

**Table S1** Potential risk factors analyzed

Variable	Definition
Sex	Male/female at index date
Age	$\leq 39/40-59/\geq 60$ years at index date
Extraintestinal manifestations of IBD	Yes/no (pyoderma gangrenosum, uveitis, peripheral arthritis, ankylosing spondylitis, and primary sclerosing cholangitis) from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study)
Surgery	Yes/no from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE
Treatment history	Yes/no from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study): (i) 5-aminosalicylates (ii) Steroids (iii) Immunomodulators (iv) Tumor necrosis factor inhibitors (v) Central venous catheter

CV risk <sup>†</sup>	<p>Yes/no from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study):</p> <p>(i) Hypertension, high-density lipoprotein, diabetes mellitus, history of coronary artery disease, heart failure</p> <p>(ii) Hypertension, high-density lipoprotein, diabetes mellitus</p> <p>(iii) History of coronary artery disease, heart failure</p>
Inherited coagulation disorders	<p>Yes/no (protein C deficiency; ICD-10 code D68.5) from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study)</p>
History of VTE	<p>Yes/no from 12 months before index date to index date</p>
Hormone therapy	<p>Yes/no (oral contraceptive, hormone replacement therapy [estrogen, androgen, etc.]) from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study)</p>

Malignancy	Yes/no from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study)
Undergoing major surgery	Yes/no (including gastrointestinal surgery and other major surgeries) from 6 months before index date to date censored at the end of the follow-up period for patients without VTE, or end of study (May 2018), whichever was earlier (retrospective cohort study), and from 6 months before index date to onset date of VTE for patients with VTE, or matching time point for non-VTE patients (nested case-control study)

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†Defined as International Classification of Diseases, 10<sup>th</sup> revision (ICD-10) codes for hypertension (I10–15), hyperlipidemia; unspecified (E785), high-density lipoprotein deficiency (E786), diabetes mellitus (E10–14), history of coronary artery disease (I20–25), or heart failure (I50, I50.0, I50.1, I50.9)

*IBD* inflammatory bowel disease, *VTE* venous thromboembolism

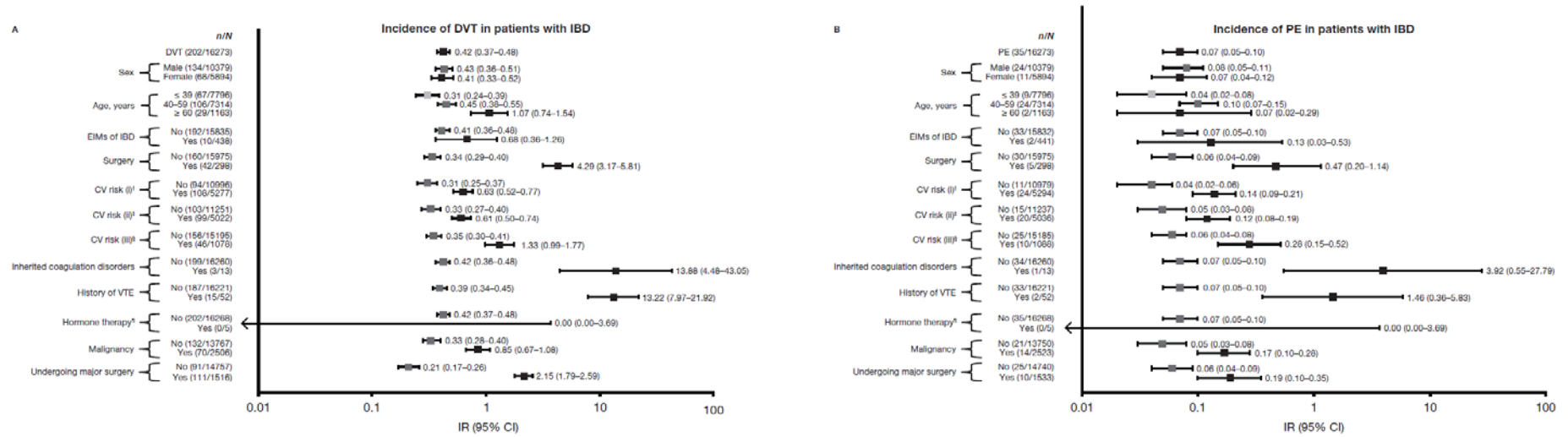
**Table S2** Bed counts and concordance rate of medical facility in IBD, UC, and CD cohorts in the retrospective cohort study

