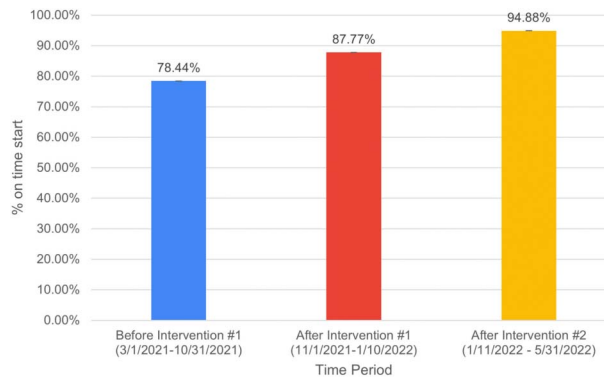
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Introduction: Delays in the endoscopy unit procedure room can lead to provider, staff, and patient dissatisfaction, and increased costs. Starting the first-case on-time can reduce these delays, improve efficiency, and improve provider and staff morale, and patient satisfaction. At baseline, our first-cases only started on time 78.4% of the time and the reason was often not given for delays. Our goals were to increase our first-case on-time start rate to more than 90% and increase how often a reason was given for a late start to more than 90%.

Methods: We included data for the 35 employed Gastroenterologists in our network. We excluded late starts due to patient, staff, facility, anesthesia, or change in case order. Our first intervention took place at the end of 10/2021 and included a presentation to our Gastroenterologists at a Department Meeting and then monthly emails to all Gastroenterologists with all Gastroenterologists' first-case on-time start rate. Our second intervention took place on 1/11/2022 and involved adding a hard-stop so an endoscopy nurse was forced to select a reason for every late first-case start. We continued to collect our data from 11/1/2021 to 1/10/2022 (after the first intervention) and from 1/11/2022 to 5/31/2022 (after the second intervention). We also tracked how often a reason was given for a late start. We used a Chi Square test to compare the rates before and after the first intervention, and then before and after the second intervention.

Results: The first-case on-time start rate increased from 1695/2161 (78.4%) to 531/605 (87.8%) after the first intervention ($P < 0.00001$). It then increased to 1242/1309 (94.9%) after the second intervention ($P < 0.00001$) (Figure 1). The frequency of how often a reason was given for a late start increased from 120/540 (22.2%) to 53/67 (79.1%) after the hard-stop was added on 1/11/2022 ($P < 0.00001$).

Conclusion: These 2 interventions led to a significant increase in our first-case on-time start rate and how often a reason was given for a late start. This underscores the importance of regular feedback about start times as our Gastroenterologists were more motivated to start on-time when they knew their rates would be emailed to the rest of the group. Now that we are collecting data for the majority of late starts, we are able to use this data to focus on the reasons for the remaining late starts. There have been discussions about adding this hard-stop in the operating room to improve the quality of the data we collect there as well.



[1499] **Figure 1.** Increase in first-case on-time procedure starts after the first and second interventions.

S1500

Gender and Racial Disparities in First and Senior Authorship in Gastroenterology Randomized Clinical Trials

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Introduction: Gender and racial disparities are pervasive in every field of medicine. Although females and Blacks are not only underrepresented in the academic and research community; their representation in research grant awards also rests negligible. This study highlights the discrimination in first and senior author publications in gastroenterology randomized control trials.

Methods: A retrospective cross-sectional analysis of the data from the PubMed search engine using the keyword gastroenterology and RCT as the article type from January 1, 2000, to March 31, 2022, was obtained. The PubMed search was performed using the easy-PubMed package in R, version and detail analysis was executed after gender and racial profile sorting.

Results: A total of 16,482 randomized clinical trial papers were found in the PubMed search engine, including 30 PubMed indexed journals. However, after excluding lower index and non-popular research journals, 2,435 randomized control trials were included from 15 journals in this study. Compared to other races, Whites own the majority of first and senior authorship. Additionally, male representation remains in the majority for first and senior authorship in Gastroenterology Randomized Controlled trails. Only 35% female and 28% Black authors represented for first and senior authorship from January 1, 2000, to March 31, 2022.

Conclusion: Our study highlighted Blacks and female were minimally represented for first and senior authorship in gastroenterology randomized controlled trials from January 2000 to March 2022, as compared to Whites and males. Moreover, females and Black authors were under-represented in nearly all academic journals publications. Considering gender, the data showed an increase in the number of females from 2000 to 2022 for total number of research publications. However, as compared to males, there remains a gap in the female authorship in major journal publications positions (2000: 22% vs 35%; 2022). Institutional culture plays a crucial role in promoting women in science and medicine. Several publications have documented a persistent and damaging culture of behavior that limits the participation of women in academics. Some studies also support the basis that diverse institutions train physicians who more effectively serve minority communities Further research is needed to explore policies for recruitment and grant award distribution that may be contributing to racial and gender disparity in research publications and the ways to rectify the gaps.

S1501

Widespread Underrepresentation of Gastroenterology Expertise in the Media on Digestive Health Topics

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Introduction: Misinformation has serious implications on public health. Medical training has not traditionally prepared health professionals for communication with general public through media. The current representation of gastroenterologists (GI) in the media concerning digestive health topics is not well understood. Our study aims to characterize GI involvement in media coverage of common gastrointestinal health topics.

Methods: All online news published January 1, 2021 to November 15, 2021 concerning 5 common digestive health topics were queried from Google News. Variables of interest include topic queried ("IBS," "IBD," "reflux," "fatty liver," "gastroparesis"), source type (medical journal, medical press, national/international lay media, local news, non-medical blog posts, press releases), presence of medical professional, GI involvement, and GI affiliation (academic vs non-academic). Statistical analysis was performed using a chi-squared test.

Results: A total of 1,830 online news articles on digestive health topics were analyzed, with 40.4% and 59.6% from medical and lay press, respectively. Of all articles, 59% included medical professional involvement and 31% included GI representation. Input from naturopathic/homeopathic practitioners was found in 2.4%. Medical professional involvement (66.5% vs 48.1%, $P < 0.0001$) and GI representation (53.8% vs 46.4%, $P < 0.019$) were significantly higher in medical versus lay press. Percentage of stories involving GI was lowest in articles concerning gastroparesis (29.9%) and reflux (38.5%) topics, and highest in IBD (56.4%) and IBS (63.4%) ($P < 0.0001$). There was no difference in academic GI representation between medical versus lay press (29.8% vs 25.0%, $P = 0.50$). Non-academic GI were most commonly seen in stories about reflux (42.2%) and IBS (35.8%), compared to IBD (22.9%), gastroparesis (10.0%), and fatty liver (11.9%) ($P < 0.0001$).

Conclusion: Despite covering digestive health topics, nearly half of all medically-oriented and lay press coverage did not feature GI or include their contributions. Without input/oversight of trained experts, appropriate clinical context may be neglected and misinformation perpetuated, especially by lay media outlets. The absence of GI from media coverage disproportionately affected some subject areas. Relationships between professional GI community and media outlets should be cultivated, and GI should be exposed to communication/media training to better engage with lay audiences.

S1502

Effect of Immunotherapy in Gastrointestinal Cancers Based on Time of Treatment

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Introduction: Circadian rhythms are evolutionarily conserved organismal processes that involve daily oscillations of biological machineries including those involved in cancer progression and immune response. Emerging research suggests that the efficacy of cancer immunotherapy may vary by time of treatment. Chronoimmunotherapy has not been studied in gastrointestinal (GI) cancers.

Methods: This was a retrospective study of patients with GI cancers who received immunotherapy (nivolumab, pembrolizumab, or atezolizumab) from 2017 to 2022 at a single, academic cancer center, Rush University Medical Center (Chicago, IL). Patients were excluded if they received less than 2 infusions or if their disease burden was not assessed at a 2-3 month follow up. The primary outcome was tumor regression, defined as evidence of decreased tumor burden on radiographic imaging confirmed by the treating oncologist. Patients were divided into 2 groups; those that received 50% or more infusions after noon and those that did not. We used chi-square analysis to compare disease regression between groups.

Results: Between 2017 and March 2022, we identified 63 GI cancer patients at Rush University Medical Center who were treated with immunotherapy, of which 43 patients had enough data for analysis and were included in this study. The median age was 66.7 years and 63% of patients were female. There was a trend towards a higher incidence of tumor regression in the morning vs afternoon group [(40% (9/21) vs 18% (4/22), respectively, $P = 0.078$].

Conclusion: Immunotherapy is becoming more widely used in multiple GI cancer types. We found a trend towards a higher incidence of tumor regression based on the timing of immunotherapy in GI cancers. The findings are consistent with results from previous studies in other tumor types (ie, melanoma, lung cancer), where administration of immunotherapy earlier in the day was associated with better outcomes. Larger studies will be needed to confirm these findings and to apply the concept of chronoimmunotherapy in GI cancers.

S1503

Barriers and Facilitators to Shared Decision-Making Implementation in the Management of Esophageal Diseases: A Mixed Methods Study

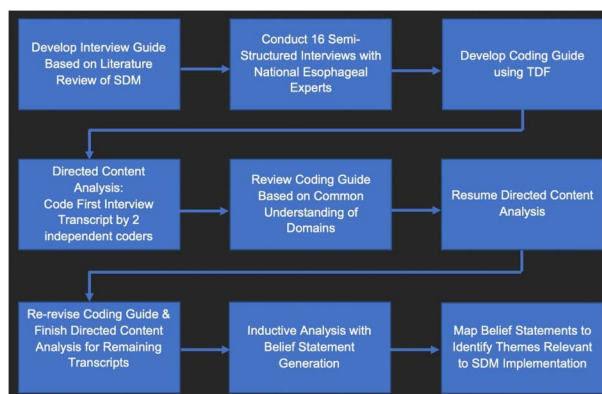
*Sudharshan Achalu, BA¹, Rani Berry, MD¹, George Triadafilopoulos, MD², John O. Clarke, MD¹, Afrin N. Kamal, MD, MS¹.
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Introduction: Shared decision-making (SDM) is a model in which properly informed patients partake in decision-making as physicians incorporate patient goals/preferences. Despite growing recognition that SDM may improve health outcomes, physician implementation has not yet been routine. To increase acceptance and implementation, we must first explore physicians' views on SDM. To formally study gastroenterologists' perspectives on the potential barriers and facilitators of SDM implementation in the management of esophageal disease.

Methods: Surveys and semi-structured interviews were conducted with a national panel of gastroenterologists focusing on esophageal disease, recruited from the Esophageal Virtual Collaborative. All panelists completed an investigator-developed survey capturing beliefs and practice patterns on SDM. In addition, 50% of them were invited for interviews to explore barriers (eg, factors inhibiting) and facilitators (eg, factors promoting) to SDM implementation. An interview guide was created from literature review. Interviews were recorded, transcribed, and independently coded by 2 reviewers. The Theoretical Domain Framework (TDF) was applied to identify barriers/facilitators in SDM implementation to guide possible intervention.

Results: Thirty-three gastroenterologists completed the survey (75% male; median age 29.5 years). Over 75% of them agreed in the promotion of SDM if the patients' symptoms are severe (75.8%) and that the use of partnership building language is essential to SDM (72.7%). Interview transcripts with 16 of these gastroenterologists were independently coded into TDF domains with strong inter-rater reliability (Cohen's Kappa = 0.77). Four domains were the most relevant to barriers and facilitators: (1) environmental context and resources; (2) memory, attention, and decision processes; (3) knowledge; and (4) skills. Of 533 beliefs identified, most common beliefs on barriers and facilitators included: (1) low patient health literacy; (2) clinic time constraints; (3) patient fear/anxiety, and: (1) physician communication skills (eg, joint discussion of treatment options); (2) communication aids (eg, Question Prompt Lists); and (3) illustrations (eg, diagrams) to improve understanding, respectively.

Conclusion: We identified gastroenterologist beliefs on barriers/facilitators to SDM implementation when managing esophageal disease. Our early data will help design studies/strategies for behavior change interventions.



[1503] Figure 1. Workflow specific to the qualitative methods.

Table 1. Relevant barriers and facilitators following gastroenterologist interviews

Barriers / Facilitators	Theme	Beliefs	Corroborating Interview Quote
Barriers	Time	I believe time constraints in clinic are a barrier to SDM	"I imagine, probably the biggest barrier is time. It's a lot easier to just tell a patient what to do. I mean if I just tell them, you know you're going to take a PPI, now goodbye, that takes about 10 seconds. If I lay out every option and explain all the pros and cons of every option, the adverse effects and possible drug interactions and implications of everything, that will take more than 30 minutes."
	Patient Characteristics	I believe low patient health care literacy is a barrier to SDM	"I think the biggest barriers are really trying to break down complex medical pathology and tests for a lay person with various ranges of medical literacy and insight. So, trying to make patients exactly understand what the options are for testing and treatment is always the challenge."
	Patient Characteristics	I believe patient fear/anxiety is a barrier to SDM	"There are patients who are just intimidated by the medical personnel and environment, and they just don't feel comfortable asking questions, mostly because of their insecurities or fearful of portraying that they do not understand."

Table 1. (continued)

Barriers / Facilitators	Theme	Beliefs	Corroborating Interview Quote
Facilitators	Physician Communication	I believe drawing diagrams with images facilitates SDM	"I'll try to maximize their understanding, asking if they have questions, at multiple points along the way, and stopping to do that. I think diagrams are helpful as well. When we're talking about shared decision-making, graphics can be helpful in ensuring that patients understand options and complex treatments"
	Physician Communication	I believe the use of question prompt lists (QPL) facilitates SDM	"I think that this absolutely has the potential to be effective, particularly for people with limited healthcare literacy, or for those who with new diagnosis, [or] for those who have not previously searched the Internet. I think that QPLs are really helpful because they allow patients to think and focus on the disease and their symptoms that matter to them the most."
	Physician Communication	I believe informing patients about treatment options facilitates SDM	"First part of SDM is to explain thoroughly the disease process to the patient, so they understand to some degree the pathophysiology and why the available treatments could be effective. I think it's important to go through all the risks and benefits of each of those treatment proposals. And then it's important to ask the patient what they think about the various decisions."

S1504

Reducing Health Care Disparities: Assessing Quality of Bowel Preparation and Rates of Colonoscopy Completion in the Underserved

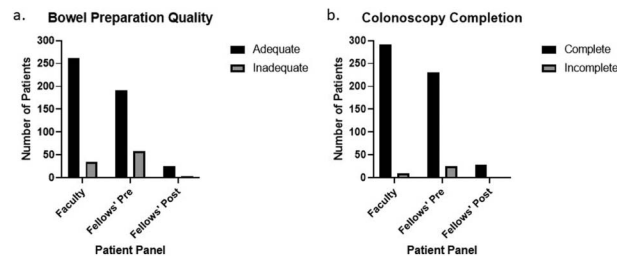
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Introduction: Inadequate bowel preparation is a major barrier to the successful completion of colonoscopies, particularly in disadvantaged populations. In our GI fellows' clinic, we care for underinsured patients with low socioeconomic status, most of whom (56%) are Hispanic and Spanish-speaking only. We aimed to compare the quality of bowel preparation and rates of colonoscopy completion in the fellows and faculty panels and to identify whether the implementation of a patient navigator bridges the gap in health care disparities.

