

Supplementary materials

Table S1 International Classification of Disease (ICD) version 9 and HMO internal diagnoses codes used to identify IBD-related contacts.

Diagnosis	Clalit	Maccabi	Meuhedet	Leumit
CROHN'S DISEASE - REGIONAL ENTERITIS	555	555	8079	555
REGIONAL ENTERITIS OF SMALL INTESTINE	555	555.0, Y15123	21494, 8080	555
ILEITIS	555			555
REGIONAL ILEITIS	555.001		21493	555.001
SEGMENTAL ILEITIS	555.002			555.002
TERMINAL ILEITIS	555.003	Y15124	21495	555.003
REGIONAL ENTERITIS	555.01		21507	555.01
REGIONAL ENTERITIS OF DUODENUM	555.011			555.011
REGIONAL ENTERITIS OF ILEUM	555.012			555.012
REGIONAL ENTERITIS OF JEJUNUM	555.013			555.013
REGIONAL ENTERITIS OF LARGE INTESTINE	555.1	555.1, Y15125	21497, 8081	555.1
COLITIS GRANULOMATOUS	555.101			555.101
REGIONAL ENTERITIS OF SMALL INTESTINE WITH LARGE INTESTINE	555.2	555.2, Y15127	21500	555.2
REGIONAL ILEOCOLITIS	555.2	555.2, Y15127	21501	555.2
COLLAGENOUS AND LYMPHOCITIC COLITIS OF COLON	555.31			555.31
COLLAGENOUS AND LYMPHOCYTIC COLITIS OF LARGE BOWEL	555.32			555.32
COLLAGENOUS AND LYMPHOCYTIC COLITIS OF LARGE BOWEL	555.33			555.33
REGIONAL ENTERITIS OF UNSPECIFIED SITE	555.9	555.9, Y15131	8083	555.9
ULCERATIVE ENTEROCOLITIS	556	556, Y15143		556
ULCERATIVE ENTEROCOLITIS	556	556		556
ULCERATIVE ILEOCOLITIS	556.1			556.1
ULCERATIVE PROCTITIS	556.2	556.2, Y21353	21514	556.2
ULCERATIVE PROCTOSIGMOIDITIS	556.3			556.3
PSEUDOPOLYPOSIS OF COLON	556.4			556.4
ULCERATIVE COLITIS, LEFT-SIDED	556.5	Y15143	21516, 21510	556.5
ULCERATIVE COLITIS, UNIVERSAL	556.6	Y15143	21516, 21510	556.6
ULCERATIVE COLITIS, OTHER	556.8	Y15143	21516, 21510	556.8
ULCERATIVE COLITIS, UNSPECIFIED	556.9	Y15143	21516, 21510	556.9
CROHN'S DISEASE	556.91		21516, 21510	556.91
CROHN'S DISEASE ARTHROPATHY		Y16910		
INFLAMMATORY BOWEL DISEASE CHRONIC		Y15135		
FISTULA COMPLICATING CROHN'S DISEASE		Y15132	21505, 21503	
SACROILEITIS COMPLICATING CROHN'S DISEASE		713.15	21509	
PROCTOCOLITIS IDIOPATHIC		Y15140, 556.9	21513, 21515 , 8084	
PROCTITIS UNS		Y15251		
ULCERATIVE COLITIS ARTHROPATHY		Y16913		
EPISCLERITIS IN CROHN'S/COLITIS		Y13660		
ERYTHEMA NODOSUM IN CROHN'S/COLITIS		Y16454		
ARTHROPATHY INFLAMMATORY BOWEL DISEASE		Y16909		
ARTHRITIS ASSOCIATED WITH INFLAMMATORY BOWEL DISEASES		Y23152		
CROHN'S DISEASE SCLEROSING CHOLANGITIS		Y15354		

Table S2 Israeli drug catalogue codes (YARPA) and HMO internal codes used to identify IBD-related medications

