TRUTH

INITIATIVE

REUNITING CANADA AFTER THE COVID-19 CRISIS

PART I

COVID-19
The Pandemic
PCR Testing
Prevention and Treatment

www.CanadianCovidCareAlliance.org

CANADIAN COVID CARE ALLIANCE

TRUTH

INITIATIVE

REUNITING CANADA AFTER THE COVID-19 CRISIS

PART I

COVID-19 | THE PANDEMIC | PCR TESTING | PREVENTION AND TREATMENT

Written by Liam Sturgess

Edited by Dr. Steven Pelech, MD, PhD, Dr. Matthew Evans-Cockle, PhD, and the members of the Science and Medical Advisory and External Communications Committees

Published by the Canadian Covid Care Alliance

www.CanadianCovidCareAlliance.org

This work was supported by private donations to the Canadian Covid Care Alliance, an independent not-for-profit organization registered with the Government of Canada. The funders had no input into the writing or review process of this publication, and did not influence the content or direction of the project.

The author wishes to disclose that he received an honorarium from the CCCA to support his time working on the Truth Initiative.

We hold no conflicts of interest.

Canadian Covid Care Alliance
Alliance canadienne pour la prévention et prise-en-charge de la covid

INTRODUCTION

Current as of **July 15, 2022**

The COVID-19 crisis has left Canada divided. With the rapid onslaught of new information on a daily basis, Canadians have been forced to stay apace with ever-changing public health guidance while trying to maintain some semblance of their well-being.

Unfortunately, the polarization of topics like face masks, school and business closures, COVID-19 vaccines and "the greater good" have split friends, families and neighbours. Small and medium business have been devastated, careers shattered and childhood learning severely compromised. Then, with the introduction of vaccine mandates, millions of people were forced to choose between their bodily autonomy and their livelihoods.

While this was no issue for some, it quietly destroyed the lives of many others. With supply chains on the brink of collapse, the healthcare system cracking under the weight on its shoulders, and many other industries on life support, Canadians were reminded that a country divided falls together.

This culminated in the Freedom Convoy 2022 protest across Canada, landing on the front door of Parliament in Ottawa, Ontario. For the first time in two years, Canadians of all ages, ethnicities, sexualities, classes and political affiliations hugged, danced, sang, and honked the horns of their trucks in celebration of the people around them and the ground on which they stood. Instead of engaging with his constituents, Prime Minister Justin Trudeau took the unprecedented step of invoking the Emergency Act.

As physicians, nurses, professors, pharmacists, vaccinologists, nutritionists, psychiatrists, veterinarians, other health professionals, medical students, lawyers, public servants, and our large community of concerned citizens, we at the Canadian Covid Care Alliance have dedicated ourselves to softening the blow of the crisis by sharing evidence-based information to empower Canadians to remain safe and healthy.

With the height of the COVID-19 pandemic moving behind us, we believe the time is now for Canadians to come together and mend our broken ties. This series of publications was prepared based on the body of scientific evidence, peer-reviewed literature, institutional and emerging media reporting, academic expertise, and robust archives of the core aspects of the COVID-19 crisis. With this, we intend to establish the most accurate, evidence-based summary of what occurred, setting a benchmark for all Canadians to return to a place of mutual understanding.

Science is a process, not an enigmatic authority to defer to. The scientific method is about the never-ending search for truth, which does not end when any government official or medical expert decries it.

The Truth Initiative is intended to be a living document. We invite readers to submit questions, feedback, criticism, and comments through the Contact Us page at www.CanadianCovidCareAlliance.org.

This is Part I of the Truth Initiative.

COVID-19

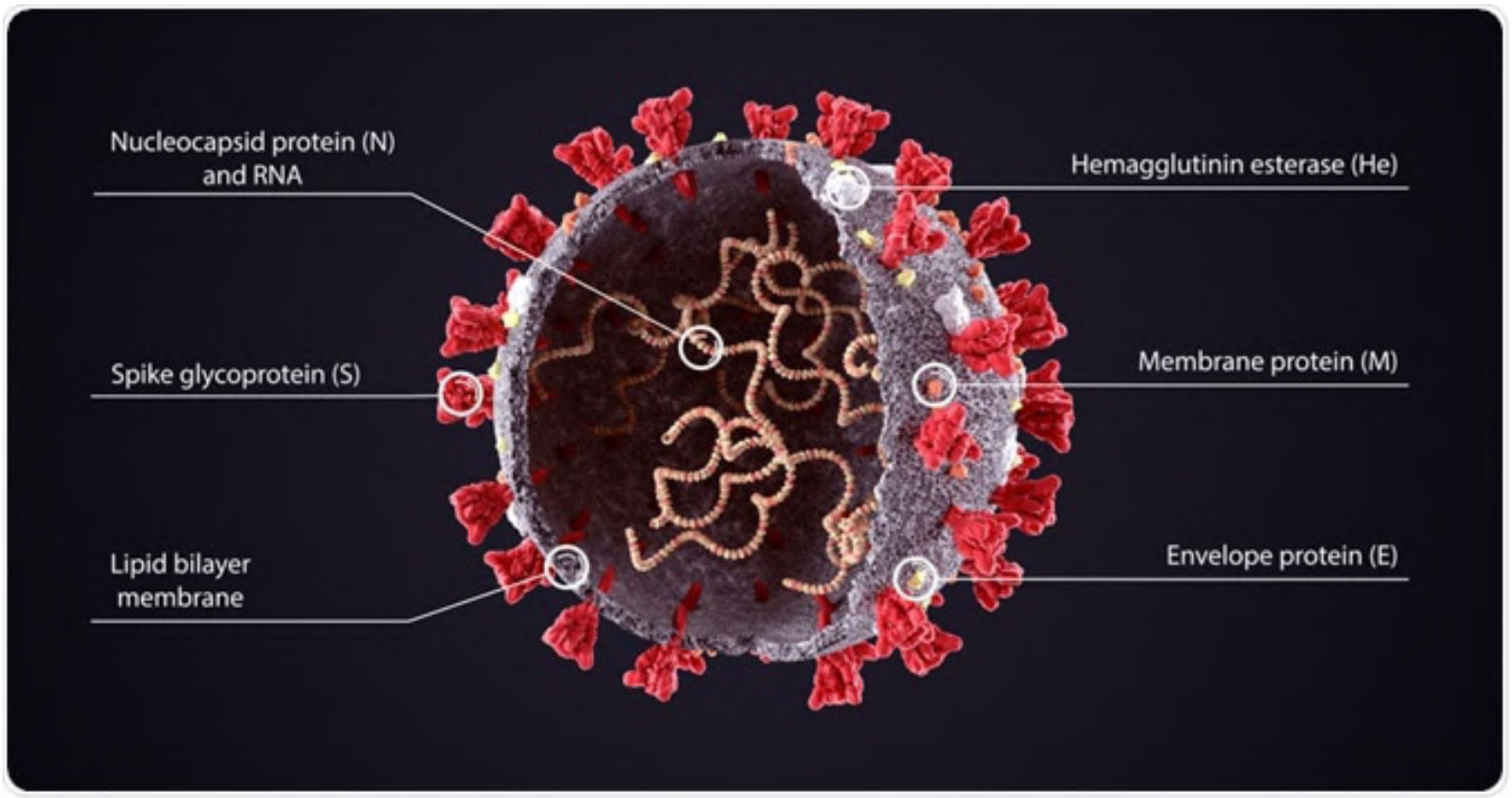
THE BASICS

COVID-19 is an acronym that stands for **Coronavirus Disease 2019**. This was the name given to the illness that sometimes develops after exposure to SARS-CoV-2, a viral pathogen.[1]

SARS-CoV-2 is itself an acronym, which stands for **Severe Acute Respiratory Syndrome Coronavirus 2**.[2] It is named as such due to its relative similarity to the SARS coronavirus that led to a public health emergency in Canada and other parts of the world in 2003.[3, 4]

While the terms COVID-19 and SARS-CoV-2 are used more or less interchangeably in many conversations and the media, they are distinct and are not actually the same thing at all. They share a relationship - such as with HIV and AIDS - in that one is believed to cause the other. The definitions as established in this section will be adhered to for the remainder of this document.

THE VIRUS



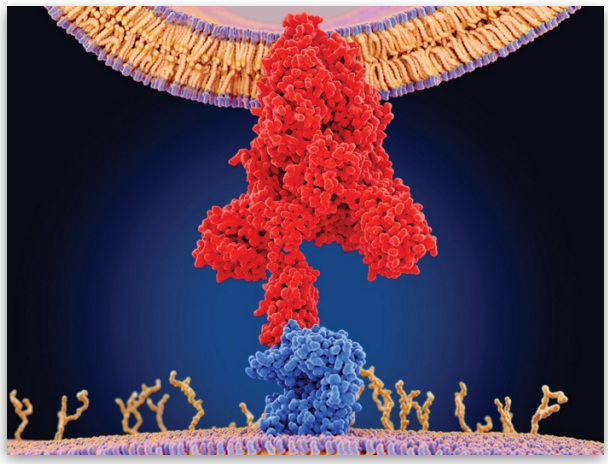
The SARS-CoV-2 virus is a close genetic relative of two other infamous viruses from recent history: SARS-CoV and MERS-CoV.[5]

SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus) first appeared on the public radar in November 2002 in the Guangdong Province of China,[6] and rapidly spread to Vietnam and Hong Kong.[7] By July 2003, Canada had recorded its first cases in Toronto, Ontario and Vancouver, British Columbia.[8] Sadly, 43 Canadian citizens and residents were reported to have lost their lives as a result of the virus.

MERS-CoV (Middle Eastern Respiratory Syndrome Coronavirus) was discovered in 2012 in Saudi Arabia.[9]

All three are coronaviruses, a family of viruses that includes four others that circulate annually and cause around 30% of cases of the common cold.[10, 11] Coronaviruses were first described in the 1960s as "membrane-coated, and covered with widely spaced club-shaped surface projections."[12] These projections were identified as sugary "spike" proteins, which create a crown-like ("corona") appearance around a spherical membrane.[13] Hence, **coronavirus**.

The **spike protein** is the part of a coronavirus that allows it to attach itself to the outside of a host's cell. Specifically, the spike has a portion at its end called the **receptor binding domain (RBD)** that is able to hook on to the **Angiotensin-converting enzyme 2 (ACE2) receptor** that sits on the host's cell membrane.[14]



Computer-generated model of the spike protein attaching to an ACE2 receptor

Once the spike has attached to the cell, the coronavirus dispenses its genetic information into the host cell. This is in the form of a single-stranded gene sequence called **ribonucleic acid (RNA)**.[15] While coronaviruses are not technically living beings and don't have conscious intention, their physical and chemical structure allows them to act as a Trojan horse into the natural process of animal cells. Once the RNA enters the cell, it hijacks the cell's reproductive system and generates copies of the virus, then kills the cell as the new virus copies continue on to infect other cells. This is the process of infection, which can then lead to illness.

THE DISEASE

The majority of people who develop COVID-19 will encounter mild to moderate respiratory illness and will regain health without needing specialized treatment, if they develop illness at all. When this does occur, the early symptoms are fever or chills, cough, shortness of breath, difficulty breathing, fatigue, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea, vomiting and/or diarrhea.[16, 17]

Beginning with initial symptoms, COVID-19 has three distinct phases of progression:

Viral phase (Days 1-5)

During the viral phase, the virus replicates rapidly in the body and manifests as a cold- or flu-like illness. This is when the potential for person-to-person transmission is highest, and it is universally accepted by physicians in public health and private practice that contact with others should be avoided in this period.

Inflammation phase (Days 5-10)

The inflammation phase begins when the immune system fully engages the infection. The lungs become inflamed resulting in more severe disease, difficulty breathing, and possibly pneumonia.[18]

Hyper-inflammation/clotting phase (Days 10-30)

If the illness is not treated in the early phases, it can progress into a "severe" case of COVID-19. This is marked by additional, more alarming symptoms such as chest heaviness/pain, increased difficulty breathing, and blood clotting. This is the stage of disease most widely featured in the news, and is the focus of the vast majority of guidance from public health bodies. If not properly addressed, this can lead to significant long-term health issues.[19]

The body of peer-reviewed research conducted between March 2020 and December 2021 overwhelmingly shows that the risk of COVID-19 increases exponentially with age, with the elderly aged 70 and older being most at risk.[20]

Conversely, **children are at virtually no risk of serious illness or death from COVID-19**. Notably, they also **do not spread the infection** in any way that would justify the aggressive public health interventions that were attempted during 2020 through to today.[21] This includes in school settings as well as household contacts, where multiple studies worldwide have confirmed transmission from a child to family members is rare.[22, 23, 24] Children who do end up in hospital are usually vulnerable as a result of another disease.[25, 26]

This applies to the majority of adults, too. Broadly speaking, **adults under 70 without pre-existing health conditions are not at significant risk from severe COVID-19**, if properly managed.[27] A Freedom of Information (FOI) request to the BC Ministry of Health confirmed that between September 1, 2020 and December 8, 2020, 87% of people whose deaths were classified as COVID-related had *at least one* of the following health conditions predating COVID-19 observed over a two-year period: “cancer, chronic kidney disease, chronic neurological conditions, diabetes mellitus, heart conditions, hypertension, immunocompromised, liver disease, obesity, pregnancy, problems with spleen, respiratory diseases, rheumatoid & other inflammatory arthropathies, severe chest conditions, or transplant recipient/complication.”[28]

Italy - one of the hardest hit nations in the early days of the pandemic - had found in March 2020 that a shocking 99% of their previously-reported COVID-19 deaths were in fact “people who suffered from previous medical conditions.”[29] In a study published by the **ISS Italy National Health Institute** detailed that, “*Almost half of the victims suffered from at least three prior illnesses and about a fourth had either one or two previous conditions. More than 75% had high blood pressure, about 35% had diabetes and a third suffered from heart disease*.”[30]

While this would normally be considered breaking news that should serve to put our worried minds at ease, public health agencies and the media alike instead quietly adjusted official definitions while remaining steadfastly fearful and uncertain in their messaging. The general public wouldn’t come to know the details until well over a year later as official statistics were solidified, but the authorities paying attention were well aware that the reality didn’t match the front-facing policies. On March 19, 2020, the **UK Health Security Agency** downgraded COVID-19, removing it from their list of High consequence infectious diseases (HCID).[31]

The CDC in the United States added several subtle nuances to their ever-expanding death count in August 2020 - of the 153,504 deaths widely described as being “from COVID-19”, the vast majority were actually incidental. 94% of the listed deaths were in individuals who had “2 to 3 other serious illnesses and the overwhelming majority were of very advanced age; 90% in nursing homes”, leaving 6% of the deaths with COVID-19 as the sole cause.[32] As of February 16, 2022, the CDC has further downgraded this number to “over 5%”, with “4.0 additional conditions or causes per death” on average.[33]

On January 19, 2022, UK Health Secretary **Sajid Javid** begrudgingly acknowledged that reported COVID-19 death figures are too high because people were dying from conditions unrelated to the virus after testing

positive.[34] Ontario's Chief Medical Officer Dr. **Kieran Moore** had revealed similar findings at the end of December 2021, stating that 50% of hospitalizations in the Kingston, Ontario area were mistakenly attributed to COVID-19.[35]

The role of comorbidities in serious illness, hospitalization and death with COVID-19 is massively overlooked, with the media and public health agencies across Canada seemingly apprehensive to publicly disclose pre-existing conditions that may contribute to a given case.[36] This has resulted in erroneous messaging and a fundamental misunderstanding among the general public about the reality of the threat that COVID-19 poses. Numerous high-profile retractions in Canada and the United States have demonstrated that information as presented by the news media and public health officials *must not be taken at face value* without seeking further relevant details that dramatically affect the interpretation of data and anecdotes.[37, 38, 39]

---

[1] World Health Organization. (2020). *Naming the coronavirus disease (COVID-19) and the virus that causes it*. World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it

[2] CDC Division of Health Informatics and Surveillance. (2021, August 24). *Coronavirus Disease 2019 (COVID-19).* National Notifiable Diseases Surveillance System (NNDSS). Retrieved October 19, 2021, from https://ndc.services.cdc.gov/case-definitions/coronavirus-disease-2019-2021/

[3] Wu, Y., Ho, W., Huang, Y., Jin, D.-Y., Li, S., Liu, S.-L., Liu, X., Qiu, J., Sang, Y., Wang, Q., Yuen, K.-Y., & Zheng, Z.-M. (2020). *SARS-CoV-2 is an appropriate name for the new coronavirus.* The Lancet, 0(0). https://doi.org/10.1016/S0140-6736(20)30557-2

[4] Feng, D., De Vlas, S. J., Fang, L., Han, X., Zhao, W., Sheng, S., Yang, H., Jia, Z., Richardus, J. H., & Cao, W. (2009). *The SARS epidemic in mainland China: bringing together all epidemiological data.* Tropical Medicine & International Health, 14(Suppl 1), 4–13. https://doi.org/10.1111/j.1365-3156.2008.02145.x

[5] Rabaan, A. A., Al-Ahmed, S. H., Haque, S., Sah, R., Tiwari, R., Malik, Y. S., Dhama, K., Yatoo, M. I., Bonilla-Aldana, D. K., & Rodriguez-Morales, A. J. (2020). *SARS-CoV-2, SARS-CoV, and MERS-COV: A comparative overview.* Le infezioni in medicina, 28(2), 174–184.

