

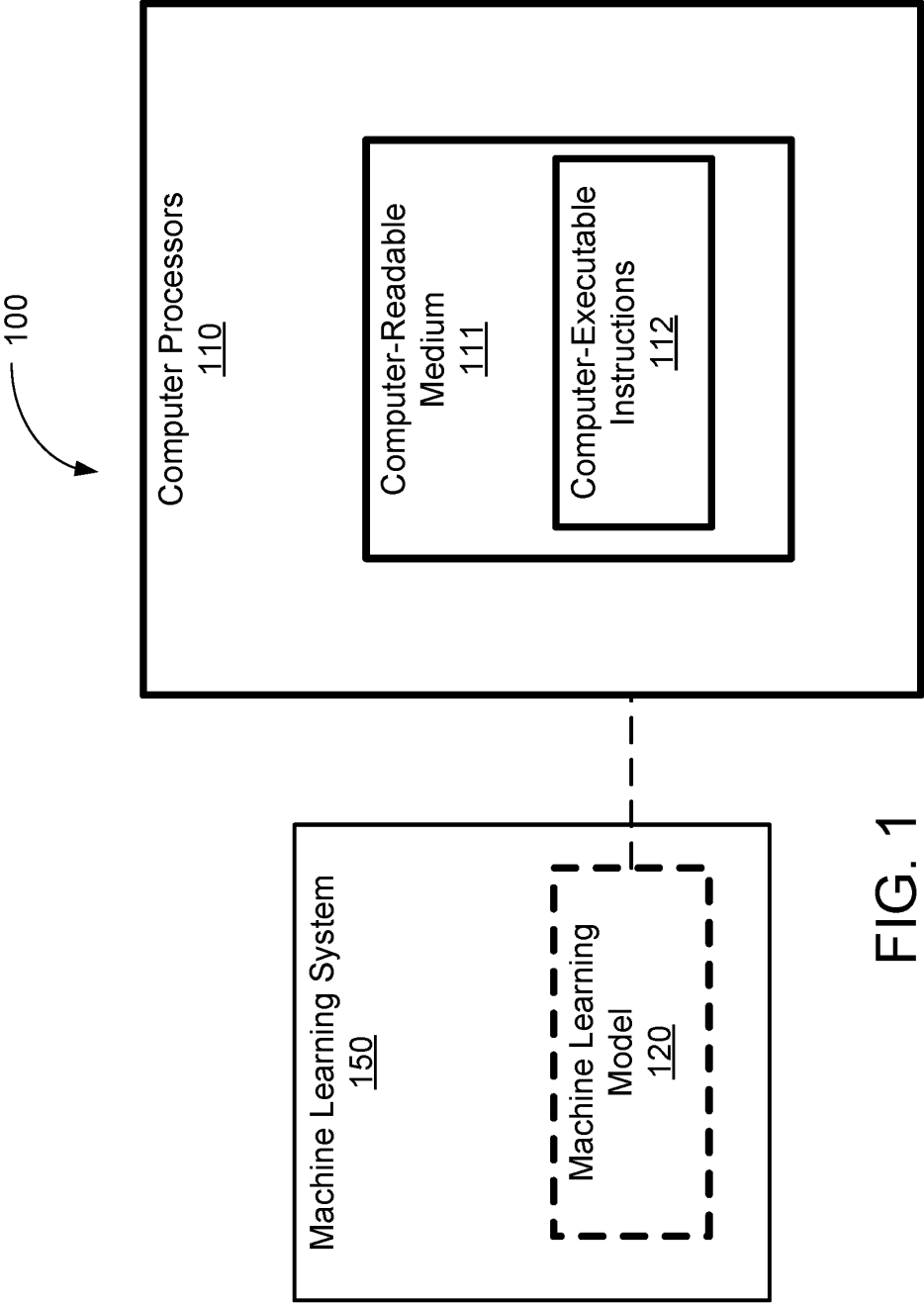


FIG. 1

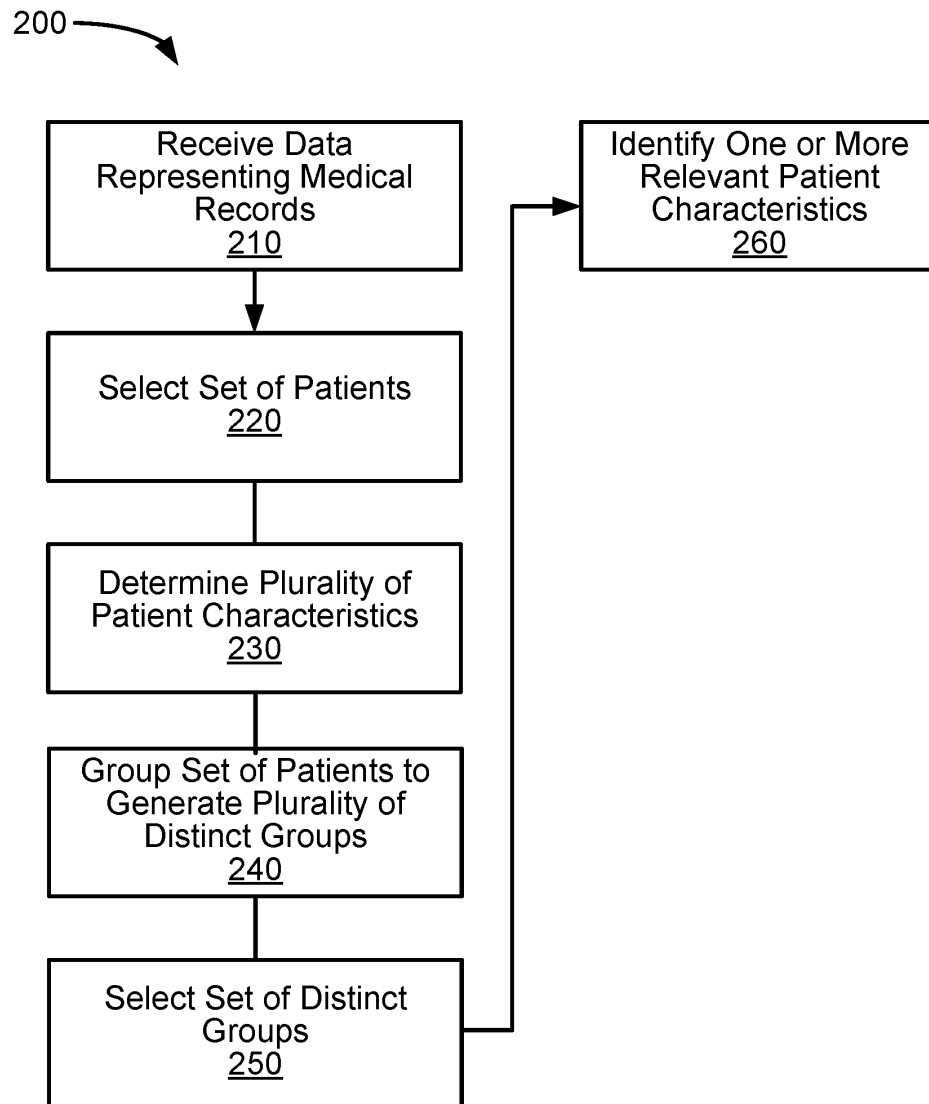


FIG. 2

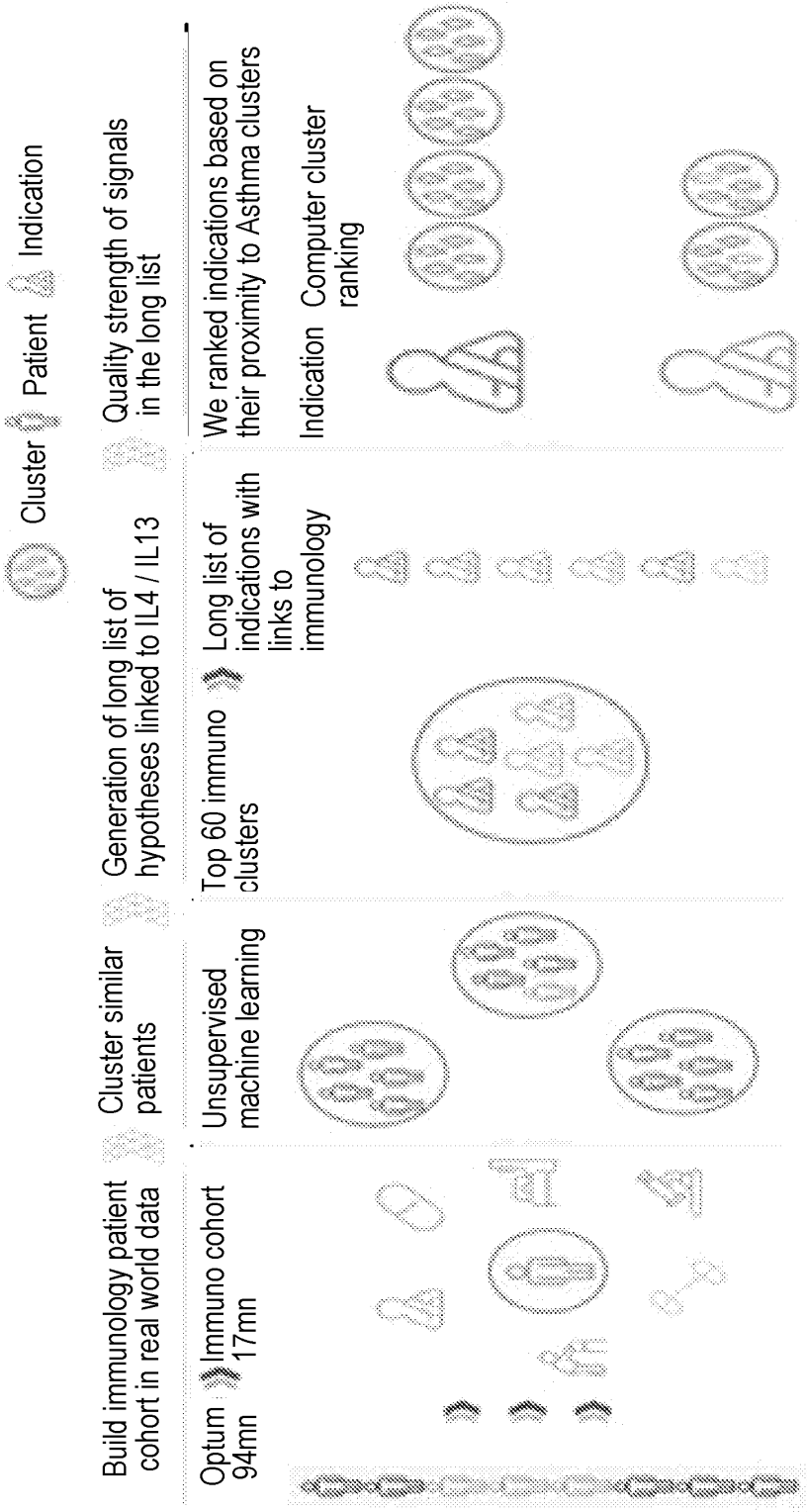


FIG. 3

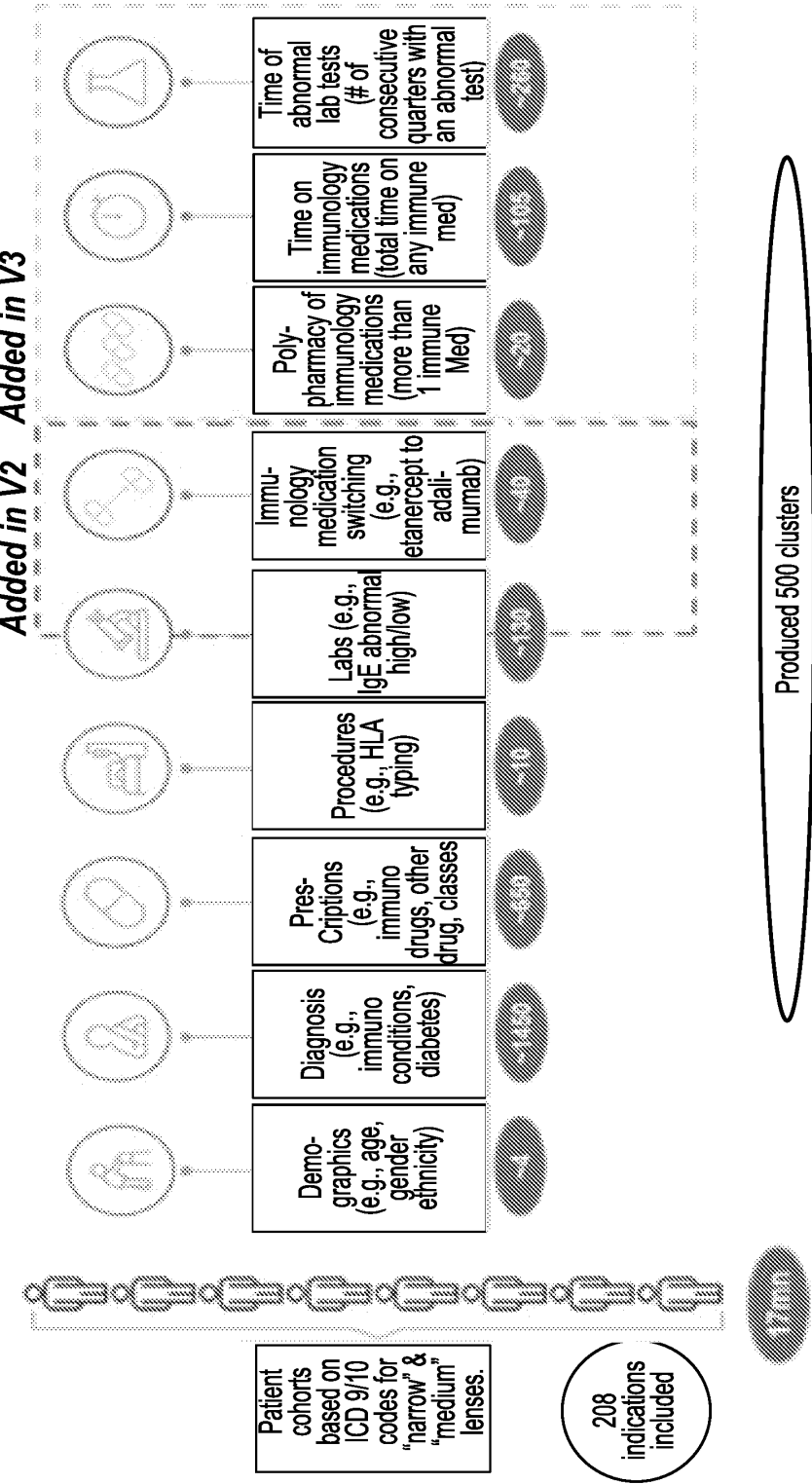


FIG. 4

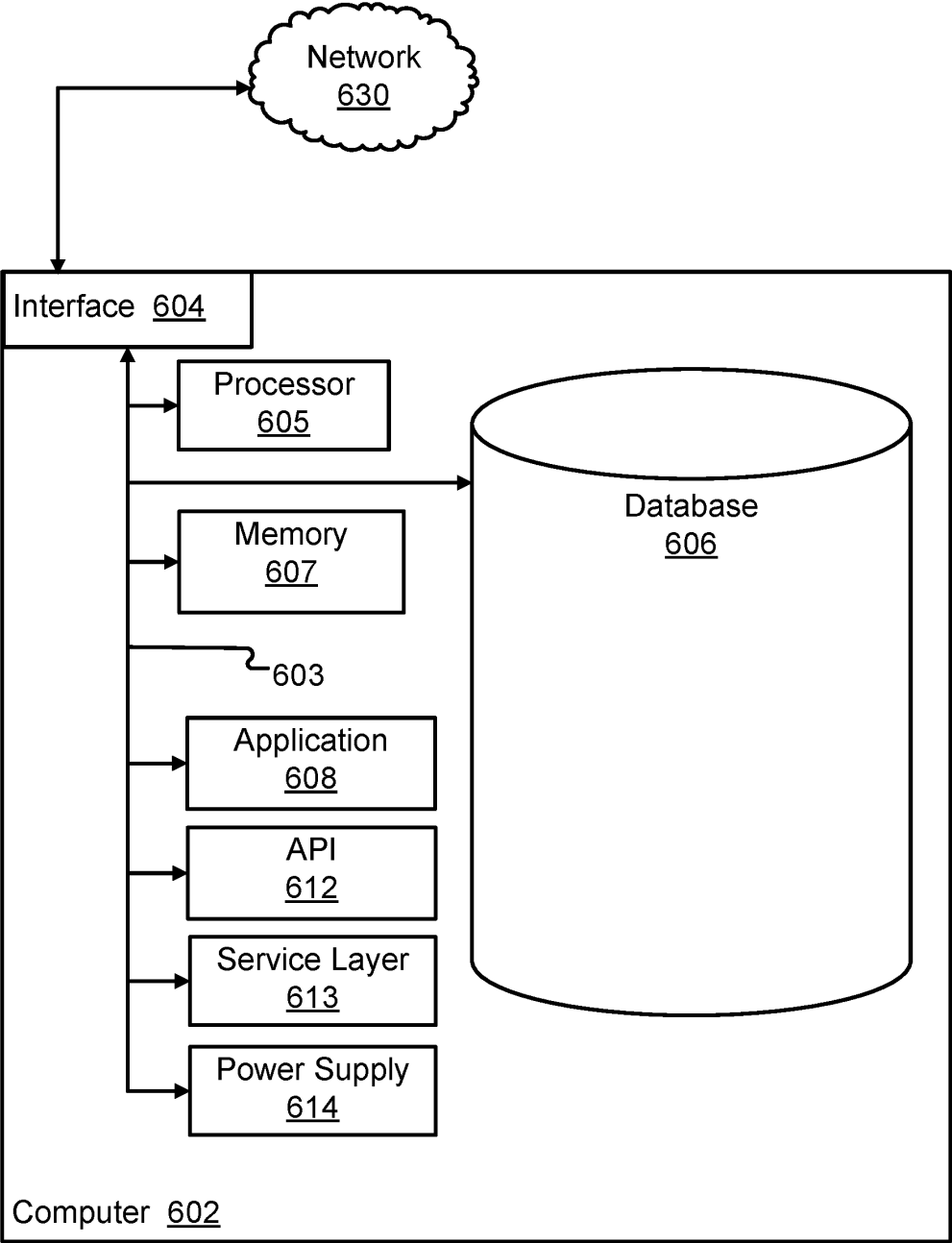


FIG. 5

FIG. 6A

Ranked for Asthma Co-occurrence		Feature	ASTHMA_FEATURE 1	TA
1	Upper respiratory tract hyper-sensitivity reaction, site unspecified			Respiratory
