

SUPPLEMENTARY MATERIAL

Supplementary Tables

Table S1 Association between exacerbation rates and demographic and clinical characteristics in asthma patients at BTS treatment steps 1/2 after excluding patients with COPD co-diagnosis

Characteristic	Adjusted ^a HR	95% CI
SABA inhaler use^b		
Low use	<i>Reference</i>	
High use	1.22	1.18–1.26
Sex		
Male	<i>Reference</i>	
Female	1.30	1.26–1.35
Age group (years)		
12–17	<i>Reference</i>	
18–55	1.45	1.38–1.53
>55	2.69	2.54–2.85
Body mass index (kg/m²)		
Normal (18.5–25)	<i>Reference</i>	
Underweight (<18.5)	1.21	1.10–1.34
Overweight (25–30)	1.08	1.04–1.12
Obese (≥30)	1.23	1.18–1.28
Socioeconomic status (IMD)		
1	<i>Reference</i>	
2	1.13	1.07–1.19
3	1.18	1.12–1.25
4	1.19	1.13–1.26
5	1.23	1.17–1.29
Smoking history		
Never	<i>Reference</i>	
Current smoker	1.48	1.42–1.54
Ex-smoker	1.14	1.10–1.19
ICS use (BDP equivalent)		
No ICS	<i>Reference</i>	
Low dose (400–799 µg/day)	1.06	1.02–1.09
Exacerbations		
None	<i>Reference</i>	
1	2.89	2.76–3.02
2	5.21	4.80–5.65
≥3	20.86	19.48–22.30
Atopy	1.00	0.97–1.03
Depression	1.15	1.10–1.20
Anxiety	1.08	1.03–1.12
Reflux disease	1.24	1.18–1.31
Pneumonia	1.28	1.18–1.39
<p><i>BDP</i> beclomethasone dipropionate, <i>BTS</i> British Thoracic Society, <i>CI</i> confidence interval, <i>COPD</i> chronic obstructive pulmonary disease, <i>HR</i> hazard ratio, <i>ICS</i> inhaled corticosteroids, <i>IMD</i> Index of Multiple Deprivation, <i>SABA</i> short-acting β₂-agonists</p> <p>^aThe model was adjusted by all the variables shown in the table.</p> <p>^bLow use: 0–2 SABA canisters/year; high use: ≥3 SABA canisters/year.</p>		

Table S2 Association between exacerbation rates and demographic and clinical characteristics in asthma patients at BTS treatment steps 3–5 after excluding patients with COPD co-diagnosis

Characteristics	Adjusted ^a HR	95% CI
SABA inhaler use^b		
Low use	<i>Reference</i>	
High use	1.27	1.23–1.31
Sex		
Male	<i>Reference</i>	
Female	1.13	1.10–1.16
Age group (years)		
12–17	<i>Reference</i>	
18–55	1.10	1.02–1.18
>55	1.74	1.62–1.87
Body mass index (kg/m²)		
Normal (18.5–25)	<i>Reference</i>	
Underweight (<18.5)	1.14	1.05–1.23
Overweight (25–30)	0.99	0.96–1.03
Obese (≥30)	1.02	0.98–1.05
Socioeconomic status (IMD)		
1	<i>Reference</i>	
2	1.05	1.00–1.10
3	1.12	1.07–1.17
4	1.09	1.05–1.14
5	1.11	1.06–1.15
Smoking history		
Never	<i>Reference</i>	
Current smoker	1.29	1.24–1.34
Ex-smoker	1.16	1.12–1.19
ICS use (BDP equivalent)		
Low dose (400–799 µg/day)	<i>Reference</i>	
Medium dose (800–1599 µg/day)	1.18	1.14–1.22
High dose (≥1600 µg/day)	1.48	1.42–1.54
PDC		
Lowest tertile (0.3%–17%)	<i>Reference</i>	
Middle tertile (17%–42%)	1.04	1.00–1.08
Highest tertile (42%–100%)	1.20	1.15–1.25
Exacerbations		
None	<i>Reference</i>	
1	2.16	2.09–2.22
2	3.28	3.15–3.41
≥3	6.91	6.61–7.22
Atopy	1.01	0.98–1.03
Depression	1.08	1.05–1.12
Anxiety	1.03	1.00–1.07
Reflux disease	1.08	1.04–1.12
Pneumonia	1.21	1.15–1.27
<i>BDP</i> beclomethasone dipropionate, <i>BTS</i> British Thoracic Society, <i>CI</i> confidence interval, <i>COPD</i> chronic obstructive pulmonary disease, <i>HR</i> hazard ratio, <i>ICS</i> inhaled corticosteroids, <i>IMD</i> Index of Multiple Deprivation, <i>SABA</i> short-acting β ₂ -agonists ^a The model was adjusted by all the variables shown in the table.		