[6] Fang, L. Q., de Vlas, S. J., Feng, D., Liang, S., Xu, Y. F., Zhou, J. P., Richardus, J. H., & Cao, W. C. (2009). *Geographical spread of SARS in mainland China.* Tropical medicine & international health : TM & IH, 14 Suppl 1(Suppl 1), 14–20. https://doi.org/10.1111/j.1365-3156.2008.02189.x

[7] *CDC SARS response timeline.* (2019). Centers for Disease Control and Prevention. https://archive.ph/Cj3os

[8] Skowronski, D. M., Petric, M., Daly, P., Parker, R. A., Bryce, E., Doyle, P. W., Noble, M. A., Roscoe, D. L., Tomblin, J., Yang, T. C., Krajden, M., Patrick, D. M., Pourbohloul, B., Goh, S. H., Bowie, W. R., Booth, T. F., Tweed, S. A., Perry, T. L., McGeer, A., & Brunham, R. C. (2006). *Coordinated response to SARS, Vancouver, Canada.* Emerging Infectious Diseases, 12(1), 155–158. https://doi.org/10.3201/eid1201.050327

[9] *History of SARS/MERS: Outbreaks and vaccine timeline.* Mayo Clinic. Retrieved February 14, 2022, from https://www.mayoclinic.org/coronavirus-covid-19/history-disease-outbreaks-vaccine-timeline/sars-mers

[10] ScienceAlert Staff. (2020). *What is a coronavirus?* ScienceAlert. https://www.sciencealert.com/coronavirus

[11] Lin, C.-Y., Wolf, J., Brice, D. C., Sun, Y., Locke, M., Cherry, S., Castellaw, A. H., Wehenkel, M., Crawford, J. C., Zarnitsyna, V. I., Duque, D., Allison, K. J., Allen, E. K., Brown, S. A., Mandarano, A. H., Estepp, J. H., Taylor, C., Molina-Paris, C., Schultz-Cherry, S., & Tang, L. (2022). *Pre-existing humoral immunity to human common cold coronaviruses negatively impacts the protective SARS-CoV-2 antibody response.* Cell Host & Microbe, 30(1), 83-96.e4. https://doi.org/10.1016/j.chom.2021.12.005

[12] Kahn, J. S., & McIntosh, K. (2005). *History and recent advances in coronavirus discovery.* The Pediatric Infectious Disease Journal, 24(11), S223. https://doi.org/10.1097/01.inf.0000188166.17324.60

[13] Bowler, J. (2020, February 14). *This is what the COVID-19 virus looks like under the microscope.* ScienceAlert. https://archive.ph/CTAZ1

[14] Sriram, K., Insel, P., & Loomba, R. (2020, May 14). *What is the ACE2 receptor, how is it connected to coronavirus and why might it be key to treating COVID-19? The experts explain.* The Conversation. https://archive.ph/S5pQu

[15] Zhang, L., Richards, A., Barrasa, M. I., Hughes, S. H., Young, R. A., & Jaenisch, R. (2021). *Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues.* Proceedings of the National Academy of Sciences of the United States of America, 118(21). https://doi.org/10.1073/pnas.2105968118

[16] Laurie, T., MD, PhD, McCollough, P. A., MD, MPH, Kory, P., MD, MPA, & Kathrada, N., MD. (2021, September 30). *Early Covid-19 treatment guidelines: A practical approach to home-based care for healthy families.* World Council for Health. Retrieved October 18, 2021, from https://worldcouncilforhealth.org/wp-content/uploads/2021/09/WCH-At-Home-Treatment-Guide_September23_1.pdf

[17] National Center for Immunization and Respiratory Diseases (NCIRD). (2021, February 22). *Coronavirus Disease 2019 (COVID-19) – Symptoms.* Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

[18] Otsuka, R., & Seino, K. (2020). *Macrophage activation syndrome and COVID-19.* Inflammation and Regeneration, 40(19). https://doi.org/10.1186/s41232-020-00131-w

[19] Lewek, J., Jatczak-Pawlik, I., Maciejewski, M., Jankowski, P., & Banach, M. (2021). *COVID-19 and cardiovascular complications – the preliminary results of the LATE-COVID study.* Archives of Medical Science, 17(3), 818–822. https://doi.org/10.5114/aoms/134211

[20] Ioannidis, J. P. A. (2020). *Infection fatality rate of COVID-19 inferred from seroprevalence data.* Bulletin of the World Health Organization, 99(1), 19–33F. https://doi.org/10.2471/blt.20.265892

[21] Munro, A., & Faust, S. N. (2021). *Addendum to: Children are not COVID-19 super spreaders: time to go back to school.* Archives of disease in childhood, 106(2), e9. https://doi.org/10.1136/archdischild-2020-319908

[22] van der Hoek, W., Backer, J. A., Bodewes, R., Friesema, I., Meijer, A., Pijnacker, R., Reukers, D., Reusken, C., Roof, I., Rots, N., Te Wierik, M., van Gageldonk-Lafeber, A. B., Waegemaekers, C., & van den Hof, S. (2020). *De rol van kinderen in de transmissie van SARS-CoV-2 [The role of children in the transmission of SARS-CoV-2].* Nederlands tijdschrift voor geneeskunde, 164, D5140.

[23] Thors, V. S. (2020, April). *EAP Blog – COVID-19 Series (#5) | Iceland's data on the infectivity of children cross-infection risk.* European Academy of Paediatrics. https://www.eapaediatrics.eu/eap-blog-covid-19-series-5-icelands-data-on-the-infectivity-of-children-cross-infection-risk/

[24] Li, W., Zhang, B., Lu, J., Liu, S., Chang, Z., Cao, P., Liu, X., Zhang, P., Ling, Y., Tao, K., & Chen, J. (2020). *The characteristics of household transmission of COVID-19.* Clinical Infectious Diseases, 71(8), 1943–1946. https://doi.org/10.1093/cid/ciaa450

[25] *Children, school and COVID-19.* (2021, December 14). National Institute for Public Health and the Environment. https://www.rivm.nl/en/coronavirus-covid-19/children-and-covid-19

[26] CTV News Edmonton Staff. (2021, October 12). *"Our numbers are still extremely high": Alberta reports 3,358 new COVID-19 cases, 33 deaths since Friday.* CTV News. https://edmonton.ctvnews.ca/our-numbers-are-still-extremely-high-alberta-reports-3-358-new-covid-19-cases-33-deaths-since-friday-1.5620555

[27] Yang, J., Zheng, Y., Gou, X., Pu, K., Chen, Z., Guo, Q., Ji, R., Wang, H., Wang, Y., & Zhou, Y. (2020). *Prevalence of comorbidities in the novel Wuhan coronavirus (COVID-19) infection: a systematic review and meta-analysis.* International Journal of Infectious Diseases, 94. 91-95. https://doi.org/10.1016/j.ijid.2020.03.017

[28] Elbahir, C. (2021). *FOI Request - HTH-2020-06866.* Government of British Columbia. https://archive.ph/1FSlm

[29] Ebhardt, T., Remondini, C., & Bertacche, M. (2020, March 18). *99% of those who died from virus had other illness, Italy says.* Bloomberg. https://archive.ph/xVIXq

[30] *Report sulle caratteristiche dei pazienti deceduti positivi a COVID-19 in Italia Il presente report è basato sui dati aggiornati al 17 Marzo 2020.* (2020). Epicentro. https://web.archive.org/web/20220120093009/https://www.epicentro.iss.it/coronavirus/bollettino/Report-COVID-2019_17_marzo-v2.pdf

[31] UK Health Security Agency. (2020, March 19). *High consequence infectious diseases (HCID).* Government of the United Kingdom. https://archive.ph/jN0Da

[32] Heidt, A. (2020, September 1). *No, the CDC has not "quietly updated" COVID-19 death estimates.* The Scientist Magazine®. https://archive.ph/84R6b

[33] National Center for Health Statistics. (2022, February 16). *COVID-19 provisional counts - Weekly updates by select demographic and geographic characteristics.* Centers for Disease Control and Prevention. https://archive.ph/qGy9H

[34] Knapton, S. (2022, January 19). *High Covid death rates skewed by people who died from other causes, admits Sajid Javid.* The Telegraph. https://archive.ph/yoeIC

[35] CrasHTalk (@CrasTalk). (2021, December 30). *Dr. Kieran Moore admits that COVID hospitalization numbers which were used to justify previous lockdowns are unreliable as 50% were found to be non-covid related in Kingston. [Tweet].* Twitter. https://twitter.com/CrasTalk/status/1476706829145100289?s=20

[36] CTV News Edmonton Staff. (2021, October 14). *Hinshaw apologizes after Alberta mistakenly reports 14-year-old's cancer death was caused by COVID-19.* CTV News. https://edmonton.ctvnews.ca/hinshaw-apologizes-after-alberta-mistakenly-reports-14-year-old-s-cancer-death-was-caused-by-covid-19-1.5623489

[37] Wallis Snowdon. (2021, October 15). *Alberta's reporting of comorbidities questioned after boy, 14, removed from COVID-19 death count.* CBC. https://www.cbc.ca/news/canada/edmonton/covid-comorbidities-alberta-spitzer-1.6212510

[38] The New York Times. (2021, October 8). *Corrections: Oct. 8, 2021.* Retrieved November 24, 2021, from https://www.nytimes.com/2021/10/08/pageoneplus/corrections-oct-8-2021.html

[39] Chaufan, C., MD PhD, Pelech, S., PhD, Collins, O., BSc, Forte, M., PhD, Francis, D., PhD, RN, Graham, J., PhD, de Ruiter, A., PhD, Rancourt, D., PhD, Rinner, C., PhD, Ponesse, J., PhD, Vrbik, J., PhD, Epstein-Gilboa, K., PhD, Durante, A., PhD, Springer, H., PhD, Hall, A. J., PhD, Zimmerman, J., PhD, Leduc, L., PhD, Cheung, K., PhD, Capurri, V., PhD, . . . Manwell, L., PhD. (2021, November 6). *Urgent letter to Doug Ford: COVID-19 vaccines are not safe for children and youth.* Canadian Covid Care Alliance. Retrieved November 16, 2021, from https://www.canadiancovidcarealliance.org/wp-content/uploads/2021/11/Letter-to-Premier-Ford.ChildrenYouth21.11.06.pdf

THE PANDEMIC

COVID-19 was officially declared to be a “pandemic” on March 11, 2020, in a televised press briefing by the leadership of the **World Health Organization (WHO)**.[40] To many, this word sparks visions of popular movies like *Contagion*, *Outbreak* and even *World War Z*, each of which depict various scenarios of worldwide chaos and destruction resulting from a significant outbreak of a little-understood infectious disease.[41] Each involved the U.S. **Centres for Disease Control and Prevention (CDC)** and the WHO as key players, presenting a heroes’ journey for the protagonists as they worked to quell panic, apply aggressive temporary measures to mitigate the damage and rapidly develop a vaccine for the pathogen. It’s a familiar story, and one that brought both comfort and anxiety to people watching the movies while isolating at home in the early months of 2020.[42]

Contagion, in particular, was so popular as a “go-to” that it yet again returned as a hit through pay-per-view iTunes and Amazon Prime purchases.[43] It’s one thing to experience the radical hypothetical events of a disaster scenario through a hit movie, and another thing altogether to have to face one head on. As such, these films also served as a way for viewers to ground themselves to a mental map of what, at least in theory, *could* happen during the real-life version - including the potential scale of illness and death, but also in identifying the people and agencies that exist to respond to just such an event.[44]

In these movies, the pandemic was self-evident, as millions of people worldwide became ill unusually quickly and with a mortality rate that tears at the spirit. Of course, these fictionalized accounts were never intended to be taken literally, and government officials haven't deferred to them as examples of how to respond.

However, these movies did play a role in framing the crisis ahead once it had started. In some media reporting - even citing members of the scientific community - *Contagion* was described as having “actively foretold the coronavirus pandemic.”[45] The similarities included the virus’ alleged origin from a bat, the flu-like symptoms associated with the disease, and the references to social distancing and “disinformation.” The New York Times asserted we were living in the sequel to *Outbreak*.[46]

While such comparisons are predictable and understandable in a wave of emotional distress and information overload like was experienced in March 2020, reality has played out much differently in retrospect. There were no zombies - thank goodness - and the worldwide death toll of true COVID-19 disease itself has come in tremendously under what was predicted.[47] It is without question that we’ve lived through a public health crisis; that strain was put on our hospital systems; that an enigmatic viral pathogen exists and has led to many interesting discoveries; and that we’ve been forced to re-examine how we think about our health and well-being. In this process, however, many Canadians are asking a question that is becoming more and more pressing as reality sets in and we move on with our lives: did we experience a “pandemic”, or something different altogether?

DEFINITIONS

For the sake of discussing this topic in the most accurate terms possible, the remainder of this document will place particular emphasis on the nuances of the real and perceived definitions of the word “pandemic”, as well as related terms like “epidemic”, “emergency”, and “crisis.”

The word **epidemic** refers to something that is “affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time.”[48] In the case of an infectious disease, an epidemic would mean an illness that “spreads quickly and affects many individuals at the same time.”

A **pandemic**, on the other hand, is a phenomenon that has undergone an interesting series of redefinitions. From January 2003 to July 2008, the World Health Organization defined a pandemic (in the context of the flu) as being when “a new influenza virus appears against which the human population has no immunity, resulting in several, simultaneous epidemics worldwide with enormous numbers of deaths and illness.”[49, 50] However, in 2009, the panic surrounding the emergence of the H1N1 strain of influenza prompted the World Health Organization to reconsider its definition to more accurately reflect what the agency described as the so-called “pandemic phase” of the outbreak.[51]

As of February 24, 2010, the WHO’s website had been updated to read, “A pandemic is the worldwide spread of a new disease… An influenza pandemic occurs when a new influenza virus emerges and spreads around the world, and most people do not have immunity.”[52] The WHO also began blurring the lines between seasonal influenza and what would constitute pandemic influenza. “Some aspects of influenza pandemics can appear similar to seasonal influenza while other characteristics may be quite different. For example, both seasonal and pandemic influenza can cause infections in all age groups, and most cases will result in self-limited illness in which the person recovers fully without treatment. However, typical seasonal influenza causes most of its deaths among the elderly while other severe cases occur most commonly in people with a variety of medical conditions.”

Deborah Cohen, features editor for the *British Medical Journal (BMJ)*, and **Philip Carter**, journalist for the Bureau of Investigative Journalism, pointed out the problematic nature of the pandemic declaration at the time. The pair revealed a number of conflicts of interest among the scientists advising in the WHO’s approach to H1N1, namely their financial ties to pharmaceutical companies who stood to gain from the changing goal posts on what would allow for the declaration of a “pandemic.”[53]

They also expressed concern that the WHO had dropped the requirement that “enormous” numbers of people would have to fall sick or die due to the virus for it to be considered pandemic.

In a letter responding to the article, **Ron Law**, a New Zealand risk and policy consultant, emphasized that this wasn’t the only major change to be worried about.[54] Instead of a brand new strain of influenza that could emerge from the natural evolution of prior strains, the WHO had now left the door open for an already-existing strain to be considered “pandemic.” A key distinction between the two definitions is whether or not the population had any form of immunity against the virus. In the case of H1N1, it turned out that a significant portion of people already had pre-existing immunity due to exposure to previous flu seasons.[55] As Law concluded, in previous years, H1N1 “would never have been declared a pandemic as it

was not a new sub-type, was not causing enormous numbers of deaths and illness, and a significant number of people had already been exposed to an immunogenically similar virus."

Vials of H1N1 vaccine

The WHO later admitted that it had mishandled the H1N1 situation,[56] and the organization was accused by the worldwide scientific community of irresponsibly stoking fear that resulted in the mass stockpiling of fast-tracked vaccines and antivirals that went largely unused.[57] There turned out to be a significant underlying conflict of interest in the entire process, with the WHO's H1N1 advisory team including paid consultants for pharmaceutical companies **GlaxoSmithKline** and **Roche**, the primary manufacturers of the stockpiled medicines.[58] One advisor, Professor **Sir Roy Anderson**, was an active member of the board of directors for GlaxoSmithKline at the time and profited heavily from the declaration of a pandemic.[59]

Dr. Wolfgang Wodarg

It was clear very quickly in the process that no such "pandemic" ever materialized. In 2009, German physician and Member of Parliament Dr. **Wolfgang Wodarg** accused the WHO of manufacturing a "fake pandemic" and introduced a motion to recognize the risk posed by the false alarm.[60] The WHO pushed back, claiming "the outbreak of a new strain of H1N1 influenza in North America last year had all the scientific characteristics of a pandemic," a notion challenged by their conveniently-timed reassessment of their official definition of the word.[61]

Ironically, as pointed out by **Henry I. Miller** in *Forbes* in the aftermath, the strain in question wound up being less virulent and lethal than the usual strains that make up the seasonal flu.[62]

This confusing and conflicted incident served as the backdrop in front of which several other potential outbreaks would flare up, but never materialize. Despite this, the U.S. CDC still lists the 2009 H1N1 event as a "pandemic" alongside the 1918 H1N1 Spanish Flu, the 1957-58 H2N2 and the 1968 H3N2 outbreaks.[63]

With this history in mind, Canadians are better equipped to re-examine the sequence of events that led up to the declaration of the COVID-19 pandemic - and more importantly, revisit the question of whether or not it was appropriate to treat SARS-CoV-2 with the panic and uncertainty that we did.

NOVEL CORONAVIRUS

MILITARY WORLD GAMES

Beginning on October 18, 2019, the city of Wuhan, China played host to an international event called the **CISM Military World Games**.[64] The nine-day event saw over 9000 military athletes from around the world gather to participate in an Olympics-style friendly competition.[65] Canada and the United States were among the over 100 countries to send delegations, as was most of Europe.[66]

WUHAN 2019
7th CISM Military World Games

Oliver Gorges, a triathlete from Luxembourg who competed in the event, described the streets of Wuhan as being empty, like a “ghost town.”[67] He described having his temperature recorded upon arriving at the airport, and special hand washing measures had been implemented.[68] Others described the city of 11 million people as being "on lockdown.”[69]

A Canadian military officer noted that the usually-bustling markets were empty, ongoing construction activity was halted, and businesses appeared to be shuttered.[70] After about a week into the trip, he and “many other athletes from many teams” became extremely sick. On the return trip, a quarantine zone was established at the back of the plane to house the sick Canadian athletes. For this officer, his illness would be dismissed by his superiors and continue to plague him into the early months of 2020.

The pattern echoed, with athletes from various countries developing the same mysterious illness. French pentathlon world champion **Elodie Clouvel** came down with what she (and her fellow sick athletes) thought was likely a particularly bad flu.[71] Italian fencing star **Matteo Tagliariol** reported that he and five roommates also came down with the illness, and had an extended recovery time. Athletes from Sweden confirmed the same.

Clouvel was later told by a military doctor that she likely had contracted COVID-19 while in Wuhan. Notably, the number of athletes that travelled to and from Wuhan from a given country was found to be directly proportionate to the number of COVID-19 cases later identified in the year-long period following the start of the Games.[72] A March 2021 study confirmed that evidence pointed to SARS-CoV-2 circulating in Wuhan as early as mid-October 2019.[73] An earlier study had estimated the early limit at October 9th.[74]

The newer study, out of **University of California - San Diego School of Medicine**, explained that the virus had to have circulated at very low levels prior to December before becoming more pathogenic. It did not examine the incidences of COVID-like illness in the military athletes, and through the lens of their focused analysis, researcher Dr. **Joel O. Wertheim**, PhD was “quite skeptical of claims of COVID-19 outside China at that time.”