Methods: We conducted a retrospective chart review of 547 colonoscopies performed on a subset of the GI faculty panel from January 1, 2019 to December 31, 2021 and on all the patients from the fellows' panel from January 1, 2019 to date. Data was collected on patient demographics, bowel preparation quality, and completion of procedure. Preparation quality was classified as adequate or inadequate based on the endoscopist's report. Completion of procedure was defined as advancement of the colonoscope into the cecum. Chi-square analyses were conducted to identify statistically significant differences.

Results: A total of 297 and 250 colonoscopies were performed on the GI faculty and GI fellows' panels, respectively. The number of inadequate bowel preparations was significantly higher in the fellows' panel (58/250; 23%) compared to the faculty panel (35/297; 12%) ($P < 0.001$, OR = 2.261, 1.438-3.589) (Figure 1). The number of procedure completions was significantly lower in the fellows' panel (225/250; 90%) compared to the faculty panel (288/297; 97%) ($P < 0.001$, OR = 3.556, 1.651-7.840) (Figure 1). As a pilot program to eliminate this disparity, we implemented a bilingual patient navigator in March 2022 (Table 1). Preliminary data of this intervention shows an improvement of bowel preparation quality, from 23% to 10%, and colonoscopy completion rates, from 90% to 97% (Figure 1).

Conclusion: There is a major difference between the GI fellows' and GI faculty panel in the rate of adequate bowel preparation and incomplete procedures due to poor bowel prep. These differences impact time to diagnosis which leads to increased morbidity and mortality. The implementation of a dedicated Spanish-speaking patient navigator in the GI fellows' clinic has improved the rate of adequate bowel preparation, thereby improving colonoscopy completion rates. By inference, this has improved the quality of the care we deliver and will ultimately reduce healthcare disparities within our community.



[1504] **Figure 1.** Bowel preparation quality and colonoscopy completion. Comparison of the GI faculty panel, GI fellows' panel pre-intervention, and GI fellows' panel post-intervention for (A) bowel preparation quality and (B) colonoscopy completion.

Table 1. Patient navigator role and responsibilities (Main role: Provides individualized education of the pre-procedural testing and bowel preparation instructions in Spanish)

<ul style="list-style-type: none"> • Calls patients (in Spanish if preferred language) 2 weeks prior to their scheduled procedure to: <ul style="list-style-type: none"> • Confirm procedure and appointment time • Review bowel preparation instructions and level of comprehension • Ensure clarity of COVID-19 testing instructions • Verify if patients are on any antiplatelet/anticoagulant agents and timing of periprocedural cessation • Give his contact information for any more questions
Sends an email to the patient with the procedure information and bowel preparation instructions (in Spanish if preferred language)
Calls patients to ensure they have started the financial aid process to avoid cancellations and financial burdens
Calls patients 5 days before the procedure to verify they will be starting the prep
Present during the procedure day and procedure itself to assist with patient translation, if needed

S1505

Visual Summaries of Gastroenterology Guidelines Increase Clinicians' Exposure to and Knowledge of Guideline-Based Clinical Care

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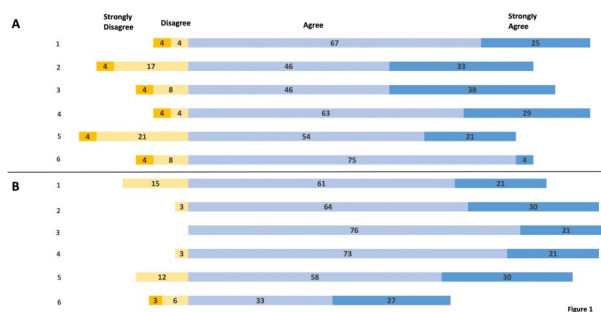
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Introduction: Gastroenterologists need to understand and apply information from subspecialty guidelines to deliver appropriate clinical care. In busy clinical practice, however, it can be difficult to keep up with newly published guidelines as they are frequently released from multiple independent societies and can be lengthy. To address this issue, gastroenterology (GI) fellows at a large academic institution created concise visual summaries of recently published GI guidelines and disseminated them via an electronic newsletter and social media.

Methods: Gastroenterology fellows created short, visual summaries of 2 recently published guidelines per month since January 2021. GI faculty mentors at our institution reviewed content for accuracy prior to distribution via a monthly electronic newsletter, social media (Twitter, Instagram, and Facebook), and an organizational website. Over 16 months, more than 30 summaries were created to cover various topics within GI applicable for both inpatient and outpatient settings. We developed a short 7 question survey to evaluate who the target population was, how the visual summaries were being accessed, and how the content impacted clinical practice. We distributed the survey via email to GI fellows, residents, and faculty at our institution, as well as our monthly newsletter recipients and over social media in May 2022. The survey was exempt from IRB approval since it was a program evaluation.

Results: A total of 57 individuals responded to the survey, 58% of whom are residents and GI fellows and the remaining 42% attendings. Attending respondents included general gastroenterologists (33%), subspecialized gastroenterologists (58%), and other medical specialties (8%). Most respondents (93%) worked at an academic institution, of whom 42% are attendings, 42% fellows, and 17% residents or students. Individuals typically accessed the visual summaries via social media (49%) or the emailed newsletter (37%). Figure 1 shows how interaction with the visual summaries impacted clinicians' exposure to and knowledge of clinical guidelines.

Conclusion: Visual aids are an efficient way to summarize guidelines and can be used by trainees and faculty as a quick and easy reference to provide guideline-informed care to patients. Distribution over social media provides an additional opportunity to reach clinicians worldwide.



[1505] **Figure 1.** Percentage of responses to Likert-style questions separated by level of training. Panel A represents attending responses, while Panel B represents fellow and resident responses. Question Key: 1. I am more aware of when my decisions deviate from guideline recommendations. 2. I am more likely to apply guideline recommendations to my own patients. 3. I feel the guidelines are more approachable after reading visual summaries. 4. I am more likely to remember recommendations from the guidelines after reading visual summaries. 5. I am more likely to read GI Guidelines after reading visual summaries. 6. I learned information from the Visual Abstract that I did not know previously.

S1506

Identifying Screening and Diagnostic Endoscopic Delays Due to COVID-19

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Introduction: Many healthcare specialties were limited in screening practices and elective procedures during the COVID-19 pandemic. Our institution resumed GI procedures by conducting COVID testing prior to diagnostic and screening procedures. Patients were deferred if positive for COVID. We sought to evaluate the impact of COVID-19 related delays for these procedures.

Methods: This retrospective study evaluated outpatient endoscopic procedures delayed due to positive COVID-19 testing from March 2020 to 2022 at an academic center and affiliated community hospital. All patients undergoing endoscopy underwent rapid PCR testing (Abbott ID Now, Chicago, IL) prior to their scheduled procedure. All patients who tested positive were cancelled and informed that they could not reschedule their procedure for 21 days. All cancelled procedures were documented in the electronic medical record using a COVID-19 related cancellation code. Patient and procedural characteristics were identified through a manual chart review. Statistical analysis included t-testing, chi-square, and ANOVA.

Results: There were 197 patients eligible for inclusion. The median age was 61 years. Sixty two percent of patients were female, and 72% identified as White. Colonoscopies were the most common delayed procedure (63%), followed by EGD with colonoscopy (19%), and EGD alone (18%). Colorectal cancer screening was the most common indication for colonoscopy (77%), dysphagia for EGD (16%), and symptoms including nausea, abdominal pain, or change in stool habits for EGD and colonoscopy (36%). To date, 46% (N = 91) of delayed endoscopies were completed. There was no significant difference in demographic factors for endoscopy completion (Figure 1). The median time to endoscopy completion was 140 days (IQR 65-320) with no significant difference by type of endoscopy (P = 0.64) or institution (P = 0.48) (Table 1).

Conclusion: Endoscopic delays have longstanding implications for cancer screening and diagnosis or treatment of gastrointestinal disease. In this study, more than half of our patients were lost to follow up. The majority who completed endoscopies did so with significant delay. As COVID-19 continues to impact our healthcare system, a commitment to improving the processes of completing diagnostic and screening endoscopies in a timely fashion is essential to improve this gap in patient care.

	Completed N=91 (46%)	Not Completed N=106 (54%)	Significance
Age			
Mean	59	58	p = 0.79
Median	61	61	
Range	19-84	18-85	
IQR 1-3	50-66	51-68	
Gender, n (%)			p = 0.43
Female	59 (65)	63 (59)	
Male	32 (35)	43 (41)	
Race, n (%)			p = 0.27
White	64 (70)	78 (74)	
Black or African American	13 (14)	11 (10)	
Asian	5 (5)	2 (2)	
Other	9 (10)	12 (11)	
Not reported	0 (0)	3 (3)	
Ethnicity, n (%)			p = 0.35
Hispanic	23 (25)	22 (21)	
Non-Hispanic	68 (75)	84 (79)	

[1506] **Figure 1.** Patient demographic information for endoscopies that were completed or not completed after delays due to COVID-19.

Table 1. Delay times by procedure and institution. Listed as median (IQR) in days

	Total (N=91)	Academic Center (N=58)	Community Hospital (N=33)
Total	140 (65-320)	199 (68-294)	166 (54-186)
Colonoscopy	152 (70-334)	221 (69-346)	140 (52-135)
EGD+Colonoscopy	94 (61-238)	159 (57-203)	181 (65-146)
EGD Alone	153 (21-245)	58 (47-251)	250 (78-386)

S1507

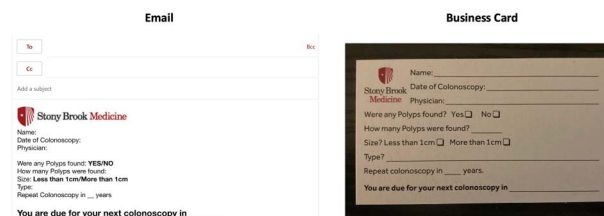
Screening Colonoscopy Results Delivered via Email or Business Card Improves Patient Knowledge of Colonoscopy Results Compared to the Standard of CareJoseph Mizrahi, MD¹, Anika Paradkar, MD¹, Samantha Novotny, BS², Adam Myer, MD¹, Johanna Saleh, RN¹, Farah Monzur, MD¹.¹Stony Brook University Hospital, Stony Brook, NY; ²Renaissance School of Medicine at Stony Brook University, Stony Brook, NY.

Introduction: For surveillance colonoscopy guidelines to be effective at preventing colorectal cancer, patients need to recall what was found on their colonoscopy, or at a minimum the year they need to return for their surveillance colonoscopy. While many endoscopists have systems in place to remind patients years later when they are due to return, patients routinely move residences and physicians' practices change, which can easily lead to patients being lost to follow-up. Thus, we sought to identify the most optimal way of conveying colonoscopy results to patients to improve their knowledge of their colonoscopy findings.

Methods: We conducted a prospective randomized cohort pilot study of patients referred for screening colonoscopy at our institution through our direct referral program. Patients consented to being randomized to receiving their colonoscopy results either via the Standard of Care at our institution (Control Group), an Email with their results, or a Business Card mailed to them with their results (Figure 1). Patients were then emailed a survey 6 months after their procedure asking them various questions about their colonoscopy.

Results: One hundred and three patients enrolled in our pilot study and completed the 6-month survey, with 36 patients in the Control Group, 31 patients in the Email group, and 36 in the Business Card group. Overall, 67% of patients knew they needed to return for a surveillance colonoscopy, with 53.4% of patients knowing the exact year to return. When broken down by each cohort, 61.1% of Control patients knew to return for a colonoscopy, compared to 70.1% of Email patients and 69.4% of Business Card patients. In terms of knowing the year to return, 50% of Control patients answered that question correctly, compared to 58.1% of Email patients and 52.8% of Business Card patients.

Conclusion: Overall, patients randomized to receiving their colonoscopy results via Email or a Business Card were more likely to both know that they needed to return for a colonoscopy as well as the specific year to return, compared to patients who received the standard of care. Our pilot study shows that an extra layer of low-cost, low-effort patient navigation increases patient's awareness to return for a colonoscopy, and at the correct year as well. Future plans include surveying these patients at 1 year from their colonoscopy, as well as ultimately seeing if these interventions impact a patient's likelihood of undergoing a surveillance colonoscopy.

[1507] **Figure 1.** Examples of the Email and Business card that were sent to patients.

S1508

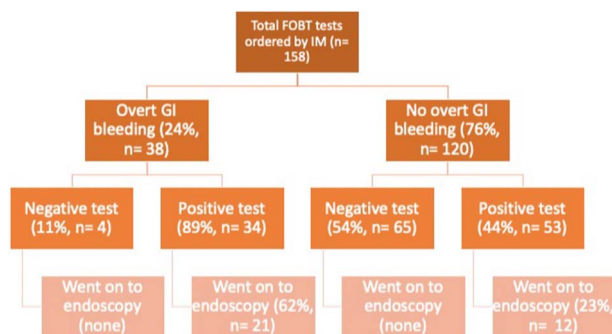
Pathway to Eliminating Fecal Occult Blood Testing at a Tertiary Care CenterPriya Abhyankar, MD¹, Aaron Brenner, MD², Kshitij Thakur, MD¹, Ryan Beyer, MD¹, Marijeta Pekez, MD¹.¹University of Kentucky, Lexington, KY; ²University of Kentucky College of Medicine, Lexington, KY.

Introduction: The United States Preventive Services Task Force (USPSTF) recommends fecal occult blood testing as one method for colorectal cancer screening in average risk people. However, the test is often used inappropriately for other indications in admitted patients, leading to unnecessary procedures, false reassurance, and wasted health care dollars. We performed a retrospective review to determine the indications for inpatient fecal occult blood tests (FOBT) and their impact on clinical outcomes at a tertiary care center.

Methods: Our goal was to characterize the current inpatient FOBT ordering patterns at our tertiary care center. We reviewed all the inpatient FOBT ordered between Jan 2018 and Jan 2021 and characterized them based on the ordering department. Internal Medicine (IM) was the most common ordering department. We then conducted a chart review of every fourth IM patient that had an FOBT ordered during the study period. We identified characteristics such as chief complaint, ordering team, indication, the result of the test, if a patient went on to endoscopy, and hemoglobin at the time of test.

Results: Out of 1,446 total orders, IM ordered the most FOBT with 632 tests, followed by family medicine at 369 tests, and cardiology with 135 tests. Among the 158 IM charts reviewed, the most common ordering team was the admission triage team. Ninety percent of tests were ordered by non-teaching teams vs 10% ordered by teaching teams. The IM-ordered tests had a positivity rate of 54% and anemia was the most common indication. The average hemoglobin at time of testing was 8.5 g/dl. Twenty four percent of patients had signs of overt GI bleeding. In the absence of overt GI bleeding, only 23% of positive FOBT tests led to an inpatient endoscopy (Figure 1). The proportion of those who underwent endoscopy was higher in those who presented with symptoms of overt GI bleeding than those who did not (56% vs 10%).

Conclusion: Our retrospective study highlights that inpatient FOBT are often utilized in the management of anemia in hospitalized patients. Most tests were ordered by non-teaching teams. In the absence of overt bleeding, a positive inpatient FOBT rarely led to endoscopy. Use of FOBT in the inpatient setting is a low value practice. We plan to conduct a further root cause analysis using physician interviews to understand reasoning for inpatient use of this test and design interventions to eliminate inpatient FOBT at our hospital.



