

## Multimedia Appendix 1. Publication details and categorization.

	Authors	Period	Region	Keywords	V	S	C	F	M	St	Languages
1	Alicino et al 2015	2013-2015	Guinea, Sierra Leone, Liberia, Nigeria, Mali, Senegal, USA, Spain, UK, Italy	Ebola	✓		✓		✓		English, African languages (no data)
2	Arora et al 2016	2004-2013	UK	Suicide	✓		✓				English
3	Bakker et al 2016	2004-2015	Worldwide (36 Countries)	Chicken Pox, Varicella Zoster Virus, Vaccination	✓	✓	✓	✓	✓		Multiple Languages
4	Barnes et al 2015	2008-2013	USA	Sleep, Moral Awareness	✓				✓		English
5	Bentley & Ormerod, 2009	2005, 2009	Worldwide	Bird Flu, Swine Flu	✓				✓		English
6	Borron et al 2016	2009-2015	USA	Loperamide	✓						English
7	Bragazzi, 2013	2004-2012	Italy	Multiple Sclerosis	✓		✓		✓		Italian
8	Bragazzi et al 2016	2004-2010	USA	Silicosis	✓		✓				English
9	Bragazzi et al 2016	2004-2015	Worldwide	Vaccination	✓						English
10	Bragazzi et al 2016	2004-2015	Italy	West Nile Virus	✓		✓				Italian
11	Bragazzi et al 2016	2004-2015	Worldwide	Epilepsy	✓		✓				English
12	Bragazzi et al 2016	2004-2015	Worldwide	Silicosis	✓		✓			✓	English
13	Bragazzi et al 2016	2004-2016	Worldwide, USA	Vasculitis, Autoimmune Diseases, Celebrity	✓		✓			✓	English
14	Bragazzi, 2014	2004-2012	Italy	Non-Suicidal Self Injury (NSSI)	✓		✓				Italian
15	Braun & Harreus, 2013	2005-2012	Germany	Otolaryngology, Sinusitis	✓	✓					German
16	Brigo & Trinka, 2015	2004-2014	Worldwide	Epilepsy	✓						English
17	Brigo et al 2014	2004-2013	Worldwide	Epilepsy	✓						English
18	Brigo et al 2014	2004-2013	Worldwide	Multiple Sclerosis, Epilepsy, Dementia	✓						English
19	Van Campen et al 2014	2004-2013	Netherlands, USA, UK	Epilepsy, Seizures	✓					✓	English, Dutch

	<b>Authors</b>	<b>Period</b>	<b>Region</b>	<b>Keywords</b>	<b>V</b>	<b>S</b>	<b>C</b>	<b>F</b>	<b>M</b>	<b>St</b>	<b>Languages</b>
20	Carneiro & Mylonakis, 2009	2004-2009	Worldwide, USA	Influenza, Flu, West Nile virus, Bird Flu, Respiratory Syncytial Virus (RSV), Bird Flu	✓						English
21	Cavazos-Regh et al 2015	2011	USA	Tobacco	✓		✓				English
22	Cha & Stow, 2015	2004-2014	USA	Toledo Water Crisis, Algae	✓						English
23	Chaves et al 2015	2004-2012	Worldwide	Tele-health, Newborn Hearing Screening							Portuguese
24	Cho et al 2013	2007-2012	South Korea	Influenza (Flu, New Flu, Swine Flu, New Influenza, Fever, Tamiflu)	✓		✓				Korean
25	Crowson et al 2016	2008-2015	USA	Otitis Externa, Ototoxicity, Ciprodex, Cortisporin, Ofloxacin	✓	✓	✓			✓	English
26	Davis et al 2015	2005-2015	Worldwide	Interstitial Cystitis, Painful Bladder Syndrome	✓						English
27	Fazeli et al 2014	2004-2014	USA	Breast Cancer, Dense Breast	✓						English
28	Deiner et al 2016	2012-2014	USA, Australia	Pink Eye, Eye Allergy, Flu, Eye Drops, Eye Diseases	✓	✓	✓				English
29	DeVilbiss & Lee, 2014	2004-2014	USA	Autism Awareness, Autism, Asperger's, ADHD	✓						English
30	Domnich et al 2015	2011-2015	Italy	Influenza, Fever, Cough, Tachipirina, Paracetamol	✓		✓	✓	✓		Italian
31	El-Sheikha, 2015	2006-2013	Worldwide, 44 countries	Varicose Vein Syndrome	✓	✓			✓	✓	English, 32 languages
32	Fenichel et al 2013	2008-2010	USA	Pandemic Influenza, Swine Flu	✓				✓		English
33	Fond et al 2015	2005-2014	Worldwide	Suicide, Depression, Bipolar	✓						English
34	Foroughi et al 2016	2004-2015	Australia, Canada, New Zealand, UK, USA	Cancer	✓		✓				English
35	Gafson & Giovannoni, 2014	2008-2012	Worldwide	Chronic Cerebrospinal Venous Insufficiency	✓						English

