Supplemental Information

*Authors: Rion Brattig Correia, Lang Li & Luis M. Rocha**

*rocha@indiana.edu

Hashtags collected

These are the drug names that were collected using the Instagram API. A post was collected if the user mentioned the name of the drug -- or its synonyms -- as a hashtag (#) in the post caption or comment with it.

Drug	# Posts	Synonyms tags
sertraline	574	sertralina
fluoxetine	8143	fluoxetin, fluoxetina, fluoxetinum, fluoxétine, prozac
citalopram	426	citadur, nitalapram
escitalopram	117	escitalopramum, esertia
paroxetine	470	paroxetina, paroxetinum
fluvoxamine	22	fluvoxamina, fluvoxaminum
trazodone	227	trazodona, trazodonum

Herbal Medicine Terms

The herbal medicine terms were extracted from the US National Library of Medicine. For each herb all it's common names were included, for example: "açaí" (herb) and "amazonian palm berry" (synonym).
reference: http://www.nlm.nih.gov/medlineplus/herbalmedicine.html

acai, amazonian palm berry, aloe vera, aloe, burn plant, lily of the desert, elephants gall, aristolochic acids, aristolochia, asarum, asian ginseng, ginseng, chinese ginseng, korean ginseng, asiatic ginseng, astragalus, bei qi, huang qi, ogi, hwanggi, milk vetch, bilberry, european blueberry, whortleberry, huckleberry, bitter orange, seville orange, sour orange, zhi shi, black cohosh, black snakeroot, macrotys, bugbane, bugwort, rattleroot, rattleweed, butterbur, petasites, purple butterbur, petadolex, cats claw, una de gato, chamomile, german chamomile, chasteberry, chaste-tree berry, vitex, monks pepper, cinnamon, cinnamon bark, ceylon cinnamon, cassia cinnamon, chinese cinnamon, cranberry, american cranberry, bog cranberry, dandelion, lions tooth, blowball, echinacea, purple coneflower, coneflower, american coneflower, ephedra, chinese ephedra, ma huang, elderberry, european elder, black elder, elder, elderberry, elder flower, sambucus, mistletoe, european mistletoe, epo, evening primrose oil, fenugreek, fenugreek seed, feverfew, bachelors buttons, featherfew, flaxseed, flaxseed oil, linseed, garlic, ginger, ginkgo, ginkgo biloba, fossil tree, maidenhair tree, japanese silver apricot, baiguo, bai guo ye, kew tree, yinhsing, goldenseal, yellow root, grape seed extract, green tea, chinese tea, japanese tea, hawthorn, english hawthorn, harthorne, hawthorne, haw, hoodia, kalahari cactus, xhoba,

horse chestnut, buckeye, spanish chestnut, kava, kava kava, awa, kava pepper, lavender, english lavender, garden lavender, licorice, licorice root, liquorice, sweet root, gan zao, chinese licorice, milk thistle, mary thistle, holy thistle, silymarin, silybinin, silibinin, silybin, noni, morinda, indian mulberry, hog apple, canary wood, passionflower, maypop, apricot vine, old field apricot, maracuja, water lemon, peppermint oil, red clover, cow clover, meadow clover, wild clover, red yeast rice, sage, black sage, broad-leafed sage, common sage, saw palmetto, american dwarf palm tree, cabbage palm, soy, st. johns wort, hypericum, klamath weed, goatweed, tea tree oil, australian tea tree oil, tea tree essential oil, melaleuca oil, thunder god vine, lei gong teng, turmeric, turmeric root, indian saffron, valerian, all-heal, garden heliotrope, chia, chia seeds, yohimbe, yohimbe bark.

Cannabis Terms

These are the dictionary of terms for Cannabis used in the analysis:

cannabis, marijuana, marihuana, maryjane, mary jane, doobie, ganja, hashish, bhang, maconha, skunk, weed, dagga, hashish, pot, bud, herb, haze, joint, blunt, chronic, dank, hash, hierba, mota, 420.

Top 25 Mentions

Term	# of mentions	Dictionary Type
cannabis	66540	cann
anorexia	26872	adve
anxiety	26309	adve
pain	15677	adve
suicide	11616	adve
mood	11532	adve
fluoxetine	9961	drug
suicidal	8909	adve
ginger	7289	herb
insomnia	5917	adve
soy	4417	herb
garlic	3804	herb
cinnamon	3619	herb
caffeine	2705	drug
burning	2075	adve

flu	2011	adve
lavender	1860	herb
headache	1855	adve
chia	1754	herb
arthritis	1685	adve

Top 25 Mentions in each Dictionary

Drugs	# posts (# users)	Herbs	# posts (# users)	Adverse Effect	# posts (# users)
fluoxetine	9961	cannabis	66540	anorexia	26872
caffeine	2705	ginger	7289	anxiety	26309
sertraline	1195	soy	4417	pain	15677
citalopram	692	garlic	3804	suicide	11616
epinephrine	636	cinnamon	3619	mood	11532
quetiapine	480	lavender	1860	suicidal	8909
acetaminophen	440	chia	1754	insomnia	5917
lorazepam	410	green tea	957	burning	2075
ibuprofen	370	cranberry	784	flu	2011
lithium	306	turmeric	771	headache	1855
nicotine	304	sage	725	arthritis	1685
prednisone	269	dandelion	633	pancreatitis	1618
methotrexate	227	aloe	513	mania	1533
ethanol	217	chamomile	338	fever	1521
acetylsalicylic acid	212	flaxseed	312	migraine	1290
cefpodoxime	197	acai	295	fatigue	1014
dopamine	195	licorice	191	psychosis	961
venlafaxine	187	elder	167	nightmares	925
duloxetine	167	mistletoe	157	cough	865

zopiclone	165	ginseng	130	acne	807
zolpidem	157	passionflower	113	weight loss	753
adalimumab	152	liquorice	97	confusion	711
hydroxychloroquine	127	echinacea	95	weakness	699
bupropion	127	huckleberry	93	allergic	561
diphenhydramine	121	kava	82	nausea	556

Statistics of the Network

Full Network	
	1 Week
Edges in D	34,935
Edges in D^{MC}	172,578
Metric edges in D	4,607 (13.19%)
Edges with S>1 in D	30,328 (86.81%)
Edges with \inf distance in D	166,995
Edges with B>1 in D	130,405
Number of terms: 636 -- (n^2-n)/2 Total number of possible edges: 201,930 Colunas: #edges in original matrix (D), #edges in metric closure (D^mc), # / % metric edges in original matrix (D), # / % s>1 parameter in original matrix (D), # edges with infinite distance in D, # of edges with b>1	

Preliminary evidence for drug-symptoms associations (Figure 4)

1) naloxone - hypotension (proximity: 0.4285) - Symptom

Indications: "For the complete or partial reversal of narcotic depression, including respiratory depression, induced by opioids including natural and synthetic narcotics, propoxyphene, methadone and the narcotic-antagonist analgesics: nalbuphine, pentazocine and butorphanol. It is also indicated for the diagnosis of suspected acute opioid overdose. It may also be used as an adjunctive agent to **increase blood pressure** in the management of septic shock."[1]
Pharmacodynamics: "Naloxone is an opiate antagonist and prevents or reverses the effects of opioids including respiratory depression, sedation and **hypotension**"[1]

references:
1. DrugBank

2) allopurinol - hypotension (proximity: 0.4117) - Possible ADR

Indication: "For the treatment of hyperuricemia associated with primary or secondary gout. Also indicated for the treatment of primary or secondary uric acid nephropathy, with or without the symptoms of gout, as well as chemotherapy-induced hyperuricemia and recurrent renal calculi."[1]
"Hyperuricemia is associated strongly with the development of hypertension, renal disease, and progression. Allopurinol decreases serum uric acid levels by inhibiting the enzyme xanthine oxidase."[2]

Evidence points against it in study of patients who take medication for arterial hypertension [3], however, some evidence for ADR exists from patient reports [4].

references:
1. DrugBank
2. http://www.sciencedirect.com/science/article/pii/S0272638605015180
3. http://www.ncbi.nlm.nih.gov/pubmed/21405957
4. http://factmed.com/study-ALLOPURINOL-causing-HYPOTENSION.php

3) montelukast - hypotension (proximity: 0.3076) - Possible ADR

Indications: "For the treatment of asthma"[1]

No study found, but some evidence of ADR especially with patients who take Lorazepam for anxiety and depression [2].