[1508] **Figure 1.** Flow diagram detailing which patients went on to endoscopy.

S1509

National Demographics and Reasons for Gastrointestinal-Related Encounters That Resulted in Emergency Department Mortality in the United States: Analysis of the Nationwide Emergency Department Sample

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Introduction: This study outlined the GI reasons for ED visits that resulted in mortality within the ED. This would provide epidemiologic data on current mortality-related encounters to identify the highest risk population in this clinical setting.

Methods: We sourced the data from the US Nationwide Emergency Department Sample (NEDS) for 2018. It is weighted to calculate national estimates representing about 143 million ED visits in 2018. The study population included all ED encounters with a principal encounter diagnosis of a gastrointestinal disorder by the International Classification of Diseases 10th Revision coding system. The first listed diagnosis was taken as the reason for the ED encounter in keeping with NEDS research methods. We obtained the cohort with ED mortality using the provided variable in the NEDS.

Results: Of the total ED encounters in 2018, about 10.2 million (7.1%) were for GI conditions. Among ED presentations for GI conditions, 1874 patients died in the ED. A higher proportion were females (54.0%), with a mean age of 72.5 ± 15.4 (standard deviation) years. The majority of the patients were elderly (71.8%) with Medicare as the most common primary payer (71.4%) followed by private insurance (13.2%). A higher proportion belonged to the low-income quartile for patient's zip code compared to the high-income quartile. The top reasons for GI presentations with ED mortality included unspecified GI hemorrhage (40.5%), non-traumatic perforation of the intestine (5.9%), hematemesis (5.3%), hepatic failure without coma (3.9%), unspecified intestinal obstruction (3.9%) and unspecified vascular disorder of the intestine (2.7%).

Conclusion: ED mortality from GI conditions is more likely among elderly females from low-income households. Providers should recognize that presentations for GI hemorrhagic conditions should raise a high index of suspicion as potential ED fatality. Particular attention should be paid to the highest risk individuals to decrease this low but significant event in any healthcare setting. Healthcare education and discharge instructions should include information on sentinel clinical symptoms of these conditions. This would help patients identify life-threatening symptoms and encourage early presentation to the ED which might improve survival odds in the most at-risk individuals. The higher proportion of low-income households in ED mortality is a worrying concern that could be a marker of healthcare disparities in the health system.

S1510

Health Care Experiences of LGBTQ+ Individuals: A Rochester Pride 2022 Survey

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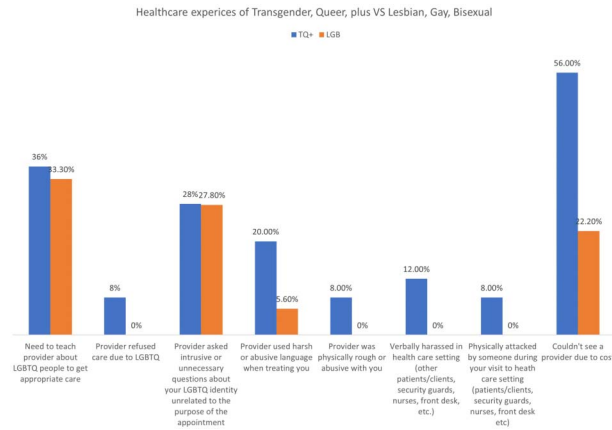
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Introduction: Around 16% of LGBTQ+ adults in the US reported having experienced discrimination in healthcare settings, leading some patients to postpone or avoid healthcare services out of fear of stigmatization. We surveyed Rochester (RST) Pride attendees regarding their healthcare experiences.

Methods: At RST Pride 2022, attendees completed an anonymous online/paper survey to compare healthcare experiences among LGBTQ+ vs straight individuals and among gender diverse groups of LGBTQ+ community (Cis vs Trans or queer or plus (TQ+)). Characteristics of straight and LGBTQ+ individuals were compared using logistic regression for dichotomized outcomes and general linearized models for categorical outcomes after adjusting for age. Outcomes were considered significant when the *P*-value < 0.05.

Results: Of 132 respondents, LGBTQ+ respondents (N = 89) were younger than straight respondents (N = 43) and comparatively had more difficult access to healthcare (22.7% vs 7%; *P* = 0.215). LGBTQ+ reported more public insurance (31.8% vs 18.6%; *P* = 0.16) and reported seeking urgent/emergent care in greater proportion (22.5% vs 7%; *P* = 0.055) than straight individuals. 62.9% of LGBTQ+ individuals disclosed their sexual orientation/gender identity (SOGI) to their healthcare provider (HCP) and 38.6% of HCP's asked their patients about SOGI. Most LGBTQ+ individuals feared negative reaction from HCP because of SOGI (*P* = 0.0006). Universal signs of acceptance in healthcare facilities made LGBTQ+ individuals feel safer to disclose (*P* = 0.006) compared to straight individuals. 67.9% of respondents actively looked for gender-neutral language on intake forms and perceived it being inclusive. LGBTQ+ individuals felt misunderstood by HCP compared to straight individuals (31.0% vs 7.3%; *P* = 0.005). When comparing healthcare experience of cis-gender (n = 37) vs TQ+ (n = 52) LGBTQ+ individuals, TQ+ had more difficult access to care (27.5% vs 16.2%; *P* = 0.113). 2 TQ+ reported being refused care, verbally harassed and physical attacked at healthcare setting because of gender identity compared to zero cis individuals. Cost of care is hugely inhibitive for TQ+ individuals while seeking care (14 vs 4, *P* = 0.036).

Conclusion: LGBTQ+ individuals have poor healthcare experiences and reduced healthcare access. Fear of discrimination limits them from disclosing their SOGI. Trans and non-binary individuals face worse discrimination and high-cost barrier when seeking health care compared with their cis LGB peers. These findings will be validated in a larger cohort.



[1510] Figure 1. Healthcare Experiences of Trans, queer, plus individuals compared to cis Lesbian, gay, and bisexual individuals.

Table 1. Demographics and Healthcare Experiences of Rochester Pride 2022 Attendees

	Heterosexual / Straight (N=43)	LGBT+ (N=89)	Total (N=132)	P value
Age				
Missing	0 (0.0%)	1 (1.1%)	1 (0.8%)	
18-25	4 (9.3%)	37 (41.6%)	41 (31.1%)	
26-35	12 (27.9%)	28 (31.5%)	40 (30.3%)	
36-45	8 (18.6%)	10 (11.2%)	18 (13.6%)	
46-55	8 (18.6%)	6 (6.7%)	14 (10.6%)	
56-55	6 (14.0%)	5 (5.6%)	11 (8.3%)	
66-75	4 (9.3%)	1 (1.1%)	5 (3.8%)	
76+	1 (2.3%)	1 (1.1%)	2 (1.5%)	
Race				
Missing	1 (2.3%)	0 (0.0%)	1 (0.8%)	
White	37 (86.0%)	79 (88.8%)	116 (87.9%)	
Black / African American	2 (4.7%)	0 (0.0%)	2 (1.5%)	
Asian	3 (7.0%)	4 (4.5%)	7 (5.3%)	
Other	0 (0.0%)	6 (6.7%)	6 (4.5%)	
Education Level				
Missing	1 (2.3%)	0 (0.0%)	1 (0.8%)	
Less than high school	0 (0.0%)	8 (9.0%)	8 (6.1%)	
High school graduate	1 (2.3%)	8 (9.0%)	9 (6.8%)	
Some college	5 (11.6%)	28 (31.5%)	33 (25.0%)	
2-year degree	5 (11.6%)	6 (6.7%)	11 (8.3%)	
4-year degree	8 (18.6%)	20 (22.5%)	28 (21.2%)	
Professional degree	14 (32.6%)	11 (12.4%)	25 (18.9%)	
Doctorate	8 (18.6%)	8 (9.0%)	16 (12.1%)	
Prefer not to answer	1 (2.3%)	0 (0.0%)	1 (0.8%)	
Relationship Status				
Missing	2 (4.7%)	1 (1.1%)	3 (2.3%)	
Single, never married	11 (25.6%)	49 (55.1%)	60 (45.5%)	
Marriage or partnered in a marriage-like relationship	25 (58.1%)	25 (28.1%)	50 (37.9%)	
Separated	1 (2.3%)	1 (1.1%)	2 (1.5%)	
Divorced	4 (9.3%)	3 (3.4%)	7 (5.3%)	
Other	0 (0.0%)	6 (6.7%)	6 (4.5%)	
Prefer not to answer	0 (0.0%)	3 (3.4%)	3 (2.3%)	
How would you describe your access to health care?				0.2152
Missing	0	0	1	
Very/Somewhat difficult	3 (7.0%)	3 (7.0%)	23 (17.6%)	
Not difficult	7 (16.3%)	7 (16.3%)	18 (13.7%)	
Very/Somewhat easy	33 (76.7%)	33 (76.7%)	90 (68.7%)	
What is your insurance type?				
Public	8 (18.6%)	28 (31.8%)	36 (27.5%)	0.1667
Private	36 (83.7%)	56 (63.6%)	92 (70.2%)	0.1850
None	1 (2.3%)	2 (2.3%)	3 (2.3%)	0.9203
Prefer not to say	0 (0.0%)	5 (5.7%)	5 (3.8%)	0.9446
Have you had an annual check up with your primary care / family doctor in the past 12 months?				0.2913
Yes	32 (74.4%)	60 (67.4%)	92 (69.7%)	
No	11 (25.6%)	24 (27.0%)	35 (26.5%)	
Do not know / not sure	0 (0.0%)	5 (5.6%)	5 (3.8%)	
Where do you usually seek care?				
Outpatient clinic	41 (97.6%)	79 (88.8%)	120 (91.6%)	0.0842
Hospital	4 (9.5%)	5 (5.6%)	9 (6.9%)	0.6802
Urgent care / Emergency	3 (7.0%)	20 (22.5%)	23 (17.4%)	0.0555
Subspecialty clinic	1 (2.4%)	7 (7.9%)	8 (6.1%)	0.1949

Table 1. (continued)

	Heterosexual / Straight (N=43)	LGBT+ (N=89)	Total (N=132)	P value
Did your HCP ask about your sexual orientation / gender identity?				0.5511
Yes				
No				
Not sure/do not remember				
Did you disclose your sexual orientation / gender identity to your HCP?				0.1593
Did you notice any effects of disclosing your sexual orientation / gender identity to your provider on subsequent healthcare?				0.8120
How often do you fear negative reaction from you HCPs because your sexual orientation / gender identity?				0.0006
Responses to universal signs of acceptance.				
Feel more trust toward the setting	36 (83.7%)	68 (76.4%)	104 (78.8%)	0.2346
Feel it safer to disclose	14 (32.6%)	55 (61.8%)	69 (52.3%)	0.0066
Does not make a difference	7 (16.3%)	10 (11.2%)	17 (12.9%)	0.8818
I am suspicious of the setting	0 (0.0%)	1 (1.1%)	1 (0.8%)	0.9026
Did not notice	0 (0.0%)	4 (4.5%)	4 (3.0%)	0.9390
Have never seen these signs	0 (0.0%)	6 (6.7%)	6 (4.5%)	0.9415
Do you look for gender neutral language on health intake forms, like option of "significant other" or "domestic partner"?				0.6098
Missing	1	0	1	
Yes	27 (64.3%)	62 (69.7%)	89 (67.9%)	
No	9 (21.4%)	16 (18.0%)	25 (19.1%)	
Don't know / Not sure	6 (14.3%)	11 (12.4%)	17 (13.0%)	
When you see gender neutral language, how does it impact your perception of the institution?				0.0008
Missing	1	1	2	
Viewed as inclusive	35 (83.3%)	66 (75.0%)	101 (77.7%)	
Has not impact	6 (14.3%)	17 (19.3%)	23 (17.7%)	
Other	1 (2.4%)	5 (5.7%)	6 (4.6%)	
Types of experiences with HCP regarding health.				
I feel as though they take my symptoms seriously.				0.1523
Missing	0	1	1	
Strongly / Somewhat agree	38 (88.4%)	71 (80.7%)	109 (83.2%)	
Neutral	4 (9.3%)	10 (11.4%)	14 (10.7%)	
Strongly / Somewhat disagree	1 (2.3%)	7 (8.0%)	8 (6.1%)	
I have had positive interactions with them.				0.1996
Missing	3	1	4	
Strongly / Somewhat agree	37 (92.5%)	72 (81.8%)	109 (85.2%)	
Neutral	3 (7.5%)	12 (13.6%)	15 (11.7%)	
Strongly / Somewhat disagree	0 (0.0%)	4 (4.5%)	4 (3.1%)	
They told me that I don't need treatment when I feel like I do.				0.6205
Missing	3	1	4	
Strongly / Somewhat agree	8 (20.0%)	27 (30.7%)	35 (27.3%)	
Neutral	11 (27.5%)	26 (29.5%)	37 (28.9%)	
Strongly / Somewhat disagree	21 (52.5%)	35 (39.8%)	56 (43.8%)	
I have felt like they don't understand me.				0.0049
Missing	2	2	4	
Strongly / Somewhat agree	3 (7.3%)	27 (31.0%)	30 (23.4%)	
Neutral	9 (22.0%)	21 (24.1%)	30 (23.4%)	
Strongly / Somewhat disagree	29 (70.7%)	39 (44.8%)	68 (53.1%)	
They have seemed annoyed with me.				0.4089
Missing				
Strongly / Somewhat agree				
Neutral				
Strongly / Somewhat disagree				
They have said to me that my symptoms "are all in my head".				0.0954
They have told me that my symptoms were from stress.				0.8547
Missing	3	2	5	
Strongly / Somewhat agree	13 (32.5%)	31 (35.6%)	44 (34.6%)	
Neutral	10 (25.0%)	23 (26.4%)	33 (26.0%)	
Strongly / Somewhat disagree	17 (42.5%)	33 (37.9%)	50 (39.4%)	
My interactions with them made me question my intuition about my health.				0.0568
Missing	3	1	4	
Strongly / Somewhat agree	6 (15.0%)	31 (35.2%)	37 (28.9%)	
Neutral	9 (22.5%)	21 (23.9%)	30 (23.4%)	
Strongly / Somewhat disagree	25 (62.5%)	36 (40.9%)	61 (47.7%)	

S1511

Gender Differences in Gastroenterology and Hepatology Authorship: 2000-2020

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Introduction: Considering peer-reviewed publications affect female's practice and career in gastroenterology and hepatology field, barriers to female's publishing must be removed. In this study, we aimed to describe gender trends of first and last authors in published manuscripts of gastroenterology and hepatology journals from 2000 to 2020. Furthermore, we assessed the predictors associated with female authorship.

Methods: Ten highest impact factor gastroenterology and hepatology journals were selected on the basis of the 2020 Web of Science InCite Journal Citation Report impact factor rankings. Using the online archives on each journal's website, we reviewed all original research manuscripts published in 2000, 2005, 2010, 2015, and 2020. Gender of first and last authors was determined using a validated algorithm, genderize.io. We described female first and last authorship percentages by journal and by year of publication. Linear by linear association trend test was used to evaluate for gender trend over time, while logistic regression analysis was performed to identify predictors of female first and last authorship.