^bLow use: 0–2 SABA canisters/year; high use: ≥ 3 SABA canisters/year.

Table S3 Association between exacerbation rates and demographic and clinical characteristics in asthma patients at BTS treatment steps 1/2 after excluding patients not on SABA during the baseline year

SABA inhaler use (canisters/year)	Adjusted ^a HR	95% CI
1–2	<i>Reference</i>	
≥3	1.20	1.14–1.27
<p><i>BTS</i> British Thoracic Society, <i>CI</i> confidence interval, <i>HR</i> hazard ratio, <i>SABA</i> short-acting β₂-agonists ^aAdjusted for inhaled corticosteroid use, age, gender, body mass index, socioeconomic status, smoking, exacerbations in the previous year, pneumonia, atopy, gastroesophageal reflux, chronic obstructive pulmonary disease, anxiety, and depression.</p>		

Table S4 Association between exacerbation rates and demographic and clinical characteristics in asthma patients at BTS treatment steps 1/2 who were also prescribed ICS

Characteristic	Adjusted HR ^a	95% CI
SABA inhaler use		
Low use	<i>Reference</i>	
High use	1.17	1.11–1.24
PDC		
Lowest tertile (0.3%–17%)	<i>Reference</i>	
Middle tertile (17%–42%)	1.06	1.00–1.11
Highest tertile (42%–100%)	1.25	1.17–1.34
Age groups (years)		
12–17	<i>Reference</i>	
18–55	1.38	1.28–1.48
>55	2.32	2.14–2.51
Sex		
Male	<i>Reference</i>	
Female	1.29	1.23–1.35
BMI (kg/m²)		
Normal (18.5–25)	<i>Reference</i>	
Underweight (<18.5)	1.27	1.12–1.43
Overweight (25–30)	1.08	1.02–1.14
Obese (≥30)	1.20	1.14–1.27
Socioeconomic status (IMD)		
1	<i>Reference</i>	
2	1.12	1.04–1.20
3	1.14	1.06–1.22
4	1.15	1.07–1.23
5	1.17	1.10–1.25
Smoking history		
Never	<i>Reference</i>	
Current	1.43	1.35–1.52
Ex-smoker	1.10	1.05–1.16
Exacerbations		
None	<i>Reference</i>	
1	2.68	2.53–2.83
2	4.60	4.21–5.04
≥3	16.30	14.90–17.90
Pneumonia	1.25	1.12–1.39
Atopy	1.00	0.96–1.04
Reflux	1.21	1.13–1.29
COPD	1.47	1.35–1.61
Anxiety	1.05	1.00–1.12
Depression	1.15	1.09–1.21
<i>CI</i> confidence interval, <i>COPD</i> chronic obstructive pulmonary disease, <i>HR</i> hazard ratio, <i>IMD</i> Index of Multiple Deprivation, <i>SABA</i> short-acting β ₂ -agonists		
^a The model was adjusted by all the variables shown in the table.		
^b Low use: 0–2 SABA canisters/year; high use: ≥3 SABA canisters/year.		

Supplementary Figure legends

Fig. S1 Patient selection from CPRD

BTS British Thoracic Society, *CPRD* Clinical Practice Research Datalink, *HES* Hospital Episode Statistics, *QC* quality control

Index date is the first date the patient entered the cohort.

Fig. S2 Description of SABA inhaler use (canisters/year) according to BTS treatment step^a (prescription analysis)

BTS British Thoracic Society, *ICS* inhaled corticosteroids, *SABA* short-acting β_2 -agonists

^aStep 1 = no ICS; step 2 = low-dose ICS; step 3 = low-dose ICS + long-acting β_2 -agonist; step 4 = medium-dose ICS \pm additional therapies; step 5 = high-dose ICS \pm additional therapies.

