

TWITTER DISEASE LANGUAGE ONTOLOGY SUMMARY

1. Objects

A: LIVING ENTITIES			
<i>Object</i>	<i>Parent</i>	<i>Description</i>	<i>Sample Words</i>
A1: PEOPLE			
People	Living entities	References to people	<i>Guys, folks, fellas, persons...</i>
Patients	People	References to sick people	<i>Patients, invalids, victims....</i>
Medical staff/ Care provider	People	References to carers	<i>Doctors, nurses, carers, geanocologist, oncologist</i>
Government	People	Reference to government and government agencies	<i>Department, ministry, secretariat, military, agency....</i>
Deity	People	Supernatural persons	<i>God, Jesus, Christ, Jehovah, Baal.....</i>
Anatomy	People	Human Anatomy and body organs	<i>Stomach, leg, brain, head, trunk, temple, neck.....</i>
Population	People	References to an entire population	<i>Population, populations....</i>
A2: PATHOGENS			
Pathogens	Living entities	Disease causing organism	<i>Bacteria, virus, protozoan</i>
A3: VECTORS			
Vectors	Living entities	Potential disease carrying organism	<i>Cats, dogs, cattle, flies, mosquitoes...</i>
B: INANIMATE ENTITIES			
B1. SUBSTANCES			
Nutrition	substances	References to food, drink	<i>Alcohol, food, vegetables, juice, hydration, electrolytes</i>
Biological substance	substances	Biological substances	<i>Blood, hormones, enzyme</i>

Biological product	substances	By products of metabolism	<i>Feaces, urine, sweat, excreta</i>
B2: ENVIRONMENTS			
Environment	Inanimate entities	Descriptions of the Environment	<i>Smoky, cold, hot, pollution, foggy</i>
C: ABSTRACT ENTITIES			
Opinion/belief	Abstract entities	A belief	<i>Opinion, belief, conviction, view, premise.....</i>
Methods	Abstract entities	Methodology	<i>Method, methods, approach, methodology, how, via...</i>
C1: TIME			
Window	Time	References to time within communicable period	<i>Today, yesterday, hours, night, tonight, recently</i>
Other temporal references	Time	References to time outside the communicable period	<i>Year, decade, millennium, century....</i>
C2: EVENTS			
General Events	Events	References to events in general	<i>All verbs and verbal nouns like occurrence, termination</i>
Disease Events	Events	Reference to disease incidence	<i>Case, incidence, outbreak, epidemic...</i>
Bodily Functions	Events	Bodily function	<i>Respire, digest, breath, perspiration, menstruation, mitosis, reproduction...</i>
C3: TREND			
Improvement	Trend	A net positive change	<i>Improve, gain, rise, spike...</i>
Deterioration	Trend	A net negative change	<i>Deteriorate, slump, decline, worsen</i>
Stasis	Trend	No net change	<i>Flat, flatten, stabilize, stable...</i>

C5: LINGUISTIC ELEMENTS			
Humor	Linguistic elements	Humor	<i>Jokes. Kidding, lol....</i>
Negation	Linguistic elements	To negate	<i>Not, neither, nor</i>
Evaluative	Linguistic Elements	Evaluations	<i>Fail, succeed, accomplish, failure</i>
Exclamation	Linguistic elements	Exclamations	<i>Oh, unbelievable, Ridiculous, Damn</i>
Expletives	Linguistic elements	Expletive Language	<i>Fuck, shit, bitch,</i>
Probability	Linguistic elements	Probability	<i>Possible, possibly, probable, might, could, likely....</i>
Improbability	Linguistic elements	Improbability	<i>Unlikely, improbable, impossible</i>
Obligation	Linguistic elements	Obligation	<i>Appointment, date, rendezvous, meeting, lecture, exam</i>
Responsibility	Linguistic elements	Responsibility	<i>Responsible, responsibility, blame, fault</i>

D: Miscellaneous Objects (for conceptually ambiguous words)

Concept	Description	Sample words
Have	To have: Can imply possession and also tense	<i>Have, has, had...</i>
Go	Can imply motion as in <i>to go home</i> or intention as in <i>I am going to get sick</i> and even loss as in <i>all my hopes are long gone</i>	<i>Go, going, gone....</i>
Fall	To fall: can imply a motion or getting sick as in <i>to fall sick</i>	<i>Fall, falling, fallen</i>
Positive	A desirable outcome or situation although it is very common in disease contexts for the word positive to imply undesirable outcomes particularly in the results of disease test e.g. a positive HIV result	<i>positive</i>
Negative	An undesirable outcome or situation although it is very common in disease contexts for the word negative to imply desirable outcomes particularly in the results of disease test e.g. a negative HIV result	<i>negative</i>
like	The word like can denote multiple meanings for instance in the following two phrases it has completely different implications <i>I feel like I am</i>	<i>like</i>

	<i>going to be sick</i> and I do not like the taste of quinine. Furthermore, particularly on social media and other colloquial contexts it is used as a filler word	
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2. Data properties

2.1. All objects

Property/state	Description	Member words
Quantity	Is a form of magnitude implying discrete quantification	<i>Some, many, dozens, hundreds, a few</i>
Extent	Is a form of magnitude implying quantification by degree	<i>Completely, partially, sufficiently</i>
Order	General order	<i>First, last, second, between, before, after.....</i>
State	The state of an entity	<i>Status, situation, position, orientation</i>
Being	To be	<i>Be, exist, extant.....</i>