references:
1. DrugBank
2. http://www.ehealthme.com/ds/montelukast+sodium/hypotension

4) belimumab - neuropathy (proximity: 0.2989) - Symptom

Indications: "Adjunct treatment for auto-antibody-positive active systemic lupus erythematosus."[1]
Systemic lupus erythematosus (SLE) is an autoimmune disease in which the body's immune system mistakenly attacks healthy tissue. It can affect the skin, joints, kidneys, brain, and other organs. Other symptoms depend on which part of the body is affected: **Brain and nervous system**: headaches, **numbness**, tingling, seizures, vision problems, personality changes[2]

references:
1. DrugBank
2. http://www.nlm.nih.gov/medlineplus/ency/article/000435.htm

5) lidocaine - hypotension (proximity: 0.2916) - ADR

Indications: "For production of local or regional anesthesia by infiltration techniques such as percutaneous injection and intravenous regional anesthesia by peripheral nerve block techniques such as brachial plexus and intercostal and by central neural techniques such as lumbar and caudal epidural blocks."[1]
"This paper reports the cardiovascular effects of intentionally toxic intravenous doses of **lidocaine** [...] and the mechanisms of death. In 4/4 lidocaine-treated animals, respiratory depression with bradycardia and **hypotension** without arrhythmias were the causes of death."

references:
1. DrugBank
2. http://journals.lww.com/anesthesia-analgesia/Abstract/1989/09000/Myocardial_and_Cerebral_Drug _Concentrations_and.2.aspx

6) hydroxychloroquine - neuropathy (proximity:) - Possible ADR (unknown, 1 case)

Indications: "For the suppressive treatment and treatment of acute attacks of malaria due to Plasmodium vivax, P. malariae, P. ovale, and susceptible strains of P. falciparum. It is also indicated for the treatment of discoid and systemic **lupus erythematosus (LE)**, and rheumatoid arthritis" [1].
Toxicity: "Symptoms of overdose include headache, drowsiness, visual disturbances, cardiovascular collapse, and convulsions, followed by sudden and early respiratory and cardiac arrest. The electrocardiogram may reveal atrial standstill, nodal rhythm, prolonged intraventricular conduction time, and progressive bradycardia leading to ventricular fibrillation and/or arrest."[1]
"Chloroquine and **hydroxychloroquine** (HCQ) are commonly prescribed antimalarial agents used for a variety of systemic diseases. In this report, we describe **a patient** with rheumatoid arthritis and respiratory failure associated with proximal myopathy secondary to HCQ. Patients treated with HCQ in whom proximal myopathy, **neuropathy**, or cardiomyopathy develop should be evaluated for possible **HCQ toxicity**."[2]

references:
1. DrugBank
2. http://journal.publications.chestnet.org/article.aspx?articleid=1084931

7) ribavirin - angina (proximity: 0.2894) - ADR

Indications: "For the treatment of chronic hepatitis C and for respiratory syncytial virus (RSV)."[1] Contraindications to ribavirin include end-stage renal failure, anaemia, severe heart disease, pregnancy and inadequate contraception. The major side-effect of **ribavirin** is haemolytic anaemia, which can be severe. Cardiovascular disease should be carefully excluded in patients considered for combination therapy, as anaemia may lead to **angina** or **heart failure** in these patients.[2]

references:
1. DrugBank
2. http://ar.iiarjournals.org/content/25/2B/1315.short

8) ribavirin - hypotension (proximity: 0.2857) - ADR

Indications: "For the treatment of chronic hepatitis C and for respiratory syncytial virus (RSV)."[1] "Cardiovascular effects, particularly bradycardia, have been associated with ribavirin use. Bradycardia, hypotension, and cardiac arrest have been reported with inhaled ribavirin"[2]

references:
1. DrugBank
2. http://onlinelibrary.wiley.com/doi/10.1592/phco.27.4.494/abstract

9) tiotropium - angina (proximity: 0.2857) - ADR

Indications: "Used in the management of chronic obstructive pulmonary disease (COPD)"[1]
"Cardiac angina was more common on active treatments than placebo"[2]

references:
1. DrugBank

10) tiotropium - hypotension (proximity: 0.2857) - Unknown, possible ADR

Indications: "Used in the management of chronic obstructive pulmonary disease (COPD)"[1]. No studies with results found. Some evidence of possible ADR [2].

references:
1. DrugBank
2. http://factmed.com/study-TIOTROPIUM-causing-HYPOTENSION.php

11) vasopressin - rhinitis (proximity: 0.2727) - ADR

Indications: "For the treatment of enuresis, polyuria, diabetes insipidus, polydipsia and oesophageal varices with bleeding"[1]
"Also known as "desmopressin" (1-deamino-8-D-argininevasopressin)[2]. Nasal congestion and rhinitis have been reported with nasal spray formulations."[1]
references:
1. DrugBank

2. http://onlinelibrary.wiley.com/doi/10.1046/j.1475-097X.2002.00401.x/full

12) allopurinol - angina (proximity: 0.2631) - ADR

Indication: "For the treatment of hyperuricemia associated with primary or secondary gout. Also indicated for the treatment of primary or secondary uric acid nephropathy, with or without the symptoms of gout, as well as chemotherapy-induced hyperuricemia and recurrent renal calculi."[1]
Patients in the **allopurinol** group and in the highest uric acid quartile had indicators of more severe **Heart Failure**[2]
references:
1. DrugBank
2. http://www.sciencedirect.com/science/article/pii/S0002870310007337

13) norethindrone-aggression (proximity: 0.2632) - ADR

"Perinatal exposure to **norethindrone** influences morphology and **aggressive** behavior of female mice" [1].
"In the fighting fish Beta splenders it is associated with masculinization, normal growth and secondary sexual characteristics, yet no abnormal aggression behavior" [2].

references:
1. http://www.sciencedirect.com/science/article/pii/0018506X81900052
2. http://repository.ias.ac.in/39869/

14) liraglutide - rhinitis (proximity: 0.25) - Unknown, possible ADR

Indications: "For use in/treatment of diabetes mellitus type 2."[1]
No studies found, some evidence from patient reports [2]

references:
1. Drugbank
2. http://factmed.com/study-LIRAGLUTIDE%20(NN2211)-causing-RHINITIS%20ALLERGIC.php

15) naloxone - angina (proximity: 0.25) - No evidence of ADR

Indications: "For the complete or partial reversal of narcotic depression, including respiratory depression, induced by opioids including natural and synthetic narcotics, propoxyphene, methadone and the narcotic-antagonist analgesics: nalbuphine, pentazocine and butorphanol. It is also indicated for the diagnosis of suspected acute opioid overdose. It may also be used as an adjunctive agent to increase blood pressure in the management of septic shock."[1]

Small study on patients with coronary disease showed no evidence of ADR [2].

references:

1. DrugBank
2. http://www.ncbi.nlm.nih.gov/pubmed/6496361

16) verapamil - hypotension (proximity: 0.2333) - ADR

Indications: "For the treatment of **hypertension**, angina, and cluster headache prophylaxis."[1]
references:
The use of **verapamil** in the treatment of cardiac disease is becoming more frequent. In general, it is used for the reversal of a supraver/tricular tachycardia and this can be achieved safely and effectively with the minimum of side effects [4], of which the most common one is transient, mild **hypotension**.

