| Variable                              | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sex                                   | Male/female at index date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Age                                   | ≤ 39/40–59/≥ 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†
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) Hypertension, high-density lipoprotein, diabetes mellitus, history of coronary artery disease, heart failure
(ii) Hypertension, high-density lipoprotein, diabetes mellitus
(iii) History of coronary artery disease, heart failure

Inherited coagulation disorders
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)

History of VTE
Yes/no from 12 months before index date to index date

Hormone therapy
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)
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)

†Defined as International Classification of Diseases, 10th 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

| Bed counts of medical facility at index, n (%) | IBD       | UC       | CD        |
|----------------------------------------------|-----------|----------|-----------|
| 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, n (%)                             | 215 (1.32)| 160 (1.18)| 65 (1.89)|
| Concordance rate of medical facility,† n (%) | 99 (46.0)| 74 (46.3)| 32 (49.2)|
| Bed counts of medical facility during VTE event, n (%) | | | |
| 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)|

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

‡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