	Authors	Period	Region	Keywords	V	S	C	F	M	St	Languages
36	Gahr et al 2015	2004-2013	Germany	Antidepressants, Prescriptions	✓		✓		✓		German
37	Gamma et al 2016	2004-2016	Switzerland, Germany, Austria	Drugs, Methamphetamine Crime	✓		✓				German (same in English)
38	Garrison et al 2015	2004-2012	USA, Australia	Leg cramps	✓	✓			✓		English
39	Gollust et al 2016	2013-2014	USA	Affordable Care Act, Health Insurance, Obamacare	✓		✓		✓		English
40	Guernier et al 2016	2011-2013	Australia	Veterinary Diseases, Tick Paralysis	✓		✓				English
41	Haney et al 2014	2004-2013	USA	Radiology Residency, Radiology Salary	✓				✓		English
42	Harorli & Harorli, 2014	2004-2014	Worldwide	Oral problems	✓						English
43	Harsha et al 2014	2004-2012	USA	Varicose Vein Syndrome	✓	✓			✓	✓	English
44	Harsha et al 2015	2006-2013	USA	Interventional Radiology, Fellowships	✓	✓			✓		English
45	Hassid et al 2016	2008-2011	USA	Gastrointestinal Symptoms	✓	✓	✓				English
46	Hossain et al 2016	2014	Guinea, Liberia, Sierra Leone, USA, UK	Ebola, Flu	✓						English
47	Huang et al 2013	2009-2011	China	Smoking, Smoking Ban, Electronic Cigarette	✓						Chinese
48	Huesch et al 2014	2012-2013	USA	Public Hospitals, Quality, Ratings	✓						English
49	Ingram & Plante, 2013	2004-2012	USA, Australia, UK, Canada, Germany	Restless Legs Syndrome	✓	✓					English
50	Ingram et al 2015	2006-2012	USA, Australia	Breathing Sleep Disorder	✓	✓					English
51	Jha et al 2015	2004-2015	USA	Oral Bisphosphonate, Prescriptions, Hip Fractures, Fosamax	✓						English
52	Johnson et al 2014	2005-2011	USA	Sexually Transmitted Infections	✓		✓				English
53	Kadry et al 2011	2010	USA	Physician Rating							English
54	Kang et al 2013	2008-2011	China	Influenza, ILI, Flu, H1N1	✓		✓				Chinese

	Authors	Period	Region	Keywords	V	S	C	F	M	St	Languages
55	Kang et al 2015	2008-2013	USA, UK, Australia	Allergic Rhinitis, Allergic Rhinitis, Pollen count, Claritin, Zyrtec	✓	✓	✓				English
56	Koburger et al 2015	2009-2010	Germany, Austria, Hungary, Netherlands, Slovenia	Suicide, Robert Enke	✓		✓				German, Hungarian, Dutch, Slovenian
57	Kostkova et al 2013	2006-2010	UK	Infectious diseases, Clostridium difficile, MRSA, Tuberculosis, Meningitis, Norovirus, Influenza	✓						English
58	Lawson McLean et al 2016	2004-2014	Worldwide, Germany	Neurosurgery	✓						English
59	Leffler et al 2010	2004-2008	USA, UK, Canada, Australia	Ophthalmology	✓	✓			✓		English
60	Ling & Lee, 2016	2004-2015	Canada	Health Campaigns, HIV, AIDS, Stroke, Colorectal Cancer, Marijuana use	✓		✓				English
61	Linkov et al 2014	2004-2012	Worldwide, USA	Bariatric Surgery	✓				✓		English
62	Liu et al 2016	2004-2016	USA, Australia	Ankle Swelling	✓	✓			✓		English
63	Luckett et al 2016	2015	Worldwide	Chronic Breathlessness							English
64	Majumder et al 2016	2015-2016	Colombia	Zika Virus	✓				✓		Spanish
65	Mattin et al 2014	2007-2013	France, Greece, Italy, Portugal, Spain	Canine Leishmaniosis	✓						French, Greek, Italian, Portuguese, Spanish
66	Mavragani et al 2016	2004-2014	UK, Worldwide	Drugs, Prescriptions, Diclofenac, Estradiol, Macrolide Antibiotics	✓		✓				English
67	Murray et al 2016	2010-2013	Ireland	Mouth Cancer, Oral Cancer	✓					✓	English
68	Myers et al 2016	2004-2015	USA	Psychogenic Non-Epileptic Seizures	✓						English
69	Noar et al 2013	2006-2011	USA	Pancreatic Cancer, Public Figure	✓				✓	✓	English
70	Nuti et al 2014	2004-2014	Worldwide	Review	-	-	-	-	-	-	-

	Authors	Period	Region	Keywords	V	S	C	F	M	St	Languages
71	Pandey et al 2014	2004-2013	USA	Heart Transplant, Ventricular Assist Devices, Breast Cancer, Pulmonary Embolism, Bipolar Disorder, Sjogren Syndrome, Multiple Sclerosis	✓						English
72	Parker et al 2016	2010-2014	USA	Premature Deaths, Alcohol, Drugs, Suicide	✓			✓	✓		English
73	Phelan et al 2014	2009-2012	USA, UK, Australia, Ireland	Metal-on-Metal Hip	✓				✓	✓	English
74	Phelan et al 2016	2010-2015	USA	Anatomy, Education	✓	✓	✓		✓		English
75	Plante & Ingram, 2014	2004-2013	USA, Australia, Germany, UK, Canada, Sweden, Switzerland	Tinnitus Symptomatology	✓	✓					English, German, Swedish, French, Italian
76	Poletto et al 2016	2013-2015	Worldwide	Middle East Respiratory Syndrome (MERS)	✓		✓				English
77	Pollett et al 2015	2009-2014	USA	Pertussis	✓		✓	✓	✓		English
78	Rohart et al 2016	2009-2013	Australia	Disease Surveillance	✓		✓	✓	✓	✓	English
79	Rosenkrantz & Prabhu, 2016	2004-2014	USA	Imaging-Based Cancer Screening, Breast Cancer, Lung Cancer, Colon Cancer, Prostate Cancer	✓						English
80	Rossignol et al 2013	2004-2012	France, Germany, Italy, USA, China, Australia, Brazil, South Africa	Urinary Tract Infection, Cystitis	✓	✓					English, French, German, Italian, Chinese, Portuguese
81	Scatà et al 2016	2015-2016	56 countries in South America, Europe, Oceania	Epidemics, Zika Virus	✓				✓		N/A. The term is the same
82	Scheres et al 2016	2009-2015	Netherlands, Worldwide	Thrombosis, Venous Thrombosis	✓						English, Dutch
83	Shin et al 2016	2015-2016	Korea	MERS	✓		✓				Korean
84	Schootman et al 2015	2004-2014	50 US States and DC, Puerto Rico, US Virgin Islands, Guam, American Samoa, Palau	Cancer Screening	✓		✓				English