1. DrugBank
2. http://link.springer.com/article/10.1007%2FBF01686855

17) hydroxyurea - blurred vision (proximity: 0.2307) - Symptom

Indications: "For management of melanoma, resistant chronic myelocytic **leukemia**, and recurrent, metastatic, or inoperable carcinoma of the ovary and Sickle-cell anemia."[1]
Leukostasis is a white blood cell count above 100,000/µL. It is most often seen in leukemia patients. The brain and lungs are the two most commonly affected organs. Occluded microcirculation causes local hypoxemia and hemorrage manifesting as headache, **blurred vision**.[2]

references:
2. DrugBank
3. https://en.wikipedia.org/wiki/Leukostasis

18) adalimumab - gastritis (proximity: 0.2271) - Symptom

"Crohn's disease (CD) is an inflammatory bowel disease. It causes **inflammation of the lining of your digestive tract,** which can lead to abdominal pain, severe diarrhea, fatigue, weight loss and malnutrition"[2]. "CD most often manifests in late adolescence or early adulthood. **Adalimumab** is a fully human immunoglobulin G1 monoclonal antibody to tumour necrosis factor that is administered subcutaneously and is indicated for use in adults with CD who have had an inadequate response to conventional therapy. However,clinical trial experience with adalimumab in CD is limited to adults" [1]. "It was also found as an adverse reaction in one patient on a controlled experiment to evaluate the efficacy of adalimumab in juvenile idiopathic arthritis-associated uveitis" [3].

references:
1. http://journals.lww.com/jpgn/Fulltext/2008/02000/Adalimumab_Induces_and_Maintains_Remission_in.14.aspx
2. http://www.mayoclinic.org/diseases-conditions/crohns-disease/basics/definition/con-20032061
3. http://rheumatology.oxfordjournals.org/content/47/3/339.full

19) histamine phosphate - hypotension (proximity: 0.1875) - ADR

"**Side effects** can lead to hypertension, **hypotension**, headache, dizziness, nervousness and tachycardia. Large overdoses can lead to seizures" [1].

references:
1. DrugBank

20) conjugated estrogens - dyspepsia (proximity: 0.2105) - ADR

Indications: "For the treatment of moderate to severe vasomotor symptoms associated with the menopause [...]"[1]

"The most common adverse drug events (with an incidence of at least 5%) associated with **CE/BZA** have included muscle spasms, dizziness, nausea, diarrhea, **dyspepsia**, upper abdominal pain, neck pain, and throat pain." [2]

references:
1. DrugBank
2. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4357350/

21) donepezil - rhinitis (proximity: 0.2) - ADR

Indications: "For the palliative treatment of mild to moderate dementia of the Alzheimer's type."[1]
"The most common adverse events included nausea, diarrhoea, headache, insomnia, dizziness, **rhinitis**, vomiting, asthenia/fatigue and anorexia."[2]

references:
1. DrugBank
2. http://www.ncbi.nlm.nih.gov/pubmed/12469988

22) scopolamine - neurotoxicity (proximity: 0.2) - Possible ADR

Indications: "For the treatment of excessive salivation, colicky abdominal pain, bradycardia, sialorrhoea, diverticulitis, irritable bowel syndrome and motion sickness."[1]
Sopolamine is known and used for inducing amnesia and dementia in lab animals(e.g. rats and monkeys), though not clear it causes the same in humans [2].

references:
1. DrugBank
2. http://jop.sagepub.com/content/6/3/382.abstract

23) ribavirin - myopathy (proximity: 0.2) - Possible ADR (unknown, 1 case)

Indications: "For the treatment of chronic hepatitis C and for respiratory syncytial virus (RSV)."[1]
"Adverse events induced by interferon therapy are numerous but myopathy is rare and has not been described with the use of pegylated interferon-a. We report the case of a 33-year-old Caucasian man who was successfully treated for acute hepatitis C with the combination of pegylated interferon-a2b and **ribavirin**, and who during treatment developed **myopathy** which proved reversible."[2]

references:
1. DrugBank
2. http://onlinelibrary.wiley.com/store/10.1046/j.1365-2893.2003.00478.x/asset/j.1365-2893.2003.00478.x.pdf?v=1&t=id69jh7g&s=1a95bda8c2380a01e0e8fe0b9ce4d1ea40619beb

24) tiotropium - myopathy (proximity: 0.2) - Nothing

Indications: "Used in the management of chronic obstructive pulmonary disease (COPD)."[1]
references:
1. DrugBank

25) vardenafil - hypotension (proximity: 0.1875) - ADR

Indications: "Used for the treatment of erectile dysfunction"[1]
Like sildenafil, **vardenafil** has a slightly **hypotensive effect**, maximal 5-10 mmHg average[2]

references:
1. DrugBank
2. http://www.ncbi.nlm.nih.gov/pubmed/12435622

Preliminary evidence for drug-symptoms associations in indirect associations (Figure 6)

1) cinnarizine - hypotension (metric closure proximity: 0.21) - Nothing

Indications: "For the treatment of vertigo/meniere's disease, nausea and vomiting, motion sickness and also useful for vestibular symptoms of other origins."[1]

references:
1. DrugBank

2) bethanechol - hypotension (metric closure proximity: 0.21) - ADR

Indications: "For the treatment of acute postoperative and postpartum nonobstructive (functional) urinary retention and for neurogenic atony of the urinary bladder with retention. It may cause **hypotension**, cardiac rate changes, and bronchial spasms."[1]

references:
1. DrugBank

3) cabergoline - hypotension (metric closure proximity: 0.21) - Possible ADR

Indications: "For the treatment of hyperprolactinemic disorders, either idiopathic or due to prolactinoma (prolactin-secreting adenomas). May also be used to manage symptoms of Parkinsonian Syndrome as monotherapy during initial symptomatic management or as an adjunct to levodopa therapy during advanced stages of disease."[1]

"Initial doses higher than 1.0 mg may produce **orthostatic hypotension**. Care should be exercised when administering Cabergoline with other medications known to lower blood pressure."[2]

references:
2. DrugBank
3. http://www.drugs.com/pro/cabergoline.html

4) primidone - hypotension (metric closure proximity: 0.196) - ADR (overdose)

Indications: "For the treatment of epilepsy"[1]

Case: Laboratory studies demonstrated extremely high serum concentrations of methsuximide (98.5 mg/liter) and **primidone** (62 mg/liter), and she was admitted to overdose of primidone. [...] she developed **hypotension** with urine output decreased to 3ml/h and a systolic blood pressure of 50-60 mmHg [2]. Other cases, see [3]

references:
1. DrugBank
2. http://www.clinchem.org/content/22/6/915.full.pdf
3. http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+3169

5) desmopressin - hypotension (metric closure proximity: 0.196) - ADR

Indications: "Oral formulations may be used to manage primary nocturnal enuresis in adults and vasopressin sensitive diabetes insipidus, and for control of temporary polyuria and polydipsia following head trauma or surgery in the pituitary region. Intranasal and parenteral formulations may be used to manage spontaneous or trauma-induced bleeds (e.g. hemarthrosis, intramuscular hematoma, mucosal bleeding) in patients with hemophilia A or von Willebrand's disease Type I. May also be used parenterally to prevent or treat bleeding in patients with uremia."[1]

"**Desmopressin acetate** is used to reduce blood loss after cardiac surgery. However, there have been reports that **hypotension** can occur with infusion of desmopressin and that postoperative blood loss is not reduced. [Results shows] a 20% or greater decrease in mean arterial pressure was observed in 7 of 20 patients receiving desmopressin."

references:
1. DrugBank
2. http://europepmc.org/abstract/med/2042789

6) sevelamer - hypotension (metric closure proximity: 0.196) - Possible ADR (case)

Indications: "For the control of serum phosphorus in patients with Chronic Kidney Disease (CKD) on hemodialysis."[1]

"A 62-year-old woman presented with bleeding per rectum for one day. She reported a history of constipation which occurred 1 mo ago when she started taking Sevelamer.[...] Besides Sevelamer, she was also taking Clopidogrel but never had similar episodes of bleeding before. Physical examination revealed tachycardia and **hypotension**."

references:
1. DrugBank
2. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2708383/

7) atomoxetine - hypotension (metric closure proximity: 0.188) - Possible ADR (case)

Indications: "For the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD) alone or in combination with behavioral treatment, as an adjunct to psychological, educational, social, and other remedial measures."[1]

Case: "The common side effects reported with the use of atomoxetine include mainly GI disturbances. **Cardiovascular side effects are less commonly reported**. The increase in the noradrenergic tone may explain some of the side effects noted with the use of this medication. Here, we present a case of a patient who presented with syncope, **orthostatic hypotension**, and tachycardia and discuss the various clinical implications based on the pharmacokinetics and pharmacodynamics of the drug."

references:
1. DrugBank
2. http://www.hindawi.com/journals/crim/2011/952584/abs/

8) vasopressin - hypotension (metric closure proximity: 0.184) - Unknown

Indications: "For the treatment of enuresis, polyuria, diabetes insipidus, polydipsia and oesophageal varices with bleeding"[1]

references:
1. DrugBank

9) montelukast - angina (metric closure proximity: 0.180) - Symptom

"**Montelukast** is a leukotriene receptor antagonist (LTRA) used for the maintenance treatment of asthma and to relieve symptoms of seasonal allergies" [1] and are also "**useful in treating angina**, cerebral spasm, glomerular nephritis, hepatitis, endotoxemia, uveitis, and allograft rejection".[2]

references:
1. DrugBank
2. Patent: https://www.google.com/patents/US5565473

10) lidocaine - angina (metric closure proximity: 0.177) - Symptom

Indications: "Indications: "For production of local or regional anesthesia by infiltration techniques such as percutaneous injection and intravenous regional anesthesia by peripheral nerve block techniques such as brachial plexus and intercostal and by central neural techniques such as lumbar and caudal epidural blocks."[1]