PNEUMONIA CLUSTER

Two months after the Games, on December 31, 2019, the WHO Chinese Country Office reported an outbreak of pneumonia of “unknown cause” in Wuhan.[75] A Canadian artificial intelligence company associated with the University of Toronto called **BlueDot** sent a notification to its clients through an early warning system, beating even the WHO to the announcement.[76]

On January 9, 2020, the World Health Organization announced the discovery of a new virus that was the presumed cause of Wuhan’s mysterious outbreak. According to the press release, the virus had been taken from a sample of a man hospitalized with pneumonia, and rapidly sequenced.[77] The WHO insisted that no travel restrictions should be considered at the time, while acknowledging that travellers who had been to Wuhan were becoming sick and were identified at international airports.

The following day, Chinese researchers published a genetic sequence attributed to the “novel coronavirus.”[78] On January 24th, positive samples were confirmed from suspected cases in France.[79] At that time, the new virus was referred to as **2019-nCoV**. The Public Health Agency of Canada released guidance indicating they evaluated the risk for Canada and Canadian travellers as being low.[80] The first confirmed case in Canada was reported to have arrived in Ontario the following day on January 25th.[81]

As the story emerged about the concerning outbreak of illness and positive test results reaching nations around the world, the Canadian and American governments dismissed the suggestion that their military athletes could have already fallen ill to COVID-19. Canada's Surgeon General, **A.M.T. Downes, Major General**, wrote a letter to Canadian soldiers who attended the Military Games in Wuhan. It stated that the military was "not aware of any 2019 NCOV cases among CISM MWG participants," and that they were "confident that the number of suspected 2019 NCOV cases as well as the number of countries reporting suspected cases will increase in the next 30 days. The increase in case count will continue to generate significant media attention and public concern particularly as travel peaks during the first week of February due to the Chinese New Year."[82]

Tedros Adhanom Ghebreyesus

On February 11, the virus was renamed to SARS-CoV-2 and the disease officially labelled COVID-19.[83] Exactly one month later, the WHO Director General **Tedros Adhanom Ghebreyesus** declared that the situation was officially considered a **Public Health Emergency of International Concern (PHEIC)**.[84]

MODELLING MASS CASUALTIES

In the wake of the announcement, a team led by Professor of mathematical biology **Neil Ferguson** at **Imperial College London** published a report that predicted a mass casualty event across the globe. The March 16, 2020, report warned that if countries did not implement strict "**non-pharmaceutical interventions**" such as school and business closures, "social distancing of the entire population," and mass quarantines, 2 million people in the United States and 500,000 in the United Kingdom would die.[85] Ferguson estimated such aggressive interventions were the only appropriate option to buy time until a vaccine could be developed and mass-deployed, which he estimated would take 18 months.

Governments around the world took this advice, and declared what would be referred to as the first period of "lockdown."[86] The British government had previously indicated they didn't intend to implement any formal restrictions so as to allow population-level immunity to develop naturally, but Ferguson's direct intervention jolted the **Boris Johnson** administration to pull "an abrupt U-turn."[87]

The day the report came out, President **Donald Trump** stood with his **White House Coronavirus Task Force** and revealed their plan for "stronger guidance" called **15 Days to Slow the Spread**.[88] In the days that followed, every Canadian province and territory declared forms of a state of emergency, joining Québec which had done so on March 12th.[89]

However, by June 1st, 2020, it was becoming clear that the modelling out of Imperial College London was flawed.[90] While most of the world had followed the advice to lock down, **Sweden** chose to maintain close to the status quo and not interfere in the day-to-day activities of its citizens and residents.[91] Swedish epidemiologist **Johan Giesecke** explained that "full lockdowns" are not viable long-term solutions, and European governments implemented them without thinking about what would come next.[92] Sweden instead published guidelines and encouraged the public to take personal responsibility to ensure they weren't unnecessarily exacerbating the problem - even strongly suggesting people choose to stay home and follow other public health measures that had been made mandatory in other nations, including mask wearing.[93]

Predictably, the country's public health and government officials faced harsh criticism for "recklessly" bucking the global trend.[94] A *Lancet* editorial condemned Swedish leaders as making decisions out of

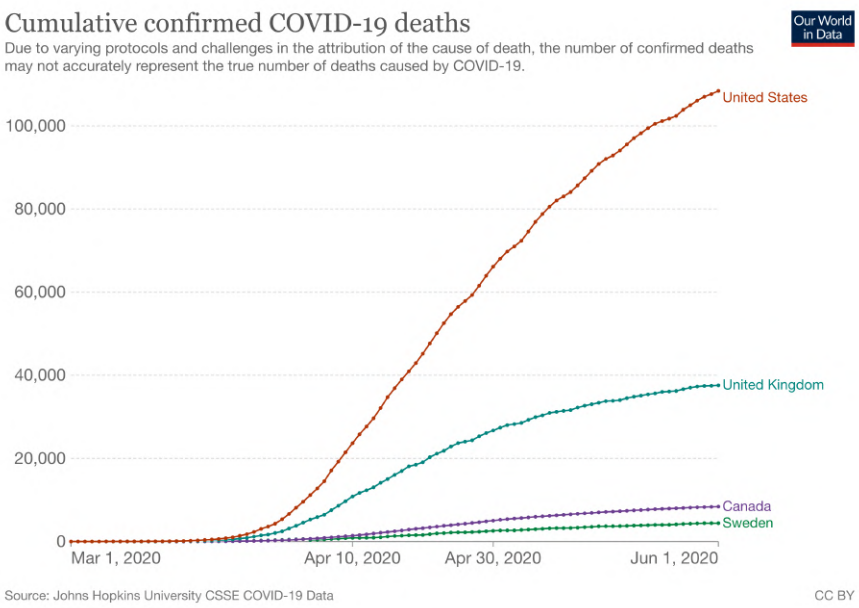
"denial and misplaced optimism," and accusing the country of having a "passive acceptance of large-scale deaths."[95]

Describing his trip to Stockholm to cover the situation, CNN producer **Sebastian Shukla** wrote "It was uncomfortable. Suddenly everyone was too close."[96] Further exemplifying the stark differences in reality between Sweden and the rest of the Western world in Spring 2020, Shukla elaborated:

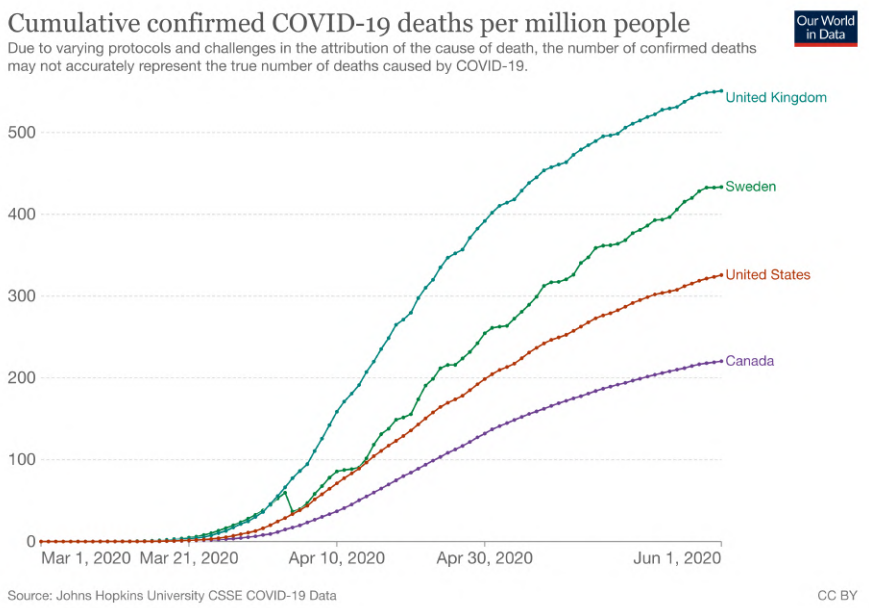
> "*At our hotel I was asked to sign the terms and conditions of my stay on an iPad with my finger. Really? Then I spied a busy lobby bar with friends meeting for a drink. I saw hugs and a peck on the cheek. Not a mask or glove in sight. That's not normal. Hand me that hand sanitizer*."

While Ferguson had warned that Sweden would surely suffer the consequences of its failure to act - in the form of 95,000 deaths by June 1st - the nation's fatalities attributed to COVID-19 had reached only 4,403.[97] Meanwhile, Canada had recorded 8,390. Within Sweden, a team of epidemiologists at **Uppsala University** had attempted to convince their government to change course in April with their own prediction of 96,000 deaths by July 1st if further actions weren't taken.[98] That number didn't come to pass either, landing instead at 5,370.

For all his criticism of Sweden, CNN's Shukla found his own country of the United Kingdom faring the worst compared to the United States, Sweden and Canada. After normalizing the data for population differences, it was demonstrated that Sweden did not incur the large scale COVID-19 deaths Ferguson predicted and the *Lancet* reiterated. In fact, neither did the United Kingdom, United States or Canada. News reports focused on an arbitrary selection of countries that fared better than Sweden in terms of death count, while still conceding there were many nations that "locked down hard" and were much worse off, with the added burden of significant economic damage.[99] Still, every nation in the world was spared of the specific brand of cataclysm predicted by Imperial College London (ICL), whether or not they implemented the prescribed measures.



United States deaths from COVID-19 compared to the United Kingdom, Canada and Sweden



United Kingdom deaths from COVID-19 per million people compared to Sweden, the United States and Canada

When Britain eventually began relaxing their lockdown measures in earnest in July 2021, Ferguson returned to the spotlight to warn once again that it was "almost inevitable" that daily cases could reach 200,000, and 2,000 daily hospitalizations.[100] Understandably, he no longer bothered invoking potential deaths - Sweden had been reporting 0 daily COVID-19-related deaths that same month,[101] even in the face of emerging "variants" of the virus.[102]

Professor Neil Ferguson

Ironically, Ferguson resigned from his government advisory position in May 2020 after disregarding his own lockdown policies to socialize privately.[103] The personal social engagements of government officials (or any other individual) should be entirely irrelevant to those not involved. However, in the context of a supposed respiratory epidemic, such behaviour calls into question how sincere Ferguson felt about the benefit of his recommendations to limit peoples' ability to make physical contact with others. **Elon Musk** celebrated his resignation, accusing Ferguson of causing "massive strife to the world with his absurdly fake 'science'."[104, 105] *National Review* reporter **John Fund** pointed out that his personal hypocrisy "was the least of his errors in judgment. His incompetence and insistence on doomsday models is far worse."[106]

Phillip W. Magness of the **American Institute for Economic Research** explained that the model ICL used was fatally flawed from the start. Put simply, it operated on several assumptions and "guesses" that were not confirmed to even be valid, such as how many people in a population were likely to actually follow the unprecedented measures if implemented. This point was also raised by German virologist **Hendrik Streeck**. "Where does such an assumption come from? I think we should establish more facts."[107]

It also failed to consider the drastic differences in behaviour across demographics and over time, and ignored basic logic that suggests people would make individual changes in their own lives to avoid catching or spreading an illness that concerned them, even in the absence of government enforcement.[108] **University of Stanford** economist **John Cochrane** conducted his own analysis of ICL's model and warned that according the Ferguson's team, "all people can do to avoid getting sick is to avoid work or consumption, both of which offer very little protection for great economic cost."[109]

While it seems reasonable to write off this modelling failure as an artifact of an "unprecedented" public health emergency, it is important to understand that this was not the first time Neil Ferguson overestimated the epidemiological threat of a viral outbreak.[110, 111]

- In 2001, his advice on "control policies" lead to the devastatingly costly slaughter of millions of livestock during a "**foot-and-mouth**" disease crisis.[112] The main takeaway, in Ferguson's view, was that the mass culling should have started even earlier.[113] Professor **Michael Thrusfield** of **Edinburgh University** claimed the "extremely flawed" model "made incorrect assumptions about how foot and mouth disease was transmitted."[114]

- In 2002, Ferguson's team predicted that 50,000-150,000 people would be killed by an outbreak of **Bovine Spongiform Encephalopathy** (Mad Cow Disease). In this instance, the death toll never exceeded 177.[115]

- In 2005, Ferguson invoked the 1918 Spanish Flu to warn that up to 200 million people would be killed by the **H5N1 avian flu** when it inevitably went "pandemic."[116] However, by the end of the year, the virus didn't appear to successfully jump between humans and only 142 deaths were recorded.[117]

- In 2009, he convinced England's Chief Medical Officer, Professor Sir **Liam Donaldson**, that the impending H1N1 swine flu pandemic would wipe out up to 65,000 British citizens.[118, 119] Despite its official designation as a pandemic, Britain's death toll maxed out at around 500.[120]

Don Via Jr., independent researcher and journalist, summarized these modelling failures by stating, “At the end of the day, Neil Ferguson is one of two things: catastrophically incompetent in his profession, or a pathological liar.”[121] **Andrew Gelman**, professor of statistics and political science at **Columbia University**, remarked, “if Ferguson really did have a series of previous errors, then, yeah, why did anyone ever listen to this guy?”[122]

On April 22, 2021, Philip Magness of the American Institute for Economic Research concluded in no uncertain terms, “*the epidemiology modeling of Neil Ferguson and Imperial College played a preeminent role in shutting down most of the world. The exaggerated forecasts of this modeling team are now impossible to downplay or deny, and extend to almost every country on earth. Indeed, they may well constitute one of the greatest scientific failures in modern human history*.”[123]

PUBLIC HEALTH CRISIS

The actions taken based on Ferguson’s deeply flawed modelling have had much graver consequences than simply putting normal life on hold. As two weeks turned into two months, and eventually two years, Ferguson’s forecasts set in motion a disastrously misguided global pandemic response. The unprecedented crisis in public health policy that has resulted is clearly manifest in official government data, robust scientific publications across scientific disciplines, and observed reality. While many institutions have aggressively dismissed critics of government-sanctioned policies as “conspiracy theorists”, it has become impossible to wave away the growing body of empirical evidence demonstrating not only that catastrophic public health mismanagement has occurred, but that it is *still* ongoing.

Mainstream media outlets and public health officials consistently downplay the devastating impact of our governments’ pandemic response. “If SARS-CoV-2 was not the highly virulent and deadly pathogen it was made out to be in Ferguson’s influential early modeling projections,” they ask, “then why have so many people fallen victim to severe illness and death over the last two years?” Whether it has been asked in good faith, or merely posed rhetorically, this question is worth pursuing. What follows is the answer to this question — one that lays out the nature and extent of the public health crisis instigated by our failed COVID-19 policies.

INTERPRETING THE ALL-CAUSE MORTALITY DATA

Dr. **Denis Rancourt**, PhD is a research scientist with the **Ontario Civil Liberties Association**.[124] His expertise in chemistry, physics, and social theory has led to over 100 publications in major scientific journals, and his work has been cited in peer reviewed literature over 5900 times.[125] He has held appointments as a full professor at the **University of Ottawa**, and as a fellow of the **Natural Sciences and Engineering Research Council** (NSERC). He also previously headed an internationally recognized interdisciplinary research laboratory.[126, 127]

Already within the first three months following Canada’s emergency declarations, Rancourt took issue with official pandemic reporting. In particular, he questioned the notion that SARS-CoV-2 was responsible for the initial spike in deaths. In a technical report, published June 2020, he noted the problematic finding that a synchronized “COVID-19 peak” in deaths occurs consistently across jurisdictions on multiple continents.[128]

In Rancourt’s estimation, WHO Director General Tedros “Adhanom’s words either were the most remarkable public health forecast ever made… or something else might explain the sharp peak in all-cause mortality that immediately followed his declaration.” Rancourt noted Adhanom’s specificity of language, and his

confidence in predicting the events and policies to follow: “Find, isolate, test and treat every case and trace every contact,” he said, and “Ready your hospitals.” Both the language used and the message conveyed were fundamentally threatening. By publicly anticipating an upcoming wave of severe illness and death, Adhanom put well-meaning health authorities on high alert, spurring them to look everywhere - in every available person - for this life-threatening virus. What Adhanom’s messaging did not convey was the rationale behind his predictions and prescribed measures.

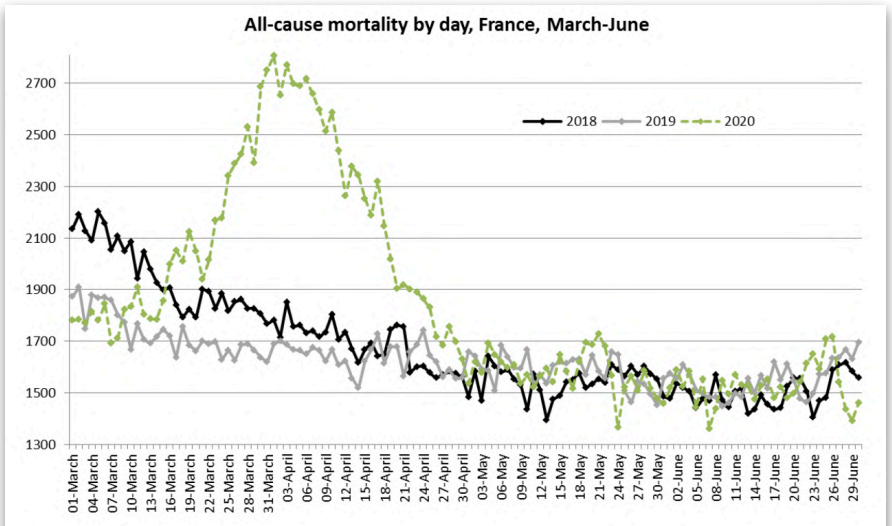
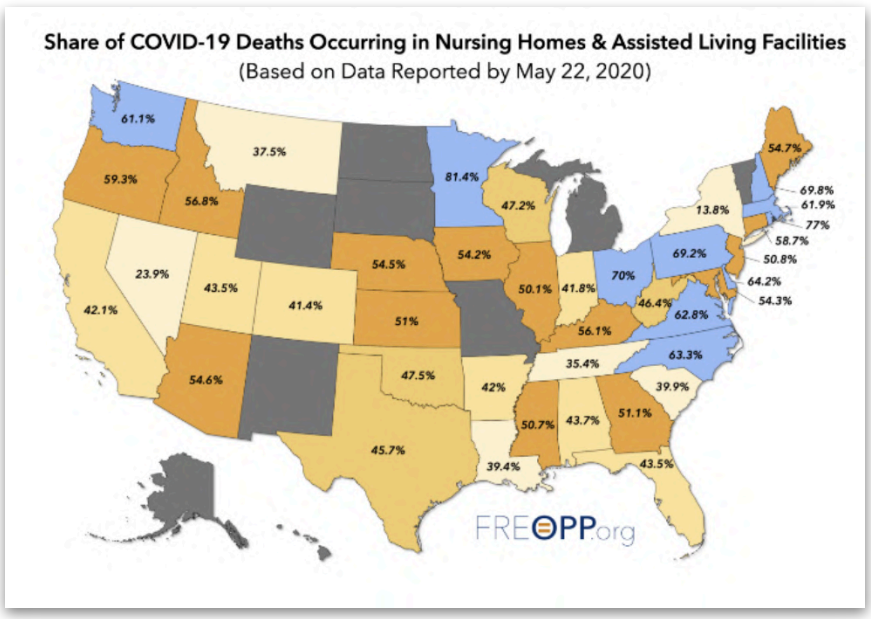


Figure 3. All-cause mortality by day in France from March to June 2018, 2019 and 2020. Data are displayed for “all-France”, which includes metropolitan and overseas France, from 1 March to 30 June of 2018, 2019 and 2020. The black line is the data for 2018. The grey line is the data for 2019. The green dashed line is the data for 2020. Data were retrieved from Insee **(Insee, 2020b)**, as described in **Table 1**.