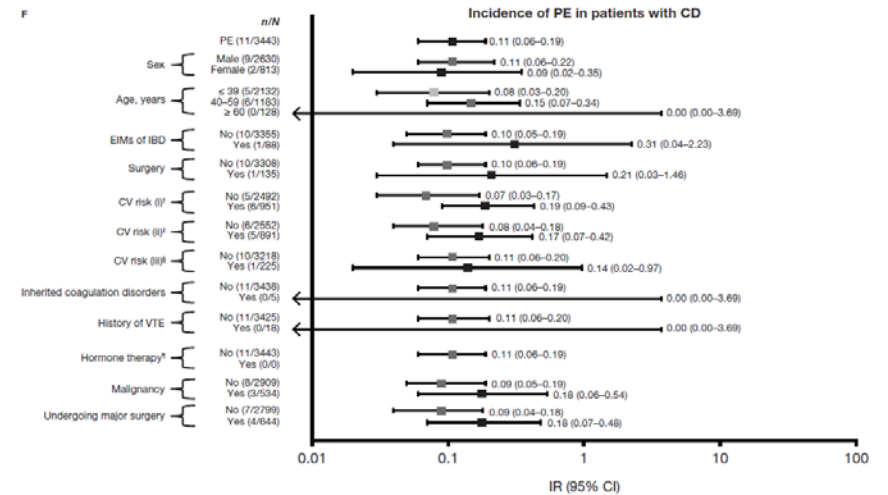
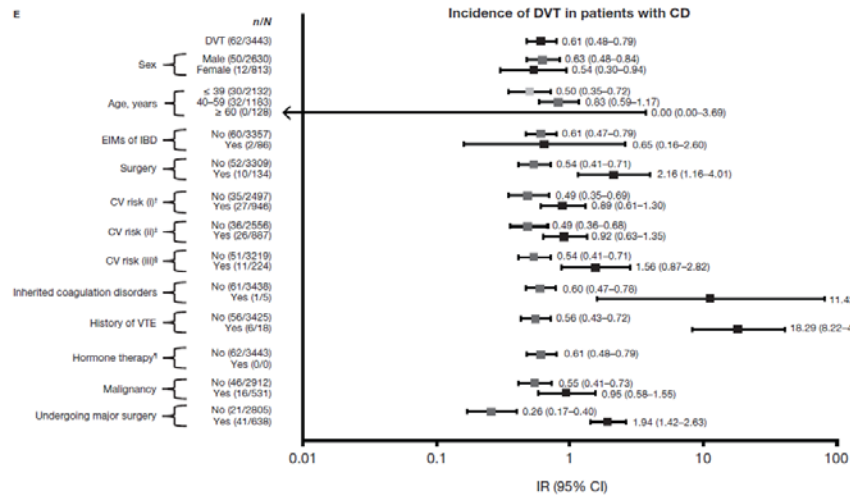
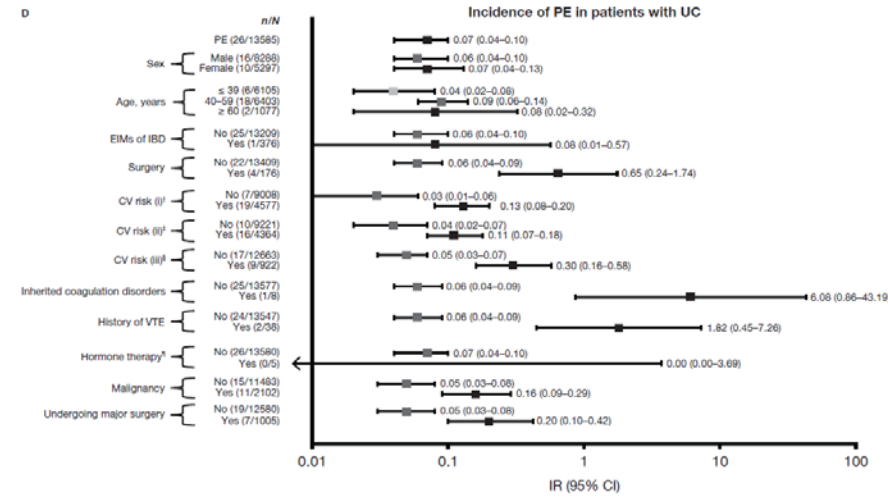
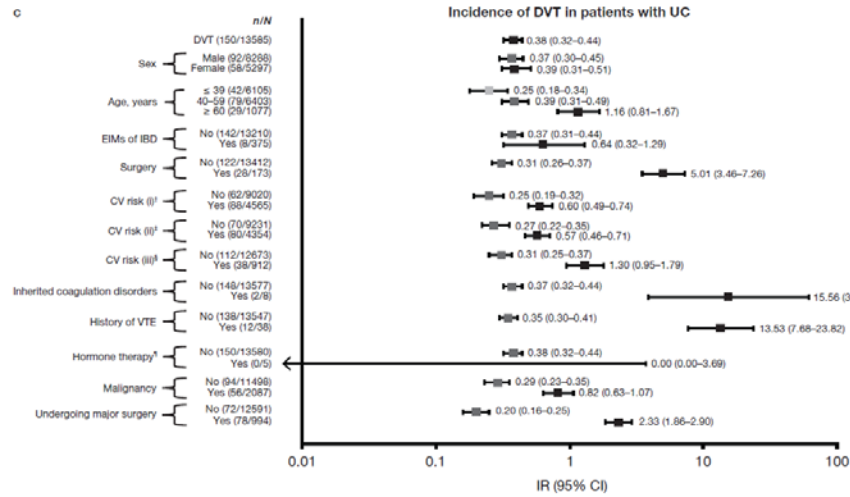
	IBD <i>N</i> = 16 273	UC <i>N</i> = 13 585	CD <i>N</i> = 3443
Bed counts of medical facility at index, <i>n</i> (%)			
0–19	5793 (35.6)	5298 (39.0)	668 (19.4)
20–99	1667 (10.2)	1283 (9.4)	493 (14.3)
100–199	1143 (7.0)	936 (6.9)	246 (7.1)
200–299	821 (5.0)	698 (5.1)	165 (4.8)
300–499	2432 (14.9)	1965 (14.5)	603 (17.5)
500+	4415 (27.1)	3403 (25.0)	1268 (36.8)
Unknown	2 (0.0)	2 (0.0)	0 (0.0)
VTE event, <i>n</i> (%)			
	215 (1.32)	160 (1.18)	65 (1.89)
Concordance rate of medical facility, <sup>†</sup> <i>n</i> (%)			
	99 (46.0)	74 (46.3)	32 (49.2)
Bed counts of medical facility during VTE event, <i>n</i> (%)			
0–19	6 (2.8)	6 (3.8)	0 (0.0)
20–99	3 (1.4)	3 (1.9)	0 (0.0)
100–199	6 (2.8)	5 (3.1)	1 (1.5)
200–299	7 (3.3)	7 (4.4)	0 (0.0)
300–499	31 (14.4)	23 (14.4)	8 (12.3)
500+	162 (75.3)	116 (72.5)	56 (86.2)
Unknown	0 (0.0)	0 (0.0)	0 (0.0)