"**Lidocaine** is an anesthetic agent indicated for production of local or regional anesthesia and in the **treatment of ventricular tachycardia** occurring during cardiac manipulation, such as surgery or catheterization, or which may occur during acute myocardial infarction, digitalis toxicity, or other cardiac diseases."[1]

references:
1. DrugBank

11) liraglutide - hypotension (metric closure proximity: 0.174) - ADR

Indications: "For use in/treatment of diabetes mellitus type 2."[1]
Cardiovascular Side Effects: Very common (10% or more): Increases in mean resting heart rate; Common (1% to 10%): **Hypotension**[2].

references:
1. DrugBank
2. http://www.drugs.com/sfx/liraglutide-side-effects.html

12) naloxone - rhinitis (metric closure proximity: 0.167) - ADR

Indications: "For the complete or partial reversal of narcotic depression, including respiratory depression, induced by opioids including natural and synthetic narcotics, propoxyphene, methadone and the narcotic-antagonist analgesics: nalbuphine, pentazocine and butorphanol. It is also indicated for the

diagnosis of suspected acute opioid overdose. It may also be used as an adjunctive agent to increase blood pressure in the management of septic shock."[1]

"**Naloxone** may precipitate withdrawal in patients receiving opioids. Withdrawal is characterized by nausea, vomiting, sweating, lacrimation, **rhinorrhea**, cramping[...]"[2]

references:
1. DrugBank
2. http://www.drugs.com/naloxone.html

13) cinnarizine - angina (metric closure proximity: 0.163) - Unknown

Indications: "For the treatment of vertigo/meniere's disease, nausea and vomiting, motion sickness and also useful for vestibular symptoms of other origins."[1]

references:
1. DrugBank

14) bethanechol - angina (metric closure proximity: 0.163) - Unknown

Indications: "For the treatment of acute postoperative and postpartum nonobstructive (functional) urinary retention and for neurogenic atony of the urinary bladder with retention."[1]

references:
1. DrugBank

15) cabergoline - angina (metric closure proximity: 0.163) - Unknown

Indications: "For the treatment of hyperprolactinemic disorders, either idiopathic or due to prolactinoma (prolactin-secreting adenomas). May also be used to manage symptoms of Parkinsonian Syndrome as monotherapy during initial symptomatic management or as an adjunct to levodopa therapy during advanced stages of disease."[1]

references:
1. DrugBank

16) allopurinol - myopathy (metric closure proximity: 0.158) - Unknown

Indications: "For the treatment of hyperuricemia associated with primary or secondary gout. Also indicated for the treatment of primary or secondary uric acid nephropathy, with or without the symptoms of gout, as well as chemotherapy-induced hyperuricemia and recurrent renal calculi."[1]

references:
1. DrugBank

17) cilostazol - hypotension (metric closure proximity: 0.156) - ADR (overdose)

Indications: "For the reduction of symptoms of intermittent claudication (pain in the legs that occurs with walking and disappears with rest)."[1]

"Information on acute overdosage with cilostazol in humans is limited. The signs and symptoms of an **acute overdose** can be anticipated to be those of excessive pharmacologic effect: severe headache, diarrhea, **hypotension**, tachycardia, and possibly cardiac arrhythmias."[1]

references:
    1. DrugBank

18) follitropin beta - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For treatment of female infertility"[1]

references:
    4. DrugBank

19) tetrabenazine - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "Treatment of hyperkinetic movement disorders like chorea in Huntington's disease, hemiballismus, senile chorea, Tourette syndrome and other tic disorders, and tardive dyskinesia"[1]

references:
    5. DrugBank

20) nevirapine - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For use in combination with other antiretroviral drugs in the ongoing treatment of HIV-1 infection."[1]

references:
    6. DrugBank

21) flumazenil - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For the complete or partial reversal of the sedative effects of benzodiazepines in cases where general anesthesia has been induced and/or maintained with benzodiazepines, and where sedation has been produced with benzodiazepines for diagnostic and therapeutic procedures. Also for the management of benzodiazepine overdose as an adjunct for appropriate supportive and symptomatic measures."[1]

references:
    7. DrugBank

22) alendronate - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For the treatment and prevention of osteoporosis in women and Paget's disease of bone in both men and women."[1]

references:
    8. DrugBank

23) betahistine - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For the reduction of episodes of vertigo association with Ménière's disease."[1]

references:
9. DrugBank

24) natamycin - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "For the treatment of fungal blepharitis, conjunctivitis, and keratitis caused by susceptible organisms including Fusarium solani keratitis."[1]

references:
10. DrugBank

25) prasugrel - hypotension (metric closure proximity: 0.156) - Unknown

Indications: "ndicated in combination with acetylsalicylic acid (ASA) to prevent atherothrombotic events in patients with acute coronary syndrome (ACS) who are to be managed with percutaneous coronary intervention (PCI)"[1]

references:
11. DrugBank

Psoriasis network identified with PC 4 and colored by PC5

PC5 further characterizes the Psoriasis network identified with PC 4, uncovering two subnetwork clusters. Red (green) nodes are (anti-)correlated with PC5. Red nodes are associated with a number of drugs (such as metformin for Diabetes) as well as is related to hypotension, angina, and heart failure. The green nodes are, in turn, associated hypertension as well as the cluster of conditions linked to psoriasis such as glaucoma, hepatitis, arthritis, seizures and stroke. Additionally, red nodes are associated with depression drugs citalopram and sertraline which are external to subnetwork of PC4 but strongly correlated with PC5, as well as psychosis and related conditions. Green nodes are also associated with many NP terms which are external to subnetwork of PC4 but strongly anti-correlated with PC5.

Some of the NP anti-correlated with PC5 are: turmeric, aloe, acai, flaxseed, elderberry, echinacea, peppermint oil, licorice, chamomile, fenugreek, valerian.

Queries on the 1 Week Distance and Transitive Closure Network

Query 1W: **'pain'** and **'cannabis'**
Ordering: **avg**

Proximity Network Results

	pain	cannabis	(max)	(min)	(avg)
pain	1.000	0.058	1.000	0.058	0.529
cannabis	0.058	1.000	1.000	0.058	0.529
anxiety	0.160	0.034	0.160	0.034	0.097
insomnia	0.170	0.019	0.170	0.019	0.095
suicide	0.156	0.025	0.156	0.025	0.090
mood	0.121	0.032	0.121	0.032	0.076
suicidal	0.130	0.012	0.130	0.012	0.071
fluoxetine	0.099	0.028	0.099	0.028	0.063
ginger	0.083	0.025	0.083	0.025	0.054
headache	0.086	0.013	0.086	0.013	0.050
cinnamon	0.079	0.020	0.079	0.020	0.049
garlic	0.068	0.023	0.068	0.023	0.046
flu	0.067	0.018	0.067	0.018	0.042
migraine	0.075	0.008	0.075	0.008	0.042
burning	0.067	0.015	0.067	0.015	0.041
arthritis	0.069	0.007	0.069	0.007	0.038
fatigue	0.065	0.008	0.065	0.008	0.036
soy	0.056	0.015	0.056	0.015	0.035
caffeine	0.054	0.012	0.054	0.012	0.033
lavender	0.050	0.012	0.050	0.012	0.031

Transitive Closure (proximity) Networks Results

	pain	cannabis	(max)	(min)	(avg)
pain	1.000	0.058	1.000	0.058	0.529
cannabis	0.058	1.000	1.000	0.058	0.529
insomnia	0.170	0.045	0.170	0.045	0.108
anxiety	0.160	0.045	0.160	0.045	0.102
suicide	0.156	0.044	0.156	0.044	0.100
suicidal	0.132	0.042	0.132	0.042	0.087
mood	0.121	0.041	0.121	0.041	0.081
anorexia	0.103	0.039	0.103	0.039	0.071
fluoxetine	0.099	0.038	0.099	0.038	0.068
headache	0.086	0.036	0.086	0.036	0.061