Results: Overall, 7,853 first authors with 2,138 females (27.2%) and 8,034 last authors with 1,156 females (14.4%) were included in final analysis. The proportion of female first authors in the selected journals combined increased from 20.7% (383/1852) in 2000 to 32.8% (370/1128) in 2020 with a statistically nonsignificant time trend (P value for trend = 0.054). Similarly, the proportion of female senior authors increased from 9.8% (182/1852) in 2000 to 17.5% (222/1271) in 2020 (P value for trend = 0.058). On multivariable analysis, journal, year of publication, and author's continent remained significantly predictive of female first and last authorship.

Conclusion: Overall, gender disparities persist within gastroenterology and hepatology original publications, and the rate of improvement may be slowing. Today, the challenges facing women in the fields of gastroenterology and hepatology are yet to be overcome.

S1512

The Implementation of Multidrug-Resistant Bacterial Testing to Prioritize Duodenoscopy Sterilization: Experience From a High-Volume Health System

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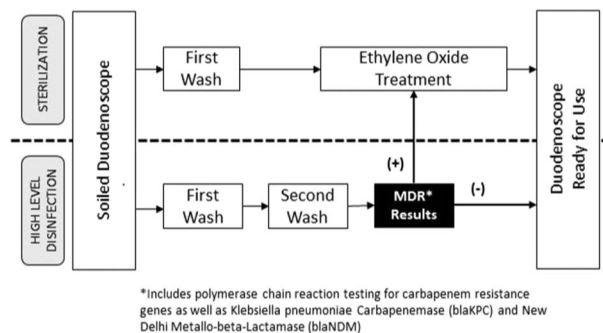
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Introduction: Preventing patient-to-patient transmission of infectious pathogens is a significant safety concern for reusable duodenoscopes. Device sterilization, commonly performed with ethylene oxide gas (ETO) is the highest level of disinfection available for flexible endoscopes. However, due to cost, environmental impact with restriction in some locales, need for specialized facilities, and global shortages, ETO sterilization is not widely used. The aim of this study is to describe the feasibility, implementation, and impact of a systematic testing protocol among patients undergoing endoscopic retrograde cholangiopancreatography (ERCP) to detect multidrug resistant organism (MDRO) colonization as a guide to subsequent duodenoscope reprocessing.

Methods: We performed a retrospective review of all patients who underwent MDRO testing via rectal swab at the time of their ERCP between January 2018 and May 2022 at a tertiary care center and satellite community practices within a single healthcare system. Per rectal polymerase chain reaction (PCR) testing was performed in all patients in 2 community practices throughout 2018 to the present and after daily sterilization capacity was exceeded in the tertiary center during a national shortage of ETO canisters in 2022 (Figure 1). PCR test targets included oxacillin-hydrolyzing beta-lactamase (Oxa-48), Klebsiella pneumoniae carbapenemase (KPC), New Delhi metallo-beta-Lactamase (NDM), and Verona metallo-beta-Lactamase (VIM).

Results: A total of 557 patients underwent testing. Of these, only 1 (0.2%) returned positive. There were also 2 (0.4%) tests which were processed incorrectly, prompting precautionary diversion to sterilization with ETO. All duodenoscopes used in patients with negative PCR tests were reprocessed with double washing and high-level disinfection (DHLD). No patients from the study period were reported to have developed a healthcare associated infection or MDRO-related disease.

Conclusion: The rate of MDRO colonization was low in this study population. However, the implementation of a point-of-care testing model was efficient, feasible, and may help optimize resource utilization while minimizing the risk of inter-patient pathogen transmission in facilities with moderate to high rates of MDRO carriage. Additional studies are needed to evaluate this model's performance in a broader patient population, as well as delineate cost-efficacy and environmental impact.



[1512] **Figure 1.** Workflow utilizing multidrug resistance gene testing to prioritize duodenoscopes for sterilization with ethylene oxide gas.

S1513

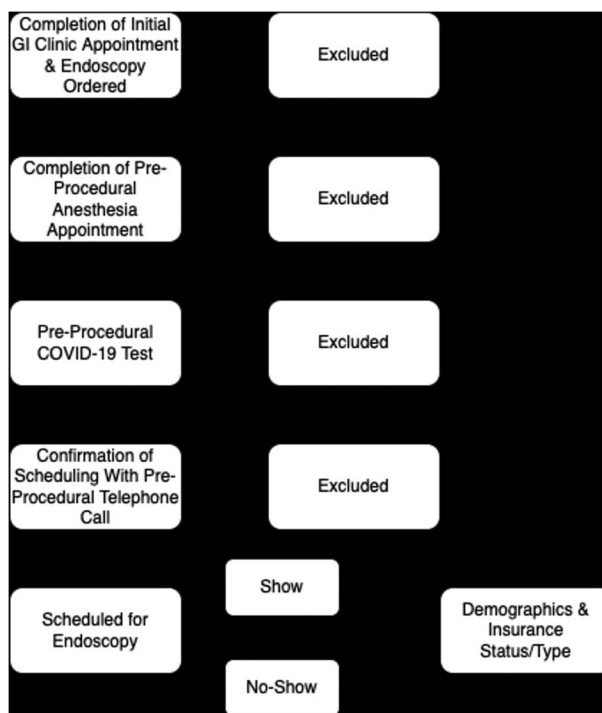
Insurance Status Predicts Endoscopy No-ShowKeith Garrison, MD¹, Tanmay Gaglani, MD², Miller Chase, MD¹, Muhammed Vohra, MD¹, Nina Quirk, BS³, Sean Ngo, BS³, Scott Larson, MD, PhD⁴.¹University of Texas Houston Health Sciences Center, Houston, TX; ²The University of Texas Health Science Center at Houston, Houston, TX; ³McGovern School of Medicine, Houston, TX; ⁴UT Houston McGovern Medical School, Houston, TX.

Introduction: Lyndon B. Johnson (LBJ) hospital is a part of the Harris Health System, which provides comprehensive care to the uninsured and underinsured population in Harris County, TX. LBJ serves a population with 55% unemployment and a median household income of \$22000. Access to endoscopy is limited by resource availability, and the completion of scheduled endoscopies is essential for public health. We aimed to assess if insurance status was associated with no-show for scheduled endoscopic procedures at the LBJ GI Lab.

Methods: All patients scheduled for outpatient endoscopy during the year 2021 were collected. Included patients must have completed a GI clinic appointment, anesthesia screening, pre-procedural COVID test, confirmed attendance on pre-procedure call, and not showed for scheduled endoscopy (Figure 1). Patient's insurance statuses were: FAP (county payment assistance), Harris County Prisoners (no costs), Medicare/Medicaid (variable costs), Private Insurance (variable costs), Self-Pay, and Texas Family Planning/HCHD Presumed (temporary FAP) (Table 1).

Results: Comparative analysis of insurance types demonstrated that patients who were Self-Pay were 5.96 times more likely ($P < 0.002$) not to show up for previously scheduled endoscopic procedures, while patients with the TFP/HCHD insurance were 10.1 times more likely ($P < 0.001$) not to show when compared to patients who were covered by the county's FAP.

Conclusion: Our analysis demonstrated a statistically significant association between insurance status and the incidence of no-showing for endoscopy. Upon literature review, there was limited data on rates of endoscopy no-shows in relation to the out-of-pocket commitment for individuals. Further investigation into this topic would significantly affect both the academic and private practice of gastroenterologists. We plan to continue this quality assessment by meeting with the patient eligibility department to assess if modifications of benefit profiles could optimize procedural attendance.



[1513] Figure 1. Study selection methodology.

Table 1. When compared to the Harris County Financial Assistance Program (which lowers the out-of-pocket cost of endoscopy to <\$50), patients who were Self-Pay were 5.96 (P<0.002) times more likely to not show up for previously scheduled endoscopy

Multivariate Logistic Regression	Odds Ratio	95% CI	P-value
Gender			
Female	-	-	
Male	1.33	0.74, 2.41	0.3
Patient Age (years)			
	0.98	0.96, 1.01	0.2
Primary Insurance			
Harris County Financial Assistance Program (FAP)	-	-	
Harris County Prisoner	7.17	0.35, 49.7	0.086
Medicare/Medicaid	1.95	0.66, 5.54	0.2
Private	1.76	0.72, 4.35	0.2
Self-Pay	5.98	1.76, 18.1	0.002
Texas Family Planning Indigent (TFPI)	10.1	4.52, 23.8	< 0.001

While patients with Texas Family Planning Indigent (TFPI) (a county program that provides 90 days of FAP cost assistance; however, all expenditures are due if not fully approved for FAP) were 10.1 times more likely (P<0.001) not to show when compared to patient's who were covered by FAP.

S1514

Gastroenterology Point-of-Care Ultrasound: A Deeper Look

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Introduction: Gastroenterology (GI) Point-of-Care-Ultrasound (POCUS) is a valuable bedside tool that has been shown to provide better-quality patient care. Few studies have examined residents' interest and the potential educational impact a hybrid GI POCUS training model can have on a resident training program.

Methods: Internal Medicine and Medicine/Pediatrics residents across all post-graduate years (PGY1-4) undertook a structured hybrid (online and hands-on teaching) model of POCUS training. Anonymous surveys with Likert-type scale responses were conducted before and after the curriculum. Questions were categorized into domains to assess the residents' interest in learning POCUS, their understanding of fundamental GI ultrasound (US) concepts, and their confidence in its application. Direct comparisons were made using Fisher's exact and t-test as appropriate. Odds ratios were estimated to gauge the impact of the training further. Questions on "Interest" and "Understanding" overlapped with Genitourinary POCUS.

Results: A total of 23 and 24 residents completed the pre-and post-training anonymous surveys, respectively. A median of 0 previous GI US was reported. Responses inquiring about residents' interest in learning POCUS showed a significant increase between the pre-training survey and post-training survey (OR 17.7 [2.0 - 154.2], P < 0.05). There were no differences regarding gender and PGY level subgroup among the interest domains. Training resulted in a significant net increase in understanding of gastroenterology POCUS principles (100% vs 48%, P < 0.001). Confidence among residents showed a significant increase between the pre-training survey and post-training survey (OR 6.5 [1.7 - 25.7], P < 0.05). Even though scores and confidence increased in PGY level 1 and 2, they were more prominent and significant for PGY level 2.

Conclusion: After implementing a structured hybrid teaching model for gastroenterology POCUS, the interest, understanding, and confidence in fundamental gastroenterology ultrasound principles and their application were significantly greater among residents. Our results suggest that the approach for proper implementation may vary based on the level of training. Future studies with a comprehensive teaching curriculum and more objective assessment tools are needed before an appropriate recommendation for incorporation into the residency curriculum.

S1515

Significantly Longer Delays to Colonoscopy in Underinsured Patients on Gastroenterology (GI) Fellows' Panel Following the Novel Coronavirus Disease (COVID-19) Pandemic

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Introduction: Underinsured patients have limited access to colonoscopy, which leads to delayed diagnosis and higher incidence of conditions such as colorectal cancer. Many academic centers in the U.S. schedule underinsured patients in GI fellows' clinic under faculty supervision, with fewer available slots and longer wait times for procedures. At our institution, suspension of procedures and deployment of fellows during the COVID-19 pandemic resulted in cancellation of 40% of colonoscopies on the fellows' panel. The aim of this study was to assess the impact of the pandemic on wait times for colonoscopy on GI fellows' panel to develop strategies to improve delivery of colonoscopy.

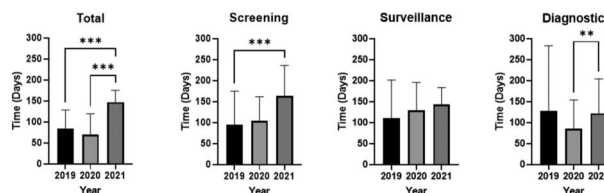
Methods: We conducted a retrospective chart review of 273 colonoscopies performed on our GI fellows' panel from January 1, 2019 to December 31, 2021. We obtained data on patient demographics, indication for colonoscopy, and the time interval between the initial GI clinic visit and the day of the procedure. Each colonoscopy was classified as a screening, surveillance, or diagnostic procedure based on history of colonic adenoma or neoplasia and presence of any pertinent symptoms. Kruskal-Wallis one-way analyses of variance were conducted in GraphPad Prism to identify differences in wait times across the years.

Results: A total of 102, 67, and 104 colonoscopies were performed on the GI fellows' panel in years 2019, 2020, and 2021, respectively. 77% of the patients self-identified as non-White ethnicities and nearly half of the patients preferred languages other than English (Table 1). The overall median wait time between the initial clinic visit and the procedure increased significantly from 84 days in 2019 and 70 days in 2020 to 147 days in 2021 ($P < 0.001$; Figure 1). The median wait time for screening colonoscopy increased significantly from 73.5 days in 2019 to 161 days in 2021 ($P < 0.001$; Figure 1). The median wait time for diagnostic colonoscopy increased significantly from 63.5 days in 2020 to 126 days in 2021 ($P < 0.01$; Figure 1).

Conclusion: Underinsured patients experienced significantly longer wait times for both screening and diagnostic colonoscopies following the COVID-19 pandemic. Excess mortality owing to delayed diagnoses is predicted to rise in the post-pandemic era and will disproportionately affect people from low socioeconomic status and ethnic minorities. We plan to hire a patient navigator and expand the fellows' endoscopy slots to prevent widening of health disparities in this vulnerable population.

Table 1. Fellows' panel encounter demographics 2019-2021

	2019 N = 102	2020 N = 67	2021 N = 104	2019-2021 N = 273
Median Age \pm IQR (years)	54 \pm 14	56 \pm 19	51 \pm 17	52 \pm 16
Sex (%)				
Male	43 (42%)	40 (60%)	40 (38%)	123 (45%)
Female	59 (58%)	27 (40%)	64 (62%)	150 (55%)
Race/Ethnicity (%)				
White/White (Not Hispanic or Latino)	30 (29%)	20 (30%)	14 (13%)	64 (23%)
Hispanic or Latino	55 (54%)	33 (49%)	70 (68%)	158 (58%)
Black/African American	12 (12%)	10 (15%)	14 (13%)	36 (13%)
Asian	5 (5%)	4 (6%)	6 (6%)	15 (6%)
Language Preference (%)				
English	66 (65%)	32 (48%)	47 (45%)	145 (53%)
Spanish	33 (32%)	27 (40%)	49 (47%)	109 (40%)
Other	3 (3%)	8 (12%)	8 (8%)	19 (7%)
Colonoscopy Indication (%)				
Screening	24 (23%)	14 (21%)	39 (38%)	77 (28%)
Surveillance	8 (8%)	7 (10%)	5 (5%)	20 (7%)
Diagnostic	70 (69%)	46 (69%)	60 (57%)	176 (65%)



[L1515] **Figure 1.** Median wait time in days (\pm IQR) from the initial clinic visit to colonoscopy.

S1516

The Dynamic Nature of GI Twitter

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Introduction: Social media has become increasingly popular in the healthcare field. Many healthcare professionals have turned to Twitter to engage in interdisciplinary discussions and to follow new developments within their specialty. Previously we looked at the characteristics of the most influential twitter users within the field of gastroenterology. In the present study, we evaluate the dynamic changes of top GI twitter influencers over one year.