<sup>†</sup>Concordance rate of medical facility between where each index date is defined and where each VTE event is identified

*CD* Crohn's disease, *IBD* inflammatory bowel disease, *N* number of patients in the analysis population, *n* number of patients in the category, *UC* ulcerative colitis, *VTE* venous thromboembolism

**Fig. S1** Incidence of **a** DVT and **b** PE in patients with IBD; incidence of **c** DVT and **d** PE in patients with UC; incidence of **e** DVT and **f** PE in patients with CD, by potential risk factors in the retrospective cohort study





<sup>†</sup>CV risk (i): hypertension, high-density lipoprotein, diabetes mellitus, history of coronary artery disease, heart failure

<sup>‡</sup>CV risk (ii): hypertension, high-density lipoprotein, diabetes mellitus

§CV risk (iii): history of coronary artery disease, heart failure

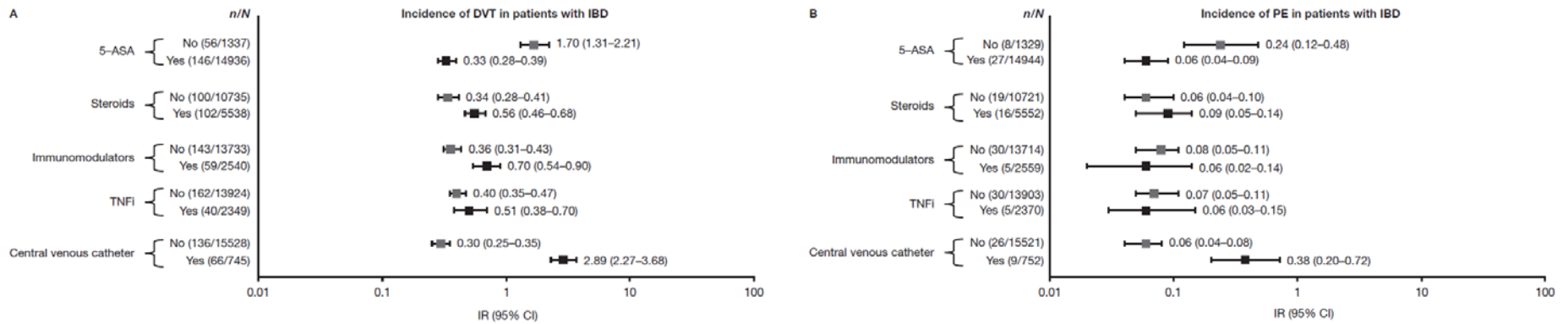
¶Hormone therapy: oral contraceptive, hormone replacement therapy

*CD* Crohn's disease, *CI* confidence interval, *CV* cardiovascular, *DVT* deep vein thrombosis, *EIM* extraintestinal manifestation, *IBD*