Query 1W: **'fluoxetine'** and **'anorexia'**
Ordering: **min**

Proximity Network Results

	fluoxetine	anorexia	(max)	(min)	(avg)
suicidal	0.075	0.111	0.111	0.075	0.093

suicide	0.073	0.093	0.093	0.073	0.083
anxiety	0.071	0.225	0.225	0.071	0.148
pain	0.099	0.041	0.099	0.041	0.070
mood	0.089	0.028	0.089	0.028	0.058
cinnamon	0.066	0.022	0.066	0.022	0.044
fluoxetine	1.000	0.020	1.000	0.020	0.510
anorexia	0.020	1.000	1.000	0.020	0.510
insomnia	0.081	0.019	0.081	0.019	0.050
soy	0.064	0.014	0.064	0.014	0.039
headache	0.075	0.014	0.075	0.014	0.044
mania	0.022	0.011	0.022	0.011	0.016
chia	0.034	0.010	0.034	0.010	0.022
cannabis	0.028	0.009	0.028	0.009	0.018
ginger	0.070	0.008	0.070	0.008	0.039
psychosis	0.017	0.008	0.017	0.008	0.012
green tea	0.039	0.008	0.039	0.008	0.023
burning	0.075	0.007	0.075	0.007	0.041
appetite	0.037	0.006	0.037	0.006	0.022
garlic	0.062	0.006	0.062	0.006	0.034

Transitive Closure (proximity) Networks Results

	fluoxetine	anorexia	(max)	(min)	(avg)
pain	0.099	0.103	0.103	0.099	0.101
insomnia	0.081	0.079	0.081	0.079	0.080
suicidal	0.075	0.114	0.114	0.075	0.094
suicide	0.073	0.116	0.116	0.073	0.094
anxiety	0.071	0.225	0.225	0.071	0.148
mood	0.089	0.059	0.089	0.059	0.074
fluoxetine	1.000	0.057	1.000	0.057	0.529
anorexia	0.057	1.000	1.000	0.057	0.529
migraine	0.054	0.050	0.054	0.050	0.052
headache	0.075	0.049	0.075	0.049	0.062

Query 1W: **'mood', 'cannabis', 'fluoxetine'**
Ordering: **avg**

Proximity Network Results

	cannabis	mood	fluoxetine	(max)	(min)	(avg)
mood	0.032	1.000	0.089	1.000	0.032	0.373
fluoxetine	0.028	0.089	1.000	1.000	0.028	0.372
cannabis	1.000	0.032	0.028	1.000	0.028	0.353
pain	0.058	0.121	0.099	0.121	0.058	0.092
insomnia	0.019	0.083	0.081	0.083	0.019	0.061
anxiety	0.034	0.071	0.071	0.071	0.034	0.059
headache	0.013	0.086	0.075	0.086	0.013	0.058
ginger	0.025	0.074	0.070	0.074	0.025	0.056
cinnamon	0.020	0.082	0.066	0.082	0.020	0.056
suicide	0.025	0.064	0.073	0.073	0.025	0.054

```
burning        0.015 0.066       0.075 0.075 0.015 0.052
garlic         0.023 0.064       0.062 0.064 0.023 0.050
suicidal       0.012 0.055       0.075 0.075 0.012 0.047
flu            0.018 0.062       0.058 0.062 0.018 0.046
caffeine       0.012 0.063       0.060 0.063 0.012 0.045
soy            0.015 0.054       0.064 0.064 0.015 0.044
fever          0.009 0.045       0.053 0.053 0.009 0.036
cough          0.008 0.041       0.041 0.041 0.008 0.030
lavender       0.012 0.039       0.035 0.039 0.012 0.029
migraine       0.008 0.046       0.030 0.046 0.008 0.028
```

Transitive Closure (proximity) Networks Results

	cannabis	mood	fluoxetine	(max)	(min)	(avg)
mood	0.041	1.000	0.089	1.000	0.041	0.377
fluoxetine	0.038	0.089	1.000	1.000	0.038	0.376
cannabis	1.000	0.041	0.038	1.000	0.038	0.360
pain	0.058	0.121	0.099	0.121	0.058	0.092
insomnia	0.045	0.083	0.081	0.083	0.045	0.070
headache	0.036	0.086	0.075	0.086	0.036	0.066
suicide	0.044	0.073	0.073	0.073	0.044	0.063
anxiety	0.045	0.074	0.071	0.074	0.045	0.063
suicidal	0.042	0.067	0.075	0.075	0.042	0.061
cinnamon	0.035	0.082	0.066	0.082	0.035	0.061

Query 1W: **'hepatitis'**
Ordering: **avg**

Proximity Network Results

	hepatitis	(max)	(min)	(avg)
hepatitis	1.000	1.000	1.000	1.000
glaucoma	0.195	0.195	0.195	0.195
hypertension	0.171	0.171	0.171	0.171
diarrhea	0.169	0.169	0.169	0.169
impotence	0.169	0.169	0.169	0.169
seizures	0.163	0.163	0.163	0.163
dermatitis	0.155	0.155	0.155	0.155
irritability	0.145	0.145	0.145	0.145
psoriasis	0.144	0.144	0.144	0.144
hypotension	0.130	0.130	0.130	0.130
vomiting	0.126	0.126	0.126	0.126
constipation	0.124	0.124	0.124	0.124
stroke	0.122	0.122	0.122	0.122
infections	0.122	0.122	0.122	0.122
osteoporosis	0.114	0.114	0.114	0.114
acetylsalicylic acid	0.113	0.113	0.113	0.113
infertility	0.113	0.113	0.113	0.113
histamine phosphate	0.107	0.107	0.107	0.107
itching	0.105	0.105	0.105	0.105
stinging	0.103	0.103	0.103	0.103

```
Transitive Closure (proximity) Networks Results
           hepatitis  (max)  (min)  (avg)
hepatitis      1.000  1.000  1.000  1.000
glaucoma       0.195  0.195  0.195  0.195
hypertension   0.171  0.171  0.171  0.171
diarrhea       0.169  0.169  0.169  0.169
impotence      0.169  0.169  0.169  0.169
seizures       0.163  0.163  0.163  0.163
dermatitis     0.155  0.155  0.155  0.155
irritability   0.145  0.145  0.145  0.145
psoriasis      0.144  0.144  0.144  0.144
hypotension    0.130  0.130  0.130  0.130
```

Query 1W:`**psoriasis'**,`**heart failure'**
Ordering: **min**

```
Proximity Network Results
                     psoriasis  heart failure  (max)  (min)  (avg)
dermatitis               0.125          0.115  0.125  0.115  0.120
montelukast              0.083          0.114  0.114  0.083  0.099
hypertension             0.159          0.068  0.159  0.068  0.113
oxytocin                 0.060          0.066  0.066  0.060  0.063
hypotension              0.058          0.100  0.100  0.058  0.079
hepatitis                0.144          0.057  0.144  0.057  0.101
conjugated estrogens     0.051          0.065  0.065  0.051  0.058
lidocaine                0.050          0.091  0.091  0.050  0.071
conjunctivitis           0.049          0.079  0.079  0.049  0.064
drowsiness               0.048          0.050  0.050  0.048  0.049
irritability             0.112          0.048  0.112  0.048  0.080
itching                  0.109          0.046  0.109  0.046  0.077
allopurinol              0.046          0.160  0.160  0.046  0.103
heart failure            0.043          1.000  1.000  0.043  0.522
psoriasis                1.000          0.043  1.000  0.043  0.522
bruising                 0.050          0.043  0.050  0.043  0.047
histamine phosphate      0.043          0.083  0.083  0.043  0.063
tachycardia              0.043          0.053  0.053  0.043  0.048
verapamil                0.042          0.077  0.077  0.042  0.060
hydrocortisone           0.050          0.041  0.050  0.041  0.046
```

```
Transitive Closure (proximity) Networks Results
                psoriasis  heart failure  (max)  (min)  (avg)
dermatitis          0.125          0.115  0.125  0.115  0.120
montelukast         0.083          0.125  0.125  0.083  0.104
dry skin            0.087          0.082  0.087  0.082  0.085
hypotension         0.081          0.130  0.130  0.081  0.106
elderberry          0.081          0.077  0.081  0.077  0.079
irritability        0.112          0.077  0.112  0.077  0.094
hypertension        0.159          0.074  0.159  0.074  0.116
```

```
naloxone             0.073          0.145  0.145  0.073  0.109
allopurinol          0.072          0.160  0.160  0.072  0.116
peppermint oil       0.075          0.072  0.075  0.072  0.074
```