	<b>Authors</b>	<b>Period</b>	<b>Region</b>	<b>Keywords</b>	<b>V</b>	<b>S</b>	<b>C</b>	<b>F</b>	<b>M</b>	<b>St</b>	<b>Languages</b>
85	Schuster et al 2010	2004-2009	USA	Statins, Lipitor, Simvastatin	✓		✓		✓		English
86	Seifter et al 2010	2004-2009	USA	Lyme Disease	✓	✓					English
87	Sentana-Lledo et al 2016	2004-2014	USA	Bed bugs	✓	✓	✓				English
88	Simmering et al 2014	2004-2014	USA	Drugs, Prescriptions, Antibiotics	✓		✓				English
89	Skeldon et al 2015	2004-2007	USA	Drugs, Prostatic Hyperplasia, Avodart, Flomax	✓						English
90	Solano et al 2016	2008-2012	Italy	Suicide	✓		✓	✓			Italian
91	Stein et al 2013	2007-2010	USA, UK, Canada, India	Laser Eye Surgery	✓				✓		English
92	Takada, 2012	2004-2011	Japan	Fireflies, Beetles	✓	✓					Japanese
93	Telfer & Woodburn, 2015	2004-2014	UK, USA, Canada, Australia	Foot pain, Ankle pain, Heel pain	✓	✓			✓	✓	English
94	Troelstra et al 2016	2004-2013	Netherlands, Belgium	Tobacco Control	✓				✓	✓	Dutch
95	Toosi & Kalia, 2015	2004-2013	Canada, USA, Australia	Tanning	✓	✓					English
96	Wang et al 2015	2009-2011	Taiwan	Dementia, Alzheimer's Disease, Neurology	✓		✓	✓			Chinese
97	Warren & Wen, 2016	2004-2015	USA	Measles, MMR, Vaccine	✓						English
98	Willson et al 2015	2011-2012	USA	Aeroallergens, Allergies, Pollen	✓	✓	✓		✓		English
99	Willson et al 2015	2011-2014	USA	Pollen, Mountain Cedar	✓				✓		English
100	Yang et al 2015	2009-2015	USA	Influenza, Epidemic	✓				✓		English
101	Zhang et al 2015	2004-2014	USA, Canada, UK, Australia, China	Tobacco, Lung Cancer	✓	✓	✓			✓	English, Chinese
102	Zhang et al 2016	2004-2015	USA	Drugs, Dabbing, Cannabis Smoking	✓		✓	✓		✓	English
103	Zheluk et al 2014	2009-2013	Russia	Drugs, Krokodil, Desomorphine, Codeine	✓						Russian
104	Zhou et al 2011	2004-2009	USA	Tuberculosis	✓			✓	✓		English

## References

1. Alicino C, Bragazzi NL, Faccio V, Amicizia D, Panatto D, Gasparini R, et al. Assessing Ebola-related web search behaviour: insights and implications from an analytical study of Google Trends-based query volumes. *Infect Dis Poverty* 2015 Dec 10;4:54 [FREE Full text] [doi: 10.1186/s40249-015-0090-9] [Medline: 26654247]
2. Arora VS, Stuckler D, McKee M. Tracking search engine queries for suicide in the United Kingdom, 2004-2013. *Public Health* 2016 Aug;137:147-153. [doi: 10.1016/j.puhe.2015.10.015] [Medline: 26976489]
3. Bakker KM, Martinez-Bakker ME, Helm B, Stevenson TJ. Digital epidemiology reveals global childhood disease seasonality and the effects of immunization. *PNAS* 2016;113(24):6689.
4. Barnes CM, Gunia BC, Wagner DT. Sleep and moral awareness. *J Sleep Res* 2015 Apr;24(2):181-188 [FREE Full text] [doi: 10.1111/jsr.12231] [Medline: 25159702]
5. Bentley RA, Ormerod P. Social versus independent interest in 'bird flu' and 'swine flu'. *PLoS Curr* 2009 Sep 3;1:RRN1036. [doi: 10.1371/currents.RRN1036]
6. Borron SW, Watts SH, Tull J, Baeza S, Diebold S, Barrow A. Intentional Misuse and Abuse of Loperamide: A New Look at a Drug with 'Low Abuse Potential'. *J Emerg Med* 2017 Jul;53(1):73-84. [doi: 10.1016/j.jemermed.2017.03.018] [Medline: 28501383]
7. Bragazzi NL. Infodemiology and infoveillance of multiple sclerosis in Italy. *Mult Scler Int* 2013;2013:924029 [FREE Full text] [doi: 10.1155/2013/924029] [Medline: 24027636]
8. Bragazzi NL, Dini G, Toletone A, Brigo F, Durando P. Infodemiological data concerning silicosis in the USA in the period 2004-2010 correlating with real-world statistical data. *Data Brief* 2017 Feb;10:457-464 [FREE Full text] [doi: 10.1016/j.dib.2016.11.021] [Medline: 28054008]
9. Bragazzi NL, Barberis I, Rosselli R, Gianfredi V, Nucci D, Moretti M, et al. How often people google for vaccination: Qualitative and quantitative insights from a systematic search of the web-based activities using Google Trends. *Hum Vaccin Immunother* 2017 Feb;13(2):464-469. [doi: 10.1080/21645515.2017.1264742] [Medline: 27983896]
10. Bragazzi N, Bacigaluppi S, Robba C, Siri A, Canepa G, Brigo F. Infodemiological data of West-Nile virus disease in Italy in the study period 2004-2015. *Data Brief* 2016:839-845 [FREE Full text]
11. Bragazzi NL, Bacigaluppi S, Robba C, Nardone R, Trinkka E, Brigo F. Infodemiology of status epilepticus: A systematic validation of the Google Trends-based search queries. *Epilepsy Behav* 2016 Feb;55:120-123. [doi: 10.1016/j.yebeh.2015.12.017] [Medline: 26773681]
12. Bragazzi NL, Dini G, Toletone A, Brigo F, Durando P. Leveraging Big Data for Exploring Occupational Diseases-Related Interest at the Level of Scientific Community, Media Coverage and Novel Data Streams: The Example of Silicosis as a Pilot Study. *PLoS One* 2016;11(11):e0166051 [FREE Full text] [doi: 10.1371/journal.pone.0166051] [Medline: 27806115]
13. Bragazzi NL, Watad A, Brigo F, Adawi M, Amital H, Shoenfeld Y. Public health awareness of autoimmune diseases after the death of a celebrity. *Clin Rheumatol* 2016 Dec 20:1911-1917. [doi: 10.1007/s10067-016-3513-5] [Medline: 28000011]
14. Bragazzi NL. A Google Trends-based approach for monitoring NSSI. *Psychol Res Behav Manag* 2013 Dec;7:1-8 [FREE Full text] [doi: 10.2147/PRBM.S44084] [Medline: 24376364]
15. Braun T, Harr us U. Medical nowcasting using Google Trends: application in otolaryngology. *Eur Arch Otorhinolaryngol* 2013 Jul;270(7):2157-2160. [doi: 10.1007/s00405-013-2532-y] [Medline: 23632877]
16. Brigo F, Trinkka E. Google search behavior for status epilepticus. *Epilepsy Behav* 2015 Aug;49:146-149. [doi: 10.1016/j.yebeh.2015.02.029] [Medline: 25873438]
17. Brigo F, Igwe SC, Ausserer H, Nardone R, Tezzon F, Bongiovanni LG, et al. Why do people Google epilepsy? An infodemiological study of online behavior for epilepsy-related search terms. *Epilepsy Behav* 2014 Feb;31:67-70. [doi: 10.1016/j.yebeh.2013.11.020] [Medline: 24361764]
18. Brigo F, Lochner P, Tezzon F, Nardone R. Web search behavior for multiple sclerosis: An infodemiological study. *Multiple Sclerosis and Related Disorders* 2014 Jul;3(4):440-443. [doi: 10.1016/j.msard.2014.02.005]