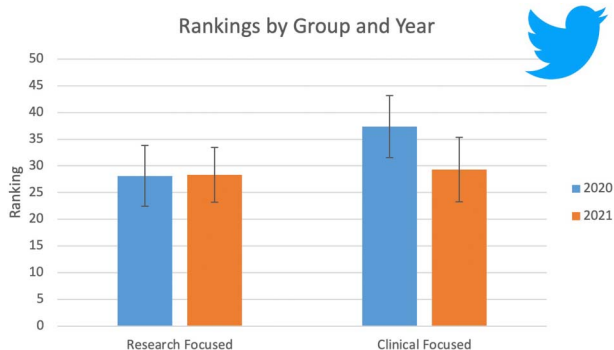
Methods: The top 100 GI Twitter influencers were collected between 2020 and 2021. After removing institutions, 55 influencers remained. To compare them, cluster analysis methodology was used. Influencers were grouped based on whether they had an advanced academic degree, the number of physicians per capita in the city where influencers lived, and the number of years of training they had received. Based on the empirical solution for the groups identified, comparisons were made by year (chi-square test of independence) and comparing average H index scores and average Twitter rankings (mixed-effects modeling).

Results: Three groups were identified, however, only 2 were meaningful since the third group had very low representation (Table 1A). The meaningful groups seemed to represent a research focus (group 1, more advanced degrees and training), and a clinical focus (group 2, less advanced degrees and training). This was further supported by the H index scores which increased for the research focused group ($X^2(1) = 4.55, P = 0.032$), but did not change for the clinical focused group ($X^2 = 6.27, P = 0.043$; Table 1B). The clinical focused group had numerically higher rankings on average ($X^2(2) = 5.47, P = 0.065$), but decreased in rankings between 2020 and 2021 ($X^2 = 11.02, P = 0.0040$; see Table 1B and Figure 1). The research focused group had minimal change in rankings over time ($X^2 = 0.11, P = 0.73$).

Conclusion: Our preliminary study identified 2 main groups of GI-twitter influencers: research and clinical focused. Our results imply that research-focused GI-twitter influencers may represent a core of physician-scientists that contribute to the literature but also remain high on the GI twitter rankings. However, and despite showing regression to the mean, clinical-focused influencers seem to be more popular and have higher GI-twitter rankings. Potential explanations may include more public accessibility during this pandemic period. Limitations of this preliminary study include the short follow-up period and the relatively small number of influencers.

Table 1. Group Summary and Hypothesis Tests

A. Group Summary		
	Research focused Mean [95% C.I.]	Clinical focused Mean [95% C.I.]
Grouping variables		
Frequencies	27	22
Advanced Degree	52% [33%-70%]	32% [16%-54%]
Physicians per Capita	296 [288-304]	326 [301-351]
Years Training	6.19 [5.3-7.22]	5.91 [4.96-7.05]
Outcomes		
H Index	42.7 [32.8-52.7]	21.8 [10.3-33.3]
Rankings	28.2 [23.5-33.0]	33.3 [28.2-38.5.0]
B. Hypothesis Tests		
	χ^2	P-value
Empirical grouping between years	0.55	0.759
Comparing H Index Scores		
Empirical groupings	3.65	0.160
Year	4.55	0.032
Empirical groupings by year	6.27	0.043
Comparing Rankings		
Empirical groupings	5.47	0.065
Year	0.11	0.735
Empirical groupings by year	11.01	0.004



[1516] **Figure 1.** GI-Twitter rankings by group and year.

S1517

The Use of Search Engine Optimization (SEO) and Social Media in the Field of Gastroenterology

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Introduction: Social Media has become an important platform for the public to decide on where to receive medical services from. However, reliability of social media on deciding on a physician, especially a gastroenterologist, remains a huge challenge and still underdetermined.

Methods: Online search results for the keywords "Gastroenterology doctors' in city name" for 5 major cities (New York, Chicago, Dallas, Seattle and Los Angeles) on the 3 most commonly used web sites (Facebook, Google and Yelp) were included. The top 5 results for each website were studied with respect to the type of gastroenterology practice, including university-based or private practice. A comparative analysis of the order in which the results were displayed in each of these 3 websites was performed.

Results: After searching 151 websites, Facebook, Yelp, and Google search engines were included in the study. These 3 platforms mostly showed gastroenterologists in private practices as their top results. There was no correlation between physician ranking and placement. The search results for 90 websites (Facebook, Yelp, Google) were dominated by private practice Gastroenterologist. No academic Gastroenterology practice made the top 5 search results. There was no correlation between the ranking and placement of search results across different websites. The Gastroenterology practices listed as number one on Google in New York City, Chicago, Los Angeles, Dallas and Seattle were not listed among the top 5 practice results on Facebook. There was no significant correlation between the ranking on Facebook and Yelp.

Conclusion: Private and Small practices run by non-academic gastroenterologists dominate the search results for "Gastroenterologist" in the top 5 metro areas in United States. This may be due to academic institutes or academic affiliated institutes not relying on developing their social media as much as private practices. No significant correlation has been found between the top search results on the major social media platforms. Therefore, if patients do rely on social media platforms to choose their gastroenterologist, it may be beneficial to use multiple search engines rather than a single engine. American College of Gastroenterology should further promote to streamline this process and provide with a possible review body that can help patients with more reliable source of information in choosing their gastroenterologist.

S1518

Streamlining Video Capsule Endoscopies: A Quality Improvement Pilot Study

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Introduction: Video capsule endoscopy (VCE) is a non-invasive technology that provides diagnostic imaging of the gastrointestinal (GI) tract. Prompt diagnosis and subsequent management of abnormal VCE findings is essential to providing expedited patient care. The VCE process encompasses capsule deployment/ingestion, image capture and download, and report generation by a team of faculty and staff. Any delay in above steps may postpone healthcare delivery and increased length of stay (LOS) and costs. Due to subjective reports of delays in VCE result reporting in our facility, we aimed to identify areas for improvement in VCE use and reporting; and thereby, implement a quality improvement (QI) intervention using visual aids and staff education to deliver timely VCE processing and reporting.

Methods: A retrospective review of inpatient VCE revealed only 36% of inpatient VCE reports were finalized one day after capsule deployment thought to be due to miscommunication between fellows and staff regarding VCE timing. An intervention was implemented consisting of a nurse compiling a list of all deployed VCEs by the end of the deployment day. Using visual aids on our procedure board, a separate nurse was tasked to upload the VCE study by the following morning. With the visual aids, the fellow and faculty were notified to finalize the report the following day. We compared the time difference between the stages of VCE processing pre and post-intervention.

Results: Fifty-nine admitted patients underwent inpatient VCE between April 2020 and June 2022. Fifty patients were categorized into pre-intervention, and 9 were categorized into post-intervention (Table 1). Pre-intervention, 18/50 (36%) VCEs were finalized one day after deployment, with a mean number of days from deployment to note finalization of 4.58 days. Post-intervention, 5/9 (56%) VCEs report finalization improved to 61% to a mean of 1.78 days ($P = 0.4$). The difference in time from deployment to fellow interpretation improved by 61% from 2.3 to 0.89 days, and the difference from fellow to attending report finalization was improved. LOS minimally improved from 7.5 days to 6.78 days ($P = 0.62$).

Conclusion: VCE is an invaluable tool for a practicing gastroenterologist, however, timely interpretation of the results is essential to improve patient care and decrease associated costs. This QI intervention targeting VCE readings successfully improved the turnover of VCE reads during an inpatient admission, which helped shorten hospital stay and help improve overall patient care.

Table 1. Comparison of video capsule endoscopy (VCE) statistics before and after the intervention

	Before Intervention	After Intervention
Number of VCEs reviewed	50	9
Number of VCEs finalized the day after deployment	18	5
Percentage of VCEs finalized the day after deployment	36%	56%
Mean number of days between deployment and note finalization	4.58	1.78
Range	1 to 34 days	1 to 5 days

S1519

The Rise in Number of Gastrointestinal Consultations Over Time: Differences Between Teaching and Non-Teaching Medicine Teams in a Community Residency Program

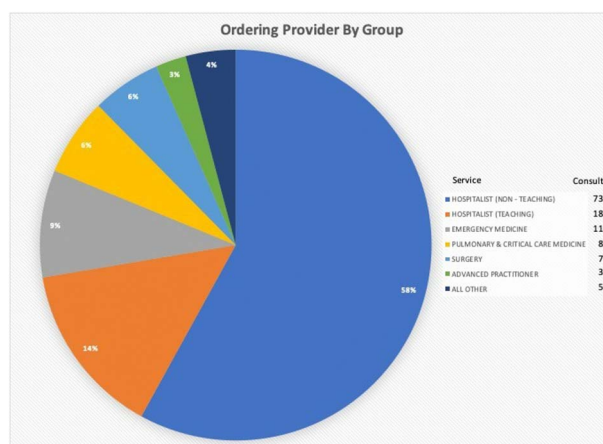
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Introduction: There has been a steady rise in the number of inpatient gastrointestinal consultations over time. Previously published analyses were mostly done in academic institutions [1]. We performed a similar analysis in a small community hospital focusing on the ordering providers.

Methods: Retrospective review of patient charts for all the inpatient gastrointestinal consultations between July 1, 2021 and May 9, 2022 was performed. They were divided based on ordering provider and the reason of the consultation. Basic demographic data was obtained for the patients.

Results: A total of 1,262 consultations were found. Fifty-eight percent were female patients and 42% were males. Fifty-eight percent of the consultations were ordered by the non-teaching hospitalists, 14% by the resident teaching teams, 9% by the emergency medicine physicians and the rest by the other healthcare providers (Figure 1). The most common reasons for the consultations by all the teams were gastrointestinal bleed (25.9%), abdominal pain (12.4%), abnormal liver function tests (4.1%), diarrhea (2.7%), pancreatitis (2.6%) and vomiting (2.2%). Data was analyzed further to see differences in teaching and non-teaching teams (Table 1).

Conclusion: Our review in a small community hospital revealed around 1,262 inpatient gastrointestinal consultations were requested in almost 1 year duration. The median duration of hospital stay was shorter in the non-teaching group (4.15 days) which could be explained by the earlier placement of consultation order as compared to the teaching team. Overall, our gastroenterology team expressed concern of increasing burden on their service, total duration of hospital stay for the patients and possible increased cost for the patients. Many of these consultations were appropriate and needed for patient care but many others could have been seen as an outpatient by the gastroenterologists. Our hospital will be implementing a quality improvement project over the next year in order to improve this process – some of the measures will be direct communication between the requesting provider and the gastroenterologist for the main reason of the consult and reviewing the providers who have ordered the maximum number of consultations.



[1519] **Figure 1.** Distribution of the gastrointestinal consultations by the requesting provider service.

Table 1. Baseline characteristics of gastrointestinal consultations among non-teaching and teaching medicine teams

	Hospitalist (Non-teaching)	Hospitalist (Teaching)
Number of inpatient teams any day	6-7	2
Number of patients per team	14-16	14

Table 1. (continued)

	Hospitalist (Non-teaching)	Hospitalist (Teaching)
Number of gastrointestinal consultations in the study duration	731	181
Gender (%)		
- Females	57.32%	58.56%
- Males	42.68%	41.44%
Ethnicity (%)		
- White	66.62%	67.96%
- Black	29.41%	28.18%
- Asian	2.33%	2.21%
- Others	1.64%	1.66%
Reason for consultation		
- Gastrointestinal bleed	26.27%	28.73%
- Abdominal pain	22.30%	23.76%
- Abnormal liver function tests	8.34%	5.52%
- Diarrhea	5.06%	4.97%
- Vomiting	5.47%	2.76%
- Pancreatitis	3.83%	1.66%
- Others	28.73%	32.6%
Median admission to consultation order time (hours)	9.63	13.7
Median duration of hospital stay (days)	4.15	4.88

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S1520

Comparing Virtual Visit Patient Order Compliance With Patient Reported Satisfaction During the COVID-19 Pandemic

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Introduction: Telemedicine emerged during the COVID-19 pandemic as a means for assessing patients in the outpatient setting while reducing the transmission of viral disease. In gastroenterology, several studies exist showing both patient and provider satisfaction with virtual visits. However, several unanswered questions remain regarding the long-term sustainability of telemedicine in clinical practice. The purpose of our study was to assess post-virtual visit patient satisfaction survey ratings and correlation with follow up order completion.

Methods: Patient responses to an electronic survey distributed via MyChart from April 2020 to May 2022 were gathered with responses to various questions graded using a 5-point Likert scale. Using natural language processing, we assessed the number of orders placed for patients during these encounters and determined compliance based off order completion. A generalized linear mixed effects model with fixed effects for visit type, and random intercepts for intra-patient correlation was used. A multivariable model was built controlling for age, socioeconomic status, BMI, dementia, stroke and congestive heart failure.

Results: Among 241 patients who responded to the satisfaction survey, 69.3% of patients reported a score of 5, equivalent to 'very good', 22.0% reported a score of 4, equivalent to 'good', and 8.7% reported a score between 1-3 equivalent to a range from 'very poor to fair'. Multivariate analysis revealed that patients who reported a score of 4 were 91% less likely to complete orders compared to those who reported a score between 1-3 ($P = 0.049$). No significant difference was found comparing a score of 5 to 1-3.

Conclusion: While a majority of patients overall rated a positive experience with virtual visits, patients who were to rate their virtual experience as 'good' were significantly less likely to complete their follow up orders. These findings highlight that some dissonance may indeed exist between virtual visit patient satisfaction and the clinical effectiveness of virtual visits.

S1521

Sex, Race, and Geographic Disparities Are Prevalent Among Authors and Patients in Prospective Studies Published in Major U.S. Gastroenterology Journals Over the Past Decade

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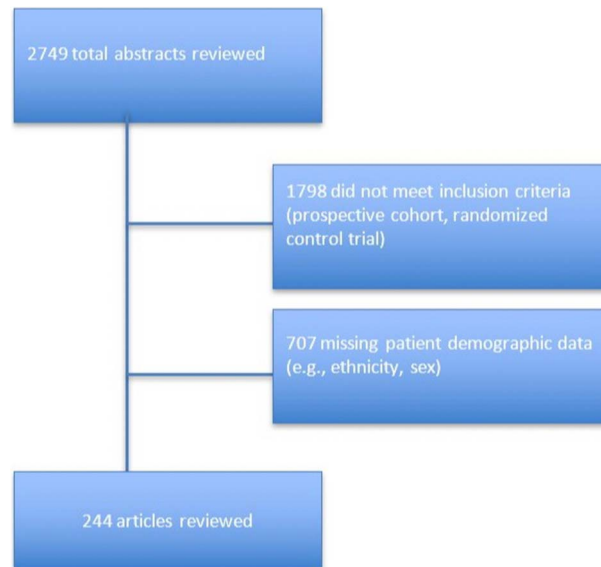
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Introduction: Our team investigated geographic and sex representation among authors in addition to sex and racial representation among patients in prospective cohort and randomized-controlled trials published in the major United States-based (US) gastroenterology and hepatology journals from 2010-2021.

Methods: Our librarians retrieved articles published in the American Journal of Gastroenterology (AJG), Gastroenterology, Clinical Gastroenterology and Hepatology (CGH), Hepatology, and Gastrointestinal Endoscopy (GIE) from 1/1/2010 through 12/31/2021 through PubMed, Scopus, and Web of Science. We randomly selected 2,749 articles and excluded all retrospective studies, meta-analyses, cross-sectional studies, translational work, and case series (Figure 1, Table 1). We then excluded 707 RCTs and PCs that were missing patient demographic data (eg, sex, race, etc). Categorical variables were compared using chi-square analysis while t-testing was used for numerical variables. All analysis was done using R.