In an expert report, prepared for a case before the courts in Manitoba, Canada, Rancourt has explained that all-cause mortality “is the most reliable data for detecting true catastrophic events causing death, and for gauging the population-level impact of any surge in deaths from any cause… [The tracking of all-cause mortality] was the original basis of the emerging modern science of epidemiology, and remains its most powerful tool, in comparison to [the tracking of] human conflict, living conditions, environmental, professional practice, cultural, catastrophic, geotectonic, climatic and other circumstances.”[129]



By analyzing all-cause mortality data from the **Centres for Disease Control and Prevention (CDC)** in the United States, the **National Health Service (NHS)** in England and Whales, and European data from **EuroMOMO (European Mortality Monitoring)**, Rancourt has demonstrated that a spike in deaths occurred “in perfect synchronicity” in the American and European continents, that it lasted for around five weeks, and that it then subsided sharply.

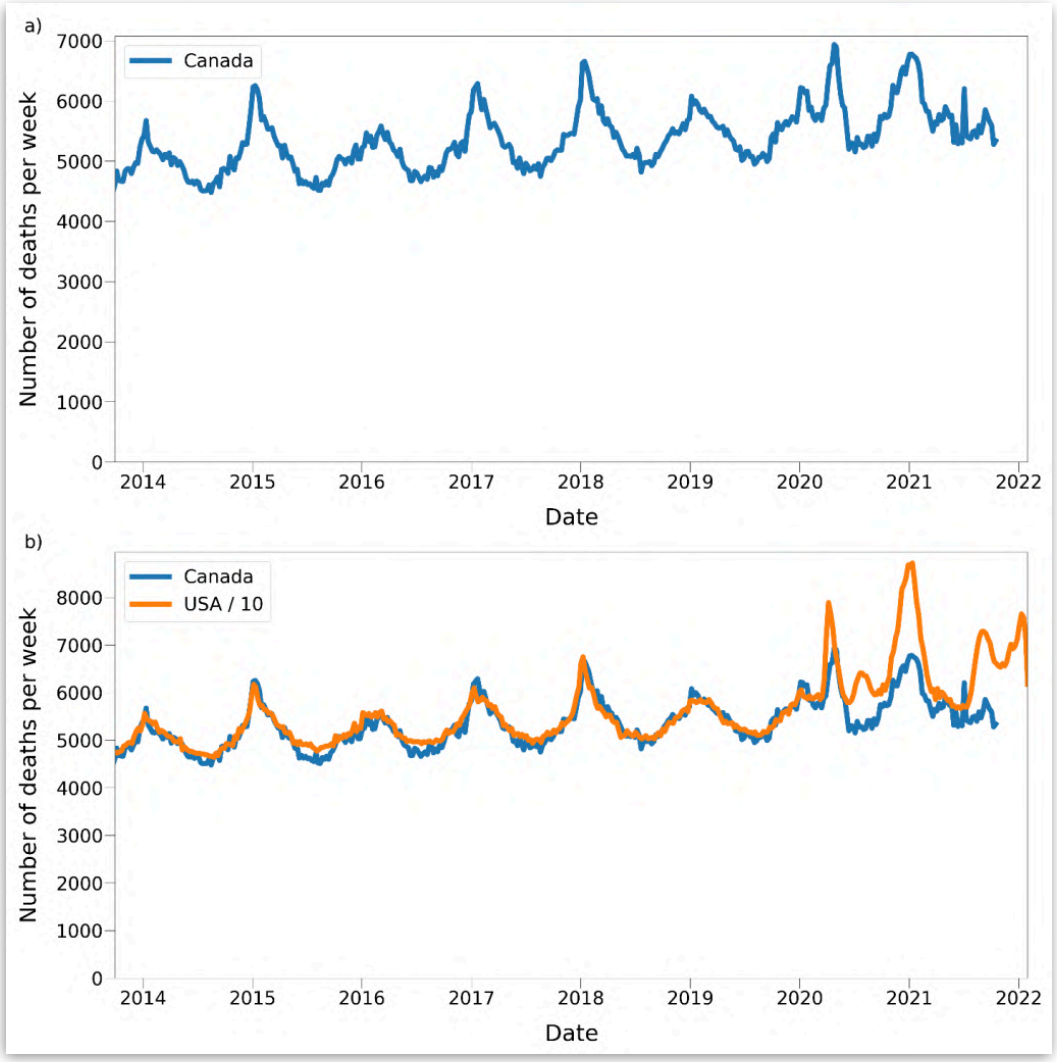
Interestingly, not every US state experienced this spike in COVID-19 deaths. It was avoided in Texas, Iowa, Nebraska, North Dakota, South Dakota, Utah, Wyoming, and Arkansas (among others). Significantly, all of these states, as of June 2020, had still not imposed meaningful “lockdown” procedures. By August, Rancourt and his colleagues established that 34 of the 50 states had not had a significant ‘COVID peak’.[130]

Furthermore, they established that “the presence of a ‘COVID peak’ is positively correlated with the share of COVID-19-assigned deaths occurring in nursing homes and assisted living facilities.” In other words, states that locked down experienced not only the sharpest increase in death rates but also the highest incidence of deaths in their elderly populations living in medical institutions. If Adhanom and the WHO’s pandemic prescriptions were effective, all-cause mortality data ought to have shown higher COVID-19 peaks in the states that failed to implement them and *not* vice-versa.

On the European continent, France experienced the same initial spike in deaths, with some 32,000 fatalities in March and April 2020. As Rancourt has noted, however, “even including the ‘COVID-peak’, the 2019-2020 winter-burden all-cause mortality [in France] is not statistically larger than usual,” “remaining

within the bounds of year-to-year statistical variation" when compared to the monthly figures recorded in the French demographic database from 1946 all the way through to 2020.[131] As Rancourt notes, "[i]n France, there have been five seasons over the last 75 years with a higher maximum in all-cause mortality by month than the maximum of the 2019-2020 season." The all-cause mortality data, collected by the French government, clearly runs counter to the statement made by French President Emmanuel Macron on March 12, 2020, that this "pandemic" was the worst France had seen in a century.[132]

In reality, France's all-cause mortality data demonstrates that it was only *after* Macron's comments that deaths surged. In the days leading up to and including March 16, Macron ordered the closing of schools, universities, restaurants, cafés, cinemas and nightclubs, the banning of gatherings of more than 100 people, and then a mandatory at-home lockdown.[133, 134] While the total number of winter-burden deaths for 2019-2020 was not unusually high, there was an unusual spike in those deaths, and that spike coincided with the introduction of Macron's restrictions. In Rancourt's estimation, the month-long 'COVID peak' in France involved some 30,200 non-COVID deaths that were either caused or dramatically exacerbated by the French government's interventions.[135]



Weekly ACM for Canada, followed by the same data with the US equivalent laid over top

FLU SEASON IN NORTH AMERICA

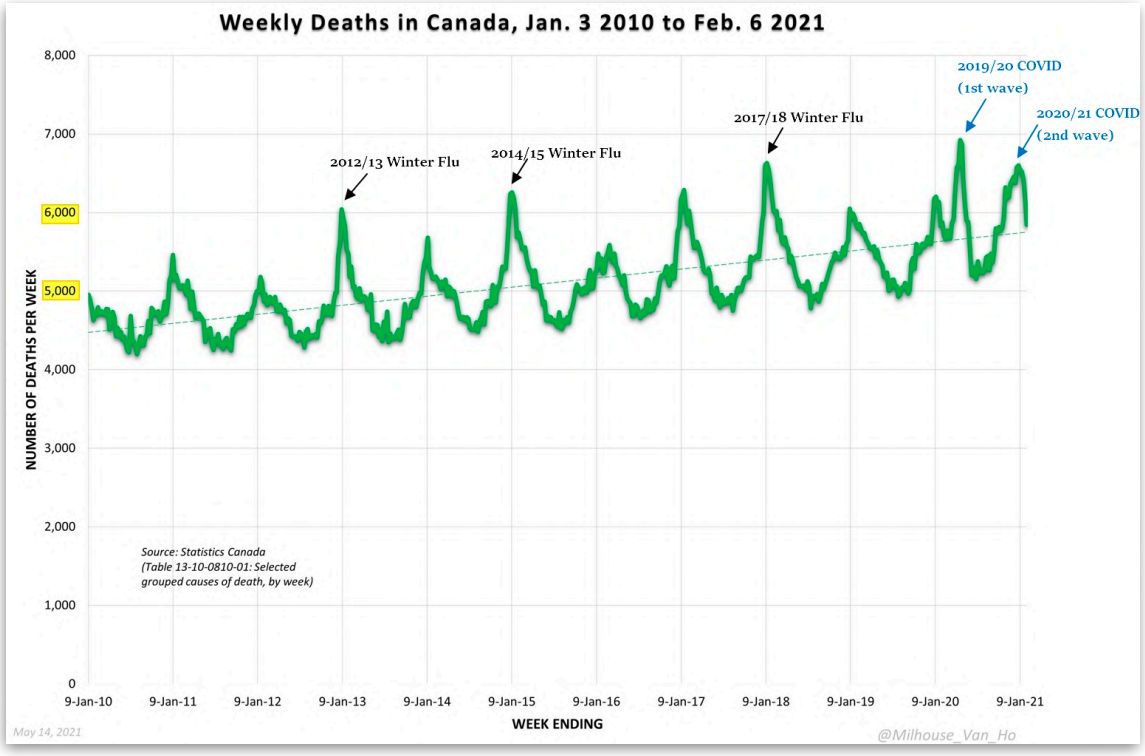
Every year, Canada experiences what is commonly described as "flu season."[136] This period generally starts in late November and lasts into late February or early March, reliably following the coming and going of winter. It is in this same time period that people also tend to catch the common cold, because of other viruses like respiratory syncytial virus (RSV) and coronaviruses.[137] Rancourt explains that the primary mechanism behind this seasonality is that the microscopic **droplets** or **aerosol particles** that contain viruses deteriorate quicker in higher humidity, as they do in the Summer months when humidity is highest. As humidity drops in the Winter, the virus-carrying particles remain viable for longer and are therefore more likely to infect a person who may then develop an illness.[138]

There are a number of other factors that are thought to contribute to this "cold and flu season," including the effect of colder temperatures on the immune system, lower vitamin D levels because of less time in the sun, and more time in close quarters with other people while traveling and during holiday celebrations.[139]

Regardless of the cause or causes the result is a highly-predictable wave of flu and flu-like illnesses as one year transitions into the next. This was documented as far back as 1838 in Belgium, and 1843 in England.[140,

[141] The timing of this flu season is flipped in the southern hemisphere, with Winter occurring — in countries like Australia and those throughout South America — during our summer months.[142]

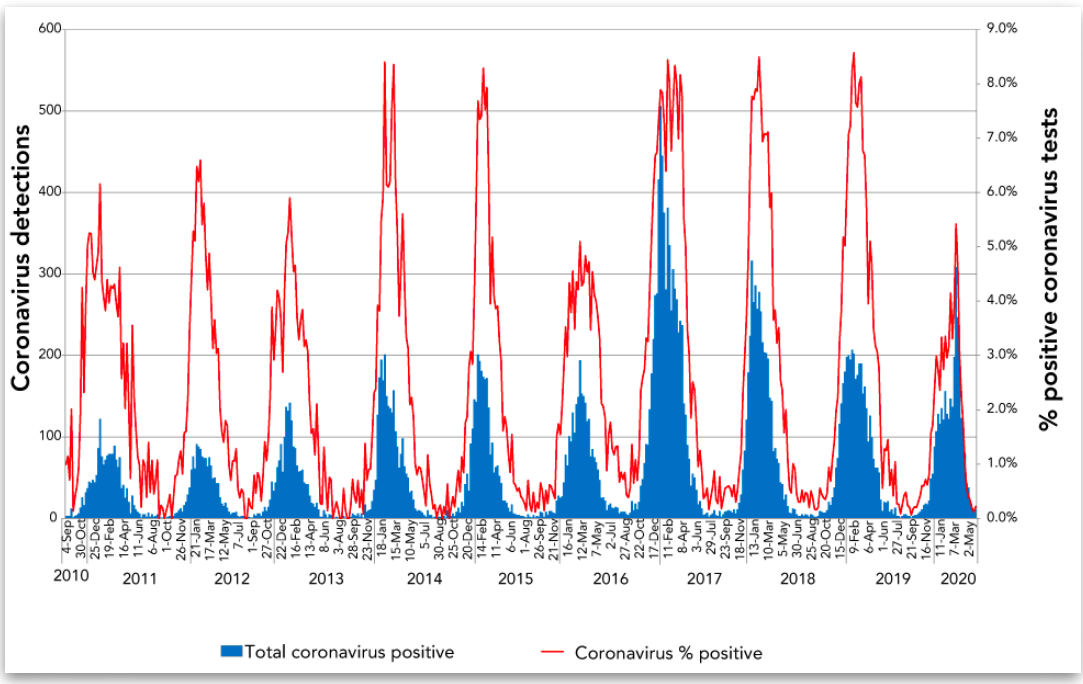
As with COVID-19, the majority of people whose deaths are associated with these seasonal upper respiratory illnesses are either elderly or suffering from "chronic health problems."[143] Indeed, many people who die in the "cold and flu season" are at disproportionately high risk of death from any cause. Their elevated risk of death is related to the common health challenges associated with advanced age and illnesses already in progress. In other words, when it comes to these winter deaths, there are other major factors at play besides the seasonal cold and flu; the severity of other underlying conditions is compounded by the addition of viral infection.



Graph demonstrating seasonal peaks and dips associated with the annual "cold and flu season"

Interestingly, not every flu season repeats quite the same pattern. Instead of reaching consistent peaks year-to-year, countries like Canada experience alternating cycles of relatively large and small numbers of deaths from upper respiratory illnesses.[144] For example, Canada experienced rougher seasons in 2012-2013, 2014-2015 and 2017-2018.[145] The above graph — generated by author **Julius Ruechel** and grassroots civil rights researcher **Milhouse Von Houten** (a pseudonym) — is based on all-cause mortality data from Statistics Canada, and enables readers to easily spot the cyclical mortality trend associated with upper respiratory illnesses leading up to 2020.[146, 147]

A similar pattern exists for coronaviruses.[148] The graph to the right shows that the 2019-2020 season behaved predictably when compared to the previous decade, with the exception of a sudden spike in cases between March and April.



Rates of positive test results for coronavirus in Canada from 2010-2020

While the 2019-2020 season's numbers exceeded the coronavirus case numbers of the previous year, they remained lower than those for both 2016-2017 and 2017-2018.

In a *FluWatch* report published in March 2021, the Public Health Agency of Canada claimed that the 2019-2020 flu season began in late November, peaked in late January, and then "ended early and abruptly" in the week of March 22, "eight weeks earlier than the average end of season."[149] According to PHAC, this

was a direct result of the public health measures introduced to reduce the impact of COVID-19. From that point on and for the remainder of the reporting period, influenza essentially ceased to exist in Canada. Seasonal influenza had vanished and COVID-19 appeared to have taken its place.

Rancourt and Ruechel are two of many researchers who have independently found that the 2019/2020 winter season did not break from the norm, and that — when compared with year-to-year statistics from previous decades — there was no significant increase in deaths during the period described as the "first wave" of COVID-19 in March-April 2020. Rancourt and Ruechel also determined that the broad outcome for the first year of the declared pandemic should have resolved exactly as historical trends predicted, with all-cause mortality remaining steady year-to-year.

Anomalies in the all-cause mortality data suggest that instead of two distinct waves of unrelated viral infections — the flu, followed shortly by COVID-19 — there was instead a temporary interruption in the standard seasonal cycle which then quickly resumed in full force following the start of the initial public health measures. Instead of a significant increase in deaths resulting from COVID-19, it appears that the deaths already likely to occur within the peak and latter half of the flu season were simply delayed and then officially attributed to COVID-19.

In August 2021, Statistics Canada published a report with demonstrated that, after peaking in April 2020, the all-cause mortality data clearly did not indicate the presence of a pandemic. The absence of any significant increase in all-cause mortality was highlighted by the Canadian Covid Care Alliance with the September 2021 release of the CCCA COVID-19 Declaration, which was distributed to Canada's public health and government officials.[150] The report also confirmed Rancourt's early finding that the initial spike in deaths occurred immediately following the WHO's declaration of a pandemic.

With no reasonable epidemiological explanation for the anomalous spike in deaths within a period that, overall, showed no significant increase in mortality, Rancourt and his colleagues concluded that it was, in fact, government-imposed measures that directly caused the sudden spike in fatalities.[151] A clear signal of the connection between the "first wave" spike in deaths and government-imposed lockdown measures is the **heterogeneity** of the deaths across jurisdictions. The fact that provinces and states in North America experienced dramatically different outcomes from their next-door neighbours is inconsistent with how a pandemic viral outbreak behaves. These heterogeneous mortality outcomes point towards human intervention, influenced by societal factors such as political climate, as well as preexisting health crises specific to individual regions.

2020 was the first year since World War II — the period when high-quality all-cause mortality data started becoming available — during which the seasonal cycle of all-cause deaths varied so strongly from state-to-state, and even country-to-country. As Rancourt notes, "[a]lthough the shapes of [all-cause mortality] by time change from season to season, the shapes for a given year are nonetheless synchronous and essentially the same across regions, over a global hemisphere… in most Western countries."

Instead of the generally consistent numbers one expects, the mortality across different American states show a remarkable and significant variety. The states that were worst hit in Spring 2020 were the ones that had responded with the harshest "lockdown measures" - namely, New York, New Jersey, Connecticut, Massachusetts, Michigan, Illinois and Louisiana. It would be natural to assume that these states instituted lockdown measures in response to their higher mortality numbers, but this is not the case. The spike in deaths which these states saw took place only *after* the implementation of the measures, not before.