19. van CJS, van DE, Otte WM, Joels M, Jansen FE, Braun KPJ. Does Saint Nicholas provoke seizures? Hints from Google Trends. *Epilepsy Behav* 2014 Mar;32:132-134. [doi: 10.1016/j.yebeh.2014.01.019] [Medline: 24548849]
20. Carneiro HA, Mylonakis E. Google trends: a web-based tool for real-time surveillance of disease outbreaks. *Clin Infect Dis* 2009 Nov 15;49(10):1557-1564 [FREE Full text] [doi: 10.1086/630200] [Medline: 19845471]
21. Cavazos-Rehg PA, Krauss MJ, Spitznagel EL, Lowery A, Gruzca RA, Chaloupka FJ, et al. Monitoring of non-cigarette tobacco use using Google Trends. *Tob Control* 2015 May;24(3):249-255 [FREE Full text] [doi: 10.1136/tobaccocontrol-2013-051276] [Medline: 24500269]
22. Cha Y, Stow CA. Mining web-based data to assess public response to environmental events. *Environ Pollut* 2015 Mar;198:97-99. [doi: 10.1016/j.envpol.2014.12.027] [Medline: 25577650]
23. Chaves JN, Libardi AL, Agostinho-Pesse RS, Morettin M, Alvarenga KDF. Tele-health: assessment of websites on newborn hearing screening in Portuguese Language. *Codas* 2015 Dec;27(6):526-533 [FREE Full text] [doi: 10.1590/2317-1782/20152014169] [Medline: 26691616]
24. Cho S, Sohn CH, Jo MW, Shin S, Lee JH, Ryoo SM, et al. Correlation between national influenza surveillance data and google trends in South Korea. *PLoS One* 2013 Dec;8(12):e81422 [FREE Full text] [doi: 10.1371/journal.pone.0081422] [Medline: 24339927]
25. Crowson MG, Schulz K, Tucci DL. National Utilization and Forecasting of Otological Antibiotics. *Otology & Neurotology* 2016;37(8):1049-1054. [doi: 10.1097/MAO.0000000000001115]
26. Davis NF, Gnanappiragasam S, Thornhill JA. Interstitial cystitis/painful bladder syndrome: the influence of modern diagnostic criteria on epidemiology and on Internet search activity by the public. *Transl Androl Urol* 2015 Oct;4(5):506-511 [FREE Full text] [doi: 10.3978/j.issn.2223-4683.2015.06.08] [Medline: 26816850]
27. Fazeli DS, Carlos RC, Hall KS, Dalton VK. Novel data sources for women's health research: mapping breast screening online information seeking through Google trends. *Acad Radiol* 2014 Sep;21(9):1172-1176 [FREE Full text ] [doi: 10.1016/j.acra.2014.05.005 ] [Medline: 24998689]
28. Deiner MS, Lietman TM, McLeod SD, Chodosh J, Porco TC. Surveillance Tools Emerging From Search Engines and Social Media Data for Determining Eye Disease Patterns. *JAMA Ophthalmol* 2016 Sep 01;134(9):1024-1030 [FREE Full text] [doi: 10.1001/jamaophthalmol.2016.2267] [Medline: 27416554]
29. DeVilbiss E, Lee B. Brief Report: Trends in U.S. National Autism Awareness from 2004 to 2014: The Impact of National Autism Awareness Month. *Journal of Autism and Developmental Disorders* 2014;44(12):3271-3273. [doi: 10.1007/s10803-014-2160-4] [Medline: 24915931]
30. Domnich A, Panatto D, Signori A, Lai PL, Gasparini R, Amicizia D. Age-related differences in the accuracy of web query-based predictions of influenza-like illness. *PLoS One* 2015;10(5):e0127754 [FREE Full text] [doi: 10.1371/journal.pone.0127754] [Medline: 26011418]
31. El-Sheikha J. Global search demand for varicose vein information on the internet. *Phlebology* 2015 Sep;30(8):533-540. [doi: 10.1177/0268355514542681] [Medline: 24993972]
32. Fenichel EP, Kuminoff NV, Chowell G. Skip the trip: air travelers' behavioral responses to pandemic influenza. *PLoS One* 2013 Mar;8(3):e58249 [FREE Full text] [doi: 10.1371/journal.pone.0058249] [Medline: 23526970]
33. Fond G, Gaman A, Brunel L, Haffen E, Llorca P. Google Trends &reg; : Ready for real-time suicide prevention or just a Zeta-Jones effect? An exploratory study. *Psychiatry Research* 2015 Aug;228(3):913-917. [doi: 10.1016/j.psychres.2015.04.022]
34. Foughi F, Lam AK, Lim MS, Saremi N, Ahmadvand A. "Googling" for Cancer: An Infodemiological Assessment of Online Search Interests in Australia, Canada, New Zealand, the United Kingdom, and the United States. *JMIR Cancer* 2016 May 04;2(1):e5 [FREE Full text] [doi: 10.2196/cancer.5212] [Medline: 28410185]
35. Gafson AR, Giovannoni G. CCSVI-A. A call to clinicians and scientists to vocalise in an Internet age. *Mult Scler Relat Disord* 2014 Mar;3(2):143-146. [doi: 10.1016/j.msard.2013.10.005] [Medline: 25878001]