Results: We analyzed 244 RCTs and PCs and found US and Canada-based institutions represented 192/244 of lead authors (78.7%, $P < 0.01$), while the South comprised 71/192 (38.6%, $P = 0.22$) of the US-based authors. There were no papers from Africa or South America, and just 12 combined (4.9%) from East or South Asia, and North America apart from the US/Canada. Male lead authors (166/244; 68%) comprised the majority in both RCTs (2.8:1, $P = 0.03$) and PCs (1.5:1, $P = 0.03$), and in multi-center studies (3:1, $P = 0.02$) and single center studies (1.3:1, $P = 0.02$). Lead authorship was not significantly associated with journal editorial board membership. There were 1,401,292 patients, including 885,255 women (63.2%) and 308,010 non-White (21.9%) patients. The mean number of female to male patients was equivalent in 3 of the 5 journals and just above 2:1 in the other 2 journals (AJG, Gastroenterology). The ratio of White patients was significantly higher than that of non-White patients across all 5 journals (4.7:1 in AJG, 3.9:1 in Gastroenterology, 3.1:1 in GIE, 2.2:1 in Hepatology, and 1.6:1 in CGH; $P = 0.04$) for RCTs and PCs, whether single-center (2.5:1) or multi-center (5.4:1).

Conclusion: There are geographic and sex-based disparities among lead authors, and race-based disparities among patients, particularly in multi-center studies and RCTs, which tend to be the most prestigious in clinical research. Further investigation and effort is needed to help address underrepresentation in these areas.



[1521] Figure 1. Flow Chart for Article Selection.

Table 1. Baseline Characteristics for Lead Authors and Study Types

Variable		Number (Percent); n=244
Journal	American Journal of Gastroenterology	38 (15.6)
	Clinical Gastroenterology and Hepatology	72 (29.5)
	Gastroenterology	69 (28.3)
	Gastrointestinal Endoscopy	23 (9.4)
	Hepatology	42 (17.2)
Study Type	Prospective Cohort	104 (42.6)
	Randomized-Controlled Trial	140 (57.4)
Number of Sites	Single-Center	95 (38.9)
	Multi-Center	149 (61.1)
US Geographic Region	Midwest	43 (23.4)
	Northeast	41 (22.3)
	South	71 (38.6)
	West	29 (15.8)
World Geographic Region	East and South Asia	7 (2.9)
	Europe	30 (12.3)
	Middle East	3 (1.2)
	North America (NOT US/Canada)	2 (0.8)
	Oceania	10 (4.1)
	US/Canada	192 (78.7)
Lead Author Sex	Female	78 (32)
	Male	166 (68)
Lead Author on Editorial Board?	No	215 (90.3)
	Yes	23 (9.7)
Article's Main Focus	Endoscopic Technique	28 (15.1)
	Liver Disease	101 (51)
	Pancreatico-Biliary or Gallbladder Disease	20 (10.8)
	Inflammatory Bowel Disease	24 (13)
	GI-Based Cancer	24 (13.3)
	Motility	11 (6.2)
	Functional GI Disease	27 (14.6)
	Other GI Issue Not Otherwise Specified	37 (19.2)

S1522

The Price of Starting Docusate

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Introduction: Docusate remains a commonly prescribed laxative in the hospital despite conclusive evidence displaying a lack of efficacy. This leads to directly harming patients when their constipation is inadequately treated or prevented. Additionally, this leads to unnecessary costs due to the cost-per-dose and administration costs. The aim of our study is to assess the cost of starting docusate as a new prescription on admitted patients. Our goal is to then use this data to support interventions leading to decreased docusate usage.

Methods: An Electronic Medical Record usage report of docusate and docusate-senna was generated from January 1 to April 21. This timeframe was used to estimate yearly costs. This was further divided by department and floor to identify hotspots. This report only included patients who were started on docusate. For the cost analysis, a price of \$0.04 was used for each docusate pill. As shown in prior studies, a time period of 45 seconds was used to estimate the time required for a nurse to administer the drug. Midpoint salary for nursing staff on most floors and units is listed on the hospital website at \$38.59/hour. This was used to calculate nursing cost.

Results: A total of 7,808 new administrations of docosate were generated within our inclusion criteria with a total estimate of 25,610 administrations per year (Table 1). Administrations were highest on the general medical/surgical floor. At a price of \$0.04, the annualized drug cost was estimated at \$1,024.41. Given an estimated administration times and given average listed pay rates for nursing staff, this costs \$12,353.74. In total, the cost of starting docosate in the hospital costs approximately \$13,378.15 over the course of one year.

Conclusion: In our single center cost analysis, we have shown that starting a patient on docosate, an ineffective medication, is associated with significant cost. Our estimation is not without limitation. This analysis did not include patients who were already on docosate as an outpatient. It also did not include the number of patients who continue receiving docosate after discharge. It also does not include patients with prolonged hospitalizations due to side effects from docosate or inadequate bowel regimen. Given these limitations, our final total of \$13,378.15 likely only represents a small fraction of the actual cost of docosate. At a time of rising healthcare costs, it is imperative that hospital systems work to limit usage of docosate.

Table 1. Total and estimated administrations of docosate as well as costs

Unit	Total Doses	Estimated Annualized Doses	Drug Cost (\$)	Estimated Yearly Drug Cost (\$)	Estimated Annualized Nursing Hours	Estimated Annualized Nursing Cost (\$)	Estimated Annualized Total Cost (\$)
Total	7808	25610	312.32	1024.41		12353.74	13378.15
Med/Surg Floor	3150	10332	126	413.28	129.2	4983.90	5397.18
LV4E	128	420	5.12	16.79	5.2	202.52	219.31
LV4W	110	361	4.4	14.43	4.5	174.04	188.47
LV7E	284	932	11.36	37.26	11.6	449.34	486.60
LV7W	123	403	4.92	16.14	5.0	194.61	210.75
NT4N	431	1414	17.24	56.55	17.7	681.92	738.47
NT4S	441	1446	17.64	57.86	18.1	697.75	755.60
NT5N	385	1263	15.4	50.51	15.8	609.14	659.66
NT5S	379	1243	15.16	49.72	15.5	599.65	649.37
NT6N	210	689	8.4	27.55	8.6	332.26	359.81
NT6S	287	941	11.48	37.65	11.8	454.09	491.74
NT8X	372	1220	14.88	48.81	15.3	588.57	637.38
Stepdown Unit	1920	6298	76.8	251.90	78.7	3037.80	3289.71
LV5E	1124	3687	44.96	147.47	46.1	1778.38	1925.85
LV5W	521	1709	20.84	68.36	21.4	824.32	892.68
LV6E	141	462	5.64	18.50	5.8	223.09	241.59
LV6W	134	440	5.36	17.58	5.5	212.01	229.59
Critical Care Unit	1430	4690	57.2	187.62	58.6	2262.53	2450.15
CC4C	252	827	10.08	33.06	10.3	398.71	431.77
CC4N	225	738	9	29.52	9.2	355.99	385.51
CC4S	320	1050	12.8	41.98	13.1	506.30	548.28
CC5C	92	302	3.68	12.07	3.8	145.56	157.63
CC5N	402	1319	16.08	52.74	16.5	636.04	688.78
CC5S	139	456	5.56	18.24	5.7	219.92	238.16
Psych	191	626	7.64	25.06	7.8	302.20	327.26
CRC	16	52	0.64	2.10	0.7	25.32	27.41
LV9X	132	433	5.28	17.32	5.4	208.85	226.17
NT7L	26	85	1.04	3.41	1.1	41.14	44.55
NT7X	17	56	0.68	2.23	0.7	26.90	29.13
Labor & Delivery	1151	3775	46.04	151.01	47.2	1821.10	1972.11
LDRU	19	62	0.76	2.49	0.8	30.06	32.55
LF3X	564	1850	22.56	74.00	23.1	892.36	966.35
LF4X	568	1863	22.72	74.52	23.3	898.68	973.21
Other	138	453	5.52	18.11	5.7	218.34	236.45
AEMC ED	16	52	0.64	2.10	0.7	25.32	27.41
AMB1	3	10	0.12	0.39	0.1	4.75	5.14
HLDA	83	272	3.32	10.89	3.4	131.32	142.21
SPUS	36	118	1.44	4.72	1.5	56.96	61.68

S1523

Getting to Know Our Membership: The Gastroenterology and Hepatology Advanced Practice Providers

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Introduction: The Gastroenterology and Hepatology Advanced Practice Providers (APPs) (GHAPP) association is the first dedicated professional organization for the advancement of gastroenterology (GI)/hepatology (Hep) APPs, with content created exclusively by APPs, for APPs. A membership survey was created by the Evidence-Based Practice and Research Committee (EBPRC) to evaluate demographics and preferences concerning research among GHAPP members.

Methods: The EBPRC developed an electronic survey. Participants were eligible to take the survey if they were GHAPP members. Respondents were anonymous. Participation in the survey was voluntary and no compensation/incentive was provided. The survey was sent via the GHAPP email database to all active members from March 2021 to April 2021. The survey described specialty, professional designation, practice setting, educational attainment, and level of comfort with research and evidence-base related activities. Respondents' self-reported level of comfort on a scale of 0-5 (0 = lack of comfort to 5 = extremely comfortable).

Results: GHAPP membership at time of survey distribution was 1150 with 124 respondents. Specialties represented were GI (n = 75, 60.48%), Hep (n = 17, 13.71%), GI and Hep (n = 21, 16.94%), primary care (n = 3, 2.42%), and other (n = 8, 6.45%). Professional designations (n=124) were nurse practitioner (n=87, 70.16%), and physician assistant (n = 37, 29.84%). Practice settings (n = 122) were outpatient (n = 80, 65.57%), inpatient (n = 15, 12.30%), or both (n = 27, 22.13%). Educational attainment (n = 121) revealed MSN or MS (n = 96, 79.34%), DNP (n = 12, 9.92%), PhD (n = 4, 3.31%), DPAS or DMS (n = 2, 1.65%) or currently enrolled (n = 7, 5.79%). Figure 1 describes respondent self-reported level of comfort with research related activities.

Conclusion: The membership survey was a vital part of GHAPP needs assessment to better support professional advancement for APPs. The data were utilized by the EBPRC to improve educational programs for GHAPP members, including the development of a research and educational series completed during the national conference. The results support the need for development of an evidence-based and research mentorship program through GHAPP.

Q13: Initiating research/quality improvement projects in collaboration with physicians and other scientists (n=121)	Avg 3.4
Q14: Initiating research/quality improvement on my own (n=119)	Avg 3.1
Q15: Reading and Critiquing Research (n=121)	Avg 4.2
Q16: Scientific writing as principal or first author (n=120)	Avg 2.2
Q17: Scientific writing as supporting author (n=121)	Avg 3.0
Q18: Understanding how to target a particular journal for publication (n=121)	Avg 2.4
Q19: Creating a budget (n=120)	Avg 2.2
Q20: Protocol Development (Determining the type of project I would like to do (i.e. non-human subjects, quality improvement project, program evaluation, human subjects research) (n=119)	Avg 2.6
Q21: Completing Informed Consent with research participants (n=119)	Avg 4.6
Q22: Database generation (n=119)	Avg 2.9
Q23: Performing qualitative data analysis (n=119)	Avg 2.6
Q24: Performing quantitative/statistical data analysis (n=119)	Avg 2.7
Q25: Initiating IRB process (n=116)	Avg 2.5

[1523] **Figure 1.** Describes respondent level of comfort with research related activities, scale of 0-5 (0 = lack of comfort to 5 = extremely comfortable).

S1524

Patterns of COVID-19 Vaccination and Protective Equipment Usage in Endoscopy: A Survey of Endoscopy Providers

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Introduction: Endoscopic procedures have an increased risk for COVID-19 transmission due to their production of respiratory droplets and aerosolized particles. Early case reports and surveys suggest that transmission risk during endoscopy is low given proper personal protective equipment (PPE) usage. However, the advent of new virus variants led to renewed concern regarding infection risk. We examined how these recent trends have affected patterns of COVID-19 positivity, endoscopy center pre-procedure screening protocols, PPE usage, and healthcare provider perceptions of safety in endoscopy.

Methods: We surveyed gastroenterologists, nurses, technicians, and other endoscopy unit personnel throughout the United States. The survey was sent on November 1, 2021 and November 15, 2021, and assessed patterns of COVID-19 positivity among providers, vaccination status, COVID-19 testing protocols, and PPE usage.

Results: Seventy-two individuals responded to the survey with a self-reported vaccination rate of 100%. Nine individuals (13%) reported testing positive for COVID-19, all of whom tested positive before vaccination. Fifty-one (71%) endoscopy workers received the booster dose, and 13 (18%) endoscopy workers planned to in the future. Seven (10%) had not received a booster dose and did not plan to, even if available. Forty-three (60%) individuals reported that their endoscopy center mandated routine COVID-19 testing for all patients undergoing endoscopy. Sixty-one respondents (85%) reported feeling safer performing endoscopic procedures after vaccination (Table 1).

Conclusion: In our cohort, no individuals tested positive for COVID-19 after receiving their first vaccination series, compared to 9 individuals who tested positive before vaccination. Most endoscopy workers received the booster dose or plan to once available, and most report feeling safer during endoscopy post-vaccination. Although the American Gastroenterological Association had recommended against routine COVID-19 screening prior to elective endoscopy, 60% of respondents reported that their endoscopy center mandated routine pre-procedural screening. Our findings suggest that even with the advent of the highly transmissible Delta variant in early 2021, COVID-19 transmission during endoscopy remained low given vaccination and proper PPE utilization. Further data is needed to shape practice-changing guidelines regarding booster vaccine mandates and pre-procedural screening in high-risk fields such as endoscopy.

Table 1. Results		
Demographics		
Number of responses		72
Age (mean ± SD)		47.4 ± 11.6
Gender	Male Female	23 (31.9%) 49 (68.1%)
COVID-19 Positivity		
Tested Positive for COVID-19	Yes No	9 (12.5%) 63 (87.5%)
Timing of COVID-19 Positivity	Before vaccination After vaccination January 2020 to June 2020 July 2020 to December 2020 January 2021 to June 2021 June 2021 to December 2021	9 (100.0%) 0 (0.0%) 2 (22.2%) 5 (55.6%) 1 (11.1%) 1 (11.1%)
Symptom Severity in Positive Individuals	Asymptomatic Mild Moderate Severe Critical illness	0 (0.0%) 5 (55.6%) 4 (44.4%) 0 (0.0%) 0 (0.0%)

Table 1. (continued)

Endoscopy Center Guidelines		
Endoscopy Center Mask Requirements	Does not require N95 for any patient	14 (19.4%)
	Only for suspected COVID-19 patients	32 (44.4%)
	For all upper endoscopic procedures	5 (6.9%)
	For all endoscopic procedures	20 (27.8%)
	Other	1 (1.4%)
Mandatory Pre-Procedural Testing	Yes	43 (59.7%)
	No	29 (40.3%)
Endoscopy Provider Perceptions		
Perception of safety performing endoscopic procedures after receiving vaccination compared to before	Much safer	41 (56.9%)
	Somewhat safer	20 (27.8%)
	Same	9 (12.5%)
	Somewhat less safe	1 (1.4%)
	Much less safe	0 (0.0%)
	No response	1 (1.4%)

S1525

The File Drawer Effect in the Gastroenterology and Hepatology Literature

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Introduction: The File Drawer Effect, or the tendency for studies with statistically significant results to be published and those with unequivocal or negative findings to remain unpublished or less known, can have a significant impact on the scientific literature available in a field. We sought to examine the proportion of studies with statistically significant results published in the gastroenterology and hepatology literature.