2	Anaphylaxis		0.864462142	Allergy
3	Other female pelvic inflammatory diseases		0.817473105	Other
4	Chronic diseases of tonsils and adenoids		0.793869361	Other
5	Food allergy		0.792945806	Allergy
6	Hypertrophy of adenoids		0.774518783	Other
7	Endometriosis		0.769509079	Other
8	Chronic sinusitis		0.761959091	Respiratory
9	Inflammatory disease of cervix uteri		0.728455217	Other
10	Other and unspecified allergy		0.727873011	Allergy
11	Other specified disorders of nose and nasal sinuses		0.726268239	Other
12	Eosinophilic colitis		0.72115905	Other
13	Allergic and dietetic gastroenteritis and colitis		0.720740392	Other
14	Allergic rhinitis		0.719719858	Respiratory
15	Eosinophilic gastritis or gastroenteritis		0.711833307	Other
16	Salpingitis and oophoritis		0.698437236	Other
17	Urticaria		0.679490875	Dermatology
18	Acute lymphadenitis		0.673085112	Other
19	Nonsuppurative otitis media		0.659319505	Other
20	Interstitial cystitis (chronic)		0.653820624	Other
21	Nasal Polyp		0.651811262	Respiratory
22	Carcinoma in situ of cervix uteri		0.648388781	Other
23	Allergic bronchopulmonary aspergillosis		0.645822918	Respiratory
24	Angioneurotic edema, initial encounter		0.609837713	Allergy
25	Chronic tubulo-interstitial nephritis		0.599334879	Other
26	Acute sinusitis		0.586337514	Respiratory
27	Eosinophilia		0.584140033	Rheumatology
28	Allergic rhinitis, unspecified		0.575895626	Allergy
29	Polyarteritis nodosa and related conditions		0.570982238	Rheumatology
30	Hyperimmunoglobulin E [ige] syndrome		0.557481605	Other