Type	Name	Clalit	Maccabi	Meuhedet	Leumit
5-aminosalicylic acid	ASACOL 20 SUPPS	57656	57656	57656	
	ASACOL 400 MG 100 TAB	7858	7858	7858	7858
	ASACOL 800 MG 60 TAB	69522	69522	69522	69522
	DIPENTUM 250MG 100TAB	8044	8044		
	DIPENTUM 250MG 112TAB	91470	91470		
	PENTASA 1 GR 28 SUPP	8879	8879	8879	8879
	PENTASA 500 MG 100 TAB	8993	8993	8993	8993
	PENTASA SR 1 G 60 TAB	24200	24200	24200	24200
	PENTASA SR 250MGX100TAB	7982	7982		
	PENTASA SR GRANULES 2G*60	89247	89247	89247	89247
	PENTASA SR SACHETS 100 S	20492	20492	20492	20492
	RAFASSAL 1 GR 15 SUPP	9254	9254	9254	9254
	RAFASSAL 1 GR 30 CAPL	9126	9126	9126	9126
	RAFASSAL 250 MG 100 R	2520	2520	2520	2520
	RAFASSAL 250 MG 30 SUPP	2519	2519	2519	2519
	RAFASSAL 500 MG 30 SUPP	8300	8300	8300	8300
	RAFASSAL 500 MG 60 TAB	8275	8275	8275	8275
	RAFASSAL GRAN.SACH 1 gr 50	76624			
	RAFASSAL GRAN.SACH 1.5gr 50	76625			
	RAFASSAL GRAN.SACH 3gr 50	76634			
SALAZOPYRIN 100 TAB	1936	1936	1936	1936	
SALAZOPYRIN 500mg 100 TAB	26717	26717	26717	26717	
SALAZOPYRIN 0.5 gr 100 TAB	1937	1937	1937	1937	
Thiopurines	AZATHIOPRINE	7859, 90363	7859, 90363		
	AZOPI 50 MG 100 TAB	8470	8470	8470	8470
	IMURAN 25 MG 100 TAB	7860	7860	7860	7860
	IMURAN 50 MG 100 TAB	1020	1020	1020	1020
	IMURAN 50 MG VIAL	26895, 92738	26895, 92738		
	MERCAPTOPYRINE 10MG/ML 15M SOL	92221	92221		92221
	PURI NETHOL 25 TAB	1907	1907	1907	1907
Biologics	ENTYVIO VIAL 300 MG	66601			
	HUMIRA 40MG/0.8ML 2 SYR	11050	11050	11050	11050
	HUMIRA PEN 40MG /0.4ML X2	73628			
	HUMIRA PEN X 2 UK/IRELAND	25123	25123	25123	25123
	HUMIRA VIAL 40/0.8ML 2	31145	31145	31145	31145
	HUMIRA PFS 40MG /0.4ML	73626			
	HUMIRA PEN IN CASE OF BREAKAGE	93051			
	REMICADE 100 MG 1 VIA	23349	23349	23349	23349
	REMICADE 10MG/ML 10ML	95464	95464		
	REMICADE 20MG/100ML	95460	95460		
	SIMPONI 50MG/ 0.5ML 1 SYRINGE	31568			
	SIMPONI AUTOIN 100 MG	85391			
	SIMPONI PRE FILLED PEN	29028	29028	29028	29028
STELARA 45MG	21016				

	STELARA 45MG/ 0.5ML	92284			
	STELARA 130 MG	60533			
	STELARA 130 MG VIAL	93479			
	STELARA SYR 45MG	24037			
	STELARA PREFILL. SYR 90MG	66817			
	TYSABRI VIAL 300MG/15ML	16991	16991		16991
5-aminosalicylic acid enema	ASACOL 20 SUPPS 500MG	57656			
	PENTASA ENEMA 7	7900	7900	7900	7900
	PENTASA 1GR 28SUP	8879			
	RAFASSAL ENEMA 1 GR 1=7	8078	8078	8078	8078
	RAFASSAL ENEMA 4 G 1=7	7433	7433	7433	7433
	RAFASSAL 250MG 30 SUP	2519			
	RAFASSAL 500MG 30SUP	8300			
	RAFASSAL 1GR 15SUP	9254			
	SALAZOPYRIN	8104			
	SALAZOPYRIN EN 100 TAB	1937	1937	1937	1937
Steroid enema	BETAMETHASONE ENEMA 14	45319			
	BETAMETHASONE ENEMA 7	45320			
	BETAMETHASONE ENEMA 28	8210			
	BETNESOL RETENTION ENEMA 100ML	91403			
	BETNESOL REKTAL 100ML 7ENEMA	92380			
	BETNISOL RETENTION ENEMA	92536			
	BETNISOL RETENTION ENEMA	94998			
	BETNESOL ENEMA 100ML 29-G	352	352	352	352
	CORTIFOAM 15G	27615	27615	27615	27615
	ENTOCORT ENEMA 2MG 7 X 115ML	92634			
	ENTOCORT ENEMA 7BOTTLES	39056	39056		
Budesonide	CORTIMENT 9MG X 30TAB P.RELEAS	38490			
	ENTOCORT 3MG 100 TAB	39055			
	BUDESONE 3MG 100 TAB	9525			
Modulen	MODULEN	28714	28714		28714

Table S3 International Classification of Disease (ICD) version 9 and HMO internal procedure codes used to identify IBD related procedures.

