

BACKGROUND

- The prevalence of inflammatory bowel disease (IBD) is rising worldwide, particularly in newly industrialized countries.
- Previous studies have attempted to characterize the impact of social determinants of health on health-care utilization, access to care, and overall outcomes in persons living with IBD.

OBJECTIVE

We aimed to determine differences in IBDrelated hospitalizations and emergency department (ED) visits amongst different races and ethnicities.

METHODS

- Study type: Systematic Review and Meta-Analysis.
- Databases Searched: Medline & Embase
- **Timelines**: January 1st, 1946, to January 1st, 2022

Inclusion/Exclusion Criteria

- All primary studies exploring the impact of race or ethnicity on IBD-related hospitalizations, and ED visits were included.
- Case reports, case series, reviews, and non-English studies were excluded.

• Outcomes

- Primary outcome: To identify differences in IBDrelated hospitalizations and ED visits between races and ethnicities.
- Determine differences in disease location, disease phenotype, and IBD-medication exposure amongst the different races and ethnicities in the included studies.

Statistical Analysis

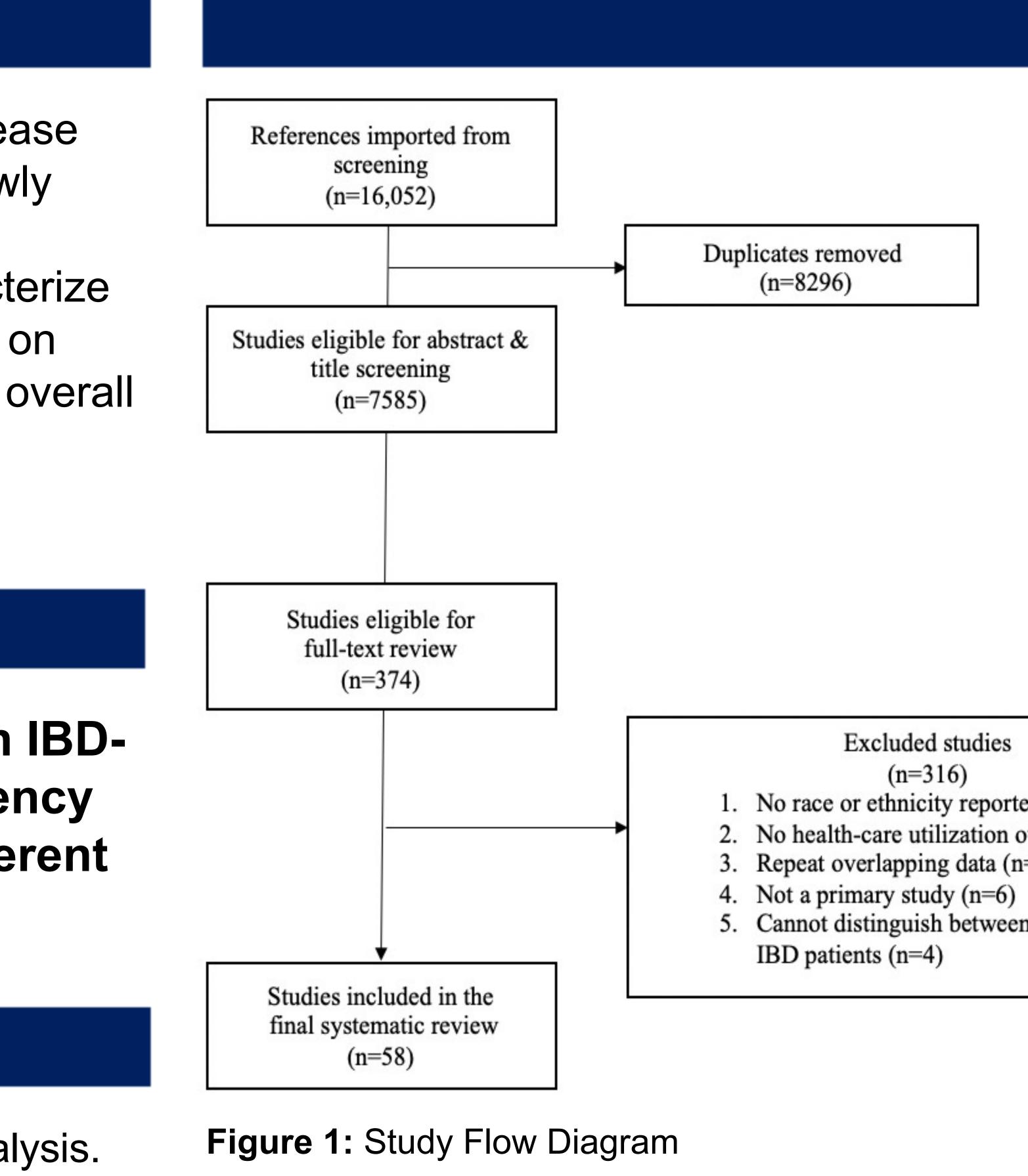
- Pooled odds ratios (OR) with 95% confidence intervals (CI).
- All summary estimates were analyzed by DerSimonian-Laird random-effects models.
- $I^2 > 50\%$ = Substantial heterogeneity.

