

# Sex, race, and geographic disparities are prevalent among authors and patients in prospective studies published in major U.S. Gastroenterology journal over the past decade

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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 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. Categorical variables were compared using chi-square analysis while t-testing was used for numerical variables. All analysis was done using R.

## Results

- Analysis of 244 RCTs and PCs:
  - US and Canada-based institutions represented 192/244 of lead authors (78.7%,  $p < 0.01$ )
  - The South comprised 71/192 (38.6%,  $p = 0.22$ ) of the US-based authors
  - No papers from Africa or South America
  - Only 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.

## Figure/Table

Fig 1. Flow Chart for Article Selection

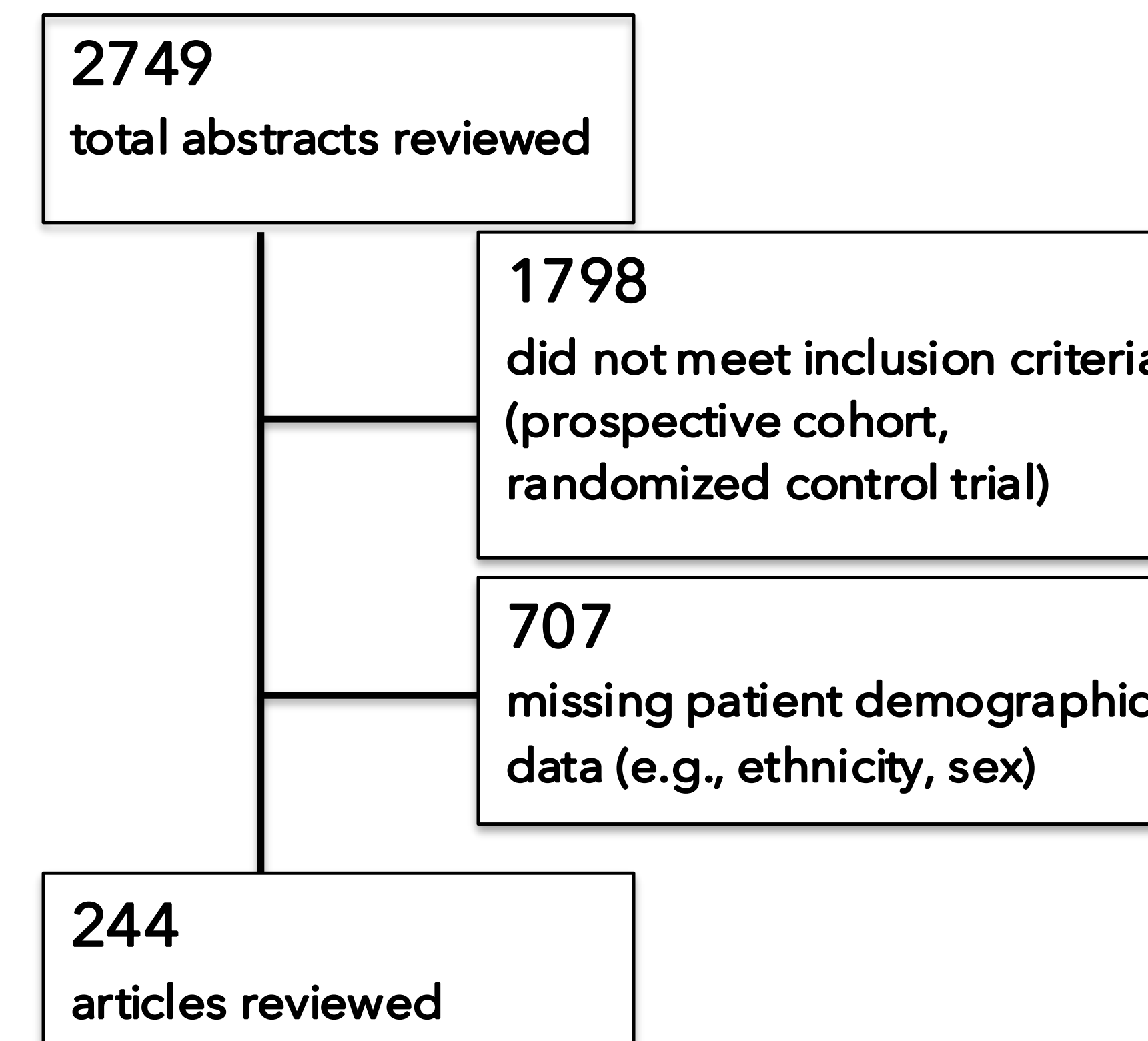


Table 1. Baseline Characteristics for Lead Authors and Study Types

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)
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)

## Results (continued)...

- Total of 1,401,292 patients:
  - 885,255 women (63.2%)
  - 308,010 non-White (21.9%) patients
- Mean number of female to male patients was equivalent in 3 of the 5 journals and just above 2:1 in the other two journals (AJG, Gastroenterology)
- Ratio of White to non-White patients was significantly high 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).

## Discussion

- 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.

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