Procedure	Clalit	Maccabi	Meuhedet	Leumit
DIAGNOSTIC ESOPHAGOSCOPY		43200		
UPPER GASTROINTESTINAL TRACT ENDOSCOPY, WITH/WITHOUT BIOPSY	43235	43235, 43234	43235	
BALLOON ENDOSCOPY OF SMALL BOWEL	L3255	L3255, 44360	L3255	
DIAGNOSTIC FLEXIBLE COLONOSCOPY, WITH/WITHOUT BIOPSY	L5378	L5378, 45378	L5378	
COLONOSCOPY WITH POLYPECTOMY	45383	45383	45383	
VIDEO CAPSULE		76120		
REPEATED XRAYS OF ESOPHAGUS, STOMACH, DUODENUM AND SMALL BOWEL		74245		
REPEATED XRAYS OF SMALL BOWEL WITH CONTRAST		74249	74249	

CHILDREN GASTROSCOPY	44.133	44.133	44.133	44.133
GASTROSCOPY AND BIOPSY	44.14	44.14	44.14	44.14
ESOPHAGOGASTRODUODENOSCOPY [EGD] WITH CLOSED BIOPSY	45.16	45.16	45.16	45.16
COLONOSCOPY [FLEXIBLE FIBEROPTIC]	45.23	45.23	45.23	45.23
SIGMOIDOSCOPY	45.24	45.24	45.24	45.24
VIRTUAL COLONOSCOPY			L6375	11850
CAPSULE			76120	11851
COLONOSCOPY +/- BIOPSY WITHOUT DOCTOR				11852
COLONOSCOPY + BIOPSY				11858
DIAGNOSTIC COLONOSCOPY +/- BIOPSY				11859
MRE	74181	74181	74181	33100
XRAY OF ESOPHAGUS, STOMACH, DUODENUM AND SMALL BOWEL		74241, 74240		34192
SMALL BOWEL PASSAGE				34250
UPPER GI TRACT ENDOSCOPY				40100
GASTROSCOPY WITHOUT DOCTOR				40220
PEDIATRIC GASTROSCOPY				40228
DIAGNOSTIC ENDOSCOPY OF THE SMALL BOWEL			44360	40238
DOUBLE BALLOON ENDOSCOPY OF THE SMALL BOWEL				40239
SIGMOIDOSCOPY WITHOUT DOCTOR				40410
SIGMOIDOSCOPT +/- BIOPSY	45331	45331, 45333	45331	40460
COLONOSCOPY WITH POLYPECTOMY	45383	45383		40484
COLONOSCOPY+ STENT	45387	45387	45387, G00T4	40486
DIAGNOSTIC PROCTOSIGMOIDOSCOPY				40519

Table S4 Clinically relevant combinations used to construct 942 2x2 contingency tables to differentiate TP patients from TN subjects

Variables	Combinations
single variables	
GE visits	GE y/n GE, at least 2 visits
procedures	at least 1 of three procedures (proc3): colonoscopy (colono)/ sigmoidoscopy (sigmo)/ small bowel passage test (pas) at least 2 of three procedures new procedures y/n (at least one of the following: MRE/capsule) gastroscopy y/n at least one of 5 procedures (proc5): (colono/sigmo/pas/MRE/capsule) at least one of 4 procedures (proc4): (colo/sigmo/pas/gastroscopy)
medications 6 months (6m)	at least one of 6 procedures (proc6): (colo/sigmo/pas/MRE/capsule/gastroscopy) 5ASA 6m budeson 6m steroids 6m thiopurines (thiop) 6m methotrexate (MTX) 6m