Racial and Ethnic Disparities in Hospitalizations and Emergency Department Use of Persons With Inflammatory Bowel Disease: A Systematic Review and Meta-Analysis Parul Tandon¹, Tarun Chibba¹, Navneet Natt², Gurmun Singh Brar¹, Gurpreet Malhi³, Geoffrey C Nguyen¹

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	African An C		
	Studies (n)	Po	
Crohn's disease			
Disease Location			
L1	10	0.	
L2	10		
L3	10	0.8	
Disease phenotype			
B1	7	0.9	
B2	7		
B3	8	0.8	
Perianal	8	1.4	
Therapy exposure			
Corticosteroids	11		
Anti-TNF	8	1.0	
Ulcerative colitis			
Disease phenotype			
E1	7	2	
E2	7	1.	
E3	7	0.4	
Therapy exposure			
Corticosteroids	6	0.7	
Anti-TNF	5		

Table 1: Pooled differences in disease characteristics and IBD therapies between groups of patients.

		RESULT	'S			
	۸		Black pat	tients	White pa	tients
	A	Study or Subgroup	Events	Total	Events	To
		Basu 2005	15	40	27	
		Dhere 2020	57	147	80	2
		Grossman 2020	19	24	263	4
		Hattar 2012	39	67	83	2
		Li 2014	30	180	368	23
oved		Nguyen 2010	43	137	39	1
		Nguyen 2021	18	103	1215	68
		Walker 2018	113	220	180	7
		Total (95% CI)		918		110
		Total events	334		2255	
		Heterogeneity: Tau ² =		= 30.32.		< 0.00
		Test for overall effect:				
	В	Study or Subgroup	Black pat Events	tients Total	White pa Events	tients To
		Grossman 2020	19	24	263	4
		Hattar 2012	39	67	83	2
		Total (95% CI)		91		6
		Total events	58		346	
		Heterogeneity: Tau ² = Test for overall effect:	0.00; Chi²		df=1 (P=	0.52);
xcluded studies						
27.5 4 A C 입법 A C A L A L A L A L A L A L A L A L A L						
(n=316)			Black pat	tients	White pa	tients
ethnicity reported (n=180)		Study or Subgroup	Events	Total	Events	To
care utilization outcomes (n=116)		Basu 2005	15	40	27	
erlapping data (n=10)		Dhere 2020	57	147	80	2
		Li 2014	30	180	368	23
nary study (n=6)		Nguyen 2010	43	137	39	1

Cannot distinguish between IBD and non-

merican/Blacks vs. aucasian

ooled odds ratio (95% CI)