36. Gahr M, Uzelac Z, Zeiss R, Connemann BJ, Lang D, Schönfeldt-Lecuona C. Linking Annual Prescription Volume of Antidepressants to Corresponding Web Search Query Data: A Possible Proxy for Medical Prescription Behavior? *J Clin Psychopharmacol* 2015 Dec;35(6):681-685. [doi: 10.1097/JCP.0000000000000397] [Medline: 26355849]
37. Gamma A, Schleifer R, Weinmann W, Buadze A, Liebrez M. Could Google Trends Be Used to Predict Methamphetamine-Related Crime? An Analysis of Search Volume Data in Switzerland, Germany, and Austria. *PLoS ONE* 2016 Nov 30;11(11):e0166566. [doi: 10.1371/journal.pone.0166566]
38. Garrison SR, Dormuth CR, Morrow RL, Carney GA, Khan KM. Seasonal effects on the occurrence of nocturnal leg cramps: a prospective cohort study. *CMAJ* 2015 Mar 03;187(4):248-253 [FREE Full text] [doi: 10.1503/cmaj.140497] [Medline: 25623650]
39. Gollust SE, Qin X, Wilcock AD, Baum LM, Barry CL, Niederdeppe J, et al. Search and You Shall Find: Geographic Characteristics Associated With Google Searches During the Affordable Care Act's First Enrollment Period. *Med Care Res Rev* 2017 Dec;74(6):723-735. [doi: 10.1177/1077558716660944] [Medline: 27457426]
40. Guernier V, Milinovich GJ, Bezerra SMA, Haworth M, Coleman G, Soares MRJ. Use of big data in the surveillance of veterinary diseases: early detection of tick paralysis in companion animals. *Parasit Vectors* 2016 Dec 23;9(1):303 [FREE Full text] [doi: 10.1186/s13071-016-1590-6] [Medline: 27215214]
41. Haney NM, Kinsella SD, Morey JM. United States medical school graduate interest in radiology residency programs as depicted by online search tools. *J Am Coll Radiol* 2014 Feb;11(2):193-197. [doi: 10.1016/j.jacr.2013.06.023] [Medline: 24120904]
42. Harorli OT, Harorli H. Evaluation of internet search trends of some common oral problems, 2004 to 2014. *Community Dental Health* 2014;31(3):188-192. [doi: 10.1922/CDH\_3330Harorl?05]
43. Harsha AK, Schmitt JE, Stavropoulos SW. Know your market: use of online query tools to quantify trends in patient information-seeking behavior for varicose vein treatment. *J Vasc Interv Radiol* 2014 Jan;25(1):53-57. [doi: 10.1016/j.jvir.2013.09.015] [Medline: 24286941]
44. Harsha AK, Schmitt JE, Stavropoulos SW. Match day: online search trends reflect growing interest in IR training. *J Vasc Interv Radiol* 2015 Jan;26(1):95-100. [doi: 10.1016/j.jvir.2014.09.011] [Medline: 25541447]
45. Hassid BG, Day LW, Awad MA, Sewell JL, Osterberg EC, Breyer BN. Using Search Engine Query Data to Explore the Epidemiology of Common Gastrointestinal Symptoms. *Dig Dis Sci* 2017 Dec;62(3):588-592. [doi: 10.1007/s10620-016-4384-y] [Medline: 27878646]
46. Hossain L, Kam D, Kong F, Wigand RT, Bossomaier T. Social media in Ebola outbreak. *Epidemiol Infect* 2016 Jul;144(10):2136-2143. [doi: 10.1017/S095026881600039X] [Medline: 26939535]
47. Huang J, Zheng R, Emery S. Assessing the impact of the national smoking ban in indoor public places in china: evidence from quit smoking related online searches. *PLoS One* 2013 Jun;8(6):e65577 [FREE Full text] [doi: 10.1371/journal.pone.0065577] [Medline: 23776504]
48. Huesch M, Chetlen A, Segel J, Schetter S. Frequencies of Private Mentions and Sharing of Mammography and Breast Cancer Terms on Facebook: A Pilot Study. *J Med Internet Res* 2017 Jun 09;19(6):e201 [FREE Full text] [doi: 10.2196/jmir.7508] [Medline: 28600279]
49. Ingram DG, Plante DT. Seasonal trends in restless legs symptomatology: evidence from Internet search query data. *Sleep Med* 2013 Dec;14(12):1364-1368. [doi: 10.1016/j.sleep.2013.06.016] [Medline: 24152798]
50. Ingram DG, Matthews CK, Plante DT. Seasonal trends in sleep-disordered breathing: evidence from Internet search engine query data. *Sleep Breath* 2015 Mar;19(1):79-84. [doi: 10.1007/s11325-014-0965-1] [Medline: 24595717]
51. Jha S, Wang Z, Laucis N, Bhattacharyya T. Trends in Media Reports, Oral Bisphosphonate Prescriptions, and Hip Fractures 1996-2012: An Ecological Analysis. *J Bone Miner Res* 2015 Dec;30(12):2179-2187 [FREE Full text] [doi: 10.1002/jbmr.2565] [Medline: 26018247]