<p>Medications 3 months (3m)</p>	<p>biologics (bio) 6m enema-steroids at least 2 purchases enema-5ASA at least 2 purchases enema-ANY at least 2 purchases (5ASA/ budeson) 6m (5ASA/ steroids) 6m (5ASA/ thiop) 6m (5ASA / thiop/ bio) 6m (thiop/ bio) 6m (thiop/ MTX) 6m enema-ANY 2 purchases+ 5ASA 6m enema-ANY 2 purchases + thiop 6m 5ASA 3m budeson 3m steroids 3m thiop 3m MTX for 3m biologics 3m (5ASA/ budeson) 3m (5ASA/ steroids) 3m (5ASA/ thiop) 3m (5ASA / thiop/ bio) 3m (thiop/ bio) 3m (thiop/ MTX) 3m enema-ANY 2 purchases+ 5ASA 3m enema-ANY 2 purchases + thiop 3m</p>
<p>medications purchases (excluding steroids)</p>	<p>at least 3 purchases at least 6 purchases</p>
<p>combinations</p>	
<p>GE+ procedures</p>	<p>GE y/n+ proc3 y/n GE y/n+ proc4 y/n GE y/n+ procs5 y/n GE y/n+ procs6 y/n</p>
<p>GE+ 1of 3 procedures (proc3)+meds 6m (colo/sigmo/pas)</p>	<p>GE y/n+ proc3 y/n+5ASA 6m GE y/n+ proc3 y/n+(5ASA/budeson 6m) GE y/n+ proc3 y/n+(5ASA/steroids 6m) GE y/n+ proc3 y/n+(5ASA/thiop 6m) GE y/n+ proc3 y/n+(5ASA/thiop/bio 6m) GE y/n+ proc3 y/n+thiop 6m GE y/n+ proc3 y/n+(thiop/bio) 6m GE y/n+ proc3+(thiop/MTX 6m) GE y/n+ proc3 y/n+MTX 6m GE y/n+ proc3 y/n+bio 6m GE y/n+ proc3 y/n+budeson 6m GE y/n+ proc3 y/n+enema-ANY 2 purchases GE y/n+ proc3 y/n+(enema-ANY 2 purch+5ASA 6m) GE y/n+ proc3 y/n+(enema-ANY 2 purch +thiop 6m)</p>
<p>GE+ 1of 3 procedures +meds 6 purchases</p>	

GE+ 1 of 3 procedures +meds **3m**
(colo/sigmo/pas)

GE y/n+ proc3 y/n+5ASA 3m
GE y/n+ proc3 y/n+(5ASA/budeson 3m)
GE y/n+ proc3 y/n+(5ASA/steroids 3m)
GE y/n+ proc3 y/n+(5ASA/thiop 3m)
GE y/n+ proc3 y/n+(5ASA/thiop/bio 3m)
GE y/n+ proc3 y/n+thiop 3m
GE y/n+ proc3 y/n+(thiop/bio) 3m
GE y/n+ proc3+(thiop/MTX 3m)
GE y/n+ proc3 y/n+MTX 3m
GE y/n+ proc3 y/n+bio 3m
GE y/n+ proc3 y/n+budeson 3m
GE y/n+ proc3 y/n+(enema-ANY 2 purch+5ASA 3m)
GE y/n+ proc3 y/n+(enema-ANY 2 purch +thiop 3m)

GE+ 1of 3 procedures +meds **3 purchases**
GE+ **1of 5** procedures +meds **6m**
(colo/sigmo/pas/MRE/capsule)

GE y/n+ proc5 y/n+5ASA 6m
GE y/n+ proc5 y/n+(5ASA/budeson 6m)
GE y/n+ proc5 y/n+(5ASA/steroids 6m)
GE y/n+ proc5 y/n+(5ASA/thiop 6m)
GE y/n+ proc5 y/n+(5ASA/thiop/bio 6m)
GE y/n+ proc5 y/n+thiop 6m
GE y/n+ proc5 y/n+(thiop/bio) 6m
GE y/n+ proc5+(thiop/MTX 6m)
GE y/n+ proc5 y/n+MTX 6m
GE y/n+ proc5 y/n+bio 6m
GE y/n+ proc5 y/n+budeson 6m
GE y/n+ proc5 y/n+enema-ANY 2 purch
GE y/n+ proc5 y/n+(enema-ANY 2 purch+5ASA 6m)
GE y/n+ proc5 y/n+(enema-ANY 2 purch+thiop 6m)

GE+ 1of 5 procedures +meds **6 purchases**
GE+ 1of 5 procedures +meds **3m**
(colo/sigmo/pas/MRE/capsule)