.58 (0.39-0.85), l²=44.9% 1.36 (1.18-1.65), I²=0% .83 (0.58-1.20), I²=69.5%

.98 (0.77-1.24), I²=26.6% 1.09 (0.88-1.36), l²=0% .89 (0.67-1.17), l²=49.8% .40 (1.06-1.86), $I^2 = 58.2\%$

1.07 (0.97-1.19), l²=0% .09 (0.71-1.66), I²=62.5%

2.14 (1.45-3.16), l²=0% 11 (0.75-1.64), I²=32.9% .55 (0.41-0.76), l²=14.2%

.79 (0.56-1.10), l²=41.7% 1.00 (0.69-1.44), l²=0%

Basu 2005	15	40	27	7
Dhere 2020	57	147	80	24
Grossman 2020	19	24	263	48
Hattar 2012	39	67	83	21
Li 2014	30	180	368	233
Nguyen 2010	43	137	39	14
Nguyen 2021	18	103	1215	688
Walker 2018	113	220	180	71
Total (95% CI)		918		1108
Total events	334		2255	
Listens we will be Tay 7	0.04.01.2	00.00	-16 Z (D	

Diack pa	uciito	white patients		
Events	Total	Events	Tota	
19	24	263	48	
39	67	83	21	
	91		69	
58		346		
: 0.00; Chi ²	= 0.42, 0	if = 1 (P = 0	0.52); I	
Z = 3.43 (P	= 0.000	6)		
	Events 19 39 58 0.00; Chi ²	Events Total 19 24 39 67 91 58 500; Chi² = 0.42, c	Events Total Events 19 24 263 39 67 83 91 91	

	Black patients		White patients		
Study or Subgroup	Events	Total	Events	Tota	
Basu 2005	15	40	27	7	
Dhere 2020	57	147	80	24	
Li 2014	30	180	368	233	
Nguyen 2010	43	137	39	14	
Nguyen 2021	18	103	1215	688	
Walker 2018	113	220	180	71	
Total (95% CI)		827		1038	
Total events	276		1909		
Heterogeneity: Tau ² =	= 0.24; Chi ²	= 27.71,	df = 5 (P	< 0.000	
Test for overall effect	Z = 1.36 (P	P = 0.17)			

Figure 2: Proportion of Black and White **a)** patients hospitalized for IBD-related reasons, **b)** pediatric patients hospitalized for IBD-related reasons, and c) adult patients hospitalized for IBD-related reasons.