Appendix: List of other steroid responsive diseases

Diagnostic code	Read term
J40..11	Crohn's disease
F20..00	Multiple sclerosis
J410100	Ulcerative colitis
N040.00	Rheumatoid arthritis
G750.00	Polyarteritis nodosa
J41..12	Ulcerative colitis and/or proctitis
J4...12	Inflammatory bowel disease
F203.00	Exacerbation of multiple sclerosis
M145.00	Pemphigoid
M154100	Discoid lupus erythematosus
G755100	Temporal arteritis
H57y200	Pulmonary sarcoidosis
AD5..00	Sarcoidosis
B680.00	Acute leukemia NOS
M154.00	Lupus erythematosus
N043.00	Juvenile rheumatoid arthritis - Still's disease
B64..11	Lymphatic leukemia
B68z.00	Leukemia NOS
B640.00	Acute lymphoid leukemia
B650.00	Acute myeloid leukemia
BBr..00	[M]Leukaemias
G754.00	Wegener's granulomatosis
N003.00	Dermatomyositis
J41..00	Idiopathic proctocolitis
B624.11	Leukemic reticuloendotheliosis
D313.12	Idiopathic thrombocytopenic purpura
D313012	ITP - idiopathic thrombocytopenic purpura
N042200	Rheumatoid nodule
14C4.11	H/O: ulcerative colitis
BBrA400	[M]Hairy cell leukemia
BBr0100	[M]Acute leukemia NOS
J401z11	Crohn's colitis
14G1.00	H/O: rheumatoid arthritis
J410.00	Ulcerative proctocolitis
ZV7y100	[V]Screening for rheumatoid arthritis
N040P00	Seronegative rheumatoid arthritis
B65..00	Myeloid leukemia
M154z00	Lupus erythematosus NOS
N000.00	Systemic lupus erythematosus
H58y300	Interstitial lung disease NEC
J410300	Ulcerative proctitis

N040T00	Flare of rheumatoid arthritis
B641.00	Chronic lymphoid leukemia
J400z00	Crohn's disease of the small bowel NOS
N047.00	Seropositive erosive rheumatoid arthritis
M145000	Bullous pemphigoid
H570.00	Rheumatoid lung
G755.00	Giant cell arteritis
B651.00	Chronic myeloid leukemia
ZR3S.11	CDAI - Crohn's disease activity index
J40..00	Regional enteritis - Crohn's disease
ZR3S.00	Crohn's disease activity index
N000400	Systemic lupus erythematosus with pericarditis
N04X.00	Seropositive rheumatoid arthritis, unspecified
BBr2000	[M]Lymphoid leukemia NOS
D313000	Idiopathic thrombocytopenic purpura
N045300	Juvenile arthritis in Crohn's disease
43b9.00	Rheumatoid arthritis particle agglutination test
43GD.00	Lupus circulating anticoagulant index
43GE.00	Lupus anticoagulant screen
J41z.00	Idiopathic proctocolitis NOS
M144.00	Pemphigus
J402.00	Regional ileocolitis
A170100	Tuberculosis - lupus vulgaris
B681.00	Chronic leukemia NOS
68F1.00	Rheumatoid arthritis screen
1429	H/O: * leukemia
N031000	Arthropathy in ulcerative colitis
M145100	Benign pemphigus NOS
M142.11	Juvenile pemphigoid
N040Q00	Rheumatoid bursitis
C152812	Congenital adrenal hyperplasia NEC
B64..00	Lymphoid leukemia
1J02.00	Suspected leukemia
B660.00	Acute monocytic leukemia
N000000	Disseminated lupus erythematosus
B69..00	Myelomonocytic leukemia
N031100	Arthropathy in Crohn's disease
F20z.00	Multiple sclerosis NOS
BBr2011	[M]Lymphatic leukemia
J401z00	Crohn's disease of the large bowel NOS
N040200	Rheumatoid arthritis of shoulder
N043200	Pauciarticular juvenile rheumatoid arthritis
B691.00	Chronic myelomonocytic leukemia
BBr0111	[M]Blast cell leukemia