ELDERLY CARE ABANDONED

Importantly, deaths within the “COVID peak” occurred disproportionately in those older than 64 years, with Ontario and Québec losing senior citizens at a higher rate than the rest of Canada.[152] Across Canada, 95% of all deaths attributed to COVID-19 were in those over 60 years old, and nearly 80% of deaths occurred in long-term care facilities.[153] In the case of Ontario and Québec, both provinces saw elderly patients in long-term care abandoned by negligent health care workers. A coroner’s 2020 investigation into **Residence Herron** revealed that “COVID-19 was repeatedly cited as a cause of death at the Herron nursing home to obscure the fact that dozens of elderly residents died from thirst, malnourishment and neglect.”[154] Not only were these residents neglected, but regional health officials were appallingly slow to act — as Coroner Gehane Kamel publicly stated, ”On April 9, it had been nearly 10 days that it was known that those people were slowly dying. As a society, we abandoned them.”[155]

A report released by the **Canadian Armed Forces** blew the whistle on a similarly shocking situation across nursing homes in Ontario.[156] The report included claims that facilities smelt of rotten food, were infested with cockroaches and flies, and that elderly people were left for hours "crying for help with staff not responding.” In other cases, elderly patients who were considered actively SARS-CoV-2-positive were allowed to wander the facility unrestricted.

The **Royal Society of Canada Task Force on COVID-19** explained that this was not a new problem. In their August 2020 summary, the group pointed out that reports of unhealthy conditions and poor quality of care in nursing homes had been steadily on the rise for the last 50 years — both in Canada, and internationally.[157, 158] **Amnesty International** found that thousands of elderly people were “abandoned” in nursing homes in Belgium, resulting in tremendous numbers of unnecessary deaths.[159] The government was accused of having committed human rights violations for failing to seek treatment for patients who became ill during the initial wave of SARS-CoV-2 infections. Similarly, Italian nursing homes that had held the line in the spring of 2020 found themselves suddenly without support for the return of the cold/flu/COVID-19 season at the end of the year.[160] In a letter to the Lancet, Drs. **Marco Trabucchi** and **Diego de Leo** remarked that the nursing homes once characterized as “castles under siege” had been allowed to become “abandoned castles.” With reduced funding and resources from the government and a lack of public support, these Italian facilities saw the same neglect and poor management that was seen in nursing homes throughout Ontario and Québec.[161, 162]

As if it were a pandemic in itself, this systemic neglect and abandonment of elderly residents revealed itself globally. Overwhelmed and earnest nurses, support staff and medical advisors around the world sounded the alarm, including in Australia,[163] Brazil,[164] New Zealand,[165] Washington,[166] California,[167] and a significant number of other American States.[168, 169, 170, 171]

Rancourt and his co-authors, Dr. **Marine Baudin** and **Jérémie Mercier**, PhD, concluded that the “the aggressive novel government and medical responses that were applied in certain specific state jurisdictions, against sick elderly populations” were to blame for the “large narrow peak [in deaths]… occurring immediately after the WHO declaration of a pandemic.”[172]

In an August 2020 publication summarizing the cause of the 'COVID peak', Rancourt and his colleagues made three assertions:[173]

1. *"The unprecedented strict mass quarantine and isolation of both sick and healthy elderly people, together and separately, killed many of them,*

2. *This quarantine and isolation is the cause of the 'COVID-peak' event that we have quantified,*

3. *The medical mechanism is mainly via psychological stress and social isolation of individuals with health vulnerabilities."*

Beyond the increased quantity of viral aerosols being locked in with the residents, the tremendous psychological distress caused by these measures inevitably resulted in worsened immune function. The role that psychological stress and social isolation play in compromising physical and mental health is well-established, especially for older populations.[174, 175, 176, 177]

> *"...the state isolated vulnerable elderly persons from their families, limited movements within establishments, often confining individuals to their rooms or beds for days and weeks if not months, reduced the staff and allowed staff to take extended or frequent sick leaves, forced staff to adopt extreme measures such as masks, shields and gloves, which can induce a measure of fear or terror, created a general atmosphere of danger, and prevented air circulation by locking doors and windows, and by preventing ingoing and outgoing traffic except for essential services."*[178, 179, 180]

An analysis published in the Lancet in July 2020 found that around the world, "government actions such as border closures, full lockdowns, and a high rate of COVID-19 testing were not associated with statistically significant reductions in the number of critical cases or overall mortality."[181] Instead, the researchers explained that the populations with the highest rates of obesity, strongest per capita GDP, and the least nurses per million people were also the populations experiencing the most fatalities attributed to COVID-19.

In November 2020, a second study was released that expanded the evidence base to include "public health context" - in other words, the presence of other non-COVID-19 health problems in a given nation - as well as the temperature and environment of a given region.[182] Once again, the authors concluded that lockdowns and "more stringent public decisions" did not appear to help at all. Both studies were further substantiated by the American Institute for Economic Research in their December 2020 review of a total of 24 studies, leading to a similar conclusion.[183]

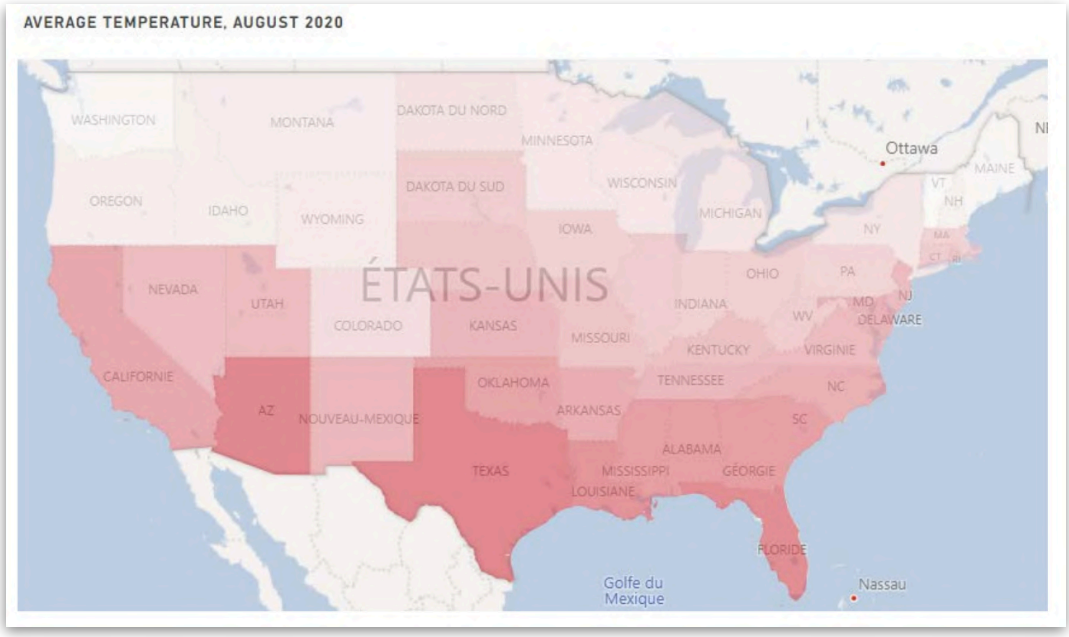
ENVIRONMENTAL FACTORS

Temperature turns out to have been a tremendously important and widely misreported factor. Heat itself is a health risk, as demonstrated by the deadly heat wave in France in 2003.[184] Beginning in June of that year, Europe experienced record-high temperatures that peaked in France in August, sustaining the extreme heat for at least a week with no relief at night.[185] Tragically, an official government review was found that nearly 15,000 people in the country died as a direct result of the dramatic heat.[186, 187]

Putting aside those affected in the mid-term from socioeconomic harm caused by singed crops, dried rivers and related setbacks, the people who lost their lives were largely elderly and/or suffering from an illness that made them vulnerable to an excess burden of heat to which they were unable to adapt.[188] And it wasn't the first time this had happened. In Chicago, Illinois, more than 500 people were lost over three days in July 1995 during a record heat wave of their own.[189] As anomalies that are not representative of usual year-to-

year seasonal activity, these events are clearly visible in the all-cause mortality data for both France and Chicago.

As mentioned above, viral respiratory diseases are rarely able to transmit in the humid summer months, which is a significant reason why — barring lethal heatwaves —the summer period is when all-cause mortality reaches its yearly low across all age groups.[190] In 2020, however, over and above the usual baseline health risk to vulnerable groups caused by heat, the COVID-19 climate introduced a constant burden of psychological stress that, by summer, had reached chronic levels. This contributed to yet another unprecedented event: an increase in excess deaths in the Summer season, concentrated in the southern United States.[191] Arizona, Texas, Louisiana, Mississippi, Alabama, Florida and South Carolina all saw excess deaths above the Summer baseline.[192]



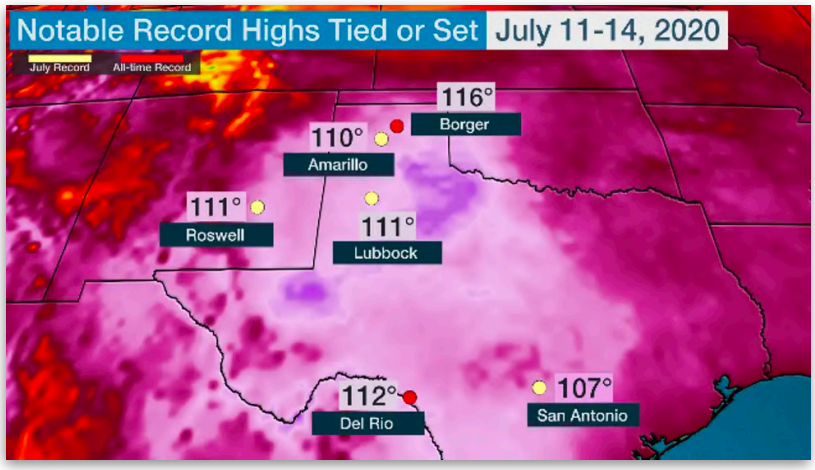
Average temperature, per state of the continental USA, for August 2020. Continental USA excludes Alaska and Hawaii. The darker the red, the higher the average temperature.

While the CDC's provisional report characterizes these Summer-season excess deaths as being COVID-19 associated, this is highly unlikely — there is simply no evidence SARS-CoV-2 is capable of bypassing the limits on viral transmission imposed by the heat and humidity in those areas. Furthermore, the criteria used by the CDC to establish what qualified as a "COVID-19-associated" death was very broad and very likely resulted in inflated numbers. An example of this is Arizona's conveniently-timed push for increased testing across the state in July 2020, which included opening "more than 60 new test collection sites."[193] As described in the news at the time, Arizona was "breaking records" for new positive tests, 40% of which the CDC estimated were asymptomatic — meaning that individuals showed no symptoms of COVID-19 disease at all — while admitting the figure for asymptomatic cases could also be as high as 70%.[194, 195]

As testing ramped up in July, so did positive test results throughout the state.[196] While the alarm was being raised over case numbers, however, something of much greater consequence had quietly taken place. Towards the end of June 2020 a decision was made to ration health care for patients in hospital.[197] The new "Crisis Standards of Care" allowed hospital employees to determine whether or not to care for a patient - and in what order - based on a set of "emergency" standards. Rationing measures included refusing care to the elderly, increasing liability protection for health care workers, a stop to the performance of all surgeries that "impair the care of other patients", and the creation of additional surge capacity by delivering less health care overall.[198] This rationing, via the "Crisis Standards of Care", inevitably resulted in an increase in deaths that would not have occurred in the absence of such controversial policies.

Predictably, Arizona experienced a hot summer, leading to an increase in health challenges.[199] Shockingly, Maricopa County's final published data on heat-related deaths for the Summer of 2020 show the same pattern as COVID-19 deaths, and deaths from all causes.[200] Overall heat-associated mortality was an astounding 62.3% higher than in 2019, despite only 11% of the heat victims being designated "COVID-positive" at the time of death.[201]

In his October 25, 2021 analysis, Rancourt explained that “no previous large anomalous burden of all-cause mortality has ever been concentrated in the Southern states, in one season, in the modern history of epidemiology for the USA.”[202] The combination of heat-based stresses on the body,[203, 204] the inducing of fear, withholding of lifesaving healthcare,[205] shutting down of personal and social coping mechanisms — such as water parks, movie theatres, and air-conditioned malls[206, 207, 208] — these factors have more severely affected Arizona’s mortality rates than the actual burden of COVID-19. These psychological stresses are cumulative, and the compounding of chronic stress very likely results in quicker death.[209, 210, 211]



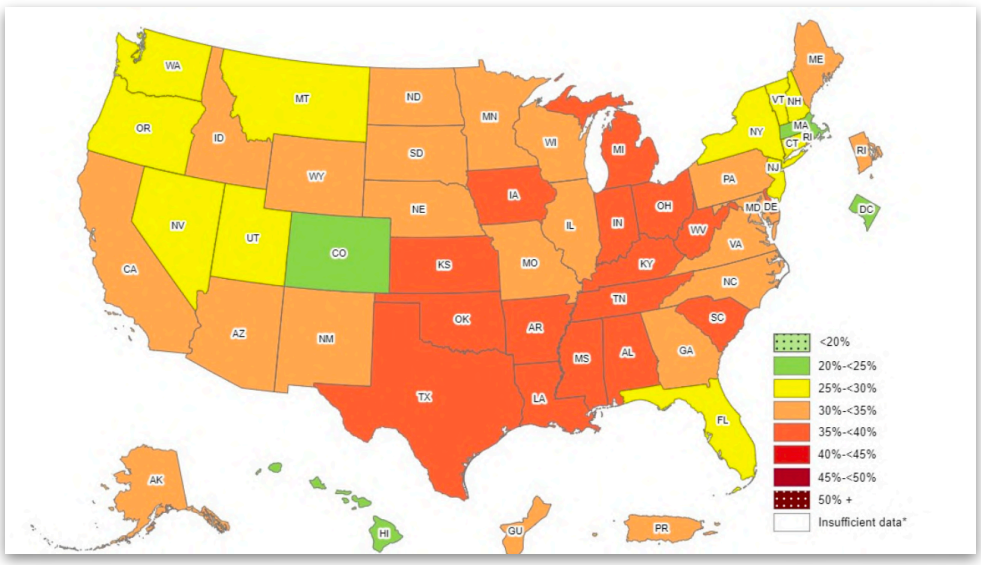
Heat records in the Southern States between July 11-14, 2020

The same set of circumstances in the Summer of 2020 was repeated in Texas, New Mexico, Louisiana, Mississippi, South Carolina, and the surrounding Southern states.[212, 213, 214] **Sacoby Wilson**, an associate professor with the **Maryland Institute for Applied Environmental Health**, warned in mid-July that the same people considered the most at risk for serious COVID-19 illness were the exact same demographic most likely to be affected by the temperature.[215]

The ill-conceived policy of rationing healthcare, as well as closing down social and recreational venues that usually serve to combat heat-related stress, in part, explains why the United States seems to have fared so much worse during the COVID-19 crisis, when compared to its allies in the rest of the Western world, as is often pointed out by critics of the Trump administration in particular.[216] The Summer of 2021 saw another anomalous heat event concentrated on the Pacific Northwest, bathing the states of Oregon and Washington (along with the province of British Columbia) in record-high temperatures.[217, 218, 219] The two states saw an uptick in excess mortality as a result of the heat to a far greater extent than in 2020. The **Washington Department of Health** reported that in one region, “the mean daily number of heat-related illness emergency department visits from June 25-30, 2021… was 69 times higher than that during the same days in 2019.”[220] Apart from infants aged 4 and under, the demographics at most risk from the heat were people age 65 and older, people who were overweight, and people who were sick or taking certain medications.

THE HEALTH BURDEN OF OBESITY

Obesity is another significant factor in the US’ deadly COVID-19 era. According to the CDC, 41.9% of Americans are considered obese, which they describe as "a common, serious, and costly disease.”[221] This is significantly higher than in Canada, which had an estimated 28% obesity rate in the year 2020.[222] In an early preprint review, **John Ioannidis** and **Cathrine Axfors** compared this high obesity rate in “rich” countries to a nation like India, whose prevalence of obesity is only 4%. While the data from India at the time was still emerging, the country's COVID-19 mortality rate appeared to fall far short of what was expected.[223]



Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2020

Many of the same states that experienced excess deaths in the Summers of 2020 and 2021 are also the states with the highest levels of self-reported obesity in America.[224] This is even more pronounced in non-hispanic black Americans.

While some organizations have attempted to shield obese members of the community from stigma, the scientific literature shows a strong correlation that can't be dismissed - despite good intentions.[225, 226, 227]

In August 2020, a review of data from patients across Asia, Europe and North and South America found that "people with obesity who contracted SARS-CoV-2 were 113% more likely than people of healthy weight to land in the hospital, 74% more likely to be admitted to an ICU, and 48% more likely to die."[228] The authors explained that there likely exists a combination of factors in someone who is obese that would compromise the body's ability to properly respond to SARS-CoV-2 infection, including metabolic dysfunction, lessened lung capacity, and chronic inflammation.[229]

In May 2022, the CDC warned that "having obesity may triple the risk of hospitalization due to a COVID-19 infection."[230] The agency emphasized that the reduced immune function associated with obesity makes those patients more susceptible to developing additional diseases leading to even worse outcomes from an exacerbated case of COVID-19.[231]

Strikingly absent from the mass public health messaging was advice on exercise, which the CDC themselves cite as contributing to a reduction in obesity and increase in overall health.[232] The shutting down of gyms and public areas severely limited the ability of a large portion of the population - particularly in the lower-middle class, a demographic already ailed with high levels of obesity and limited space and resources to physically move indoors or buy equipment.[233] This reduction in physical activity, as well as worsening eating habits, inevitably ramped up the risk of illness in general — including from other pathogens able to overcome our suppressed immune systems.[234, 235]

UNDIAGNOSED PNEUMONIA EPIDEMIC

In June 2020, a group of physicians from France wrote a letter to the editor of *Clinical Infectious Diseases* warning that the COVID-19 patients they were seeing had a high rate of co-infection with bacterial pneumonia.[236] In fact, a later review found that the vast majority of fatal COVID-19 cases had been associated with a lab-confirmed bacterial co-infection.[237]

This is consistent with what was already known about influenza. Dr. Anthony Fauci himself co-authored a paper in 2008 investigating the 1918 Spanish Flu, which led to an astonishing conclusion: "influenza A virus infection *in conjunction with bacterial infection* led to most of the deaths during the 1918–1919 pandemic."[238] Influenza infection itself wasn't enough to cause the most deadly infectious disease epidemic in the last century - it was bacterial infections in the lungs of the victims that played a "predominant" role in their demise. "In essence, the virus landed the first blow while bacteria delivered the knockout punch."[239] Fauci and his colleagues weren't alone in coming to this conclusion - researchers have continued to confirm this observation in the years that followed.[240, 241] One meta-analysis found that even today, 23% of severe cases of the flu have a co-infection or secondary infection.[242]

In Fauci's estimation, this was such an enormous problem at the time because of the absence of widespread use of antibiotics. Penicillin wasn't discovered until 1928, and wasn't mass-produced and distributed until 1945.[243, 244, 245] As such, options to treat patients once they were infected with the deadly pneumonia were severely limited.[246] In his conclusions, Fauci emphasized that in anticipation of the next

pandemic, health authorities should prioritize “prevention, diagnosis, prophylaxis, and treatment of secondary bacterial pneumonia, as well as stockpiling of antibiotics and bacterial vaccines.”