FIG. 6B

Ranked for Atopic Dermatitis Co-occurrence		ATOPIC_DERM_FEATURE	TA
Feature		1	
1	Vernal conjunctivitis	0.985081897	Allergy
2	Epidermolysis bullosa		Dermatology
3	Eczematous dermatitis of eyelid	0.948315238	Dermatology
4	Allergic dermatitis of eyelid	0.946629115	Dermatology
5	Systemic mastocytosis	0.931480085	Other
6	Hemangioma of skin and subcutaneous tissue	0.926604621	Dermatology
7	Alopecia areata	0.918583243	Dermatology
8	Dyshidrosis [pompholyx]	0.91545561	Dermatology
9	Lichen planus	0.913353891	Dermatology
10	Dermatitis herpetiformis	0.912361683	Dermatology
11	Rosacea	0.909225547	Dermatology
12	Cicatricial alopecia [scarring hair loss]	0.905192231	Dermatology
13	Otosclerosis	0.904686656	Other
14	Severe combined immunodeficiency [scid] with low or normal b-cell numbers	0.903730167	Other
15	Contact dermatitis	0.902171924	Dermatology
16	Melanocytic nevi	0.893471481	Dermatology
17	Granuloma faciale [eosinophilic granuloma of skin]	0.893101633	Dermatology
18	Congenital ichthyosis	0.88422431	Dermatology
19	Localized scleroderma [morphea]	0.882270949	Dermatology
20	Exfoliative dermatitis	0.879308624	Dermatology
21	Other specified dermatitis	0.873684863	Dermatology
22	Nummular dermatitis	0.873442944	Dermatology
23	Eccrine sweat disorders	0.873267731	Dermatology
24	Seborrheic dermatitis	0.872564945	Dermatology
25	Chronic giant papillary conjunctivitis	0.868152527	Allergy
26	Dermatitis, unspecified	0.86730414	Dermatology
27	Scleritis	0.864621144	Rheumatology
28	Solar urticaria	0.862901447	Dermatology
29	Other respiratory conditions due to chemicals, gases, fumes, and vapors	0.860417485	Respiratory
30	Pruritus	0.859110287	Dermatology