K01x411	Lupus nephritis
J410400	Exacerbation of ulcerative colitis
N041.00	Felty's syndrome
F202.00	Generalized multiple sclerosis
N005.00	Adult Still's Disease
J41y.00	Other idiopathic proctocolitis
J410200	Ulcerative rectosigmoiditis
B68..00	Leukemia of unspecified cell type
M154700	Subacute cutaneous lupus erythematosus
M144600	Pemphigus vulgaris
J63A.00	Hepatic granulomas in sarcoidosis
B624.00	Leukemic reticuloendotheliosis
B661.00	Chronic monocytic leukemia
B651z00	Chronic myeloid leukemia NOS
N043z00	Juvenile rheumatoid arthritis NOS
N04..00	Rheumatoid arthritis and other inflammatory polyarthropathy
B65y100	Acute promyelocytic leukemia
AD53.00	Sarcoidosis of skin
B641.11	Chronic lymphatic leukemia
J400200	Crohn's disease of the terminal ileum
N04y012	Fibrosing alveolitis associated with rheumatoid arthritis
AD53000	Lupus pernio
BBr2700	[M]Adult T-cell leukemia/lymphoma
N000300	Systemic lupus erythematosus with organ or sys involv
J08z900	Orofacial Crohn's disease
333..00	Sarcoid testing - Kveim
K013.00	Nephrotic syndrome with minimal change glomerulonephritis
J411.00	Ulcerative (chronic) enterocolitis
N040N00	Rheumatoid vasculitis
B67z.00	Other specified leukemia NOS
43c3.00	Lupus anticoagulant screening test
N040S00	Rheumatoid arthritis - multiple joint
F396400	Myopathy due to rheumatoid arthritis
N045500	Juvenile rheumatoid arthritis
H57y400	Lung disease with systemic lupus erythematosus
B64y100	Prolymphocytic leukemia
B651.11	Chronic granulocytic leukemia
N04y000	Rheumatoid lung
BBr0300	[M]Chronic leukemia NOS
N04y200	Adult-onset Still's disease
M144300	Foliaceous pemphigus
N003000	Juvenile dermatomyositis
2G27.00	O/E-hands-rheumatoid spindling
B65z.00	Myeloid leukemia NOS

M154000	Lupus erythematosus chronicus
J410z00	Ulcerative proctocolitis NOS
AD50.00	Sarcoidosis of lung
G5y7.00	Sarcoid myocarditis
43mc.00	Pemphigoid antibody level
43mb.00	Pemphigus antibody level
B68y.00	Other leukemia of unspecified cell type
BBr6.00	[M]Myeloid leukaemias
B66..00	Monocytic leukemia
N043300	Monarticular juvenile rheumatoid arthritis
ZV10600	[V]Personal history of leukemia
J400500	Exacerbation of Crohn's disease of small intestine
N000200	Drug-induced systemic lupus erythematosus
B67..00	Other specified leukemia
BBr2100	[M]Acute lymphoid leukemia
N042z00	Rheumatoid arthropathy + visceral/systemic involvement NOS
B64y200	Adult T-cell leukemia
M146.00	Benign mucous membrane pemphigoid
F4Cy100	Ocular pemphigoid
BBr6011	[M]Granulocytic leukemia NOS
43ac.00	Lupus inhibitor activity
B64yz00	Other lymphoid leukemia NOS
B64z.00	Lymphoid leukemia NOS
J401200	Exacerbation of Crohn's disease of large intestine
B631.00	Plasma cell leukemia
J400400	Crohn's disease of the ileum NOS
M146011	Cicatricial pemphigoid
F200.00	Multiple sclerosis of the brain stem
N003.11	Poikilodermatomyositis
BBr0.00	[M]Leukaemias unspecified
AD55.00	Sarcoid arthropathy
F374900	Polyneuropathy in sarcoidosis
M154200	Lupus erythematosus migrans
BBr2300	[M]Chronic lymphoid leukemia
BBr0000	[M]Leukemia NOS
N040900	Rheumatoid arthritis of proximal interphalangeal joint of finger
BBrz.00	[M]Leukemia NOS
N040800	Rheumatoid arthritis of metacarpophalangeal joint
B670.00	Acute erythraemia and erythroleukemia
N000z00	Systemic lupus erythematosus NOS
J412.00	Ulcerative (chronic) ileocolitis
J41yz00	Other idiopathic proctocolitis NOS
666B.00	Multiple sclerosis multidisciplinary review