In November 2020, **Amy Sarah Ginsburg** of the University of Washington and **Keith Klugman** of the Bill & Melinda Gates Foundation published a letter in *The Lancet Global Health* that explained:[247]

> *“When a preceding viral infection such as influenza or COVID-19 impairs both innate and adaptive antibacterial host defences… colonizing bacteria exploit this temporary compromise of a physical and immunological barrier to cause secondary bacterial pneumonias, leading to severe and deadly disease in people with pre-existing comorbidities and previously healthy people.”*

They note that an association had been established between severe COVID-19 illness and the presence of bacteria in the bloodstream.[248] However, they also revealed a fatal flaw in clinical procedures during the COVID-19-era: “Diagnosing coinfections is complex in the best of circumstances and because there is a desire to avoid diagnostic procedures and minimise the exposure of COVID-19 to health-care workers, diagnosing potential bacterial superinfections during COVID-19 has been challenging.” In addition to the universal focus on PCR testing for SARS-CoV-2, limitations on staff and services dramatically reduced the rate of testing for the presence of bacteria to diagnose such a co-infection.

Even if bacteria were suspected to play a part in a given patient's health, there appears to have been an overall lack of interest in using antibiotics to treat them. In fact, clinically beneficial treatment of COVID-19 with antibiotics has been discouraged altogether.[249] In the United States, the National Institutes of Health (NIH) recommends against using antibiotics like azithromycin and doxycycline for treating non-hospitalized COVID-19 patients, "unless there is another medical reason to prescribe an antibiotic.”[250] The World Health Organization kept their messaging even simpler: “COVID-19 is caused by a virus, and therefore antibiotics should not be used for prevention or treatment.”[251] While they acknowledge that secondary infection can develop which may call for antibiotics, the WHO's guidance doesn't address the phenomenon of misdiagnosed illnesses due to low-quality testing standards, drastically limited diagnostic testing services offered to patients, and reduction in overall ability to distinguish between COVID-19 and other illnesses with the same set of symptoms.

Of course, in the absence of proper diagnoses, many patients will have not been identified as being co-infected, and will have missed the chance to treat the bacterial pneumonia.

In June 2021, a large group of researchers funded by the British government as well as the Bill & Melinda Gates Foundation, Wellcome Trust, University of Liverpool, and Imperial College London published a paper criticizing the widespread used of antibiotics in COVID-19 patients up to that point. They reason that because there had been so few officially confirmed bacterial co-infections, overall antibiotic usage should be significantly reduced to match.[252, 253]

This includes other medicines with observed antibacterial properties, such as ivermectin. On May 28, 2021, the Ontario COVID-19 Science Advisory Table issued guidance on the use of ivermectin in only *very* specific instances of possible co-infection with the threadworm parasite, while vehemently denying its possible benefits in COVID-19 prevention or treatment.[254] As explored in greater detail later in this publication, ivermectin does, in fact, hold antimicrobial, antiviral, and anti-inflammatory properties. This is likely why the medicine has proved so radically effective in treating patients that have received it, as it has therapeutic effects on the primary viral infection, the secondary bacterial pneumonia, and inflammation caused by both.[255]

All of the combined factors of age, socioeconomic status, general health, presence of obesity, environmental pressures, psychological stress, social isolation, compromised immunity, withholding of medical treatment and services, and improper diagnoses have led to a tremendous amount of confusion surrounding COVID-19 as a disease, and to a larger public health crisis that runs unabated to this day.

---

[40] Ducharme, J. (2020, March 11). *The WHO just declared coronavirus COVID-19 a pandemic.* Time. https://archive.ph/npCCp

[41] Stebnitz, M. (2020, September 1). STEBNITZ: *Three movies that predicted a pandemic like COVID-19.* Marquette Wire. https://archive.ph/gwMc8

[42] Rogers, K. (2020, April 2). *"Contagion" vs. coronavirus: The film's connections to a real life pandemic.* CNN. https://web.archive.org/web/20220429224857/https://www.cnn.com/2020/04/02/movies/contagion-movie-versus-coronavirus-scn-wellness/index.html

[43] Sperling, N. (2020, March 4). *"Contagion," Steven Soderbergh's 2011 thriller, is climbing up the charts.* The New York Times. https://archive.ph/eS792

[44] Morris, W. (2020, March 10). *For me, rewatching "Contagion" was fun, until it wasn't.* The New York Times. https://archive.ph/BRWvd

[45] Nepales, R. V. (2020, April 26). *Why "Contagion," out in 2011, accurately foretold coronavirus pandemic.* The Jakarta Post. https://archive.ph/2IDn6

[46] Morris, W. (2020, March 30). *"Outbreak" was a hit in 1995. Now we're living the sequel.* The New York Times. https://archive.ph/Jp9tu

[47] Ioannidis, J. P. A. (2021). *Over- and under-estimation of COVID-19 deaths.* European Journal of Epidemiology. https://doi.org/10.1007/s10654-021-00787-9

[48] *Definition of epidemic.* (2022, April 24). Merriam-Webster. https://www.merriam-webster.com/dictionary/epidemic

[49] *Pandemic preparedness.* (2003, February 2). Wayback Machine; World Health Organization. https://archive.ph/O20eQ

[50] *Pandemic preparedness.* (2008, July 2). Wayback Machine; World Health Organization. https://archive.ph/CuVdq

[51] Doshi, P. (2011). *The elusive definition of pandemic influenza.* Bulletin of the World Health Organization, 89(7), 532–538. https://doi.org/10.2471/blt.11.086173

[52] *What is a pandemic?* (2010, February 24). Wayback Machine; World Health Organization. https://archive.ph/NI0cT

[53] Cohen, D., & Carter, P. (2010). *WHO and the pandemic flu "conspiracies."* BMJ, 340. https://doi.org/10.1136/bmj.c2912

[54] Law, R. (2021). *WHO changed definition of influenza pandemic.* BMJ. https://www.bmj.com/rapid-response/2011/11/02/who-changed-definition-influenza-pandemic

[55] Bandaranayake, D., Huang, S., Bissielo, A., Wood, T., Baker, M., Beasley, R., Reid, S., & Roberts, S. (2009). *Seroprevalence of the 2009 influenza A (H1N1) pandemic in New Zealand (Service Description: ESR-NCBID).* New Zealand Ministry of Health. https://web.archive.org/web/20220301112041/https://www.health.govt.nz/system/files/documents/publications/seroprevalence-flu-2009.pdf

[56] Nebehay, S. (2010, April 12). *WHO admits shortcomings in handling flu pandemic.* Reuters. https://archive.ph/XLfik

[57] Kamradt-Scott, A. (2017). *What went wrong? The World Health Organization from swine flu to ebola.* Political Mistakes and Policy Failures in International Relations, 193–215. https://doi.org/10.1007/978-3-319-68173-3_9

[58] *WHO's handling of swine flu deeply marred by conflict of interest with drug companies, top medical journal accuses.* (2010, June 7). Organic Consumers Association. https://archive.ph/R4iYB

[59] Derbyshire, D. (2009, July 27). *Government virus expert paid £116k by swine flu vaccine manufacturers.* Daily Mail. https://archive.ph/S9nnj

[60] Wodarg, W., *et al*. (2009, December 18). *Faked Pandemics - a threat for health.* Wayback Machine; Parliamentary Assembly of the Council of Europe. https://web.archive.org/web/20160304044324/http://www2.wodarg.de/uploads/edoc12110.pdf

[61] Jordans, F. (2010, January 25). *"Fake" swine flu pandemic? WHO slams charges.* NBC News. https://archive.ph/iLxTT

[62] Miller, H. I. (2010, March 11). *The pandemic that wasn't.* Forbes. https://www.forbes.com/2010/03/10/swine-flu-world-health-organization-pandemic-opinions-contributors-henry-i-miller.html?sh=4968a8d01617

[63] National Center for Immunization and Respiratory Diseases (NCIRD). (2018, August 10). *Past pandemics.* Centers for Disease Control and Prevention. https://archive.ph/cfaxk

[64] Rogin, J. (2021, June 23). *Opinion | Congress is investigating whether the 2019 Military World Games in Wuhan was a COVID-19 superspreader event.* Washington Post. https://archive.ph/RBN5O

[65] *Military games to open Friday in China.* (2019, October 17). China Daily. https://web.archive.org/web/20220213020045/http://www.china.org.cn/sports/2019-10/17/content_75311946.htm

[66] *2019 CISM Military World Games.* Defense Visible Information Distribution Service. Retrieved April 8, 2022, from https://archive.ph/1NH6d

[67] Sharpe, J. (2020, May 16). *More competitors reveal they were ill at the World Military Games.* Daily Mail. https://archive.ph/eSuql

[68] Houston, M. (2020, May 17). *More athletes claim they contracted COVID-19 at Military World Games in Wuhan.* Inside the Games. https://archive.ph/uojib

[69] Francis, D. (2021, June 25). *Canadian Forces have right to know if they got COVID at the 2019 Military World Games in Wuhan.* Financial Post. https://archive.ph/B0nT1

[70] Metzl, J. (2021, December 14). *Questions about the October 2019 Military World Games in Wuhan.* Jamie Metzl. https://archive.ph/p0l1e

[71] Liao, G. (2020, May 12). *Coronavirus may have been spreading since Wuhan Military Games last October.* Taiwan News. https://archive.ph/HgCRW

[72] Winter, A. E. (2021). *The impact of the World Military Games on the COVID-19 pandemic.* Irish Journal of Medical Science. https://doi.org/10.1007/s11845-020-02484-0

[73] LaFee, S. (2021, March 18). *Novel coronavirus circulated undetected months before first COVID-19 cases in Wuhan, China.* UC Health - UC San Diego. https://archive.ph/VB6bK

[74] van Dorp, L., Acman, M., Richard, D., Shaw, L. P., Ford, C. E., Ormond, L., Owen, C. J., Pang, J., Tan, C. C. S., Boshier, F. A. T., Ortiz, A. T., & Balloux, F. (2020). *Emergence of genomic diversity and recurrent mutations in SARS-CoV-2.* Infection, Genetics and Evolution, 83, 104351. https://doi.org/10.1016/j.meegid.2020.104351

[75] *Pneumonia of unknown cause – China.* (2020, January 5). World Health Organization. https://archive.ph/s9Rmw

[76] *The first company to identify the coronavirus outbreak – Bluedot.* (2020, June 23). Bayslope. https://archive.ph/Flrs4

[77] *WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China.* (2020, January 9). World Health Organization. https://archive.ph/YJqWJ

[78] Schnirring, L. (2020, January 11). *China releases genetic data on new coronavirus, now deadly.* Center for Infectious Disease Research and Policy. https://archive.ph/rSPrb

[79] Institut Pasteur. (2020, January 31). *Whole genome of novel coronavirus, 2019-nCoV, sequenced.* ScienceDaily. https://archive.ph/CDyio

[80] Public Health Agency of Canada. (2020, January 25). *2019 novel coronavirus infection (Wuhan, China): Outbreak update.* Wayback Machine; Government of Canada. https://web.archive.org/web/20200125011050/https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html

[81] Ministry of Health. (2020, January 25). *Ontario confirms first case of Wuhan novel coronavirus.* Wayback Machine; Ontario Newsroom. https://web.archive.org/web/20200128151847/https://news.ontario.ca/mohltc/en/2020/01/ontario-confirms-first-case-of-wuhan-novel-coronavirus.html

[82] A.M.T. Downes, Major-General. (2020, January 22). *Potential exposure to 2019 Novel Coronavirus during 7th military world games in October 2019 in Wuhan, Hubei Province China.* https://www.campfire.wiki/lib/exe/fetch.php?media=covid-19_pandemic:keeandocjan14_1_.pdf

[83] *Novel coronavirus (2019-nCoV) situation report - 22.* (2020). World Health Organization. https://web.archive.org/web/20220330115953/https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov.pdf?sfvrsn=fb6d49b1_2

[84] *WHO Director-General's opening remarks at the media briefing on COVID-19.* (2020, March 11). World Health Organization. https://archive.ph/aoSIG

[85] Ferguson, N. M. (2020). *Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand.* https://doi.org/https://doi.org/10.25561/77482

[86] Landler, M., & Castle, S. (2020, March 17). *Behind the Virus Report That Jarred the U.S. and the U.K. to Action.* The New York Times. https://archive.ph/2IcJL

[87] Bostock, B. (2020, April 25). *How "Professor Lockdown" helped save tens of thousands of lives worldwide — and carried COVID-19 into Downing Street.* Business Insider. https://archive.ph/CmyaE

[88] CNBC Television. (2020, March 16). *President Trump's coronavirus task force holds briefing as US cases rise.* YouTube. https://web.archive.org/web/20220409003659/https://www.youtube.com/watch?v=sDmuFm2ghHs

[89] Riga, A. (2020, March 12). *COVID-19 updates March 12: Quebec starts shutting down to slow spread of coronavirus.* Montreal Gazette. https://web.archive.org/web/20200318115422/https://montrealgazette.com/news/local-news/live-updates-quebec-doctors-want-limits-on-travel-gatherings-to-curtail-covid-19

[90] Magness, P. W. (2020, June 1). *SimCity-style modeling flunks the real-world test.* American Institute for Economic Research. https://archive.ph/IJOkS

[91] Davies, G., & Roeber, B. (2021, February 28). *Sweden has avoided a COVID-19 lockdown so far: Has its strategy worked?* ABC News. https://archive.ph/e0lQg

[92] *Is Sweden's approach to COVID-19 wise or reckless?* (2020, May 16). The Economist. https://archive.ph/wuQaG

[93] Erdbrink, T., & Anderson, C. (2020, April 28). *"Life has to go on": How Sweden has faced the virus without a lockdown.* The New York Times. https://archive.ph/s7K6i

[94] Gustavsson, G. (2020, May 3). *Analysis | The risk of Sweden's coronavirus strategy? Blind patriotism.* Washington Post. https://archive.ph/9DTFa

[95] The Lancet. (2020). *COVID-19: learning from experience.* The Lancet, 395(10229), 1011. https://doi.org/10.1016/s0140-6736(20)30686-3

[96] Shukla, S. (2020, May 6). *"Normal life" in Sweden now felt reckless.* CNN. https://archive.ph/a4LEh

[97] Ritchie, H., Mathieu, E., Rodés-Guirao, L., Ortiz-Ospina, E., Hasell, J., Macdonald, B., Beltekian, D., & Roser, M. *Coronavirus (COVID-19) Deaths - Statistics and Research.* Our World in Data. Retrieved April 9, 2022, from https://ourworldindata.org/covid-deaths

[98] Gardner, J. M., Willem, L., Van Der Wijngaart, W., Kamerlin, S. C. L., Brusselaers, N., & Kasson, P. (2020). *Intervention strategies against COVID-19 and their estimated impact on Swedish healthcare capacity.* medRxiv. Preprint. https://doi.org/10.1101/2020.04.11.20062133

[99] Reynolds, E. (2020, April 28). *Sweden says its coronavirus approach has worked. The numbers suggest a different story.* CNN. https://archive.ph/jBSA1

[100] Grover, N. (2021, July 18). *UK Covid cases could hit 200,000 a day, says scientist behind lockdown strategy.* The Guardian. https://archive.ph/huO3K

[101] Miltimore, J. (2021, July 22). *Daily COVID deaths in Sweden hit zero, as other nations brace for more lockdowns.* FEE Stories. https://archive.ph/1jgyD

[102] Fumento, M. (2021, July 30). *Sweden: Despite variants, no lockdowns, no daily Covid deaths.* American Institute for Economic Research. https://archive.ph/UJtiU

[103] Mikhailova, A., Hope, C., Gillard, M., & Wells, L. (2020, May 5). *Exclusive: Government scientist Neil Ferguson resigns after breaking lockdown rules to meet his married lover.* The Telegraph. https://archive.ph/ABmm9

[104] Bostock, B. (2022, May 5). *Elon Musk called one of the world's top lockdown advocates an "utter tool" who does "absurdly fake science" after he was caught breaking his own rules to meet his lover.* Business Insider. https://archive.ph/LsNGw

[105] Elon Musk [@elonmusk]. (2020, May 5). *Thanks! Something more should be done. This guy has caused massive strife to the world with his absurdly fake "science". [Tweet].* Twitter. https://archive.ph/9CjNz

[106] Fund, J. (2020, May 6). *"Professor Lockdown" modeler resigns in disgrace.* National Review. https://archive.ph/DskCs

[107] Simmank, J., & Schumann, F. (2020, April 6). *"Einzelne übertragungen im supermarkt sind nicht das problem."* Zeit Online. https://www.zeit.de/wissen/gesundheit/2020-04/hendrik-streeck-covid-19-heinsberg-symptome-infektionsschutz-massnahmen-studie

[108] Avery, C., Bossert, W., Clark, A., Ellison, G., & Ellison, S. F. (2020). *Policy implications of models of the spread of coronavirus: Perspectives and opportunities for economists.* National Bureau of Economic Research. https://web.archive.org/web/20220409010345/https://www.nber.org/system/files/working_papers/w27007/w27007.pdf

[109] Cochrane, J. H. (2020, May 4). *An SIR model with behavior.* The Grumpy Economist. https://archive.ph/DMygf

[110] Doshi, P. (2008). *Trends in recorded influenza mortality: United States, 1900–2004.* American Journal of Public Health, 98(5), 939–945. https://doi.org/10.2105/ajph.2007.119933

[111] *Ibid.* (Doshi, 2011)

[112] Harrison, D. (2011, February 19). *Farmers rise from the ashes of foot and mouth.* The Telegraph. https://web.archive.org/web/20220410033709/https://www.telegraph.co.uk/news/earth/agriculture/8335705/Farmers-rise-from-the-ashes-of-foot-and-mouth.html