Methods: We reviewed all original articles published in 2012 and 2017 in 4 national gastroenterology and hepatology journals (*Gut*, *Journal of Crohn's and Colitis*, *Hepatology*, and *Clinical Gastroenterology and Hepatology*). Our primary study outcome was the proportion of studies with a statistically significant finding. The number of times the study was cited according to Google Scholar was recorded and used as a measure of a study's impact. The type of study (clinical or basic) was also recorded.

Results: In total, 1,414 articles were reviewed and 3 were excluded due to unclear study results. Of the studies included, 97.31% (1,373) had at least one positive study result and 2.69% (28) had all negative study results. The proportion of articles with positive findings in 2012 (96.9%) was lower, though not significantly, from the proportion of articles with positive findings in 2017 (97.8%) ($P < .38$). The proportion of clinical science articles with positive findings (99.3%) was significantly greater than the proportion of basic research articles with positive findings (95.9%) ($P < .01$). The difference between the median number of times a study was cited and whether the study had a positive or negative result was not found to be statistically significant ($P = .26$).

Conclusion: An overwhelming majority of studies published in the selected journals were found to be positive, and this proportion increased slightly between 2012 and 2017. While a study's impact did not significantly differ between those with statistically significant and insignificant results, this could not be adequately examined due to the low sample size of negative studies (only 28) and subsequent lack of statistical power. The low representation of studies without statistically significant results, especially in clinical research, highlights a possible publication bias that is prevalent across the specialty's literature. This bias can potentially drive poor clinical practice, and steps should be considered to further study this effect.

S1526

After Visit Summary as an Intervention to Increase Patient Recall of Treatment Information in Telemedicine and In-Person Settings

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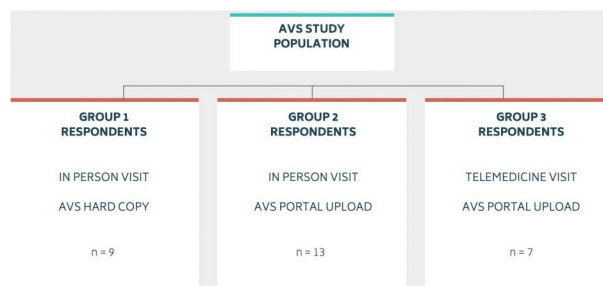
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Introduction: Estimates of patient adherence to treatment plan are low, and one contributor is poor recall of treatment plan and follow-up. The After Visit Summary (AVS) is a document that summarizes a patient's visit content and their treatment plan instructions, yet it is not universally utilized across health systems. We aimed to evaluate the impact of the method of AVS delivery (hard copy vs patient portal) and visit modality (telemedicine vs in-person) on Inflammatory Bowel Disease (IBD) patients' ability to recall their treatment plan.

Methods: New IBD patients presenting to a tertiary center were randomized into 3 groups based on visit type and mode of AVS delivery (Figure 1). Clinical visits were standardized to include treatment recommendations and lifestyle modifications. The survey was delivered to each patient electronically 2 weeks following their visit. It included 8 questions assessing patient confidence in the recall of the visit discussion, a question regarding whether they needed to call back with questions, and a question asking what would have made it easier for them to understand their treatment plan. A mean "recall score" was calculated from each patient's response to the first 8 questions. These scores were compared between groups for each question and overall.

Results: Of 81 patients, 29 surveys were completed (35.8%). As shown in Table 1, no significant differences in recall scores were indicated. Only 3 respondents reported that they had to call back to ask a follow up question. The open-ended responses to question 10 ("what would have made it easier to understand your treatment plan?") were centered around finances, insurance, and scheduling, as opposed to specific treatment information or discussion.

Conclusion: Overall self-reported recall and confidence in managing one's own care was high among patients regardless of visit type or mode of AVS delivery, underscoring the importance of clear and effective communication of care plans during patient visits. Limitations of this study include small sample size, patient inaccuracy in self-assessment of recall, and tertiary care referral bias as extended visit times for new patient encounters may impact generalizability of results. However, the AVS likely remains an effective tool to improve recall for IBD patients with complex clinical care plans. Additional investigations exploring patient adherence to IBD care plans based on recall of recommendations may be useful to measure the impact of AVS on longer term care.



[1526] Figure 1. Description of study groups by type of visit, AVS delivery, and number of responses.

Table 1. Survey responses by group. Questions 1-8 were prefaced with "Please rate your level of agreement with the following statements, where 1 = "Strongly Disagree" and 5 = "Strongly Agree"

	Group 1	Group 2	Group 3
Median Age	64	59	49
Gender	6 F, 3 M	3 F, 10 M	2 F, 5 M
Diagnosis: Ulcerative Colitis (UC)	3	8	2
Diagnosis: Crohn's Disease (CD)	6	5	5
Number of Subjects Enrolled	28	22	31
Number of Responses	9	13	7
Overall Recall Score	3.97	4.37	4.11
Mean score Q1: "I understood the potential causes of my IBD"	4.38	4.31	4.43
Mean score Q2: "I am aware of the different treatment options that are available for my IBD"	4.33	4.38	4.43
Mean score Q3: "I understood the recommendations about diet and exercise for my IBD"	4.33	4.54	4.14
Mean score Q4: "I know how to manage my symptoms associated with my IBD"	4.13	4.15	4.00
Mean score Q5: "I know how to manage my IBD medications"	4.25	4.58	4.29
Mean score Q6: "My physician clearly explained my condition during my visit"	4.38	4.67	4.33
Mean score Q7: "I was given enough information during my visit"	4.38	4.75	4.29
Mean score Q8: "I have a better understanding of my treatment plan after my recent visit"	4.00	4.62	4.14
Need for call back (# respondents that indicated "yes")	2	0	1
Responses to Q10: "What would have made it easier for you to understand your treatment plan?"	<ul style="list-style-type: none"> - "What suggestions of medications to be taking now to help with symptoms while waiting on insurance decisions which is a slow process" - "Directions on how to transfer my prescriptions to my new Mayo physician" - "Nothing more... Answered all my questions and was on time. I took to heart all 12 things he mentioned." 	<ul style="list-style-type: none"> - "Scheduled treatment plan before I left the office" - "Nothing, very thorough" - "Nothing, it was explained in great detail yet as simple as could be" - "We never discussed IBD" 	<ul style="list-style-type: none"> - "I was under the impression that by the end of this appointment or by the end of my pharmacy consult I would have a treatment plan figured out and that was not the case on either. Apparently I have to call my insurance company and do research myself and it would have been nice to know that ahead of time so I could have gotten things moving faster." - "A more detailed, in depth discussion of the possible financial ramifications for myself as a patient with regard to one of the proposed possible future treatment options for my IBD would have been helpful." - "Closer together appointments" - "Follow appointment quicker"

S1527

Electronic Smart Phrase Is Superior to an Online Calculator for Liver Fibrosis Index FIB-4

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Introduction: Clinical scores are becoming more frequently used in clinical encounters. While these scores can be calculated using the formula directly or via online calculators, electronic health records (EHR) may incorporate the calculations using Smart Phrases. Fibrosis-4 (FIB-4) index, incorporates age, serum aspartate aminotransferase level, serum alanine aminotransferase level, and platelet counts to determine the degree of hepatic fibrosis. The aim of this study is to compare the performance of online calculator for FIB-4 with EPIC Smart Phrase.

Methods: FIB-4 score was established as a Smart Phrase in Epic and a trial was performed on internal medicine residents at a community teaching hospital during March-May 2022 on calculating this score via traditional online method using MDCalc medical calculator (<https://www.mdcalc.com/fibrosis-4-fib-4-index-liver-fibrosis>) vs EHR-based approach. Total number of clicks (steps) and time spent calculating FIB-4 score, and accuracy of calculation were measured via one single observer in both traditional and EHR-based approaches using a sample patient. Ease of calculation was reported for both methods by participants on a 0-10 scale. $P < 0.05$ was considered significant.

Results: A total of 37 internal medicine residents participated in the study. Thirteen (35.1%) of the participants were in post-graduate year (PGY)-1, while individuals in PGY-2 and PGY-3 had 12 (32.4%) participants each. Thirteen (35.1%) of the participants were female. In comparison to the online calculator, participants used less clicks (steps; 11.3 ± 4.1 vs 1.9 ± 0.9 , $P < 0.001$) and less time (60.1 ± 8.8 seconds vs 6.6 ± 3.4 seconds, $P < 0.001$) to calculate FIB-4 score via Epic Smart Phrase. Participants reported higher scores for ease of calculating the FIB-4 score using Epic Smart Phrase compared to the online calculator (5.6 ± 1.0 vs 8.1 ± 0.9 , $P < 0.001$). Also, while 6 (16.2%) inaccurate calculations were observed using the online calculator, no inaccurate calculations were noted in calculating the score using the Epic Smart Phrase ($P = 0.01$).

Conclusion: EPIC Smart Phrase for liver fibrosis index FIB-4 is easier and faster to use compared to online calculator.

S1528

The Supply Scavenger Hunt: Use of Procedure Bundles to Improve Efficiency of Paracentesis Care

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Introduction: Physicians report that 20-35% of their work time is preventable waste time. Moreover, time searching for equipment is a top contributor to preventable waste time. Bedside procedures, including the paracentesis, provide excellent examples of physician waste time and supply chain inefficiency. This quality improvement project's goal was to create pre-assembled procedure bundles to improve internal medicine resident physicians' paracentesis preparation time by 50%.

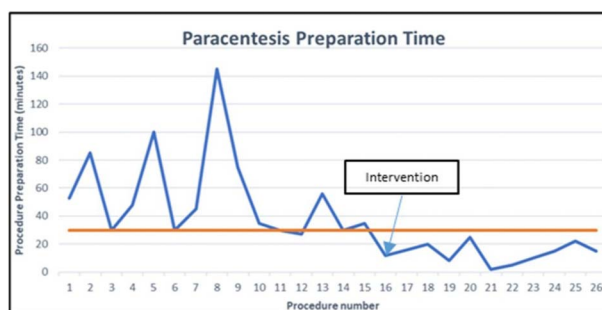
Methods: This project followed a traditional plan, do, study, act (PDSA) format. Utilizing LEAN principles, an analysis of the pre-intervention state found that paracentesis preparation time had significant waiting waste, motion waste, and variability by location. The outcome measure was paracentesis procedure preparation time, defined as the time (in minutes) from the start of supply assembly until the patient was marked for the procedure. The in-scope groups of focus for the project were internal medicine inpatient teaching teams. Internal medicine residents, who served as project stakeholders, were surveyed to determine the contents of the paracentesis bundle. A uniform supply list was created and procedure bundles were assembled by the project team and stored in a common work area (Table 1). Pre-intervention procedure preparation times were measured to establish a baseline. Once procedure bundles were introduced, post-intervention preparation times were measured.

Results: PDSA cycle #1 included 26 data points, 15 pre-intervention and 11 post-intervention. Figure 1 shows a run chart of the data. The median for the entire data set was 30 minutes. All 11 post-intervention data points fall below the median and represent a shift, supporting that the observed improvement is likely attributable to the intervention rather than chance. The average procedure preparation time improved from 55 minutes to 14 minutes, marking a 74% reduction. Additionally, the maximum preparation time improved from 145 minutes to 25 minutes.

Conclusion: PDSA cycle #1 served as a proof of concept for procedure bundles to improve paracentesis preparation time and, as a result, decrease physician waste time. The 74% reduction in preparation time exceeded the original goal of 50%. Future plans include standardizing blood culture bottles for ascitic fluid studies given their improved diagnostic culture yield and preparing procedure bundles for other bedside procedures like central venous catheters and arterial lines.

Table 1. Paracentesis Bundle Supply List

1	Collection bucket with lid
1	Safe-T-Centesis kit
2	Wall suction tubing packs
1	Aerobic blood culture bottle
1	Anaerobic blood culture bottle
2	Medium Tegaderm
1	Package of 4x4 gauze
1	Heparin lock for patient marking
1	Chloraprep stick



[1528] **Figure 1.** Run chart of data set. The Median is represented by the orange line.

S1529

Prevalence of Ordering Computed Tomography Scans for Non-Traumatic Abdominal Pain in the Emergency Department at a Tertiary Care Center

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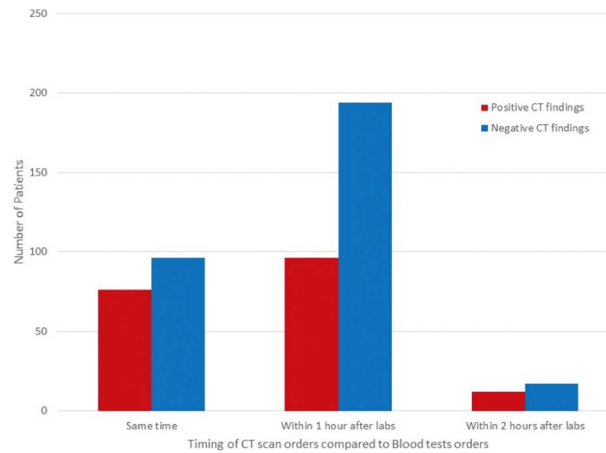
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Introduction: Abdominal pain is the most common cause of emergency department (ED) referrals. Computed tomography (CT) scans of the abdomen and pelvis are the standard choice for the diagnosis of acute abdominal pain. However, the cost, radiation exposure, and availability of CT scans may make other imaging modalities preferable as first-line tools for non-traumatic abdominal pain. We retrospectively reviewed patient records of those presenting with non-traumatic abdominal pain to the ED and received an abdominal CT scan. Our study's goal was to identify the ED prevalence of ordering CT scans for non-traumatic abdominal pain patients compared with other diagnostic imaging modalities such as ultrasound (US) or x-rays.

Methods: We analyzed demographic characteristics, comorbidities, clinical presentation, time of ordering abdominal and pelvic CT, CT scan findings, US orders, and admission status of patients presenting to the ED with non-traumatic abdominal pain from July 2017 to October 2017. Summary statistics of continuous variables were reported as mean \pm standard deviation. We created a regression model to identify predictors of positive results of abdominal and pelvic CT scans.

Results: A total of 496 patients were included in our study (mean age: 49.7 years; male-to-female ratio: 40:60). US imaging was ordered for 34 patients (7%), and x-ray/obstruction series was ordered for 55 patients (11%) before orders for abdominal and pelvic CT scans. Most patients were diagnosed with non-specific abdominal pain (n = 154, 31%). A total of 173 patients (35%) received orders for abdominal CT scans immediately on evaluation in the ED before basic blood work (Figure 1). Seventy percent of patients were discharged from the ED after a few hours. In 30% of cases, were admitted for further evaluation.