GE y/n+ proc5 y/n+5ASA 3m
GE y/n+ proc5 y/n+(5ASA/budeson 3m)
GE y/n+ proc5 y/n+(5ASA/steroids 3m)
GE y/n+ proc5 y/n+(5ASA/thiop 3m)
GE y/n+ proc5 y/n+(5ASA/thiop/bio 3m)
GE y/n+ proc5 y/n+thiop 3m
GE y/n+ proc5 y/n+(thiop/bio) 3m
GE y/n+ proc5+(thiop/MTX 3m)
GE y/n+ proc5 y/n+MTX 3m
GE y/n+ proc5 y/n+bio 3m
GE y/n+ proc5 y/n+budeson 3m
GE y/n+ proc5 y/n+(enema-ANY 2 purch+5ASA 3m)
GE y/n+ proc5 y/n+(enema-ANY 2 purch+thiop 3m)

GE+ 1of 5 procedures +meds **3 purchases**
GE+ meds **6m**

GE y/n+5ASA 6m
GE y/n+(5ASA/budeson 6m)
GE y/n+(5ASA/steroids 6m)
GE y/n+(5ASA/thiop 6m)
GE y/n+(5ASA/thiop/bio 6m)

	<p>GE y/n+thiop 6m GE y/n+(thiop/bio 6m) GE y/n+ (thiop/MTX 6m) GE y/n+MTX 6m GE y/n+bio 6m GE y/n+budeson 6m GE y/n+enema-ANY 2 purchases GE y/n+(enema-ANY 2 purch+5ASA 6m) GE y/n+(enema-ANY 2 purch+thiop 6m)</p>
<p>GE+ meds 6 purchases</p>	
<p>GE+ meds 3m</p>	<p>GE y/n+5ASA 3m GE y/n+(5ASA/budeson 3m) GE y/n+(5ASA/steroids 3m) GE y/n+(5ASA/thiop 3m) GE y/n+(5ASA/thiop/bio 3m) GE y/n+thiop 3m GE y/n+(thiop/bio 3m) GE y/n+ (thiop/MTX 3m) GE y/n+MTX 3m GE y/n+bio 3m GE y/n+budeson 3m GE y/n+(enema-ANY 2 purch+5ASA 3m) GE y/n+(enema-ANY 2 purch+thiop 3m)</p>
<p>GE+ meds 3 purchases at least 2 GE</p>	<p>GE at least 2+enema-ANY at least 2 purchases GE at least 2+ proc3 y/n+ 2 purch enema GE at least 2+ proc3 at least 2+ 2 purch enema GE at least 2+ proc5 y/n+ 2 purch enema</p>
<p>1 of 3 procedures +meds 6m (colosigmo/pas)</p>	<p>proc3 y/n+5ASA 6m proc3 y/n+(5ASA/budeson 6m) proc3 y/n+(5ASA/steroids 6m) proc3 y/n+(5ASA/thiop 6m) proc3 y/n+(5ASA/thiop/bio 6m) proc3 y/n+thiop 6m proc3 y/n+(thiop/bio 6m) proc3 y/n+(thiop/MTX 6m) proc3 y/n+MTX 6m proc3 y/n+bio 6m proc3 y/n+budeson 6m proc3 y/n+enema-ANY at least 2 purchases proc3 y/n+(enema-ANY 2 purch+5ASA 6m) proc3 y/n+(enema-ANY 2 purch+thiop 6m)</p>
<p>1 of 3 procedures +meds 6 purchases</p>	
<p>1 of 3 procedures +meds 3m (colosigmo/pas)</p>	<p>proc3 y/n+5ASA 3m proc3 y/n+(5ASA/budeson 3m) proc3 y/n+(5ASA/steroids 3m) proc3 y/n+(5ASA/thiop 3m) proc3 y/n+(5ASA/thiop/bio 3m)</p>