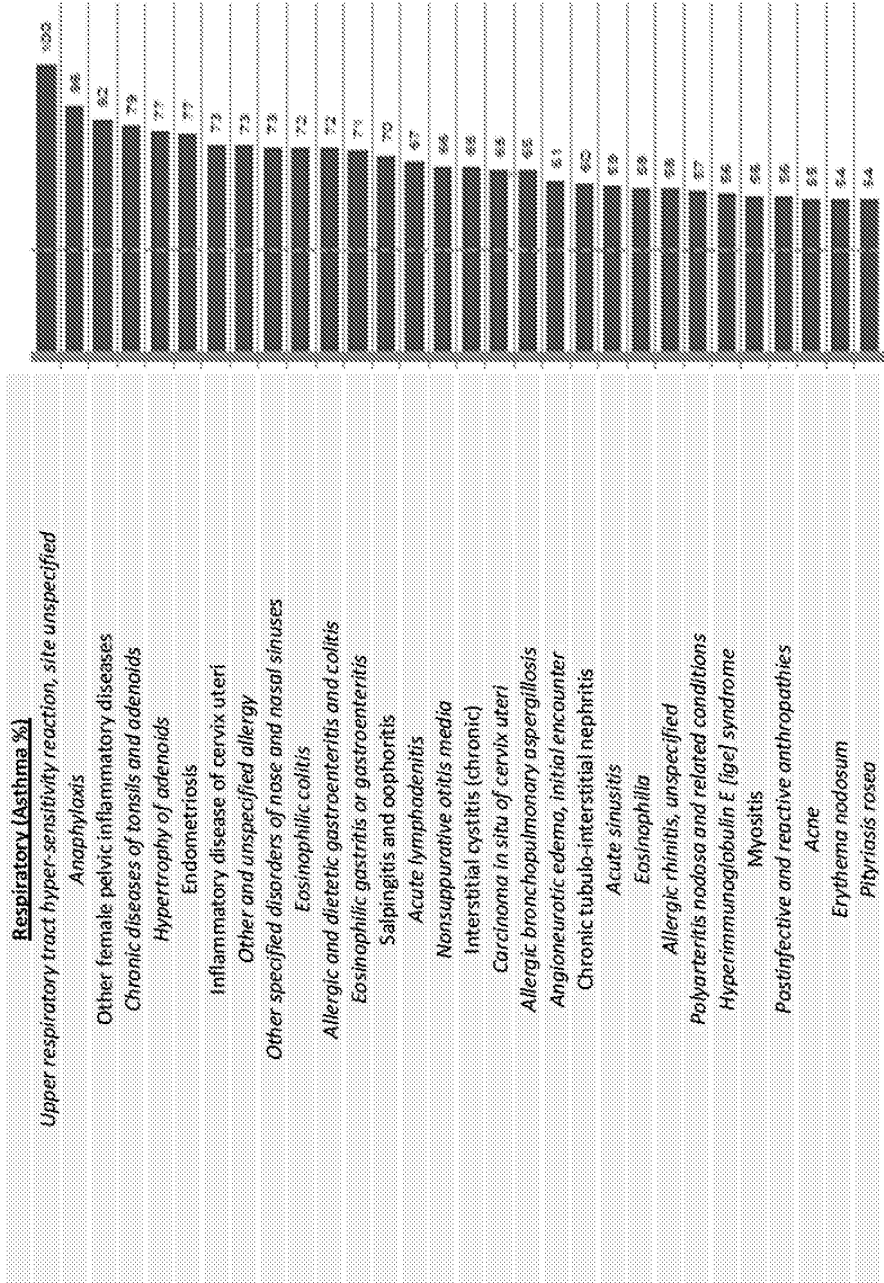
FIG. 6C

Ranked for IgE Co-occurrence		Feature	IGE_FEATURE	TA
1	Upper respiratory tract hyper-sensitivity reaction, site unspecified	Eosinophilic gastritis or gastroenteritis	0.933904208	Respiratory
2		Allergic bronchopulmonary aspergillosis	0.708874434	Other
3		Eosinophilic colitis	0.703403987	Respiratory
4	Polyarteritis nodosa and related conditions	Hyperimmunoglobulin E [ige] syndrome	0.68935144	Other
5		Allergic and dietetic gastroenteritis and colitis	0.598370952	Rheumatology
6		Eosinophilia	0.574693193	Other
7	Stevens-Johnson syndrome	Angioneurotic edema, initial encounter	0.561859385	Rheumatology
8		Other specified systemic involvement of connective tissue	0.550967948	Dermatology
9		Systemic mastocytosis	0.541428937	Allergy
10	Severe combined immunodeficiency [scid] with low or normal b-cell numbers	Pyoderma gangrenosum	0.53939303	Rheumatology
11		Postinfective and reactive arthropathies	0.522562307	Other
12		Felty's syndrome	0.520440863	Dermatology
13	Food allergy	Erythema multiforme	0.519222388	Other
14		Nonsuppurative otitis media	0.517089072	Rheumatology
15		Anaphylaxis	0.508196616	Rheumatology
16	Graft-versus-host disease	Erythema nodosum	0.499148976	Allergy
17		Adult-onset Still's disease	0.48962171	Dermatology
18		Other specified disorders involving the immune mechanism, not elsewhere classified	0.487064117	Other
19	Allergic rhinitis	Monocytic leukemia	0.48189793	Allergy
20		Myeloid leukemia	0.471156086	Rheumatology
21		Chronic sinusitis	0.478558444	Dermatology
22	Mastoditis and related conditions	Extrinsic allergic alveolitis	0.476041406	Rheumatology
23		Other specified disorders involving the immune mechanism, not elsewhere classified	0.468534299	Other
24		Allergic rhinitis	0.468230373	Respiratory
25	Monocytic leukemia	Myeloid leukemia	0.46805967	Other
26		Chronic sinusitis	0.464213847	Other
27		Mastoditis and related conditions	0.459556621	Respiratory
28	Extrinsic allergic alveolitis	Other specified disorders involving the immune mechanism, not elsewhere classified	0.451140664	Other
29		Allergic rhinitis	0.450501664	Respiratory
30		Monocytic leukemia		