Query 1W:`**psoriasis'**,`**hepatitis'**
Ordering: **min**

```
Proximity Network Results
                     psoriasis  hepatitis  (max)   (min)   (avg)
diarrhea                 0.160      0.169  0.169  0.160  0.165
hypertension             0.159      0.171  0.171  0.159  0.165
psoriasis                1.000      0.144  1.000  0.144  0.572
hepatitis                0.144      1.000  1.000  0.144  0.572
glaucoma                 0.135      0.195  0.195  0.135  0.165
dermatitis               0.125      0.155  0.155  0.125  0.140
constipation             0.145      0.124  0.145  0.124  0.135
stroke                   0.140      0.122  0.140  0.122  0.131
infections               0.183      0.122  0.183  0.122  0.152
irritability             0.112      0.145  0.145  0.112  0.128
seizures                 0.108      0.163  0.163  0.108  0.135
itching                  0.109      0.105  0.109  0.105  0.107
osteoporosis             0.102      0.114  0.114  0.102  0.108
irritation               0.105      0.100  0.105  0.100  0.103
infertility              0.094      0.113  0.113  0.094  0.104
vomiting                 0.091      0.126  0.126  0.091  0.108
allergic                 0.088      0.084  0.088  0.084  0.086
montelukast              0.083      0.094  0.094  0.083  0.088
nausea                   0.076      0.080  0.080  0.076  0.078
acetylsalicylic acid     0.073      0.113  0.113  0.073  0.093


Transitive Closure (proximity) Networks Results
             psoriasis  hepatitis  (max)   (min)   (avg)
diarrhea         0.160      0.169  0.169  0.160  0.165
hypertension     0.159      0.171  0.171  0.159  0.165
psoriasis        1.000      0.144  1.000  0.144  0.572
hepatitis        0.144      1.000  1.000  0.144  0.572
glaucoma         0.135      0.195  0.195  0.135  0.165
dermatitis       0.125      0.155  0.155  0.125  0.140
constipation     0.145      0.124  0.145  0.124  0.135
stroke           0.140      0.122  0.140  0.122  0.131
infections       0.183      0.122  0.183  0.122  0.152
irritability     0.112      0.145  0.145  0.112  0.128
```

Query 1W:`**psoriasis'**,`**seizures'**
Ordering: **min**

```
Proximity Network Results
              psoriasis   seizures   (max)   (min)   (avg)
infections      0.183       0.205    0.205   0.183   0.194
hepatitis       0.144       0.163    0.163   0.144   0.153
stroke          0.140       0.189    0.189   0.140   0.164
diarrhea        0.160       0.122    0.160   0.122   0.141
itching         0.109       0.109    0.109   0.109   0.109
seizures        0.108       1.000    1.000   0.108   0.554
psoriasis       1.000       0.108    1.000   0.108   0.554
constipation    0.145       0.102    0.145   0.102   0.124
osteoporosis    0.102       0.104    0.104   0.102   0.103
glaucoma        0.135       0.101    0.135   0.101   0.118
irritability    0.112       0.099    0.112   0.099   0.105
infertility     0.094       0.150    0.150   0.094   0.122
vomiting        0.091       0.150    0.150   0.091   0.120
irritation      0.105       0.091    0.105   0.091   0.098
hypertension    0.159       0.087    0.159   0.087   0.123
dermatitis      0.125       0.084    0.125   0.084   0.104
allergic        0.088       0.083    0.088   0.083   0.086
acne            0.119       0.081    0.119   0.081   0.100
ibuprofen       0.076       0.076    0.076   0.076   0.076
appetite        0.076       0.078    0.078   0.076   0.077


Transitive Closure (proximity) Networks Results
              psoriasis   seizures   (max)   (min)   (avg)
infections      0.183       0.205    0.205   0.183   0.194
hepatitis       0.144       0.163    0.163   0.144   0.153
stroke          0.140       0.189    0.189   0.140   0.164
diarrhea        0.160       0.122    0.160   0.122   0.141
constipation    0.145       0.121    0.145   0.121   0.133
acne            0.119       0.113    0.119   0.113   0.116
itching         0.109       0.109    0.109   0.109   0.109
psoriasis       1.000       0.108    1.000   0.108   0.554
seizures        0.108       1.000    1.000   0.108   0.554
osteoporosis    0.102       0.104    0.104   0.102   0.103
```

Query 1W:`**psoriasis'**,`**heart failure'**,`**stroke'**
Ordering: **min**

```
Proximity Network Results
                psoriasis   stroke   heart failure   (max)   (min)   (avg)
hypertension      0.159     0.107        0.068       0.159   0.068   0.111
dermatitis        0.125     0.065        0.115       0.125   0.065   0.102
hepatitis         0.144     0.122        0.057       0.144   0.057   0.108
irritability      0.112     0.068        0.048       0.112   0.048   0.076
itching           0.109     0.080        0.046       0.109   0.046   0.078
psoriasis         1.000     0.140        0.043       1.000   0.043   0.394
bruising          0.050     0.052        0.043       0.052   0.043   0.048
```

				(max)	(min)	(avg)
montelukast	0.083	0.043	0.114	0.114	0.043	0.080
oxytocin	0.060	0.042	0.066	0.066	0.042	0.056
glaucoma	0.135	0.109	0.040	0.135	0.040	0.094
drowsiness	0.048	0.039	0.050	0.050	0.039	0.046
hydrocortisone	0.050	0.039	0.041	0.050	0.039	0.043
diarrhea	0.160	0.155	0.037	0.160	0.037	0.118
vomiting	0.091	0.131	0.035	0.131	0.035	0.086
dizziness	0.042	0.074	0.035	0.074	0.035	0.050
lethargy	0.035	0.045	0.043	0.045	0.035	0.041
hypotension	0.058	0.034	0.100	0.100	0.034	0.064
agitation	0.040	0.033	0.041	0.041	0.033	0.038
acetylsalicylic acid	0.073	0.064	0.032	0.073	0.032	0.056
seizures	0.108	0.189	0.030	0.189	0.030	0.109

Transitive Closure (proximity) Networks Results

	psoriasis	stroke	heart failure	(max)	(min)	(avg)
irritability	0.112	0.086	0.077	0.112	0.077	0.091
dermatitis	0.125	0.077	0.115	0.125	0.077	0.106
hypertension	0.159	0.107	0.074	0.159	0.074	0.113
dry skin	0.087	0.073	0.082	0.087	0.073	0.081
itching	0.109	0.080	0.071	0.109	0.071	0.087
hepatitis	0.144	0.122	0.071	0.144	0.071	0.112
irritation	0.105	0.077	0.068	0.105	0.068	0.083
hypotension	0.081	0.067	0.130	0.130	0.067	0.093
elderberry	0.081	0.067	0.077	0.081	0.067	0.075
montelukast	0.083	0.066	0.125	0.125	0.066	0.091

Query 1W:`**psoriasis**',`**heart failure**',`**stroke**'
Ordering: **avg**

Proximity Network Results

	psoriasis	stroke	heart failure	(max)	(min)	(avg)
psoriasis	1.000	0.140	0.043	1.000	0.043	0.394
stroke	0.140	1.000	0.027	1.000	0.027	0.389
heart failure	0.043	0.027	1.000	1.000	0.027	0.357
infections	0.183	0.213	0.024	0.213	0.024	0.140
diarrhea	0.160	0.155	0.037	0.160	0.037	0.118
hypertension	0.159	0.107	0.068	0.159	0.068	0.111
seizures	0.108	0.189	0.030	0.189	0.030	0.109
hepatitis	0.144	0.122	0.057	0.144	0.057	0.108
constipation	0.145	0.141	0.020	0.145	0.020	0.102
dermatitis	0.125	0.065	0.115	0.125	0.065	0.102
glaucoma	0.135	0.109	0.040	0.135	0.040	0.094
vomiting	0.091	0.131	0.035	0.131	0.035	0.086
montelukast	0.083	0.043	0.114	0.114	0.043	0.080
itching	0.109	0.080	0.046	0.109	0.046	0.078
angina	0.031	0.021	0.179	0.179	0.021	0.077
acne	0.119	0.099	0.010	0.119	0.010	0.076

```
irritability         0.112   0.068         0.048  0.112  0.048  0.076
allopurinol          0.046   0.022         0.160  0.160  0.022  0.076
infertility          0.094   0.121         0.008  0.121  0.008  0.074
nausea               0.076   0.123         0.016  0.123  0.016  0.071
```