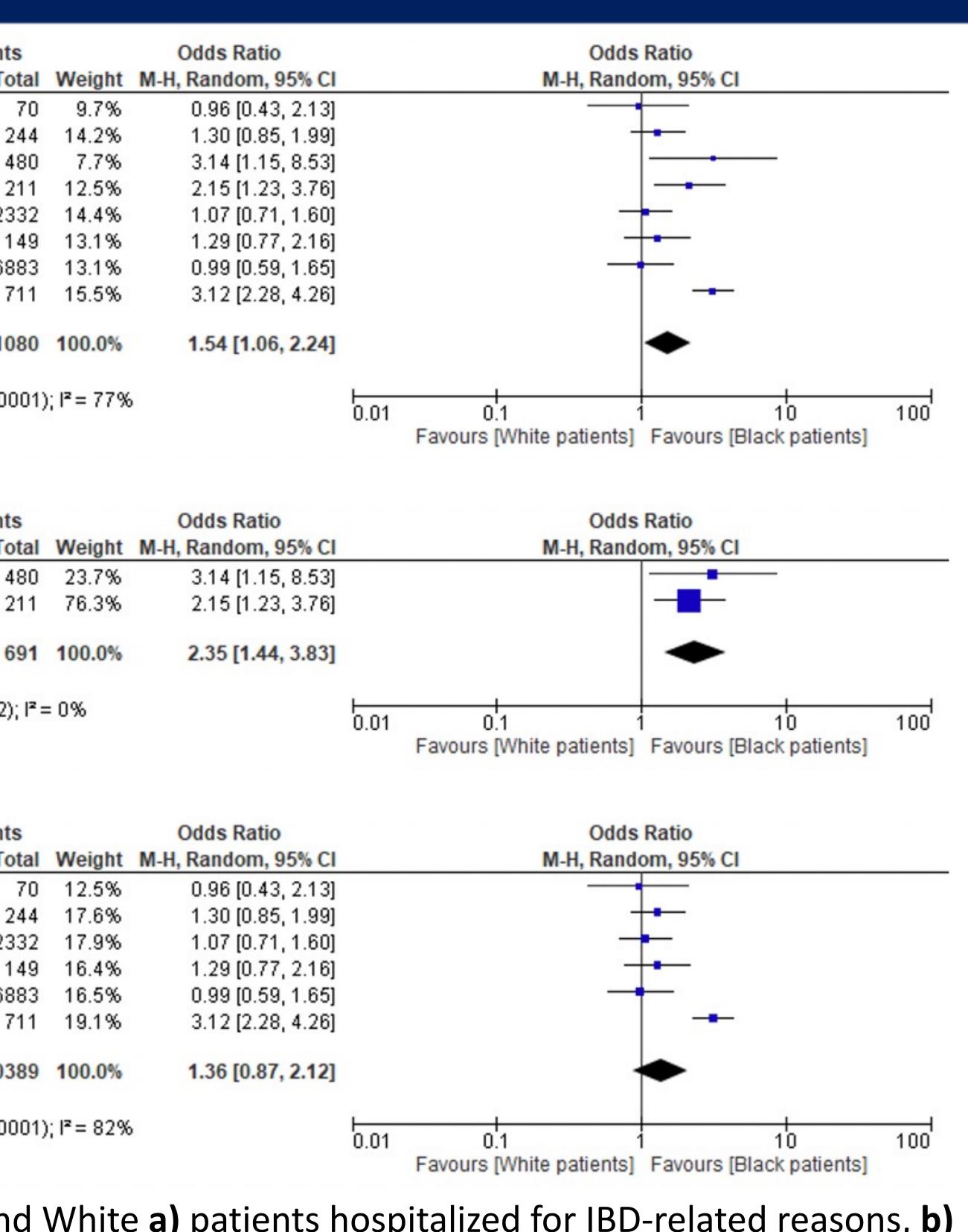
	Black par	tients	White patients	
Study or Subgroup	Events	Total	Events	Tota
Dhere 2020	89	147	124	244
Dotson 2018	411	612	1572	2008
Li 2014	15	180	122	2302
Nguyen 2010	55	137	33	149
Total (95% CI)		1076		470
Total events	570		1851	
Heterogeneity: Tau ² =	0.53; Chi ²	= 43.19,	df = 3 (P <	0.000
Test for overall effect:	Z = 0.71 (P	= 0.48)		