[113] Ferguson, N. M., Donnelly, C. A., & Anderson, R. M. (2001). *Transmission intensity and impact of control policies on the foot and mouth epidemic in Great Britain.* Nature, 413(6855), 542–548. https://doi.org/10.1038/35097116

[114] Adams, S. (2020, March 29). *Professor who said 500,000 Britons could die "has patchy record."* Daily Mail. https://archive.ph/WKntz

[115] Rushton, K., & Foggo, D. (2020, March 28). *Neil Ferguson, the scientist who convinced Boris Johnson of UK coronavirus lockdown, criticised in past for flawed research.* The Telegraph. https://archive.ph/mIQre

[116] Sturcke, J. (2005, September 30). *Bird flu pandemic "could kill 150m."* The Guardian. https://archive.ph/0H9mx

[117] Roos, R. (2006, January 5). *Year-end review: Avian flu emerged as high-profile issue in 2005.* Center for Infectious Disease Research and Policy. https://archive.ph/iBzJh

[118] Weaver, M. (2009, May 12). *Swine flu could affect third of world's population, says study.* The Guardian. https://archive.ph/A0X7e

[119] Bowcott, O., & Batty, D. (2009, July 16). *Swine flu: 65,000 deaths is UK's worst case scenario.* The Guardian. https://archive.ph/xV7pE

[120] Andrews, P. (2020, March 28). *In 2009 UK government experts wildly over-hyped dangers of swine flu — is history repeating with COVID-19?* RT International. https://archive.ph/jYVHp

[121] Via Jr., D. (2022, March 20). *Neil Ferguson's latest faux pas in a long line of fear-driven predictions.* Wayback Machine; COVID-19 Up. https://web.archive.org/web/20220320203841/https://covid19up.org/neil-ferguson-fear-driven-predictions/

[122] Gelman, A. (2020, May 8). *"So the real scandal is: Why did anyone ever listen to this guy?"* Statistical Modeling, Causal Inference, and Social Science; Columbia University. https://archive.ph/CXZZj

[123] Magness, P. W. (2021, April 22). *The failure of Imperial College modeling is far worse than we knew.* American Institute for Economic Research. https://archive.ph/kNbjR

[124] *Executive members and researchers.* Ontario Civil Liberties Association. Retrieved April 14, 2022, from https://archive.ph/Z1Rqp

[125] *DG Rancourt.* Google Scholar. Retrieved April 14, 2022, from https://archive.ph/tZ49g

[126] *CV.* Denis Rancourt. Retrieved April 14, 2022, from https://archive.ph/HwUPb

[127] Rancourt, D. (2019, January). *Why did the University of Ottawa secretly destroy my large collection of unique scientific samples?* Society for Academic Freedom and Scholarship. https://archive.ph/F1htp

[128] Rancourt, D. (2020, June 2). *All-cause mortality during COVID-19: No plague and a likely signature of mass homicide by government response.* Internet Archive; ResearchGate. https://ia803202.us.archive.org/27/items/all-cause-mortality-during-covid-19-no-plague-and-a-likely-signature-of-mass-hom/All-cause%20mortality%20during%20COVID-19%20-%20%20No%20plague%20and%20a%20likely%20signature%20of%20mass%20homicide%20by%20government%20response%20Denis%20G.%20Rancourt%2C%20PhD.pdf

[129] Rancourt, D. (2022). *Expert report of Denis Rancourt, PhD: Outdoor transmission, efficacy of masks, gravity of the declared pandemic.* Denis Rancourt. https://web.archive.org/web/20220402095610/https://denisrancourt.ca/uploads_entries/1648048675236_Expert%20Report%20of%20Denis%20Rancourt--2--public.pdf

[130] Rancourt, D., Baudin, M., & Mercier, J. (2020). *Evaluation of the virulence of SARS-CoV-2 in France, from all-cause mortality 1946-2020 (p. 2).* Denis Rancourt. https://denisrancourt.ca/uploads_entries/1626795661399_Evaluation%20of%20the%20virulence%20France----7dr2.pdf

[131] *Ibid.* (Rancourt *et al*., 2020)

[132] FRANCE 24. (2020, March 12). *REPLAY - Coronavirus : Allocution d'Emmanuel Macron à propos du COVID-19 en France.* YouTube. https://www.youtube.com/watch?v=uSZFA0xLQsQ

[133] *Spain and France impose sweeping new restrictions.* (2020, March 15). BBC News. https://archive.ph/VQ0Dw

[134] Cuthbertson, A. (2020, March 16). *France imposes 15-day lockdown and mobilises 100,000 police to enforce coronavirus restrictions.* The Independent. https://web.archive.org/web/20220524223828/https://www.independent.co.uk/news/world/europe/coronavirus-france-lockdown-cases-update-covid-19-macron-a9405136.html

[135] *Ibid.* (Rancourt *et al*., 2020)

[136] National Advisory Committee on Immunization, BC Centre for Disease Control, & ImmunizeBC. (2021, October). *Influenza (Flu) Season.* HealthLink BC. https://archive.ph/zEED5

[137] *Human Metapneumovirus (hMPV).* American Lung Association. Retrieved April 24, 2022, from https://archive.ph/CcBsH

[138] Rancourt, D. (2020). *Masks Don't Work: A review of science relevant to COVID-19 social policy (p. 6).* Denis Rancourt. https://denisrancourt.ca/uploads_entries/1626746769191_Masks%20Don-t%20work----4-1viXra.pdf

[139] Tamerius, J., Nelson, M. I., Zhou, S. Z., Viboud, C., Miller, M. A., & Alonso, W. J. (2011). *Global influenza seasonality: reconciling patterns across temperate and tropical regions.* Environmental Health Perspectives, 119(4), 439–445. https://doi.org/10.1289/ehp.1002383

[140] Quetelet, A. (1838). *Memoire concernant l'influence des saisons sur la mortalité aux différens âges dans la Belgique.* Bruxelles. https://archive.org/details/39002086471654.med.yale.edu

[141] Guy, W. A., & Cantab, M. B. (1843). *An attempt to determine the influence of the seasons and weather on sickness and mortality*. Journal of the Statistical Society of London, 6(2), 133. https://doi.org/10.2307/2337869

[142] Global Influenza Programme WEP. (2019). *Influenza Update N° 350.* World Health Organization. https://web.archive.org/web/20220424211855/https://cdn.who.int/media/docs/default-source/influenza/influenza-updates/2019_09_16_surveillance_update_350.pdf

[143] Fowler, T., Southgate, R. J., Waite, T., Harrell, R., Kovats, S., Bone, A., Doyle, Y., & Murray, V. (2015). *Excess winter deaths in Europe: a multi-country descriptive analysis.* European Journal of Public Health, 25(2), 339–345. https://doi.org/10.1093/eurpub/cku073

[144] Hawkes, M. T., Lee, B. E., Kanji, J. N., Zelyas, N., Wong, K., Barton, M., Mukhi, S., & Robinson, J. L. (2021). *Seasonality of respiratory viruses at northern latitudes.* JAMA Network Open, 4(9), e2124650. https://doi.org/10.1001/jamanetworkopen.2021.24650

[145] *Table 13-10-0810-01 Provisional weekly death counts, by selected grouped causes of death.* (2022, April 24). Statistics Canada. https://doi.org/10.25318/1310081001-eng

[146] Milhouse Van Houten [@Milhouse_Van_Ho]. (2021, May 14). *Mortality in Canada (thread): Here we have the total number of deaths in Canada and its regions over the past ten years. [Tweet].* Twitter. https://web.archive.org/web/20210519053020/https://twitter.com/Milhouse_Van_Ho/status/1393213483550978057

[147] Reuchel, J. (2021, May 28). *The lies exposed by the numbers: Fear, misdirection, & institutional deaths (an investigative report).* Julius Reuchel. https://archive.ph/RpfxE

[148] Lagacé-Wiens, P., Bullard, J., Cole, R., & Van Caeseele, P. (2021). *Seasonality of coronaviruses and other respiratory viruses in Canada: Implications for COVID-19.* Canada Communicable Disease Report, 47(3), 132–138. https://doi.org/10.14745/ccdr.v47i03a02

[149] Public Health Agency of Canada. (2021, March 25). *FluWatch annual report: 2019-2020 influenza season.* Government of Canada. https://archive.ph/MdlBn

[150] *COVID-19 Canadian Covid Care Alliance Declaration (p. 2).* (2021). Canadian Covid Care Alliance. https://web.archive.org/web/20220424234539/https://www.canadiancovidcarealliance.org/wp-content/uploads/2021/09/CCCA-Declaration-Final_v6_Sept26th2021.pdf

[151] Rancourt, D. G., Baudin, M., & Mercier, J. (2021). *Nature of the COVID-era public health disaster in the USA, from all-cause mortality and socio-geo-economic and climatic data.* ResearchGate. Pre-print. http://dx.doi.org/10.13140/RG.2.2.11570.32962

[152] Katawazi, M. (2020, April 28). *Ontario and Quebec have more than 80 per cent of Canada's COVID-19 cases, officials say.* CTV News Toronto. https://archive.ph/V6R6F

[153] Aiello, R. (2020, April 28). *New COVID-19 modelling shows curve flattening; up to 3,883 deaths by May 5.* CTV News. https://archive.ph/VKB57

[154] Ha, T. T. (2021, September 14). *Herron long-term care residents died of thirst, malnourishment, Quebec coroner's inquest told.* The Globe and Mail. https://archive.ph/LN9sw

[155] Levesque, L. (2021, September 10). *"As a society, we abandoned them": Quebec coroner outraged by delay in getting nurses to hard-hit Residence Herron.* CTV News Montreal. https://archive.ph/XxI1W

[156] *"Deeply disturbing" care homes report sparks inquiry.* (2020, May 27). BBC News. https://archive.ph/Z4fVj

[157] Estabrooks, C. A., Straus, S. E., Flood, C. M., Keefe, J., Armstrong, P., Donner, G. J., Boscart, V., Ducharme, F., Silvius, J. L., & Wolfson, M. C. (2020). *Restoring trust: COVID-19 and the future of long-term care in Canada.* FACETS, 5(1), 651–691. https://doi.org/10.1139/facets-2020-0056

[158] Nursing Task Force. (1999, January). *Good nursing, good health: An investment for the 21st century.* Ontario Ministry of Health and Long-Term Care. https://archive.ph/9Ho9I

[159] Petrequin, S. (2020, November 16). *Report: Belgian nursing homes failed patients amid pandemic.* ABC News; Associated Press. https://archive.ph/8CYFV

[160] Trabucchi, M., & de Leo, D. (2021). *Nursing homes or abandoned castles: COVID-19 in Italy.* The Lancet Psychiatry, 8(2), e6. https://doi.org/10.1016/s2215-0366(20)30541-1

[161] *"Ora basta coi morti nelle Rsa" | Rassegna Stampa*. (2020, November 7). Comunità Di Sant'egidio. https://archive.ph/Folly

[162] Visetti, G. (2020, November 3). *Rsa, infermieri in fuga: "È come stare in guerra ma senza più soldati."* La Repubblica. https://archive.ph/QyToP

[163] Davey, M. (2022, February 8). *"You let this happen": nurses accuse government of abandoning aged care workers and residents.* The Guardian. https://archive.ph/ESPf6

[164] Wachholz, P. A., Ferri, C. P., Mateus, E., da Mata, F., & Oliveira, D. (2020, June 29). *The COVID-19 situation in Brazilian care homes and actions taken to mitigate infection and reduce mortality.* LTC Responses to COVID-19. https://archive.ph/wPg25

[165] Ma'u, E., Robinson, J., Cheung, G., Miller, N., & Cullum, S. (2020). *COVID-19 and long-term care in Aotearoa New Zealand.* International Long Term Care Policy Network. https://web.archive.org/web/20220122064831/https://ltccovid.org/wp-content/uploads/2020/08/The-LTC-COVID-situation-in-New-Zealand-9-August-2020.pdf

[166] *CMS announces findings at Kirkland nursing home and new targeted plan for healthcare facility inspections in light of COVID-19.* (2020, March 23). Centers for Medicare & Medicaid Services. https://www.cms.gov/newsroom/press-releases/cms-announces-findings-kirkland-nursing-home-and-new-targeted-plan-healthcare-facility-inspections

[167] Young, S. (2021, December 15). *After "truly appalling" death toll in nursing homes, California rethinks their funding.* California Healthline. https://californiahealthline.org/news/article/california-nursing-home-medicaid-funding-performance-during-pandemic/

[168] Abbasi, J. (2020). *"Abandoned" nursing homes continue to race critical supply and staff shortages as COVID-19 toll has mounted.* JAMA, 324(2). https://doi.org/10.1001/jama.2020.10419

[169] Barnett, M. L., & Grabowski, D. C. (2020). *Nursing homes are ground zero for COVID-19 pandemic.* JAMA Health Forum, 1(3), e200369–e200369. https://doi.org/10.1001/jamahealthforum.2020.0369

[170] Kamp, J., & Mathews, A. W. (2020, March 19). *Coronavirus outbreaks spreading in nursing homes.* Wall Street Journal. https://archive.ph/dScYI

[171] Pecorin, A., Park, C., Mosk, M., & Freger, H. (2020, April 23). *Coronavirus crosses grim milestone of 10,000 deaths in US nursing homes.* ABC News. https://abcnews.go.com/Health/coronavirus-crosses-grim-milestone-10000-deaths-us-nursing/story?id=70321822

[172] *Ibid.*

[173] *Ibid*. (Rancourt *et al*., 2020)

[174] Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). *Psychological stress and disease.* JAMA, 298(14), 1685. https://doi.org/10.1001/jama.298.14.1685

[175] Cohen, S., Tyrrell, D. A. J., & Smith, A. P. (1991). *Psychological stress and susceptibility to the common cold.* New England Journal of Medicine, 325(9), 606–612. https://doi.org/10.1056/nejm199108293250903

[176] Prenderville, J. A., Kennedy, P. J., Dinan, T. G., & Cryan, J. F. (2015). *Adding fuel to the fire: the impact of stress on the ageing brain.* Trends in Neurosciences, 38(1), 13–25. https://doi.org/10.1016/j.tins.2014.11.001

[177] Cohen, S. (1997). *Social ties and susceptibility to the common cold.* JAMA: The Journal of the American Medical Association, 277(24), 1940. https://doi.org/10.1001/jama.1997.03540480040036

[178] Campbell, A. D. (2020). *Practical implications of physical distancing, social isolation, and reduced physicality for older adults in response to COVID-19.* Journal of Gerontological Social Work, 1–3. https://doi.org/10.1080/01634372.2020.1772933

[179] Comas-Herrera, A., Fernandez, J.-L., Hancock, R., Hatton, C., Knapp, M., McDaid, D., Malley, J., Wistow, G., & Wittenberg, R. (2020). *COVID-19: Implications for the support of people with social care needs in England.* Journal of Aging & Social Policy, 32(4-5), 1–8. https://doi.org/10.1080/08959420.2020.1759759

[180] Wu, B. (2020). *Social isolation and loneliness among older adults in the context of COVID-19: a global challenge.* Global Health Research and Policy, 5(1). https://doi.org/10.1186/s41256-020-00154-3

[181] Chaudhry, R., Dranitsaris, G., Mubashir, T., Bartoszko, J., & Riazi, S. (2020). *A country level analysis measuring the impact of government actions, country preparedness and socioeconomic factors on COVID-19 mortality and related health outcomes.* EClinicalMedicine, 0(0). https://doi.org/10.1016/j.eclinm.2020.100464

[182] De Larochelambert, Q., Marc, A., Antero, J., Le Bourg, E., & Toussaint, J.-F. (2020). *COVID-19 mortality: A matter of vulnerability among nations facing limited margins of adaptation.* Frontiers in Public Health, 8. https://doi.org/10.3389/fpubh.2020.604339

[183] AEIR Staff. (2020, December 19). *Lockdowns do not control the coronavirus: The evidence.* American Institute for Economic Research. https://archive.ph/NhUcs

[184] The Editors of Encyclopedia Britannica. (2019). *European heat wave of 2003.* Encyclopædia Britannica. https://archive.ph/y9fs4

[185] Ledrans, M., Pirard, P., Tillaut, H., Pascal, M., Vandentorren, S., Suzan, F., Salines, G., Le Tertre, A., Medina, S., Maulpoix, A., Bérat, B., Carré, N., Ermanel, C., Isnard, H., Ravault, C., & Delmas, M. C. (2004). *La vague de chaleur d'août 2003: que s'est-il passe? [The heat wave of August 2003: what happened?].* La Revue du praticien, 54(12), 1289–1297.

