

Using Advanced Keyword Strings to Predict a Pandemic

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Abstract

When a new virus emerges, news articles will be written about it on the internet on first word of it. Furthermore, users on social media sites (e.g. reddit) will give advice on how to prepare for a pandemic with items to buy. Therefore searching the internet using certain keywords to see if such articles or posts exist may help determine if a new virus exists and this process may be automated and make use of artificial intelligence or a human may scan through the results. This may prevent a possible future pandemic. For example the following keyword string can be used for each week (keywords were extracted from web page links below):

If the following keywords were used, news articles would have popped up in December 2019, the world could have known an outbreak was occurring.

((“UNIDENTIFIED TYPE OF PNEUMONIA” OR “a suspected outbreak of” OR “cases have been reported” OR “cause of pneumonia outbreak” OR “CAUSE OF THE DISEASE IS NOT CLEAR” OR “ATYPICAL PNEUMONIA” OR “PNEUMONIA OF UNKNOWN ORIGIN” OR “MYSTERY ILLNESS” OR “MYSTERIOUS PNEUMONIA” OR “MYSTERY PNEUMONIA” OR “MYSTERY DISEASE” OR “MYSTERIOUS DISEASE” OR “UNEXPLAINED PNEUMONIA” OR “OUTBREAK OF ATYPICAL” OR “INFECTS DOZENS” OR “MYSTERIOUS LUNG DISEASE” OR “OUTBREAK OF” OR “IMPOSING TRAVEL BANS” OR “IMPOSING QUARANTINES” OR “UNKNOWN PNEUMONIA” OR “CLUSTER OF CASES” OR “WERE IN QUARANTINE” OR “WERE QUARANTINED” OR “REPORTS FIRST CASE” OR “VIRUS CAN BE SPREAD BY HUMANS” OR “SPREADING FROM PERSON TO PERSON” OR “NOT TO PANIC” OR “SARS LIKE” OR “MERS LIKE” OR “COVID LIKE” OR “COVID19 LIKE” OR “ANOTHER COVID LIKE” OR “ANOTHER COVID19 LIKE” OR “ANOTHER COVID 19 LIKE” OR “NOVEL CORONAVIRUS 3” OR “NOVEL CORONAVIRUS THREE” OR “COVID20” OR “COVID21” OR “COVID22” OR “COVID23” OR “COVID24” OR “COVID25” OR “COVID-20” OR “COVID-21” OR “COVID-22” OR “COVID-23” OR “COVID-24” OR “COVID-25” OR “SARS-COV-3” OR “SARSCOV3” OR “SEVERE ACUTE RESPIRATORY SYNDROME 3” OR “2020-NCOV” OR “2021-NCOV” OR “2022-NCOV” OR “2023-NCOV” OR “2024-NCOV” OR “2025-NCOV” OR “MERS2” OR “MERS-2” OR “MIDDLE EASTERN RESPIRATORY SYNDROME 2”) AND (“VIRUS” OR “DISEASE” OR “OUTBREAK” OR “WERE HOSPITALIZED” OR “INFECTED” OR “PNEUMONIA” OR “QUARANTINED” OR “QUARANTINE” OR “ILLNESS”))

Another keyword string may be:

((((“NOVEL INFLUENZA” OR “HUMAN TO HUMAN TRANSMISSION” OR “NEW VIRUS” OR “MYSTERIOUS VIRUS” OR “UNKNOWN VIRUS” OR “CONFIRMED CASES” OR “PRESUMPTIVE CASE” OR “OUTBREAK” OR “MYSTERY ILLNESS” OR “FIRST CASE” OR “SECOND CASE” OR “THIRD CASE” OR “FOURTH CASE” OR “CAUSING PNEUMONIALIKE” OR “CAUSING PNEUMONIA LIKE”) AND (“VIRUS” OR (“NEWS” AND VIRUS) OR (“REDDIT” AND “VIRUS”))) OR (((N95 OR MASK OR MASKS OR RESPIRATOR OR RESPIRATORS) AND (“SELLING OUT” OR “SOLD OUT” OR “PANIC BUYING” OR “STOCKPILING” OR “STOCK PILING”)) AND (VIRUS)) OR ((FORUMS OR FORUM OR REDDIT) AND (STOCKUP OR “STOCK UP” OR STOCKPILE OR “STOCK PILE” OR STOCKPILING OR “STOCK PILING”) AND (“PEANUT BUTTER” OR “BEANS AND RICE” OR “TOILET PAPER” OR “N95”) AND (“VIRUS”)) OR ((FORUMS OR FORUM OR REDDIT) AND (VIRUS) AND (“FEAR MONGERING” OR “PANIC BUYING”)) OR (“NOVEL CORONAVIRUS 3” OR “NOVEL CORONAVIRUS THREE” OR “COVID20” OR “COVID21” OR “COVID22” OR “COVID23” OR “COVID24” OR “COVID25” OR “COVID-20” OR “COVID-21” OR “COVID-22” OR “COVID-23” OR “COVID-24” OR “COVID-25” OR “SARS-COV-3” OR “SARSCOV3” OR “SEVERE ACUTE RESPIRATORY SYNDROME 3” OR “2020-NCOV” OR “2021-NCOV” OR “2022-NCOV” OR “2023-NCOV” OR “2024-NCOV” OR “2025-NCOV” OR “MERS2” OR “MERS-2” OR “MIDDLE EASTERN RESPIRATORY SYNDROME 2”))

THIS STRING CAN ALSO BE TWEEKED TO SHOW LESS RESULTS IF REQUIRED OR MAY BE SHORTENED AS WELL BY DELETING BLOCKS AND RE-EDITING THE BRACKETS.

When a new virus starts, scientific articles may be written, therefore searching scholarly databases may help to see if a new virus is emerging (especially pre print servers or papers) to prevent another pandemic. The following string may be used for each week:

((("A NOVEL INFLUENZA" OR "A NOVEL VIRUS" OR "A NEW VIRUS" OR "AN UNKNOWN VIRUS" OR "POSSIBLE PANDEMIC" OR "POTENTIAL PANDEMIC" OR "VIRUS JUMPED FROM A" OR "HUMAN TO HUMAN TRANSMISSION CONFIRMED" OR "HUMAN TO HUMAN TRANSMISSION IS CONFIRMED" OR "A NEW CORONAVIRUS" OR "A NEW ADENOVIRUS" OR "VIRUS ORIGINATED" OR "A NEW ZONOTIC" OR "NOVEL ZONOTIC" OR "NEW SARS LIKE" OR "NEW MERS LIKE" OR "NEW H1N1 LIKE" OR "NEW SWINE LIKE" OR "NOVEL SARS LIKE" OR "NOVEL MERS LIKE" OR "NOVEL H1N1 LIKE" OR "NOVEL SWINE LIKE") **AND** (PNEUMONIA OR ARDS OR "ACUTE RESPIRATORY DISTRESS SYNDROME" OR SEPTIC OR DIED OR DEATHS OR "CYTOKINE STORM" OR DROPLETS OR AIRBORNE OR HOSPITAL OR "PATIENT PRESENTED" OR "PATIENT PRESENTING" OR MORTALITY OR "R0" OR "PATIENT ZERO" OR "GROUND ZERO" OR "OUTBREAK" OR "DISCOVERED" OR "QUARANTINE" OR "QUARANTINED" OR "VENTILATOR" OR "MECHANICAL VENTILATION" OR "CLUSTER" OR "HUMAN TO HUMAN TRANSMISSION" OR "NEW VIRUS" OR "MYSTERIOUS VIRUS" OR "UNKNOWN VIRUS" OR "CONFIRMED CASE" OR "PRESUMPTIVE CASE" OR "CONFIRMED CASES" OR "PRESUMPTIVE CASES" OR "OUTBREAK" OR "MYSTERY ILLNESS" OR "FIRST CASE" OR "SECOND CASE" OR "THIRD CASE" OR "FOURTH CASE" OR "CONFIRMED CASES" OR "URGENT" OR "CAUSING PNEUMONIALIKE" OR "CAUSING PNEUMONIA LIKE" OR "BAT ORIGINS" OR "FROM BATS" OR PANGOLIN OR SWINE OR COW OR PIG OR AVIAN OR MOSQUITOES OR MOSQUITO)) **OR** ("NOVEL CORONAVIRUS 3" OR "NOVEL CORONAVIRUS THREE" OR "COVID20" OR "COVID21" OR "COVID22" OR "COVID23" OR "COVID24" OR "COVID25" OR "COVID-20" OR "COVID-21" OR "COVID-22" OR "COVID-23" OR "COVID-24" OR "COVID-25" OR "SARS-COV-3" OR "SARSCOV3" OR "2020-NCOV" OR "2021-NCOV" OR "2022-NCOV" OR "2023-NCOV" OR "2024-NCOV" OR "2025-NCOV"))