43c6.00	Rheumatoid arthritis screening test
G5yA.00	Rheumatoid carditis
F371000	Polyneuropathy in disseminated lupus erythematosus
N040100	Other rheumatoid arthritis of spine
J401.00	Regional enteritis of the large bowel
N040000	Rheumatoid arthritis of cervical spine
M154500	Lupus erythematosus tumidus
666A.00	Multiple sclerosis review
M146100	Ocular pemphigoid
ZRq9.00	Systemic lupus erythematosus disease activity index
BBr2500	[M]Prolymphocytic leukemia
M154400	Lupus erythematosus profundus
BBr6700	[M]Acute myelomonocytic leukemia
N042100	Rheumatoid lung disease
BBr4.00	[M]Erythroleukemias
G558300	Sarcoid heart disease
ZR21.11	BILAG - British Isles lupus assessment group score
F371100	Polyneuropathy in polyarteritis nodosa
K01x400	Nephrotic syndrome in systemic lupus erythematosus
N233200	Myositis in sarcoidosis
N043100	Acute polyarticular juvenile rheumatoid arthritis
BBr6800	[M]Chronic myelomonocytic leukemia
BBr2.00	[M]Lymphoid leukemias
9kG..00	Special service for patients with multiple sclerosis
J410000	Ulcerative ileocolitis
N040700	Rheumatoid arthritis of wrist
N040B00	Rheumatoid arthritis of hip
AD51.00	Sarcoidosis of lymph nodes
N042.00	Other rheumatoid arthropathy + visceral/systemic involvement
M144200	Erythematous pemphigus
PH33111	Benign familial chronic pemphigus
BBrA500	[M]Acute megakaryoblastic leukemia
F013.00	Meningitis due to sarcoidosis
B64y.00	Other lymphoid leukemia
G5y8.00	Rheumatoid myocarditis
8CS1.00	Multiple sclerosis care plan agreed
N043000	Juvenile rheumatoid arthropathy unspecified
N040D00	Rheumatoid arthritis of knee
BBr2600	[M]Burkitt's cell leukemia
N040K00	Rheumatoid arthritis of 1st metatarsophalangeal joint
N040F00	Rheumatoid arthritis of ankle
J400.00	Regional enteritis of the small bowel
J40..12	Granulomatous enteritis
ZRq8.00	Systemic lupus activity measure

J40z.00	Regional enteritis NOS
M144000	Benign pemphigus
F396500	Myopathy due to sarcoidosis
BBr6300	[M]Chronic myeloid leukemia
ZV67811	[V]Follow-up examination after chemotherapy for leukemia
N040R00	Rheumatoid nodule
Jyu4100	[X]Other ulcerative colitis
M144z00	Pemphigus NOS
Nyu4100	[X]Other giant cell arteritis
Nyu4400	[X]Other dermatomyositis
BBr6100	[M]Acute myeloid leukemia
B682.00	Subacute leukemia NOS
F326300	Multiple cranial nerve palsies in sarcoidosis
Nyu1G00	[X]Seropositive rheumatoid arthritis, unspecified
D40y400	Leukemoid reaction
N04y011	Caplan's syndrome
BBr6600	[M]Acute promyelocytic leukemia
M144500	Pemphigus vegetans
B672.00	Megakaryocytic leukemia
BBr8.00	[M]Eosinophilic leukemias
F396300	Myopathy due to polyarteritis nodosa
M146z00	Benign mucous membrane pemphigoid NOS
M145z00	Pemphigoid NOS
Nyu4300	[X]Other forms of systemic lupus erythematosus
K01x300	Nephrotic syndrome in polyarteritis nodosa
AD52.00	Sarcoidosis of lung with sarcoidosis of lymph nodes
N040500	Rheumatoid arthritis of elbow
BBr0z00	[M]Leukemia unspecified, NOS
J40z.11	Crohn's disease NOS
B690.00	Acute myelomonocytic leukaemia
ByuD600	[X]Other myeloid leukaemia
G75..00	Polyarteritis nodosa and allied conditions
BBr6z00	[M]Other myeloid leukaemia NOS
F371200	Polyneuropathy in rheumatoid arthritis
J401000	Regional enteritis of the colon
J400100	Regional enteritis of the jejunum
N040A00	Rheumatoid arthritis of distal interphalangeal joint of finger
N040600	Rheumatoid arthritis of distal radio-ulnar joint
B652.00	Subacute myeloid leukaemia
BBr0113	[M]Stem cell leukaemia
M154600	Lupus erythematosus unguium mutilans
BBr3.00	[M]Plasma cell leukemias
J401100	Regional enteritis of the rectum
BBr0112	[M]Blastic leukemia