	proc3 y/n+thiop 3m proc3 y/n+(thiop/bio 3m) proc3 y/n+(thiop/MTX 3m) proc3 y/n+MTX 3m proc3 y/n+bio 3m proc3 y/n+budeson 3m proc3 y/n+(enema-ANY 2 purch+5ASA 3m) proc3 y/n+(enema-ANY 2 purch+thiop 3m)
1 of 3 procedures +meds 3 purchases 1 of 5 procedures +meds 6m (colosigmo/pas/MRE/capsule)	proc5 y/n+5ASA 6m proc5 y/n+(5ASA/budeson 6m) proc5 y/n+(5ASA/steroids 6m) proc5 y/n+(5ASA/thiop 6m) proc5 y/n+(5ASA/thiop/bio 6m) proc5 y/n+thiop 6m proc5 y/n+(thiop/bio 6m) proc5 y/n+(thiop/MTX 6m) proc5 y/n+MTX 6m proc5 y/n+bio 6m proc5 y/n+budeson 6m proc5 y/n+enema-ANY at least 2 purchases proc5 y/n+(enema-ANY 2 purch+5ASA 6m) proc5 y/n+(enema-ANY 2 purch+thiop 6m)
1 of 5 procedures +meds 6 purchases 1 of 5 procedures +meds 3m (colosigmo/pas/MRE/capsule)	proc5 y/n+5ASA 3m proc5 y/n+(5ASA/budeson 3m) proc5 y/n+(5ASA/steroids 3m) proc5 y/n+(5ASA/thiop 3m) proc5 y/n+(5ASA/thiop/bio 3m) proc5 y/n+thiop 3m proc5 y/n+(thiop/bio 3m) proc5 y/n+(thiop/MTX 3m) proc5 y/n+MTX 3m proc5 y/n+bio 3m proc5 y/n+budeson 3m proc5 y/n+(enema-ANY 2 purch+5ASA 3m) proc5 y/n+(enema-ANY 2 purch+thiop 3m)
1 of 5 procedures +meds 3 purchases	

GE: gastroenterologist ; 5ASA: 5-aminosalicylic acid; 6m: 6 months; 3m: 3 months.

Appendix 1: DETAILED IBD ALGORITHMS

Prevalence Algorithm

The following combination of IBD diagnoses and medications best identify IBD patients:

1. If a subject has at least 5 diagnostic IBD codes (in Maccabi- 6)- classify as IBD.
2. If a subject has 1-4 diagnostic IBD codes (in Maccabi 1-5), and at least one of the following three conditions is present, classify as IBD:
 - a. Three purchases of any of the following medications: 5ASA, thiopurines, biologics (infliximab, adalimumab, golimumab and vedolizumab) and budesonide. Any combination of purchases is valid (e.g. 1 5ASA, 1 thiopurine, and 1 budesonide); **Or**
 - b. At least three month period between the first and last purchase of any of the above medications. Any combination may be considered (e.g. 1 month of 5ASA and 2 months of biologics). This condition includes those with only 2 purchases but with sufficient time interval period of at least 3 months; **Or**
 - c. Two purchases of enemas (steroids or 5ASA).

Final prevalence algorithm performance in the validation phase:

	Sensitivity	Specificity	PPV	NPV
Clalit	83%	99%	87%	99%
Maccabi	88%	99%	95%	99%
Meuhedet	92%	99%	94%	99%
Leumit	95%	99%	90%	99%
All	89%	99%	92%	99%

Incidence Algorithm

An IBD case identified within the database was considered an incident case if:

1. First diagnosis date or first IBD medication purchase date (the earliest of the two) recorded in the databases occurred on or after 1.1.2015, in order to allow sufficient look-back period.
2. At least one year of membership within the HMO prior to first code/medication.

In the derivation cohort, dates in the databases were considered true index dates if they matched the "gold standard" chart reviewed dates with a margin of +/- 1 year.

Algorithm performance is demonstrated in the table below for three HMOs. This step was not completed in Clalit, as validation was achieved by examining the distribution of anemia, diarrhea and stomach pain codes around the proposed index date.

Final incidence algorithm performance in the validation phase:

	Sensitivity	specificity	PPV	NPV
Maccabi	78%	83%	88%	69%
Meuhedet	81%	54%	68%	70%
Leumit	95%	48%	84%	77%
All	83%	68%	82%	70%

IBD type (CD/UC) Algorithm

The majority of CD or UC specific codes out of the three most recent health-care contacts, or the most recent code when only one or two codes were available or when there was one CD, one UC and one IBD diagnosis.

Final IBD type algorithm performance in the validation phase:

	Sensitivity	Specificity	PPV	NPV
Clalit	92%	97%	97%	92%
Maccabi	96%	95%	96%	95%
Meuhedet	90%	97%	96%	92%
Leumit	86%	99%	99%	82%
All	92%	97%	97%	92%