52. Johnson AK, Mehta SD. A comparison of Internet search trends and sexually transmitted infection rates using Google trends. *Sex Transm Dis* 2014 Jan;41(1):61-63. [doi: 10.1097/OLQ.000000000000065] [Medline: 24326584]
53. Kadry B, Chu LF, Kadry B, Gammas D, Macario A. Analysis of 4999 online physician ratings indicates that most patients give physicians a favorable rating. *J Med Internet Res* 2011 Nov;13(4):e95 [FREE Full text] [doi: 10.2196/jmir.1960] [Medline: 22088924]
54. Kang M, Zhong H, He J, Rutherford S, Yang F. Using Google Trends for influenza surveillance in South China. *PLoS One* 2013;8(1):e55205 [FREE Full text] [doi: 10.1371/journal.pone.0055205] [Medline: 23372837]
55. Kang M, Song W, Choi S, Kim H, Ha H, Kim S, et al. Google unveils a glimpse of allergic rhinitis in the real world. *Allergy* 2015 Jan;70(1):124-128. [doi: 10.1111/all.12528] [Medline: 25280183]
56. Koburger N, Mergl R, Rummel-Kluge C, Ibelshäuser A, Meise U, Postuvan V, et al. Celebrity suicide on the railway network: Can one case trigger international effects? *J Affect Disord* 2015 Oct 01;185:38-46. [doi: 10.1016/j.jad.2015.06.037] [Medline: 26143403]
57. Kostkova P, Fowler D, Wiseman S, Weinberg JR. Major infection events over 5 years: how is media coverage influencing online information needs of health care professionals and the public? *J Med Internet Res* 2013 Jul 15;15(7):e107 [FREE Full text] [doi: 10.2196/jmir.2146] [Medline: 23856364]
58. Lawson MAC, Lawson MA, Kalff R, Walter J. Google Search Queries About Neurosurgical Topics: Are They a Suitable Guide for Neurosurgeons? *World Neurosurg* 2016 Jun;90:179-185. [doi: 10.1016/j.wneu.2016.02.045] [Medline: 26898496]
59. Leffler CT, Davenport B, Chan D. Frequency and seasonal variation of ophthalmology-related internet searches. *Can J Ophthalmol* 2010 Jun;45(3):274-279. [doi: 10.3129/i10-022] [Medline: 20436544]
60. Ling R, Lee J. Disease Monitoring and Health Campaign Evaluation Using Google Search Activities for HIV and AIDS, Stroke, Colorectal Cancer, and Marijuana Use in Canada: A Retrospective Observational Study. *JMIR Public Health Surveill* 2016 Oct 12;2(2):e156 [FREE Full text] [doi: 10.2196/publichealth.6504] [Medline: 27733330]
61. Linkov F, Bovbjerg DH, Freese KE, Ramanathan R, Eid GM, Gourash W. Bariatric surgery interest around the world: what Google Trends can teach us. *Surg Obes Relat Dis* 2014 May;10(3):533-538. [doi: 10.1016/j.soard.2013.10.007] [Medline: 24794184]
62. Liu F, Allan GM, Korownyk C, Kolber M, Flook N, Sternberg H, et al. Seasonality of Ankle Swelling: Population Symptom Reporting Using Google Trends. *Ann Fam Med* 2016 Dec;14(4):356-358 [FREE Full text] [doi: 10.1370/afm.1953] [Medline: 27401424]
63. Lockett T, Disler R, Hosie A, Johnson M, Davidson P, Currow D, et al. Content and quality of websites supporting self-management of chronic breathlessness in advanced illness: a systematic review. *NPJ Prim Care Respir Med* 2016 Dec 26;26:16025 [FREE Full text] [doi: 10.1038/npjpcrm.2016.25] [Medline: 27225898]
64. Majumder MS, Santillana M, Mekar SR, McGinnis DP, Khan K, Brownstein JS. Utilizing Nontraditional Data Sources for Near Real-Time Estimation of Transmission Dynamics During the 2015-2016 Colombian Zika Virus Disease Outbreak. *JMIR Public Health Surveill* 2016 Jun 01;2(1):e30 [FREE Full text] [doi: 10.2196/publichealth.5814] [Medline: 27251981]
65. Mattin MJ, Solano-Gallego L, Dhollander S, Afonso A, Brodbelt DC. The frequency and distribution of canine leishmaniosis diagnosed by veterinary practitioners in Europe. *Vet J* 2014 Jun;200(3):410-419. [doi: 10.1016/j.tvjl.2014.03.033] [Medline: 24767097]
66. Mavragani A, Sypsa K, Sampri A, Tsagarakis K. Quantifying the UK Online Interest in Substances of the EU Watchlist for Water Monitoring: Diclofenac, Estradiol, and the Macrolide Antibiotics. *Water* 2016 Nov 18;8(11):542. [doi: 10.3390/w8110542]
67. Murray G, O'Rourke C, Hogan J, Fenton JE. Detecting internet search activity for mouth cancer in Ireland. *Br J Oral Maxillofac Surg* 2016 Feb;54(2):163-165. [doi: 10.1016/j.bjoms.2015.12.005] [Medline: 26774361]