FIG. 6D

Ranked for Composite Immunology Cluster Score Occurrence		IMMUNO_SCORE_FEATURE	Immune	ImmunoScore	TA
Upper respiratory tract hyper-sensitivity reaction, site unspecified	Allergic rhinitis	0.574376657	0.574377	1	Respiratory
		0.486263226	0.644527	2	Allergy
	Hypertrophy of adenoids	0.483417089	0.614283	3	Other
	Anaphylaxis	0.498199572	0.568	4	Allergy
Eosinophilic esophagitis	Nasal Polyp	0.451905157	0.58002	5	Respiratory
		0.476668548	0.529558	6	Other
	Chronic sinusitis	0.46509598	0.523717	7	Respiratory
	Recurrent and persistent hematuria with other morphological changes	0.592048867	0.422662	8	Other
Chronic diseases of tonsils and adenoids		0.411460552	0.526868	9	Other
	Multiple sclerosis	0.581383059	0.26147	10	Other
	Other specified disorders of nose and nasal sinuses	0.383322913	0.43337	11	Other
	Allergic rhinitis, unspecified	0.361825611	0.505788	12	Allergy
Nonsuppurative otitis media		0.365532808	0.450616	13	Other
	Acute sinusitis	0.320257854	0.568892	14	Respiratory
	Juvenile rheumatoid arthritis	0.384118127	0.334772	15	Rheumatology
	Allergic bronchopulmonary aspergillosis	0.389975766	0.318916	16	Respiratory
Vogt-Koyanagi syndrome		1	0.191662	17	Other
	Other and unspecified allergy	0.307194626	0.54472	18	Allergy
	Thyroiditis with diffuse goiter	0.430592366	0.233569	19	Other
	Pityriasis rosea	0.303413354	0.466931	20	Dermatology
Urticaria		0.310619747	0.443451	21	Dermatology
	Ulcerative colitis	0.403089254	0.237188	22	Other
	Acute lymphadenitis	0.297825152	0.462151	23	Other
	Amyotrophic lateral sclerosis	0.497192749	0.156784	24	Other
Acne		0.288946647	0.469025	25	Dermatology
	Malignant neoplasm of breast	0.420816447	0.159188	26	Other
	Vernal conjunctivitis	0.259507166	0.464618	27	Allergy
	Autoimmune thyroiditis	0.280871723	0.361903	28	Other
Atopic conjunctivitis		0.234711152	0.44732	29	Allergy
	Chronic rhinitis	0.520617361	0.347822	30	Respiratory

FIG. 7A



Mean of All Indications = 38%

FIG. 7B



▲ Mean of All Indications = 47%

FIG. 7D

Broader Immunology (combined Immuno score and composite rank)
Upper respiratory tract hyper-sensitivity reaction, site unspecified
Hypertrophy of adenoids
Anaphylaxis
Recurrent and persistent hematuria with other morphological changes
Chronic diseases of tonsils and adenoids
Multiple sclerosis
Other specified disorders of nose and nasal sinuses
Allergic rhinitis, unspecified
Nonsuppurative otitis media
Acute sinusitis
Juvenile rheumatoid arthritis
Allergic bronchopulmonary aspergillosis
Vogt-Koyanagi syndrome
Other and unspecified allergy
Thyrototoxicosis with diffuse goiter
Pityriasis rosea
Ulcerative colitis
Acute lymphadenitis
Amyotrophic lateral sclerosis
Acne
Malignant neoplasm of breast
Vernal conjunctivitis
Autoimmune thyroiditis
Chronic nasopharyngitis
Eosinophilic gastritis or gastroenteritis
Neuromyelitis optica (Devic)
Carcinoma in situ of breast
Malignant neoplasm of prostate
Allergic and dietetic gastroenteritis and colitis
Otitis externa

FIG. 8