THIS STRING CAN ALSO BE TWEEKED TO SHOW LESS RESULTS IF REQUIRED OR MAY BE SHORTENED AS WELL BY DELETING BLOCKS AND RE-EDITING THE BRACKETS.

Keywords extracted from the following web pages (mostly from December 2019 for news articles):

<https://apnews.com/00c78d1974410d96fe031f67edbd86ec>

<https://www.caixinglobal.com/2019-12-31/outbreak-of-mysterious-lung-disease-sparks-sars-rumors-101499945.html>

<https://www.dailymail.co.uk/health/article-7839625/Dozens-struck-unidentified-pneumonia-China.html>

<https://www.straitstimes.com/asia/east-asia/china-probes-pneumonia-outbreak-for-sars-links-state-media>

<https://panpacificagency.com/news/china/12/31/mystery-illness-hits-chinas-wuhan-city-as-nearly-30-hospitalised/>

<https://www.cnn.com/2020/01/21/asia/china-china-coronavirus-sars-intl-hnk/index.html>

<https://www.vox.com/science-and-health/2020/1/6/21051589/wuhan-china-outbreak>

<https://apnews.com/00c78d1974410d96fe031f67edbd86ec>

<https://www.dailymail.co.uk/health/article-7839625/Dozens-struck-unidentified-pneumonia-China.html>

<https://news.rthk.hk/rthk/en/component/k2/1500301-20191231.htm?spTabChangeable=0>

<https://uk.reuters.com/article/us-china-health-pneumonia/chinese-officials-investigate-cause-of-pneumonia-outbreak-in-wuhan-idUKKBN1YZ0GP>

<https://medicalxpress.com/news/2019-12-china-probes-pneumonia-outbreak-sars.html>

<https://www.news18.com/news/world/china-investigates-mystery-pneumonia-outbreak-amid-sars-fears-2441413.html>

<https://sg.news.yahoo.com/mystery-illness-hits-china-wuhan-054358892.html>

<https://www.japantimes.co.jp/news/2019/12/31/asia-pacific/science-health-asia-pacific/outbreak-sars-like-pneumonia-investigated-china/#.XtWAeDpKhPZ>

https://www.reddit.com/r/Coronavirus/comments/eydks4/field_report_from_hong_kong_please_stock_up_on/

https://www.reddit.com/r/Coronavirus/comments/etq3jx/suggested_preparations/

https://www.reddit.com/r/Coronavirus/comments/exk7sm/my_gf_and_i_live_in_thailand_bangkok_how_to/

https://www.reddit.com/r/Coronavirus/comments/etqn0h/coronavirus_what_items_to_stock_up_on/

https://www.reddit.com/r/Coronavirus/comments/eye6iv/how_are_you_prepping_for_the_worst/

https://www.reddit.com/r/Coronavirus/comments/exnfs0/found_masks_after_exhausting_search/