68. Myers L, Jones J, Boesten N, Lancman M. Psychogenic non-epileptic seizures (PNES) on the Internet: Online representation of the disorder and frequency of search terms. *Seizure* 2016 Aug 01;40:114-122 [FREE Full text]
69. Noar S, Ribisl K, Althouse B, Willoughby J, Ayers J. Using digital surveillance to examine the impact of public figure pancreatic cancer announcements on media and search query outcomes. *Journal of the National Cancer Institute - Monographs* 2013:188-194.
70. Nuti SV, Wayda B, Ranasinghe I, Wang S, Dreyer RP, Chen SI, et al. The use of google trends in health care research: a systematic review. *PLoS One* 2014 Oct;9(10):e109583 [FREE Full text] [doi: 10.1371/journal.pone.0109583] [Medline: 25337815]
71. Pandey A, Abdullah K, Drazner MH. Impact of Vice President Cheney on public interest in left ventricular assist devices and heart transplantation. *Am J Cardiol* 2014 May 01;113(9):1529-1531. [doi: 10.1016/j.amjcard.2014.02.007] [Medline: 24630787]
72. Parker J, Cuthbertson C, Loveridge S, Skidmore M, Dyar W. Forecasting state-level premature deaths from alcohol, drugs, and suicides using Google Trends data. *J Affect Disord* 2017 Dec 15;213:9-15. [doi: 10.1016/j.jad.2016.10.038] [Medline: 28171770]
73. Phelan N, Kelly JC, Moore DP, Kenny P. The effect of the metal-on-metal hip controversy on Internet search activity. *Eur J Orthop Surg Traumatol* 2014 Oct;24(7):1203-1210. [doi: 10.1007/s00590-013-1399-3] [Medline: 24390041]
74. Phelan N, Davy S, O'Keeffe GW, Barry DS. Googling in anatomy education: Can google trends inform educators of national online search patterns of anatomical syllabi? *Anat Sci Educ* 2017 Mar;10(2):152-159. [doi: 10.1002/ase.1641] [Medline: 27547967]
75. Plante DT, Ingram DG. Seasonal trends in tinnitus symptomatology: evidence from Internet search engine query data. *Eur Arch Otorhinolaryngol* 2015 Oct;272(10):2807-2813. [doi: 10.1007/s00405-014-3287-9] [Medline: 25234771]
76. Poletto C, Boëlle P, Colizza V. Risk of MERS importation and onward transmission: a systematic review and analysis of cases reported to WHO. *BMC Infect Dis* 2016 Aug 25;16(1):448 [FREE Full text] [doi: 10.1186/s12879-016-1787-5] [Medline: 27562369]
77. Pollett S, Wood N, Boscardin WJ, Bengtsson H, Schwarcz S, Harriman K, et al. Validating the Use of Google Trends to Enhance Pertussis Surveillance in California. *PLoS Curr* 2015 Oct 19:1-10. [doi: 10.1371/currents.outbreaks.7119696b3e7523faa4543faac87c56c2]
78. Rohart F, Milinovich GJ, Avril SMR, Lê CK, Tong S, Hu W. Disease surveillance based on Internet-based linear models: an Australian case study of previously unmodeled infection diseases. *Sci Rep* 2016 Dec 20;6:38522 [FREE Full text] [doi: 10.1038/srep38522] [Medline: 27994231]
79. Rosenkrantz AB, Prabhu V. Public Interest in Imaging-Based Cancer Screening Examinations in the United States: Analysis Using a Web-Based Search Tool. *AJR Am J Roentgenol* 2016 Jan;206(1):113-118. [doi: 10.2214/AJR.15.14840] [Medline: 26700342]
80. Rossignol L, Pelat C, Lambert B, Flahault A, Chartier-Kastler E, Hanslik T. A method to assess seasonality of urinary tract infections based on medication sales and google trends. *PLoS One* 2013;8(10):e76020 [FREE Full text] [doi: 10.1371/journal.pone.0076020] [Medline: 24204587]
81. Scatà M, Di SA, Liò P, La CA. The Impact of Heterogeneity and Awareness in Modeling Epidemic Spreading on Multiplex Networks. *Sci Rep* 2016 Dec 16;6:37105 [FREE Full text] [doi: 10.1038/srep37105] [Medline: 27848978]
82. Scheres LJJ, Lijfering WM, Middeldorp S, Cannegieter SC. Influence of World Thrombosis Day on digital information seeking on venous thrombosis: a Google Trends study. *J Thromb Haemost* 2016 Dec;14(12):2325-2328. [doi: 10.1111/jth.13529] [Medline: 27735128]
83. Shin S, Seo D, An J, Kwak H, Kim S, Gwack J, et al. High correlation of Middle East respiratory syndrome spread with Google search and Twitter trends in Korea. *Sci Rep* 2016 Sep 06;6:32920 [FREE Full text] [doi: 10.1038/srep32920] [Medline: 27595921]
84. Schootman M, Toor A, Cavazos-Rehg P, Jeffe DB, McQueen A, Eberth J, et al. The utility of Google Trends data to examine interest in cancer screening. *BMJ Open* 2015 Jun 08;5(6):e006678 [FREE Full text] [doi: 10.1136/bmjopen-2014-006678] [Medline: 26056120]

