



Characteristics and Outcomes of Over a Million Patients with Inflammatory Bowel Disease in Seven Countries: Multinational Cohort Study and Open Data Resource

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BACKGROUND

- Inflammatory bowel diseases (IBD): Crohn's disease (CD), ulcerative colitis (UC)
- Increasing incidence rates; significant impact on patients, families quality of life
- Previous studies: limited geographical area, diverse phenotyping algorithms, different sets of attributes
- A descriptive cohort study: prevalence of thousands of attributes; multiple baseline and follow-up time windows; full cohorts, various strata

PARTICIPANTS, CHARACTERISTICS

- IBD: ≥ 2 diagnoses of IBD or IBD diagnosis + prescription for IBD medication
 - ≥ 365 days prior to first IBD indication
- CD, UC: IBD + ≥ 1 diagnosis of the corresponding disease, none of the other
- Strata: follow-up time (1, 3, 5, 10y), sex, specific age groups, race, index date year (in 5-year windows), body mass index (BMI) categories
- Predefined features: demographics; condition groups; prescribed drug ingredient groups
- IBD-specific attributes: risk factors, symptoms, abnormal lab test results, complications, medications, procedures, vaccines
- Time windows: entire history, year, month before the index date; month, 1, 3, 5, 10 years, and all-time following each subject's index date

DATA SOURCES

Database name	Abbreviation	Type, visits
Merative™MarketScan® Commercial Claims	CCAE	■ ⊕
Merative™MarketScan® Multi-State Medicaid	MDCD	■ ⊕
Merative™MarketScan® Medicare Supplemental	MDCR	■ ⊕
Optum®'s de-identified Clinformatics® Data Mart	Optum-CDM	■ ⊕
IQVIA™Adjudicated Health Plan Claims	PharMetrics+	■ ⊕
Optum® de-identified Electronic Health Record	Optum-EHR	□ ⊕
Columbia University Irving Medical Center	CUIMC	□ ⊕
Johns Hopkins Medicine	JHM	□ ⊕
IQVIA™Adjudicated Health Plan Claims Data	AMB-EMR	▣
IQVIA™Disease Analyzer – France	France	□
IQVIA™Disease Analyzer – Germany	Germany	□
IQVIA™Medical Research Data – UK (THIN)	IMRD-UK	□
Insurance claims from Japan	JMDC	■ ⊕
Ajou University School of Medicine	AUSOM	□ ⊕
Kangdong Sacred Heart Hospital	KDH	□ ⊕
IQVIA™Australian Longitudinal Patient Data	Australia	□

Sixteen databases from seven countries: USAus, FranceFR, GermanyDE, UKGB, JapanJP, KoreaKR, AustraliaAU

Geography □ USA; □ Europe; □ Asia; □ Australia

Data type ■ Admin claims; □ EHRs; ▣ Claims + EHRs

Included visits Outpatient; ⊕ Inpatient; ER

OVER A MILLION PATIENTS WITH IBD

Database name	Abbreviation	Type, visits	Crohn's Disease		Ulcerative colitis	
			N	% Female	N	% Female
Merative™MarketScan® Commercial Claims	CCAE	■	84,959	55.6%	109,500	55.2%
Merative™MarketScan® Multi-State Medicaid	MDCD	■	16,538	65.2%	16,431	65.9%
Merative™MarketScan® Medicare Supplemental	MDCR	■	12,809	58.5%	26,242	58.7%
Optum®'s de-identified Clinformatics® Data Mart	Optum-CDM	■	61,376	56.1%	93,009	56.9%
IQVIA™Adjudicated Health Plan Claims	PharMetrics+	■	93,217	53.8%	123,149	53.7%
Optum® de-identified Electronic Health Record	Optum-EHR	□	118,610	59.5%	119,188	58.2%
Columbia University Irving Medical Center	CUIMC	□	4,438	56.6%	3,922	59.0%
Johns Hopkins Medicine	JHM	□	1128	62.5%	892	57.5%
IQVIA™Adjudicated Health Plan Claims Data	AMB-EMR	▣	51,328	61.6%	58,404	58.6%
IQVIA™Disease Analyzer – France	France	□	320	62.5%	299	51.5%
IQVIA™Disease Analyzer – Germany	Germany	□	8,321	59.3%	10,668	53.2%
IQVIA™Medical Research Data – UK (THIN)	IMRD-UK	□	6,936	54.4%	13,924	49.1%
Insurance claims from Japan	JMDC	■	1,837	27.4%	12,527	35.6%
Ajou University School of Medicine	AUSOM	□	431	35.7%	660	36.4%
Kangdong Sacred Heart Hospital	KDH	□	44	38.6%	93	39.8%
IQVIA™Australian Longitudinal Patient Data	Australia	□	210	16.2%*	210	15.7%*

462,502

589,118

Geography □ USA; □ Europe; □ Asia; □ Australia

Data type ■ Admin claims; □ EHRs; ▣ Claims + EHRs

Included visits Outpatient; Inpatient; ER

FINDINGS

- ✓ **% female CD and UC patients in Asia lower than in Europe and USA, in full cohorts, adults and Asian strata**
- ✓ **Noticeable decrease, over time, in the average age of CD diagnosis; weaker trend in UC**
- ✓ **Anxiety and depression prior to CD and UC diagnosis increased, in some DBs nearly doubled, since 2000; significantly more common in females than males**
- ✓ **No decrease in surgical procedures, despite improved diagnosis, treatments**

LIMITATIONS, DATA

- Potential differences in coding, reporting across DBs
- Only binary attributes; no cross-strata info



[Extended Table 1](#)



[Full results](#)



[Paper](#)