https://www.reddit.com/r/Coronavirus/comments/euInd9/survival_foods/

https://www.reddit.com/r/Coronavirus/comments/eu8lrl/currently_in_wuhan_hopefully_im_offering_a_fresh/

https://www.reddit.com/r/Coronavirus/comments/ev3d64/post_from_someone_living_in_shanghai/

https://www.reddit.com/r/Coronavirus/comments/evfh9a/miami_university_on_potential_coronavirus_cases/

https://www.reddit.com/r/Coronavirus/comments/ev46x9/anyone_have_a_list_of_what_i_should_stock_up_on/

https://www.reddit.com/r/Coronavirus/comments/ez51xg/preparedness_list_for_dummies/

https://www.reddit.com/r/Coronavirus/comments/ev049w/my_personal_account_of_the_coronavirus_in_wuhan/

https://www.reddit.com/r/Coronavirus/comments/evja8s/costco_order_prepping_for_worst_case_scenario_in/

https://www.reddit.com/r/Coronavirus/comments/f7uwtz/when_prepping_preparing_please_dont_forget_the/

https://www.reddit.com/r/Coronavirus/comments/f4g7q9/immune_system_prepping_antiviral_and_pro_immunity/

https://www.reddit.com/r/Coronavirus/comments/fapiam/serious_question_do_any_of_you_actually_expect_to/

https://www.reddit.com/r/Coronavirus/comments/etk0ku/does_anybody_else_believe_this_is_all_fear/

https://www.reddit.com/r/Coronavirus/comments/ev7pko/masks_paranoia_fear_mongering_ad_revenue_downplay/

https://www.reddit.com/r/Coronavirus/comments/evim7m/help_me_understand_what_makes_the_coronavirus_so/

https://www.reddit.com/r/Coronavirus/comments/euayu1/coronavirus_kills_41_people_in_china_spreads_to/
https://www.reddit.com/r/Coronavirus/comments/f9rneu/greece_reports_first_case_of_coronavirus/
https://www.reddit.com/r/Coronavirus/comments/f9rneu/greece_reports_first_case_of_coronavirus/
https://www.reddit.com/r/Coronavirus/comments/f7gsdt/sacramento_county_reports_first_case/
https://www.reddit.com/r/Coronavirus/comments/faiqox/san_marino_one_of_the_worlds_smallest_countries/
https://www.reddit.com/r/Coronavirus/comments/et0cps/doctor_at_wuhan_hospital_states_the_virus_is/
https://www.reddit.com/r/Coronavirus/comments/eu4vt7/the_perfect_virus/

Other Ideas:

When a pandemic starts, usually people will start buying masks, hand sanitizer, gloves, tylenol, nyquil, toilet paper, beans, peanut butter, rice, thermostats, pulse oximeters or vitamins. If there is an uptick in sales of any of these items, that may signal a virus is occurring. The past sales may be compared to current sales and if there is an uptick, the company producing such products may notify the CDC. Therefore, advising companies to advise the CDC if an uptick in sales occurs for any of the above products from their related manufacturers or sellers may help control a potential new virus. Chinese people started buying masks in December or January. Western world people started buying masks and foods listed in January or February. Furthermore, online stores like EBAY or AMAZON may help in notifying CDC of upticks in the purchase of the above items. Software can analyze the sales of each product and if an uptick occurs the CDC may be notified.

When a new virus emerges, there may be an uptick in pneumonia cases, respiratory cases, septic shock cases or any other type of illness. Therefore a system put in place that searches for upticks in certain illnesses from hospital records may be put into place to see if a virus is emerging. For example with COVID19 when it first started there may have been an uptick in flu or pneumonia visits at the hospital. If there was a system put into place that searched for such upticks, the virus may have been controlled. Software can analyze for an uptick and the CDC may be notified.

Furthermore an algorithm may be enacted where the search results, buying behaviour and uptick in illnesses may all need to be present in order to give a pandemic alert that is not a false response. However using one of these systems may also suffice.