Transitive Closure (proximity) Networks Results

```
              psoriasis  stroke  heart failure  (max)  (min)  (avg)
psoriasis        1.000   0.140         0.064  1.000  0.064  0.401
stroke           0.140   1.000         0.048  1.000  0.048  0.396
heart failure    0.064   0.048         1.000  1.000  0.048  0.371
infections       0.183   0.213         0.052  0.213  0.052  0.149
diarrhea         0.160   0.155         0.066  0.160  0.066  0.127
seizures         0.108   0.189         0.052  0.189  0.052  0.116
constipation     0.145   0.141         0.060  0.145  0.060  0.115
hypertension     0.159   0.107         0.074  0.159  0.074  0.113
hepatitis        0.144   0.122         0.071  0.144  0.071  0.112
dermatitis       0.125   0.077         0.115  0.125  0.077  0.106
```

Query 1W: **`psoriasis'`,`metformin'`**
Ordering: **min**

Proximity Network Results

```
                      psoriasis  metformin  (max)  (min)  (avg)
montelukast              0.083     0.098  0.098  0.083  0.091
hypertension             0.159     0.070  0.159  0.070  0.114
dermatitis               0.125     0.062  0.125  0.062  0.093
hypotension              0.058     0.109  0.109  0.058  0.084
hepatitis                0.144     0.053  0.144  0.053  0.098
oxytocin                 0.060     0.050  0.060  0.050  0.055
lidocaine                0.050     0.143  0.143  0.050  0.097
vomiting                 0.091     0.049  0.091  0.049  0.070
glaucoma                 0.135     0.047  0.135  0.047  0.091
allopurinol              0.046     0.118  0.118  0.046  0.082
heart failure            0.043     0.048  0.048  0.043  0.045
verapamil                0.042     0.111  0.111  0.042  0.077
diarrhea                 0.160     0.042  0.160  0.042  0.101
ibuprofen                0.076     0.042  0.076  0.042  0.059
naloxone                 0.040     0.128  0.128  0.040  0.084
agitation                0.040     0.040  0.040  0.040  0.040
acetylsalicylic acid     0.073     0.038  0.073  0.038  0.056
nicotine                 0.038     0.033  0.038  0.033  0.036
angina                   0.031     0.070  0.070  0.031  0.051
metformin                0.031     1.000  1.000  0.031  0.516
```

Transitive Closure (proximity) Networks Results

```
                      psoriasis  metformin  (max)  (min)  (avg)
montelukast              0.083     0.098  0.098  0.083  0.091
```

hypotension	0.081	0.109	0.109	0.081	0.095
naloxone	0.073	0.128	0.128	0.073	0.100
allopurinol	0.072	0.118	0.118	0.072	0.095
hypertension	0.159	0.070	0.159	0.070	0.114
histamine phosphate	0.069	0.078	0.078	0.069	0.074
dermatitis	0.125	0.068	0.125	0.068	0.097
ribavirin	0.067	0.100	0.100	0.067	0.084
tiotropium	0.067	0.100	0.100	0.067	0.084
angina	0.066	0.092	0.092	0.066	0.079

Query 1W:`**psoriasis**',`**insulin glargine**'
Ordering: **min**

Proximity Network Results

	psoriasis	insulin glargine	(max)	(min)	(avg)
lethargy	0.035	0.016	0.035	0.016	0.025
metformin	0.031	0.013	0.031	0.013	0.022
tenderness	0.019	0.010	0.019	0.010	0.014
vomiting	0.091	0.009	0.091	0.009	0.050
weakness	0.036	0.009	0.036	0.009	0.022
bruising	0.050	0.007	0.050	0.007	0.029
encephalopathy	0.006	0.024	0.024	0.006	0.015
cranberry	0.057	0.006	0.057	0.006	0.032
simvastatin	0.006	0.039	0.039	0.006	0.023
licorice	0.036	0.006	0.036	0.006	0.021
stroke	0.140	0.006	0.140	0.006	0.073
liquorice	0.005	0.012	0.012	0.005	0.008
sertraline	0.007	0.005	0.007	0.005	0.006
diarrhea	0.160	0.005	0.160	0.005	0.082
hydroxyzine	0.004	0.009	0.009	0.004	0.007
hallucinations	0.030	0.004	0.030	0.004	0.017
seizures	0.108	0.004	0.108	0.004	0.056
migraine	0.043	0.004	0.043	0.004	0.023
lithium	0.010	0.003	0.010	0.003	0.007
sweating	0.033	0.003	0.033	0.003	0.018

Transitive Closure (proximity) Networks Results

	psoriasis	insulin glargine	(max)	(min)	(avg)
allopurinol	0.072	0.053	0.072	0.053	0.063
anaphylaxis	0.048	0.048	0.048	0.048	0.048
primidone	0.061	0.048	0.061	0.048	0.054
sevelamer	0.061	0.048	0.061	0.048	0.054
desmopressin	0.061	0.048	0.061	0.048	0.054
rhinitis	0.048	0.056	0.056	0.048	0.052
bethanechol	0.062	0.047	0.062	0.047	0.055
cabergoline	0.062	0.047	0.062	0.047	0.055
hypersensitivity	0.044	0.059	0.059	0.044	0.052

| pharyngitis | 0.044 | | 0.046 | 0.046 | 0.044 | 0.045 |

Query 1W:`**psoriasis'**,`**stroke'**
Ordering: **min**

Proximity Network Results

	psoriasis	stroke	(max)	(min)	(avg)
infections	0.183	0.213	0.213	0.183	0.198
diarrhea	0.160	0.155	0.160	0.155	0.158
constipation	0.145	0.141	0.145	0.141	0.143
psoriasis	1.000	0.140	1.000	0.140	0.570
stroke	0.140	1.000	1.000	0.140	0.570
hepatitis	0.144	0.122	0.144	0.122	0.133
glaucoma	0.135	0.109	0.135	0.109	0.122
seizures	0.108	0.189	0.189	0.108	0.148
hypertension	0.159	0.107	0.159	0.107	0.133
acne	0.119	0.099	0.119	0.099	0.109
infertility	0.094	0.121	0.121	0.094	0.108
vomiting	0.091	0.131	0.131	0.091	0.111
osteoporosis	0.102	0.090	0.102	0.090	0.096
allergic	0.088	0.100	0.100	0.088	0.094
weight loss	0.085	0.088	0.088	0.085	0.087
itching	0.109	0.080	0.109	0.080	0.094
appetite	0.076	0.111	0.111	0.076	0.093
nausea	0.076	0.123	0.123	0.076	0.099
ibuprofen	0.076	0.074	0.076	0.074	0.075
rash	0.071	0.078	0.078	0.071	0.075

Transitive Closure (proximity) Networks Results

	psoriasis	stroke	(max)	(min)	(avg)
infections	0.183	0.213	0.213	0.183	0.198
diarrhea	0.160	0.155	0.160	0.155	0.158
constipation	0.145	0.141	0.145	0.141	0.143
psoriasis	1.000	0.140	1.000	0.140	0.570
stroke	0.140	1.000	1.000	0.140	0.570
hepatitis	0.144	0.122	0.144	0.122	0.133
acne	0.119	0.115	0.119	0.115	0.117
glaucoma	0.135	0.109	0.135	0.109	0.122
seizures	0.108	0.189	0.189	0.108	0.148
hypertension	0.159	0.107	0.159	0.107	0.133

Query 1W:`**glaucoma'**
Ordering: **min**

Proximity Network Results

	glaucoma	(max)	(min)	(avg)

```
glaucoma                1.000  1.000  1.000  1.000
hepatitis               0.195  0.195  0.195  0.195
hypertension            0.157  0.157  0.157  0.157
psoriasis               0.135  0.135  0.135  0.135
diarrhea                0.120  0.120  0.120  0.120
hypotension             0.111  0.111  0.111  0.111
stroke                  0.109  0.109  0.109  0.109
dermatitis              0.106  0.106  0.106  0.106
montelukast             0.104  0.104  0.104  0.104
vomiting                0.101  0.101  0.101  0.101
seizures                0.101  0.101  0.101  0.101
acetylsalicylic acid    0.095  0.095  0.095  0.095
drowsiness              0.090  0.090  0.090  0.090
allopurinol             0.079  0.079  0.079  0.079
infections              0.078  0.078  0.078  0.078
itching                 0.077  0.077  0.077  0.077
irritability            0.076  0.076  0.076  0.076
constipation            0.074  0.074  0.074  0.074
osteoporosis            0.074  0.074  0.074  0.074
lidocaine               0.073  0.073  0.073  0.073
```