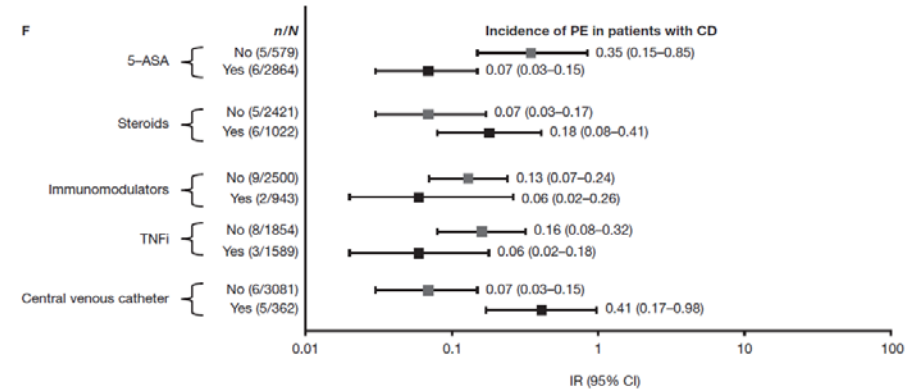
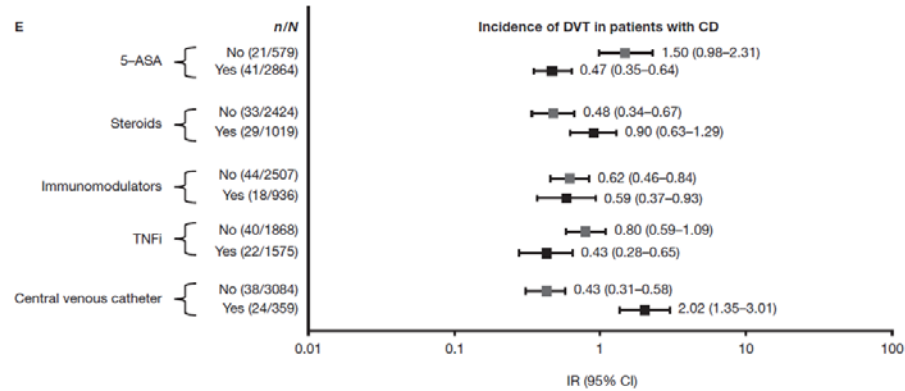
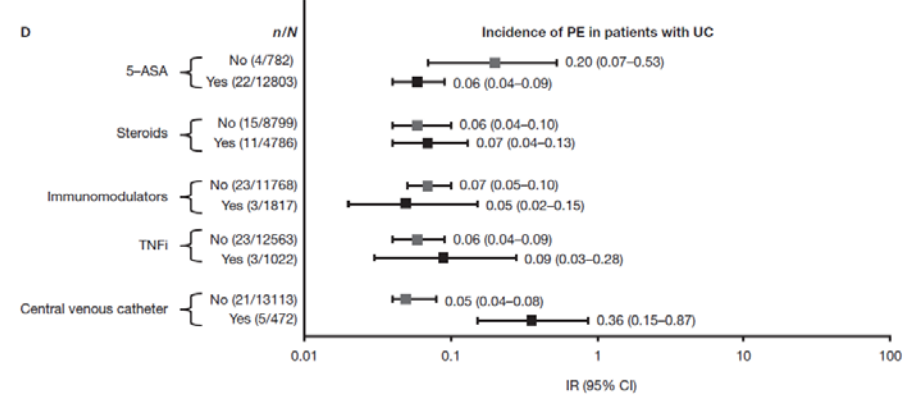
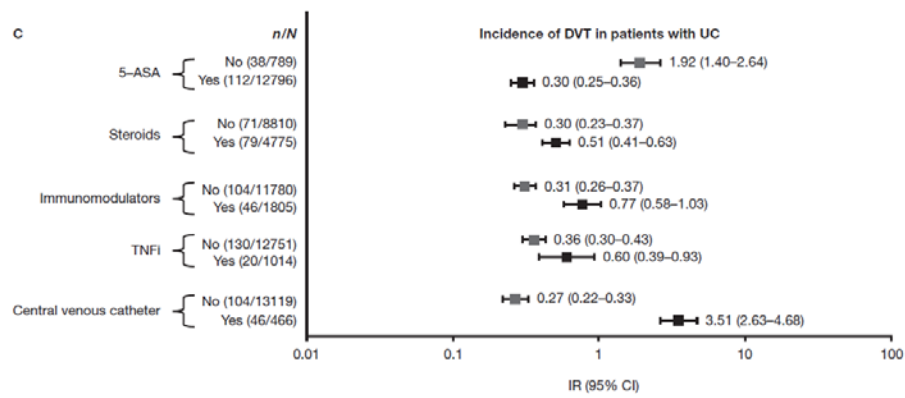
inflammatory bowel disease, *IR* incidence rate (unique patients with events per 100 patient-years), *N* number of patients in the analysis

population, *n* number of patients in the category, *PE* pulmonary embolism, *UC* ulcerative colitis, *VTE* venous thromboembolism

**Fig. S2** Incidence of **a** DVT and **b** PE in patients with IBD; incidence of **c** DVT and **d** PE in patients with UC; incidence of **e** DVT and **f** PE in patients with CD, by treatment history in the retrospective cohort study







5-ASA 5-aminosalicylates, CD Crohn's disease, CI confidence interval, DVT deep vein thrombosis, IBD inflammatory bowel disease, IR incidence rate (unique patients with events per 100 patient-years), N number of patients in the analysis population, n number of patients in the category, PE pulmonary embolism, TNFi tumor necrosis factor inhibitors, UC ulcerative colitis