2.2. Real Objects

Property/state	Description	Member words
Composition	What things are made of	<i>Bloody, fleshy, solid, hollow</i>
Texture	What things feel like	<i>Slimy, rigid, smooth, soft, flexible, coarse</i>
Visual	What things look like	<i>Bright, dark, colorful, red, green, yellow, pale...</i>
Taste	What things taste like	<i>Delicious, sour, bitter, unpalatable</i>
Odor	What things smell like	<i>Pungent, odor, smelly, stink, reek</i>

2.3. People

Property/state	Description	Member words
Demography	References to demographic characteristics	<i>Young, elderly, millennial, youth, youthful, infant....</i>
Immunity	Immunity to diseases	<i>Immune, resistant, invulnerable, hardy....</i>
predisposition	Being at risk of infection	<i>Predisposed, exposed</i>
Morbidity	Being sick	<i>Sick, ill, infected, suffering, indisposed.....</i>

Health	Free of sickness	<i>Healthy, strong, great, glowing....</i>
Ability	Capacity to do something	<i>Able, capable, ability, capability, potent...</i>
Inability	Lack of ability	<i>Incapacitated, incapable, unable, disabled....</i>
Awareness	Being in the know	<i>Aware, informed, idea, hunch</i>
ignorance	Lack of awareness	<i>Unaware, uniformed, ignorant, clueless</i>
Emotional states	sorrow	<i>Sad, sorrow, happiness, anxiety</i>
Activity	To be active	<i>Run, jog, dance, exercise...</i>
Urban-rural and economic	Whether urban or rural and socio-economic situation	<i>Urban, rural, peri-urban, subsistence, migratory, traditional, modern, cooperate, professional</i>

2.4.Events

Property/state	Description	Member words
periodicity	Frequency of occurrence	<i>Always, seldom, never, usually....</i>
Tempo	Speed	<i>Quickly, slowly, rapidly....</i>
Start time	Time and event starts	
End time	Time an event ends	
Event Duration	How long an event goes on	

2.5. Disease Events

Property/state	Description	Member words
Agency	Responsible agent	<i>Viral, bacterial, congenital, fungal, allergenic</i>
Presentation	How does the disease progress	<i>Chronic, acute, severe, mild, fatal, virulent</i>
Description	Additional descriptors	<i>Treatable, contagious, avoidable</i>

3. Object properties

Relationship	Domain	Range	Description	Member words
test	people	people	To test for a disease	<i>Test, check, checkup, angiogram</i>
Confirm	People	Event	Obtain proof of a situation	<i>Proof, confirm, conclusion, infer, admit...</i>

Celebrate	People	Event	Celebrate	<i>Celebrate, enjoy, party, anniversary</i>
Quantize	People	Objects	To quantify	<i>Statistic, figure, numbers, estimate</i>
Incidence	Event	Time	To occur	<i>Occurrence, case, strike, instance...</i>
Commencement	Event	Time	To start	<i>Commencement, begin, initiate, instantiate...</i>
Continuance	Event	Time	To continue	<i>Continue</i>
Termination	Event	Time	To end	<i>End, stop, halt, discontinue..</i>
Familial relationship	People	People	Family ties	<i>Brother, sister, father, mother, sibling.....</i>
Travel	People	Location	Travel	<i>Travel, trip, plane, fly, drive, trek, visa....</i>
Treatment	Care provider	patient	Offer treatment	<i>Treat, treatment, hospitalize, biopsy, iv.....</i>
Prevention	People	Disease Event	Prevent illness	<i>Prevent, avoid, prevention...</i>
Immune response	People	Pathogen/ agent	Immune response	<i>Respond, fight, resist, react, reaction....</i>
Report	People	Event	Report event	<i>Report, announce, communicate, announcement....</i>
Detection	People	Event	Detect event occurrence	<i>Detect, find, detection, discover....</i>
Calls	People	People	Calls to action	<i>Please, beware, warning...</i>
Disperse	Vectors/ Patients	Pathogens	To spread illness	<i>Transmit, spread, disperse</i>
camaraderie	People	People	Relationship between peers	<i>Buddy, buddies, roommate, workmate, peer.....</i>
Sympathy	People	People	To sympathize	<i>Sympathy, sympathize, empathy..</i>
Causality	Pathogen	Disease event	To cause	<i>Due to, because, causes, coz...</i>
Result	Event	Event	Inverse of causality	<i>Result, resulted, outcome</i>
Gratitude	People	People	Feel gratitude	<i>Thanks, thank, appreciation..</i>
Affection	People	People	Feel affection	<i>Darling, boo, sweetie, love..</i>
Apology	People	People	To apologize	<i>sorry, apology, apologize...</i>

Monitor	People	Disease Events	To monitor a situation	<i>Monitor, track</i>
Punishment	People	People	To punish	<i>Punish, arrest, prosecute, indict, imprisonment, ban</i>
Analyze	People	All objects	To analyze	<i>Analyze, investigate, study..</i>
Advise	People	People	To advise	<i>Advise, warn, caution</i>
Disrupt	Event	Event	To disrupt	<i>Cancel, postpone, delay.....</i>
Cover up	People	People	To cover up	<i>Conceal, hide, conspiracy.....</i>
refute	People	People	To refute	<i>Refute, deny, invalidate, disprove, invalidate..</i>
Change	All objects	All objects	To change	<i>Change, evolve, evolution, metamorphose, metamorphosis....</i>
Get	Living Entities	Living Entities	To obtain	<i>Get, getting, obtain, acquire, acquisition</i>
Displacement	All objects	All objects	Movement in space, geography or some conceptual domain	<i>Move, relocate, transfer, displace, shift....</i>
Give	Living Entities	Living Entities	To give	<i>Give, gift, grant</i>
Is part of	Anatomy	Living things	To be a part of e.g. an arm is part of a body	<i>Covered under composition</i>