Transitive Closure (proximity) Networks Results

```
              glaucoma  (max)  (min)  (avg)
glaucoma         1.000  1.000  1.000  1.000
hepatitis        0.195  0.195  0.195  0.195
hypertension     0.157  0.157  0.157  0.157
psoriasis        0.135  0.135  0.135  0.135
diarrhea         0.120  0.120  0.120  0.120
hypotension      0.111  0.111  0.111  0.111
stroke           0.109  0.109  0.109  0.109
dermatitis       0.106  0.106  0.106  0.106
montelukast      0.104  0.104  0.104  0.104
vomiting         0.101  0.101  0.101  0.101
```

Query 1W:`**glaucoma**',`**psoriasis**'
Ordering: **min**

Proximity Network Results

```
                psoriasis  glaucoma  (max)  (min)  (avg)
hypertension        0.159     0.157  0.159  0.157  0.158
hepatitis           0.144     0.195  0.195  0.144  0.170
glaucoma            0.135     1.000  1.000  0.135  0.567
psoriasis           1.000     0.135  1.000  0.135  0.567
diarrhea            0.160     0.120  0.160  0.120  0.140
stroke              0.140     0.109  0.140  0.109  0.124
dermatitis          0.125     0.106  0.125  0.106  0.116
seizures            0.108     0.101  0.108  0.101  0.104
vomiting            0.091     0.101  0.101  0.091  0.096
```

```
montelukast                0.083        0.104  0.104  0.083  0.093
infections                 0.183        0.078  0.183  0.078  0.131
itching                    0.109        0.077  0.109  0.077  0.093
irritability               0.112        0.076  0.112  0.076  0.094
constipation               0.145        0.074  0.145  0.074  0.110
osteoporosis               0.102        0.074  0.102  0.074  0.088
acetylsalicylic acid       0.073        0.095  0.095  0.073  0.084
infertility                0.094        0.067  0.094  0.067  0.081
nausea                     0.076        0.067  0.076  0.067  0.071
irritation                 0.105        0.064  0.105  0.064  0.084
allergic                   0.088        0.062  0.088  0.062  0.075


Transitive Closure (proximity) Networks Results
             psoriasis  glaucoma  (max)   (min)   (avg)
hypertension    0.159      0.157  0.159   0.157   0.158
hepatitis       0.144      0.195  0.195   0.144   0.170
glaucoma        0.135      1.000  1.000   0.135   0.567
psoriasis       1.000      0.135  1.000   0.135   0.567
diarrhea        0.160      0.120  0.160   0.120   0.140
stroke          0.140      0.109  0.140   0.109   0.124
dermatitis      0.125      0.106  0.125   0.106   0.116
seizures        0.108      0.101  0.108   0.101   0.104
vomiting        0.091      0.101  0.101   0.091   0.096
irritability    0.112      0.091  0.112   0.091   0.101
```

Query 1W:`**glaucoma'**,`**psoriasis'**, `**hepatitis'**
Ordering: **min**

Proximity Network Results

	psoriasis	glaucoma	hepatitis	(max)	(min)	(avg)
hypertension	0.159	0.157	0.171	0.171	0.157	0.162
hepatitis	0.144	0.195	1.000	1.000	0.144	0.446
glaucoma	0.135	1.000	0.195	1.000	0.135	0.443
psoriasis	1.000	0.135	0.144	1.000	0.135	0.426
diarrhea	0.160	0.120	0.169	0.169	0.120	0.150
stroke	0.140	0.109	0.122	0.140	0.109	0.124
dermatitis	0.125	0.106	0.155	0.155	0.106	0.129
seizures	0.108	0.101	0.163	0.163	0.101	0.124
vomiting	0.091	0.101	0.126	0.126	0.091	0.106
montelukast	0.083	0.104	0.094	0.104	0.083	0.094
infections	0.183	0.078	0.122	0.183	0.078	0.128
itching	0.109	0.077	0.105	0.109	0.077	0.097
irritability	0.112	0.076	0.145	0.145	0.076	0.111
constipation	0.145	0.074	0.124	0.145	0.074	0.115
osteoporosis	0.102	0.074	0.114	0.114	0.074	0.097
acetylsalicylic acid	0.073	0.095	0.113	0.113	0.073	0.094
infertility	0.094	0.067	0.113	0.113	0.067	0.091
nausea	0.076	0.067	0.080	0.080	0.067	0.074

```
irritation                  0.105      0.064      0.100  0.105  0.064  0.090
allergic                    0.088      0.062      0.084  0.088  0.062  0.078


Transitive Closure (proximity) Networks Results
              psoriasis  glaucoma  hepatitis  (max)  (min)  (avg)
hypertension     0.159     0.157      0.171   0.171  0.157  0.162
hepatitis        0.144     0.195      1.000   1.000  0.144  0.446
glaucoma         0.135     1.000      0.195   1.000  0.135  0.443
psoriasis        1.000     0.135      0.144   1.000  0.135  0.426
diarrhea         0.160     0.120      0.169   0.169  0.120  0.150
stroke           0.140     0.109      0.122   0.140  0.109  0.124
dermatitis       0.125     0.106      0.155   0.155  0.106  0.129
seizures         0.108     0.101      0.163   0.163  0.101  0.124
vomiting         0.091     0.101      0.126   0.126  0.091  0.106
irritability     0.112     0.091      0.145   0.145  0.091  0.116
```

Instagram Post Examples

---

date: Sun, May 25 2014 @ 09:05
"#notmypic .. Say hello to my new friend! Fluoxetina! Side effects by now are a bit of nausea and inquietude.. Better than zoloft! Yesterday night i started to cry while i was with my 2 friends because my ex, bulimia's stress.. I'm sure they thought i'm crazy so i felt like i had to explain my reasons with one of those friends.. Now i'm terrified of his reaction, he is even a friend of my ex.. Don't know what to expect.. It's so hard telling someone about ED and bulimia ☐☐. I'm also thinking about a b/p session today after 2 days clean, maybe it's not the right solution. Idk. #bulimia #bulimic #mia #ed #edfamily #eatingdisorder #prorecovery #bingepurge #purge #binge #fat #prozac #fluoxetine #depression #meds"

---

date: Wed, May 13 2015 @ 20:05
"I start fluoxetine (D) tomorrow, the doctor switched me from citalopram to this so let's hope it goes better this time #anxietymeds #depressionmeds #citalopram#fluoxetine (D) #anxiety (AE)#depression"

then, same user on the next day:

"ok so I don't know if it's the tablets that are doing this but I feel the lowest I've ever felt and I'm hoping it's not the tablets. Hopefully it's just a bad day, not that there are many good days☐ I hope tomorrow is a better day for everyone, especially if you are feeling the same way I am. #fluoxetine (D) #depression (AE) #anxiety #depressionmeds #anxietymeds"

---

date: Wed, Dec 24 2014 @ 10:12
"I've gained a significant amount of weight since this summer... It's hard.. It's too much for someone to ask if I'm okay or not. Screw people.. #me #statistic #unhappy #depression (AE) #fluoxetine (D) #christmaseve #yule #hurt #toomanythoughts

---

date: Wed, Feb 05 2014 @ 14:02
"i survived another trip to the clinic, saw a specialist, did a test that explained i'm an INFJ (introvert) which is apperently only 1% of the population. Added risperidone and upped ritalin as well as prozac. considering this keeps me "sane" and able to assimilate into the chaos of everyday life i think this counts as my #100happydays today #findhappinessineachday #bipolar #borderlinepersonalitydisorder #INFJ #manicdepression #goinggovernment #prozac #lamotragine #ritalin #risperidone"

---

date: Tue, Mar 31 2015 @ 18:03
"Anyone has ever tried Prozac !? If so... please share ur feedback
I'd be thankful xo #Depression #anxiety #Bipolar #Prozac #mood_swings

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