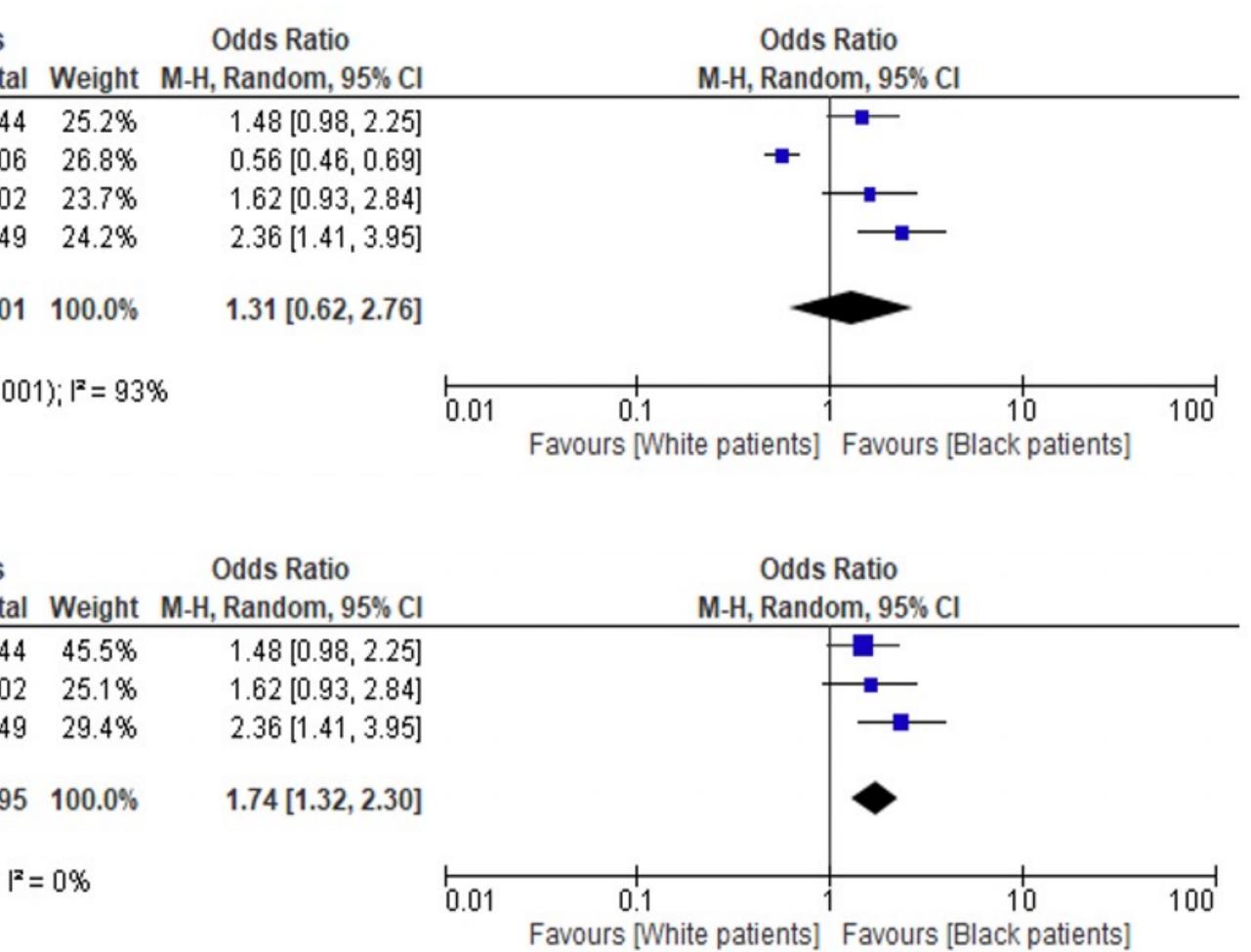
	Black pa	tients	White patients	
Study or Subgroup	Events	Total	Events	Tota
Dhere 2020	89	147	124	244
Li 2014	15	180	122	2302
Nguyen 2010	55	137	33	149
Total (95% CI)		464		2695
Total events	159		279	
Heterogeneity: Tau ² =	0.00; Chi ²	= 1.95, 0	f = 2 (P = 0	0.38); l ^a
Test for overall effect:	Z = 3.88 (P	= 0.000	1)	

Figure 3: Proportion of Black and White patients a) with at least one emergency department visit for IBD-reasons and **b)** adult patients with IBD with at least one emergency department visit for IBD-reasons.

Black patients with IBD are more likely to be hospitalized and visit the ED for IBD reasons compared to White patients. Disease phenotype and severity do not account for these differences. As such, future research is imminently required to determine factors behind these differences to promote, and achieve, equitable care for all persons living with IBD.







CONCLUSIONS