85. Schuster N, Rogers M, McMahon JL. Using search engine query data to track pharmaceutical utilization: a study of statins. *The American journal of managed care* 2010;16(8):215-219.
86. Seifter A, Schwarzwalder A, Geis K, Aucott J. The utility of "Google Trends" for epidemiological research: Lyme disease as an example. *Geospat Health* 2010 May;4(2):135-137. [doi: 10.4081/gh.2010.195] [Medline: 20503183]
87. Sentana-Lledo D, Barbu CM, Ngo MN, Wu Y, Sethuraman K, Levy MZ. Seasons, Searches, and Intentions: What The Internet Can Tell Us About The Bed Bug (Hemiptera: Cimicidae) Epidemic. *J Med Entomol* 2016 Jan;53(1):116-121. [doi: 10.1093/jme/tjv158] [Medline: 26474879]
88. Simmering JE, Polgreen LA, Polgreen PM. Web search query volume as a measure of pharmaceutical utilization and changes in prescribing patterns. *Res Social Adm Pharm* 2014;10(6):896-903. [doi: 10.1016/j.sapharm.2014.01.003] [Medline: 24603135]
89. Skeldon SC, Kozhimannil KB, Majumdar SR, Law MR. The effect of competing direct-to-consumer advertising campaigns on the use of drugs for benign prostatic hyperplasia: time series analysis. *J Gen Intern Med* 2015 Apr;30(4):514-520 [FREE Full text] [doi: 10.1007/s11606-014-3063-y] [Medline: 25338730]
90. Solano P, Ustulin M, Pizzorno E, Vichi M, Pompili M, Serafini G, et al. A Google-based approach for monitoring suicide risk. *Psychiatry Res* 2016 Dec 30;246:581-586. [doi: 10.1016/j.psychres.2016.10.030] [Medline: 27837725]
91. Stein JD, Childers DM, Nan B, Mian SI. Gauging interest of the general public in laser-assisted in situ keratomileusis eye surgery. *Cornea* 2013 Jul;32(7):1015-1018 [FREE Full text] [doi: 10.1097/ICO.0b013e318283c85a] [Medline: 23538615]
92. Takada K. Japanese Interest in "Hotaru" (Fireflies) and "Kabuto-Mushi" (Japanese Rhinoceros Beetles) Corresponds with Seasonality in Visible Abundance. *Insects* 2012 Apr 10;3(2):424-431 [FREE Full text] [doi: 10.3390/insects3020424] [Medline: 26466535]
93. Telfer S, Woodburn J. Let me Google that for you: a time series analysis of seasonality in internet search trends for terms related to foot and ankle pain. *J Foot Ankle Res* 2015 Jul;8:27 [FREE Full text] [doi: 10.1186/s13047-015-0074-9] [Medline: 26146521]
94. Troelstra SA, Bosdriesz JR, de BMR, Kunst AE. Effect of Tobacco Control Policies on Information Seeking for Smoking Cessation in the Netherlands: A Google Trends Study. *PLoS One* 2016 Feb;11(2):e0148489 [FREE Full text] [doi: 10.1371/journal.pone.0148489] [Medline: 26849567]
95. Toosi B, Kalia S. Seasonal and Geographic Patterns in Tanning Using Real-Time Data From Google Trends. *JAMA Dermatol* 2016 Feb;152(2):215-217. [doi: 10.1001/jamadermatol.2015.3008] [Medline: 26719968]
96. Wang H, Chen D, Yu H, Chen Y. Forecasting the Incidence of Dementia and Dementia-Related Outpatient Visits With Google Trends: Evidence From Taiwan. *J Med Internet Res* 2015 Nov 19;17(11):e264 [FREE Full text] [doi: 10.2196/jmir.4516] [Medline: 26586281]
97. Warren KE, Wen LS. Measles, social media and surveillance in Baltimore City. *J Public Health (Oxf)* 2017 Sep 01;39(3):e73-e78. [doi: 10.1093/pubmed/fdw076] [Medline: 27521926]
98. Willson TJ, Lospinoso J, Weitzel E, McMains K. Correlating Regional Aeroallergen Effects on Internet Search Activity. *Otolaryngol Head Neck Surg* 2014 Dec 12;152(2):228-232. [doi: 10.1177/0194599814560149] [Medline: 25505261]
99. Willson TJ, Shams A, Lospinoso J, Weitzel E, McMains K. Searching for Cedar: Geographic Variation in Single Aeroallergen Shows Dose Response in Internet Search Activity. *Otolaryngol Head Neck Surg* 2015 Nov 02;153(5):770-774. [doi: 10.1177/0194599815601650] [Medline: 26340925]
100. Yang S, Santillana M, Kou SC. Accurate estimation of influenza epidemics using Google search data via ARGO. *PNAS* 2015;112(47):14473.
101. Zhang Z, Zheng X, Zeng DD, Leischow SJ. Information seeking regarding tobacco and lung cancer: effects of seasonality. *PLoS One* 2015 Mar;10(3):e0117938 [FREE Full text] [doi: 10.1371/journal.pone.0117938] [Medline: 25781020]

102. Zhang Z, Zheng X, Zeng DD, Leischow SJ. Tracking Dabbing Using Search Query Surveillance: A Case Study in the United States. *J Med Internet Res* 2016 Sep 16;18(9):e252 [FREE Full text] [doi: 10.2196/jmir.5802] [Medline: 27637361]
103. Zheluk A, Quinn C, Meylaks P. Internet search and krokodil in the Russian Federation: an infoveillance study. *J Med Internet Res* 2014 Sep 18;16(9):e212 [FREE Full text] [doi: 10.2196/jmir.3203] [Medline: 25236385]
104. Zhou X, Ye J, Feng Y. Tuberculosis surveillance by analyzing Google trends. *IEEE Trans Biomed Eng* 2011 Aug;58(8):2247-2254. [doi: 10.1109/TBME.2011.2132132] [Medline: 21435969]