B624000	Leukemic reticuloendotheliosis of unspecified sites
B624300	Leukemic reticuloend of intra-abdominal lymph nodes
ByuD900	[X]Other leukemia of unspecified cell type
M154300	Lupus erythematosus nodularis
B673.00	Mast cell leukemia
B672.11	Thrombocytic leukemia
B65yz00	Other myeloid leukemia NOS
J400300	Crohn's disease of the ileum unspecified
BBr6311	[M]Naegeli-type monocytic leukemia
ByuD500	[X]Other lymphoid leukemia
M144700	Wildfire pemphigus
A170000	Tuberculosis - lupus exedens
B66..12	Monoblastic leukemia
G75z.00	Polyarteritis nodosa and allied conditions NOS
BBrA111	[M]Thrombocytic leukemia
F201.00	Multiple sclerosis of the spinal cord
Jyu4000	[X]Other Crohn's disease
Myu1200	[X]Other pemphigoid
Nyu1200	[X]Other specified rheumatoid arthritis
C152912	Precocious puberty with adrenal hyperplasia
N040H00	Rheumatoid arthritis of talonavicular joint
BBr4000	[M]Erythroleukemia
N045400	Juvenile arthritis in ulcerative colitis
BBr8000	[M]Eosinophilic leukemia
N040J00	Rheumatoid arthritis of other tarsal joint
BBr6000	[M]Myeloid leukemia NOS
M146000	Benign mucous membrane pemphigoid with no eye involvement
J400000	Regional enteritis of the duodenum
BBr0200	[M]Subacute leukemia NOS
B67y000	Lymphosarcoma cell leukemia
BBrA100	[M]Megakaryocytic leukemia
BBr0400	[M]Aleukaemic leukemia NOS
AD54.00	Sarcoidosis of inferior turbinates
B642.00	Subacute lymphoid leukemia
BBrA.00	[M]Miscellaneous leukemias
BBr9000	[M]Monocytic leukaemia NOS
Cyu0600	[X]Sarcoidosis of other and combined sites
N040G00	Rheumatoid arthritis of subtalar joint
B624z00	Leukemic reticuloendotheliosis NOS
68E0.00	Pemphigus/pemphigoid screening
B624.12	Hairy cell leukemia
ByuD800	[X]Other specified leukemias
ByuD700	[X]Other monocytic leukemia
B66z.00	Monocytic leukemia NOS

Nyu1100	[X]Other seropositive rheumatoid arthritis
B67y.00	Other and unspecified leukemia
ZV10611	[V]Personal history of lymphoid leukemia
F4D3300	Eyelid discoid lupus erythematosus
8Cc2.00	Management of multiple sclerosis in stable disability phase
F207.00	Relapsing and remitting multiple sclerosis
F208.00	Secondary progressive multiple sclerosis
F204.00	Benign multiple sclerosis
F206.00	Primary progressive multiple sclerosis
Myu1000	[X]Other pemphigus
8Cc1.00	Management of multiple sclerosis in early disease phase
8Cc4.00	Management of multiple sclerosis in palliative phase
8Cc0.00	Management of multiple sclerosis in onset phase
B66y.00	Other monocytic leukemia
B67yz00	Other and unspecified leukemia NOS
N040L00	Rheumatoid arthritis of lesser metatarsophalangeal joint
N000500	Neonatal lupus erythematosus
ZRVE.00	Kurtzke multiple sclerosis rating scale
38DZ.00	Disease activity score in rheumatoid arthritis
8IAb.00	Multiple sclerosis review declined
Myu7800	[X]Other local lupus erythematosus
N040C00	Rheumatoid arthritis of sacro-iliac joint
B651000	Chronic eosinophilic leukemia
N040400	Rheumatoid arthritis of acromioclavicular joint
BBr4z00	[M]Erythroleukaemia NOS
N000600	Cerebral lupus
B662.00	Subacute monocytic leukemia
7P20300	Delivery of rehabilitation for rheumatoid arthritis
B651200	Chronic neutrophilic leukemia
B66yz00	Other monocytic leukemia NOS
8Hkv.00	Referral to community multiple sclerosis team
42jG000	Lupus insensitive activated partial thromboplastin time
38DZ000	Disease activity score 28 joint in rheumatoid arthritis
J413.00	Ulcerative pancolitis
B640000	B-cell acute lymphoblastic leukemia
B641000	B-cell chronic lymphocytic leukemia
B692.00	Subacute myelomonocytic leukemia
B654.00	Acute myeloblastic leukemia
H58y700	Interstitial lung disease due to connective tissue disease
B64y500	Adult T-cell lymphoma/leukemia (HTLV-1-associated)
B693.00	Juvenile myelomonocytic leukemia
66HB000	Rheumatoid arthritis annual review
B651100	Chronic myeloid leukemia, BCR/ABL positive
ZRq8.11	SLAM - Systemic lupus activity measure