Conclusion: CT scans are commonly ordered for the diagnosis of acute abdominal pain. Fifty percent of the patients who presented with abdominal pain had CT scan. The most common cause of abdominal pain based on CT scans results is nonspecific abdominal pain in our study. The majority of CT scans were ordered either at the same time or one hour after ordering preliminary blood work. Findings such as the absence of diabetes mellitus, history of renal stones, leukocytosis, and acute kidney injury, were correlated enough to predict a positive CT result (Table 1).



[1529] **Figure 1.** Positive and negative CT scan findings and their timing compared to labs.

Table 1. Binary logistic regression model to predict a positive result on CT scan

	OR	95% CI for OR	P Value
Gender (female)	0.751	0.456-1.238	0.262
Age	0.986	0.972-1	0.056
Race (White)	0.534	0.038-7.507	0.642
Race (Black)	0.473	0.172-1.303	0.148
Race (Asian)	0.888	0.280-2.812	0.840
Absence of Diabetes	3.248	1.278-8.252	0.013
History of Cholecystitis	0.130	0.013-1.260	0.078
History of renal stone	3.160	1.078-9.268	0.036
Ovarian Cyst	0.111	0.009-1.314	0.081
History of abdominal surgery (all types) *			0.998
Abdominal pain (all locations) *			0.502
Nausea	1.430	0.921-2.220	0.111
Fever	1.819	0.893-3.704	0.099
Loss of appetite	1.115	0.372-3.344	0.846
Abdominal Tenderness (all locations) *			1.000
Guarding	2.789	0.746-10.426	0.127
Leukocytosis	2.759	1.592-4.782	< 0.001
Elevated Bilirubin	1.868	0.878-3.975	0.105
Acute Kidney Injury	2.271	1.014-5.088	0.046

S1530

Optimizing the GI Consult Process: Jointly Bridging the Gap

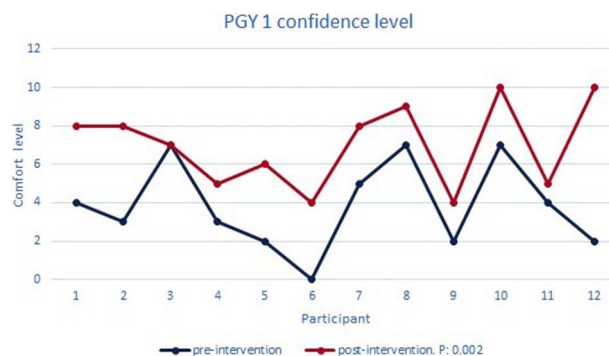
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Introduction: Many training programs may lack formal teaching regarding proper consults and lead to inefficiency, particularly with heavily utilized services like gastroenterology. In this study, we focus on bridging the gap and improving communication during the consult process between internal medicine residents and gastroenterology fellows in a teaching hospital.

Methods: We asked residents their training level, formal teaching, and comfort level in calling consults. We asked fellows the average number of consults, "unclear" consults, and those more appropriate for a different service. Working with a chief GI fellow, medicine residents jointly developed a primer of most common questions to aid in framing the question, work-up, and management. After 1 month of dissemination, respondents were re-pollled. Responses were anonymous and analyzed via paired, 2-tailed t-tests.

Results: Of the 32 pre-intervention residents, we had 6 PGY-3, 13 PGY-2, and 13 PGY-1. Of the 26 post-intervention residents, no PGY-3 responded. Ninety-three percent of residents reported no prior training, yet 80% wished for it. There was no significant difference among the comfort level in calling consults between PGY-1 vs PGY-2 ($P = 0.07$); unlike PGY-1 vs 3 ($P < 0.01$) or PGY-2 vs 3 ($P = 0.03$; Figure 1). This may be due to experience. Our interventions led to significant improvements in confidence levels in calling the GI service among PGY-1 and 2 ($P = 0.02$), with 80% respondents saying they would use the primer in the future and recommend to colleagues. Five of our institution's 8 fellows responded to the pre and post survey. Though there was no significant difference in the number of consults received, the number of unclear questions and incorrect services significantly reduced post-intervention. Similar to 80% of our residents, 100% of the fellows recommended its continued use.

Conclusion: Our study is limited by several factors. The sample size from residents and especially the fellows underpower the study. Attrition bias was limited to 6 PGY 3 residents who we hypothesize were experienced with consults. The subjective nature of our survey invites recall bias which we minimized with standardized sampling. Future studies may design longer-washout periods with a larger sample size. The gastroenterology consult service is busy. Meeting the need and desire from both residents and fellows to bridge the knowledge/communication gap, is crucial to optimizing the consult process and patient care.



[1530] **Figure 1.** PGY-1 Confidence level in calling GI consults pre vs post intervention.

S1531

How Type of Office Visit Influences Attitudes and Preferences for Telemedicine

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Introduction: The COVID-19 pandemic caused significant changes in delivery of healthcare. Telemedicine emerged as a popular option. Numerous studies demonstrate a favorable opinion of telemedicine from patient and physician perspectives. What factors make it more efficient and effective? This study explores how type of office visit impacts attitudes towards telemedicine and affects patient's preferences for future visits.

Methods: Surveys were delivered by mail or in person to 1,100 randomly selected patients of Sierra Nevada Gastroenterology, a community-based practice in Grass Valley, CA. Each patient (pt) had a telemedicine visit (TMV) from April 2020-October 2021. Three hundred twenty surveys were returned completed. Surveys contained a 5-point Likert scale set of questions rating the quality, communication, compassion, thoroughness and convenience of TMV. In person visits (IPV) were then directly compared to TMV for the same qualities. Demographics were recorded (Table 1). Surveys were separated into 3 categories based on type of visit: new complaint (NC), follow-up of existing problem (FU), procedure-related visit (PRV). Statistical analysis and chi-square test were used to determine statistical significance.

Results: Quality, communication, thoroughness and compassion during TMV rated high with Likert scores of 4.3-4.7 (5 = strongly agree) for all groups. Comparing the 3 groups (NC, FU, PRV) with chi-square testing, no statistical difference in ratings was seen. FU pts had the highest Likert scores in all categories. Pts with new complaints preferred IPV over TMV for quality, communication, thoroughness and compassion, which was rated statistically significantly higher ($P < 0.05$). TMV was favored for convenience in all groups with highest ranking in FU pts (73%).

Conclusion: This study showed type of office visit did not affect satisfaction or ratings of TMV. However, type of visit did reveal preferences for either IPV or TMV. Pts with NC preferred IPV and felt compassion is important and delivered more effectively in person. This suggests non-verbal communication such as body language, facial expression and tone is conveyed more effectively in person than over phone or video calls. FU or PRV pts rated TMV as more convenient and preferable over IPV for future visits, suggesting that pts with stable or less acute problems prioritize convenience over other factors when selecting type of visit. Further studies are needed to determine what other factors will influence and improve quality of TMV.

Table 1.

		New Complaint * (n=220)	Follow-up Visit (n=45)	Procedure Related Visit ** (n=55)
Gender	Male/Female	113/107	21/24	17/38
Age	< 39 years old	10	4	2
	40-49	11	3	4
	50-59	47	10	10
	60-69	69	8	13
	70-79	70	16	20
	80+	12	3	6
Ethnicity	White	194	41	48
	Black	1	0	1
	Hispanic	9	3	0
	Asian	7	1	3
	Other	3	0	0

*New complaints include abdominal pain, change in bowels, heartburn, nausea or vomiting, liver problems or inflammatory bowel disease.
 **Procedure Related Visit focused primarily on setting up scope (e.g., screening for colon cancer, surveillance of polyps or Barrett's).

S1532

Utilization of CT Scan in Premenopausal Women Presenting With Non-Traumatic Abdominal Pain

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Introduction: Abdominal and pelvic computed tomography (CTAP) has long been considered the test of choice for abdominal pain. We hypothesize that because women are more likely to present with acute abdominal pain and they would be subject to increased imaging studies and radiation exposure. The purpose of this study was to assess the difference in the utilization of CTAP among young men and women who present with non-traumatic abdominal pain.

Methods: This retrospective cohort was conducted between January 2017 to December 2019. Those who presented to the emergency department with acute abdominal pain were included. Those who presented with acute abdominal pain due to traumatic injury or with a previous history of abdominal pathology were excluded. Patient demographics, and medical comorbidities were collected. Logistic regression analysis was performed to determine the effect of gender on the likelihood of CTAP imaging and reported as odds ratios (OR) with 95% confidence intervals (CI). Significance was set at 5%.

Results: A total of 3,328 patients who presented to the emergency department were identified. The mean reported age was 33.5 years with a maximum of 45 years. The majority of patients were (65.5%). The racial demographics showed that 75.7% were White, 12.3% were Black, 1% were Asian and 11% identified as other/unknown. Only 17.4% of patients identified as Hispanic with most patients specifying they were non-Hispanic (82%) and only 0.6% choosing to not specify. A total of 2,345 patients were insured and 71.9% of patients received a CT scan. Adjusted analysis revealed that women were significantly less likely than men to receive CTAP (OR 0.79, 95% CI (0.67, 0.94), $P = 0.01$). Uninsured patients were significantly more likely than insured patients to receive CTAP (OR 1.27, 95% CI (0.107, 0.52), $P = 0.01$) and 27%

higher odds of receiving a CT scan versus insured patients ($P = 0.01$, 95% CI, OR [1.07, 1.52]). In regards to age, for every 1-year increase in patient age, there was a corresponding 3% increase in the patient's odds of receiving a CT scan ($P < 0.001$, 95% CI, OR [1.02, 1.04]).

Conclusion: Despite the majority of patients being females; females were less likely to undergo CTAP when presenting with acute abdominal pain compared to men. Although our hypothesis was that female patients were more likely to undergo CTAP, these results could represent an under-utilization of CTAP imaging in younger women. Additional studies are needed to elicit the impact of this underutilization and patient outcomes.

S1533

Development of an Online Learning Module on Gastroenterology Issues in Global Health

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Introduction: Global health (GH) education is expanding and 23.1% of US medical students acquire international health experience prior to postgraduate training. Digestive diseases carry a high global burden. However, few GH programs and professional societies consider the inclusion of gastroenterology into their standard curriculum. In addition, travel restrictions during the COVID-19 pandemic have brought traditional GH rotations to a halt and spurred new educational approaches. Our goal is to develop a comprehensive online learning module on gastroenterology issues in GH for medical students undertaking GH electives.

Methods: A team of faculty and residents was convened between the Center for Community and Global Health and the Division of Gastroenterology. GH curricula across institutions and core competencies across 2 professional societies were examined via literature review. A survey was conducted among 2nd (MS2) and 3rd year medical students (MS3) interested in GH to assess attitudes toward GI-related issues in GH curriculum. An online learning module was developed consisting of 10, video-based lessons each addressing specific GH competencies (Figure 1).

Results: In total, 41% (28/69) of MS2 and MS3 interested in GH responded to the survey, with a similar distribution of MS2 (13/28) and MS3 (15/28). Nearly all (92.8%) reported that learning GI conditions in a GH curriculum is moderately or very important (Table 1). A majority (78.5%) also reported feeling at least somewhat anxious or more about managing GI conditions during GH electives. Few medical students reported feeling moderately or extremely prepared to identify risk factors for GI conditions in different settings (21.5%) and to define approaches to therapy in resource-limited settings (14.3%). Interestingly, a majority (71.4%) reported feeling not at all prepared or slightly prepared to deliver cost-effective care to challenging populations.

Conclusion: Our survey responses demonstrated an unmet need for GI-related training and cost-conscious care in the GH curriculum. Developing an online learning module on GI conditions to supplement GH curriculum may be useful and feasible. A randomized controlled trial is underway to examine the effect of this online learning module on medical student knowledge and preparedness to address GI conditions in GH electives.

Learning Module Lessons	CUGH Global Health Competencies - 11 Domains, (Domain #)	ASTMH Clinical Competencies - 7 Domains, (Domain #)
1. Global burden of gastrointestinal illnesses	Global Burden of Disease (1), Globalization of Health and Health Care (2)	Public Health in the Tropics (6)
2. Infectious disorders of the GI tract	Professional Practice (7)	Pathology of Infectious Diseases (1), Management of Infectious Diseases (2)
3. Hepatitis	Professional Practice (7)	Pathology of Infectious Diseases (1), Management of Infectious Diseases (2)
4. Abdominal pain in global health context	Professional Practice (7)	Approach to Clinical Syndromes (4)
5. ABC of GI resuscitation	Professional Practice (7)	Noninfectious Diseases (3)
6. Diarrhea	Professional Practice (7)	Approach to Clinical Syndromes (4)
7. H. pylori, GERD, peptic ulcer disease	Professional Practice (7)	Approach to Clinical Syndromes (4)
8. Gastrointestinal bleeding	Professional Practice (7)	Noninfectious Diseases (3)
9. GI cancer, pancreatic/hepatobiliary disease, and great imitators	Professional Practice (7)	Noninfectious Diseases (3), Approach to Clinical Syndromes (4)
10. Complementary and alternative medicine in global health context	Social and Environmental Determinants of Health (3), Collaboration, Partnering, and Communication (5), Ethics (6)	Traveler's Health (5)

[1533] **Figure 1.** Online learning module. Alignment of CUGH global health competencies* and ASTMH clinical competencies** with module lessons. *: Consortium of Universities for Global Health (CUGH) Competency Domains 1-11. Jogerst et al. "Identifying interprofessional global health competencies for 21st-century health professionals." *Annals of global health* vol. 81,2 (2015); **: American Society of Tropical Medicine & Hygiene (ASTMH), Certificate of Knowledge in Clinical Tropical Medicine and Travelers' Health Domains 1-7 (CTropMed Examination).

Table 1. Medical students' attitudes and self-reported preparedness with regards to global health elective (N=28)

Survey Item	Responses, n (%)				
	Not important at all	Not very important	Somewhat important	Moderately important	Very important
Perceived importance of GI-related lessons in a global health curriculum	0 (0)	1 (3.6)	1 (3.6)	6 (21.4)	20 (71.4)
Anxiety level about managing GI conditions during global health elective	Not at all anxious	Slightly anxious	Somewhat anxious	Moderately anxious	Extremely anxious
	1 (3.6)	5 (17.9)	9 (32.1)	11 (39.3)	2 (7.1)
Preparedness to perform the following item during global health elective:	Not at all prepared	Slightly prepared	Somewhat prepared	Moderately prepared	Extremely prepared
Carry out a physical exam	0 (0)	3 (10.7)	9 (32.1)	11 (39.3)	5 (17.9)
Cite differential diagnoses	1 (3.6)	8 (28.6)	11 (39.3)	4 (14.3)	4 (14.3)
Deliver cost-effective care to challenging patient populations	4 (14.3)	16 (57.1)	6 (21.4)	1 (3.6)	1 (3.6)
Identify risk factors for GI conditions in different settings	3 (10.7)	9 (32.1)	10 (35.7)	5 (17.9)	1 (3.6)
Identify prevalence of GI conditions in different settings	8 (28.6)	13 (46.4)	5 (17.9)	2 (7.1)	0 (0)
Define approaches to therapy in resource-limited settings	3 (10.7)	13 (46.4)	8 (28.6)	3 (10.7)	1 (3.6)
Consider influence of cultural and religious practices on a patient's treatment choices	3 (10.7)	7 (25.0)	8 (28.6)	9 (32.1)	1 (3.6)
Recognize my own clinical limitations	0 (0)	1 (3.6)	5 (17.9)	15 (53.6)	7 (25.0)