9hR1.00	Except rheumatoid arthritis qual indicator: informed dissent
9hR..00	Exception reporting: rheumatoid arthritis quality indicators
9hR0.00	Except rheumatoid arthritis quality indicator: pt unsuitable
M144800	Drug-induced pemphigus
BBr7000	[M]Basophilic leukemia
9mD..00	Multiple sclerosis monitoring administration
Nyu1000	[X]Rheumatoid arthritis+involvement/other organs or systems
BBr6200	[M]Subacute myeloid leukemia
B641200	Clinical stage B chronic lymphocytic leukemia
B641011	Chronic lymphocytic leukemia of B-cell type
8HTE500	Referral to rapid access temporal arteritis clinic
B641100	Clinical stage A chronic lymphocytic leukemia
N040M00	Rheumatoid arthritis of IP joint of toe
B641300	Clinical stage C chronic lymphocytic leukemia
B651300	Atypical chronic myeloid leukemia, BCR/ABL negative
8Cc5.00	Management of inflammatory bowel disease
9mM..00	Rheumatoid arthritis monitoring invitation
1JA3.00	Suspected multiple sclerosis
9mM0.00	Rheumatoid arthritis monitoring invitation first letter
43GE100	Lupus anticoagulant positive
43GE000	Lupus anticoagulant negative
9mM1.00	Rheumatoid arthritis monitoring invitation second letter
9mM3.00	Rheumatoid arthritis monitoring verbal invitation
B64y400	T-cell prolymphocytic leukemia
9mM2.00	Rheumatoid arthritis monitoring invitation third letter
BBr8z00	[M]Eosinophilic leukemia NOS
N040E00	Rheumatoid arthritis of tibio-fibular joint
9mM4.00	Rheumatoid arthritis monitoring telephone invitation
N040300	Rheumatoid arthritis of sternoclavicular joint
F396100	Myopathy due to disseminated lupus erythematosus
BBrAz00	[M]Miscellaneous leukemia NOS
B663.00	Acute monoblastic leukemia
B64y300	B-cell prolymphocytic leukemia
B66..11	Histiocytic leukemia
BBr6900	[M]Juvenile myelomonocytic leukemia
9mD0.00	Multiple sclerosis monitoring first letter
9mD1.00	Multiple sclerosis monitoring second letter
H58y600	Interstitial lung disease due to collagen vascular disease
ZV10613	[V]Personal history of myeloid leukaemia
8Cc5.11	Management of inflammatory bowel disease
BBr3z00	[M]Plasma cell leukaemia NOS
H/O history of, NEC not elsewhere classified, NOS not otherwise specified	

Asthma patients in CPRD,
April 1, 2007 to December 31, 2017

N=709,268

Excluded if, <12 years old, no 1-year data
(QC and continuous CPRD) pre-index date,
last asthma code >3 years pre-index date,
BTS step 6 or not following BTS guidelines

(n=134,355)

Current asthma at index date,
1-year data pre-index date,
and ≥ 12 years old at index date

n=574,913

Statistical models – only HES
linked data

n=336,412

**Prescription
analysis**

**Outcomes
cohort**

Eligible patients
574,913

BTS 1
195,311

BTS 2
177,945

BTS 3
62,897

BTS 4
105,667

BTS 5
33,093

0 SABA 109,305 (56.0%)	1-2 SABA 61,695 (31.6%)	≥3 SABA 24,311 (12.4%)	0 SABA 17,108 (9.6%)	1-2 SABA 83,324 (46.8%)	≥3 SABA 77,513 (43.6%)	0 SABA 8,561 (13.6%)	1-2 SABA 20,572 (32.7%)	≥3 SABA 33,764 (53.7%)	0 SABA 13,552 (12.8%)	1-2 SABA 31,986 (30.3%)	≥3 SABA 60,129 (56.9%)	0 SABA 3,234 (9.8%)	1-2 SABA 7,211 (21.8%)	≥3 SABA 22,648 (68.4%)
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