[186] Evin, C., & D'Aubert, F. (2004). *N° 1455 - 01 - Rapport de la commission d'enquête sur les conséquences de la canicule (MM. Claude Evin, François d'Aubert) (tome I) [p. 76].* Assemblée Nationale. https://archive.ph/qaJLI

[187] Hémon, D., & Jougla, E. (2004). *Surmortalité liée à la canicule d'août 2003.* Inserm. https://web.archive.org/web/20220530172035/https://www.inserm.fr/wp-content/uploads/2017-11/inserm-rapportthematique-surmortalitecaniculeaout2003-rapportfinal.pdf

[188] Larsen, J. (2006, July 28). *Setting the record straight: More than 52,000 Europeans died from heat in Summer 2003.* Wayback Machine; Earth Policy Institute. https://web.archive.org/web/20060814061304/http://www.earth-policy.org/Updates/2006/Update56.htm

[189] US Department of Commerce, NOAA. *20th anniversary of the historic July 12-15, 1995 heat wave.* National Weather Service. Retrieved May 30, 2022, from https://archive.ph/wYC2o

[190] Parks, R. M., Bennett, J. E., Foreman, K. J., Toumi, R., & Ezzati, M. (2018). *National and regional seasonal dynamics of all-cause and cause-specific mortality in the USA from 1980 to 2016.* eLife, 7. https://doi.org/10.7554/elife.35500

[191] Woolf, S. H., Chapman, D. A., Sabo, R. T., & Zimmerman, E. B. (2021). *Excess deaths from COVID-19 and other causes in the US, March 1, 2020, to January 2, 2021.* JAMA. https://doi.org/10.1001/jama.2021.5199

[192] *Ibid.* (Rancourt *et al*., 2021)

[193] Morrell, L. (2020, July 10). *Arizona coronavirus testing efforts to increase in July and August.* Raising Arizona Kids. https://archive.ph/Yx6zN

[194] Assistant Secretary for Preparedness and Response. (2020, July 10). *COVID-19 pandemic planning scenarios.* Wayback Machine. https://web.archive.org/web/20200711222343/https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios-h.pdf

[195] Syal, A. (2020, July 12). *CDC estimates 40% of people infected with COVID-19 are asymptomatic.* The Daily Wildcat. https://archive.ph/hbwYE

[196] Cronkite News. (2022, April 2). *Arizona surpasses 2 million COVID-19 cases.* AZ Big Media. https://archive.ph/MaEe6

[197] Stone, K. (2020, June 30). *Arizona activates hospital plan with guidance for rationing health care.* KTAR. https://archive.ph/vYQy7

[198] Steinbach, A., Innes, S., & Leingang, R. (2020, June 30). *Arizona hospitals can start activating "crisis care" standards due to COVID-19 surge.* The Arizona Republic. https://archive.ph/voLEl

[199] Curtis, C. (2021, January 29). *2020 was officially the 2nd driest and 2nd hottest year ever recorded in Arizona.* The Arizona Republic. https://archive.ph/1Ui0O

[200] Stratford, O. *Heat-associated deaths in Maricopa County, AZ final report for 2020.* Maricopa County. Retrieved May 30, 2022, from https://web.archive.org/web/20220131223656/https://www.maricopa.gov/ArchiveCenter/ViewFile/Item/5240

[201] Berisha, V., Gettel, A., & Holmes, A. *Heat-associated deaths in Maricopa County, AZ final report for 2019.* Maricopa County. Retrieved May 30, 2022, from https://web.archive.org/web/20220528120142/https://www.maricopa.gov/ArchiveCenter/ViewFile/Item/4959

[202] *Ibid.* (Rancourt *et al*., 2021)

[203] Manser, J. (2020, September 2). *UA expert weighs in on the impact record-breaking heat, COVID-19 have on Arizonans.* The Department of Psychiatry, University of Arizona Health Sciences. https://archive.ph/b5NMm

[204] Knowlton, K. (2020, June 2). *Extreme heat and the COVID-19 pandemic: Global Heat Health Information Network launches comprehensive online resource.* College of Architecture, Planning and Landscape Architecture. https://archive.ph/Rm3l7

[205] Hiltzik, M. (2020, June 30). *Column: Arizona's rules for rationing healthcare in the COVID-19 pandemic should terrify you.* Los Angeles Times. https://archive.ph/g22oj

[206] Frigerio, J. (2020, August 4). *Six Flags Hurricane Harbor water park in Phoenix to remain closed for 2020 season.* ABC15 Arizona KNXV; Scripps Local Media. https://archive.ph/J6bKm

[207] Wieffering, H. (2020, June 21). *Metrocenter Mall will close after 46 years of business due to fewer shoppers, COVID-19.* The Arizona Republic. https://archive.ph/NFnEq

[208] McNary, D. (2020, June 30). *Arizona closes movie theaters, bars, nightclubs due to surge in COVID-19 cases.* Variety. https://archive.ph/kiB4h

[209] Aldwin, C. M., Jeong, Y.-J., Igarashi, H., Choun, S., & Spiro, A. (2014). *Do hassles mediate between life events and mortality in older men?* Experimental Gerontology, 59, 74–80. https://doi.org/10.1016/j.exger.2014.06.019

[210] Wallace, J. B. (2018, March 3). *Even the small stresses of daily life can hurt your health, but attitude can make a difference.* Washington Post. https://archive.ph/jdRnA

[211] White-Crummey, A. (2020, May 29). *Daughter blames "chaos" of COVID-19 pandemic for mother's rapid decline.* Saskatoon StarPhoenix; Regina Leader-Post. https://archive.ph/xFctt

[212] Erdman, J. (2020, July 15). *July and all-time heat records smashed in Texas, New Mexico; Searing heat to return this weekend to Midwest, East.* The Weather Channel. https://archive.ph/HCQfk

[213] Baurick, T. (2020, August 5). *These Louisiana cities are getting more weeks of "extreme heat" than 50 years ago.* Nola. https://archive.ph/sltpR

[214] Pulver, D. V. (2020, August 28). *So far, 2020 has been a hotter-than-normal year for South Carolina and much of the nation.* The Greenville News. https://archive.ph/MFT14

[215] Cappucci, M. (2020, July 16). *Blistering heat and humidity to intensify in central, eastern U.S. this weekend.* Washington Post. https://archive.ph/WWgSh

[216] Altman, D. (2020). *Understanding the US failure on coronavirus—an essay by Drew Altman.* BMJ, m3417. https://doi.org/10.1136/bmj.m3417

[217] Owen, B. (2022, May 5). *2021 heat wave over B.C., Alberta was among most extreme since 1960s: study.* Global News. https://archive.ph/0ohEx

[218] *Hottest day ever in Seattle (June 28, 2021).* (2021, July 13). UW Emergency Management. https://archive.ph/c2HAu

[219] Hasenstab, A. (2022, February 10). *Oregon's 2021 heat dome notches another record.* OPB. https://archive.ph/rDXKc

[220] *Heat wave 2021.* Washington State Department of Health. Retrieved June 6, 2022, from https://archive.ph/Uzwsm

[221] *Adult obesity facts.* (2021, February 11). Centers for Disease Control and Prevention. https://www.cdc.gov/obesity/data/adult.html

[222] Elflein, J. (2021, October 25). *Canadians overweight or obese percentage 2015-2019.* Statista. https://archive.ph/ao6OJ

[223] Axfors, C., & Ioannidis, J. P. A. (2021). *Infection fatality rate of COVID-19 in community-dwelling populations with emphasis on the elderly: An overview.* medRxiv. https://doi.org/10.1101/2021.07.08.21260210

[224] Behavioral Risk Factor Surveillance System. (2022, May 16). *New adult obesity maps.* Centers for Disease Control and Prevention. https://archive.ph/4vdEc

[225] Salas, X. R., & Nutter, S. (2020, June 1). *Weight bias, obesity stigma and COVID-19: A call to action.* Obesity Action Coalition. https://archive.ph/j31we

[226] Demeulemeester, F., de Punder, K., van Heijningen, M., & van Doesburg, F. (2021). *Obesity as a risk factor for severe COVID-19 and complications: A review.* Cells, 10(4), 933. https://doi.org/10.3390/cells10040933

[227] de Macêdo, P. F. C., Nepomuceno, C. M. M., dos Santos, N. S., Queiroz, V. A. de O., Pereira, E. M., Leal, L. da C., Santos, L. A. da S., Nascimento, L. F., Martins, P. C., & de Santana, M. L. P. (2022). *Weight stigma in the COVID-19 pandemic: a scoping review.* Journal of Eating Disorders, 10(1). https://doi.org/10.1186/s40337-022-00563-4

[228] Wadman, M. (2020, September 8). *Why COVID-19 is more deadly in people with obesity—even if they're young.* Science. https://archive.ph/iA1UW

[229] Popkin, B. M., Du, S., Green, W. D., Beck, M. A., Algaith, T., Herbst, C. H., Alsukait, R. F., Alluhidan, M., Alazemi, N., & Shekar, M. (2020). *Individuals with obesity and COVID-19: A global perspective on the epidemiology and biological relationships.* Obesity Reviews, 21(11). https://doi.org/10.1111/obr.13128

[230] National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases. (2022, May 2). *People with certain medical conditions.* Centers for Disease Control and Prevention. https://archive.ph/hTBmZ

[231] Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. (2020, September 17). *Obesity, race/ethnicity, and COVID-19 | Overweight & obesity.* Centers for Disease Control and Prevention. https://archive.ph/bAp3Z

[232] Tanaka, S.-I. ., Isoda, F., Ishihara, Y., Kimura, M., & Yamakawa, T. (2001). *T lymphopaenia in relation to body mass index and TNF-α in human obesity: adequate weight reduction can be corrective.* Clinical Endocrinology, 54(3), 347–354. https://doi.org/10.1046/j.1365-2265.2001.1139cn2155.x

[233] Theis, N., Campbell, N., De Leeuw, J., Owen, M., & Schenke, K. C. (2021). *The effects of COVID-19 restrictions on physical activity and mental health of children and young adults with physical and/or intellectual disabilities.* Disability and Health Journal, 14(3), 101064. https://doi.org/10.1016/j.dhjo.2021.101064

[234] Schippers, M. C. (2020). *For the greater good? The devastating ripple effects of the COVID-19 crisis.* Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.577740

[235] Nguyen, T. T., Nguyen, M. H., Pham, T. T. M., Le, V.-T. T., Nguyen, T. T., Luong, T. C., Do, B. N., Dao, H. K., Nguyen, H. C., Ha, T. H., Pham, L. V., Nguyen, P. B., Nguyen, H. T. T., Do, T. V., Nguyen, H. Q., Trinh, M. V., Le, T. T., Tra, A. L., Nguyen, T. T. P., & Nguyen, K. T. (2021). *Negative impacts of COVID-19 induced lockdown on changes in eating behavior, physical activity, and mental health as modified by digital healthy diet literacy and eHealth literacy.* Frontiers in Nutrition, 8. https://doi.org/10.3389/fnut.2021.774328

[236] Dudoignon, E., Caméléna, F., Deniau, B., Habay, A., Coutrot, M., Ressaire, Q., Plaud, B., Berçot, B., & Dépret, F. (2020). *Bacterial pneumonia in COVID-19 critically ill patients: A case series.* Clinical Infectious Diseases. https://doi.org/10.1093/cid/ciaa762

[237] Farrell, J. M., Zhao, C. Y., Tarquinio, K. M., & Brown, S. P. (2021). *Causes and consequences of COVID-19-associated bacterial infections*. Frontiers in Microbiology, 12. https://doi.org/10.3389/fmicb.2021.682571

[238] Morens, David M., Taubenberger, Jeffery K., & Fauci, Anthony S. (2008). *Predominant role of bacterial pneumonia as a cause of death in pandemic influenza: Implications for pandemic influenza preparedness.* The Journal of Infectious Diseases, 198(7), 962–970. https://doi.org/10.1086/591708

[239] Oplinger, A. A. (2008, August 19). *Bacterial pneumonia caused most deaths in 1918 influenza pandemic.* National Institutes of Health (NIH). https://archive.ph/1zu39

[240] Chien, Y.-W., Klugman, K. P., & Morens, D. M. (2009). *Bacterial pathogens and death during the 1918 influenza pandemic.* New England Journal of Medicine, 361(26), 2582–2583. https://doi.org/10.1056/nejmc0908216

[241] Sheng, Z.-M. ., Chertow, D. S., Ambroggio, X., McCall, S., Przygodzki, R. M., Cunningham, R. E., Maximova, O. A., Kash, J. C., Morens, D. M., & Taubenberger, J. K. (2011). *Autopsy series of 68 cases dying before and during the 1918 influenza pandemic peak*. Proceedings of the National Academy of Sciences, 108(39), 16416–16421. https://doi.org/10.1073/pnas.1111179108

[242] Klein, E. Y., Monteforte, B., Gupta, A., Jiang, W., May, L., Hsieh, Y.-H., & Dugas, A. (2016). *The frequency of influenza and bacterial coinfection: a systematic review and meta-analysis.* Influenza and Other Respiratory Viruses, 10(5), 394–403. https://doi.org/10.1111/irv.12398

[243] Fleming, A. (1980). *On the antibacterial action of cultures of a penicillium, with special reference to their use in the isolation of B. influenzae.* Clinical Infectious Diseases, 2(1), 129–139. https://doi.org/10.1093/clinids/2.1.129

[244] *The Nobel Prize in Physiology or Medicine 1945.* Nobel Prize Outreach AB. Retrieved June 7, 2022, from https://archive.ph/ohiyK

[245] Aminov, R. I. (2010). *A brief history of the antibiotic era: Lessons learned and challenges for the future.* Frontiers in Microbiology, 1(134). https://doi.org/10.3389/fmicb.2010.00134

[246] Jester, B. J., Uyeki, T. M., Patel, A., Koonin, L., & Jernigan, D. B. (2018). *100 years of medical countermeasures and pandemic influenza preparedness.* American Journal of Public Health, 108(11), 1469–1472. https://doi.org/10.2105/ajph.2018.304586

[247] Ginsburg, A. S., & Klugman, K. P. (2020). *COVID-19 pneumonia and the appropriate use of antibiotics.* The Lancet Global Health, 0(0). https://doi.org/10.1016/S2214-109X(20)30444-7

[248] Arunachalam, P. S., Wimmers, F., Mok, C. K. P., Perera, R. A. P. M., Scott, M., Hagan, T., Sigal, N., Feng, Y., Bristow, L., Tak-Yin Tsang, O., Wagh, D., Coller, J., Pellegrini, K. L., Kazmin, D., Alaaeddine, G., Leung, W. S., Chan, J. M. C., Chik, T. S. H., Choi, C. Y. C., & Huerta, C. (2020). *Systems biological assessment of immunity to mild versus severe COVID-19 infection in humans.* Science, 369(6508), 1210–1220. https://doi.org/10.1126/science.abc6261

[249] Puckey, M. (2021, December 1). *What antibiotics kill COVID-19 (coronavirus)?* Drugs. https://archive.ph/r1RYq

[250] National Institutes of Health. (2022, April 8). *Nonhospitalized adults: Therapeutic management.* COVID-19 Treatment Guidelines. https://archive.ph/4RNzs

[251] *Myth busters.* (2022). World Health Organization. https://archive.ph/aMjrK

[252] Langford, B. J., So, M., Raybardhan, S., Leung, V., Soucy, J.-P. R., Westwood, D., Daneman, N., & MacFadden, D. R. (2021). *Antibiotic prescribing in patients with COVID-19: rapid review and meta-analysis.* Clinical Microbiology and Infection. https://doi.org/10.1016/j.cmi.2020.12.018

[253] Langford, B. J., So, M., Raybardhan, S., Leung, V., Westwood, D., MacFadden, D. R., Soucy, J.-P. R., & Daneman, N. (2020). *Bacterial co-infection and secondary infection in patients with COVID-19: a living rapid review and meta-analysis.* Clinical Microbiology and Infection, 26(12). https://doi.org/10.1016/j.cmi.2020.07.016

[254] Leung, E., McIntyre, M., Andany, N., Ciccotelli, W. A., Graham, C., Jüni, P., Langford, B., McCarthy, A. E., Nott, C., Gold, W. L., Pai, M., Patel, S., Raybardhan, S., Stall, N. M., & Morris, A. M. (2021). *Ivermectin to prevent disseminated strongyloides infection in patients with COVID-19.* Science Briefs of the Ontario COVID-19 Science Advisory Table, 2(30). https://doi.org/10.47326/ocsat.2021.02.30.1.0

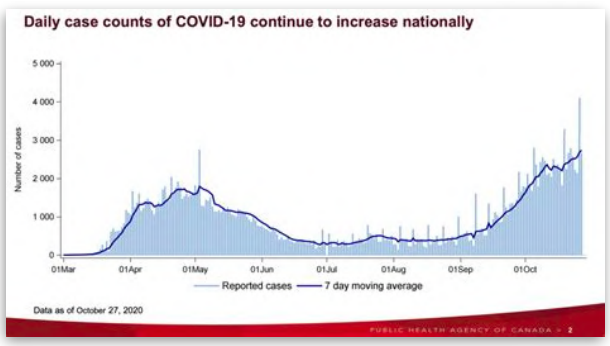
[255] Heidary, F., & Gharebaghi, R. (2020). *Ivermectin: a systematic review from antiviral effects to COVID-19 complementary regimen.* The Journal of Antibiotics, 73(9), 593–602. https://doi.org/10.1038/s41429-020-0336-z

PCR TESTING

Despite the fact that many early claims of COVID-19's threat to human health were quelled early in the declared pandemic, there remained an ever-increasing sense of emergency tied to the frighteningly large number of "cases" reported daily. These cases were, for the most part, generated using a revolutionary laboratory technology used in a fashion that stacked the deck in the wrong direction.

While the term "PCR test" has become ubiquitous among households and workplaces since March 2020, very few people know anything more than a simple instruction: if you need to find out if you have COVID-19, go get a PCR test.

For two years, the case numbers accumulated on the scrollbar on the news, and took up ever-increasing space in internet headlines. While the initial panic was focused on the deaths reported from Wuhan and then exploding in Italy and New York City, our attention smoothly shifted into "case numbers." In fact, this notion of testing positive with PCR was so fundamental to the notion of epidemic threat that the line generated on a graph by these "cases" inspired the infamous slogan "Two Weeks to Flatten the Curve."[256]



Public Health Agency of Canada case count graphic as of October 27, 2020

It goes without saying that avoiding close contact with friends, family and the public when you're sick is a universally acknowledged strategy to avoid passing a respiratory infection to someone else (if that is the source of illness). Beyond that, a "sick day" is a healthy opportunity to allow your body to rest and perform its immune system magic. In fact, the CDC in the US recommends those who fall ill with the flu take 4-5 days off until symptoms resolve.[257] The two fundamental reasons this makes sense is for self-care, and to reduce the likelihood you'll inadvertently get someone else sick.

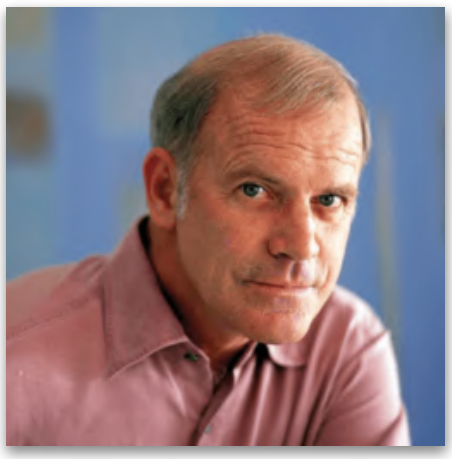
With COVID-19, however, public health agencies around the world turned a sharp corner in their emergency response. Instead of initiating campaigns to educate people on how to strengthen their immune system, exercise, healthy eating and tips for managing stress - all of which would have undoubtedly raised the baseline health of the country and kept spirits high - governments focused exclusively on mass quarantine of the healthy.

To understand the fatal flaw in this approach, one must first understand the nuance between a "case" and an "illness" - and the mechanisms by which public health conflated the two.

HISTORY OF PCR

PCR stands for **Polymerase Chain Reaction**.[258] It is a process through which "it is possible to replicate several million times, in a test tube, an individual DNA segment of a complicated genetic material."[259]

The invention of PCR is credited in large part to Dr. **Kary Mullis**, an American biochemist.[260] In the 1996 book *Making PCR* by Paul Rabinow, which retells the process of introducing the method, its importance in revolutionizing laboratory science is emphasized: "*PCR has profoundly transformed the practices and potential of molecular biology by extending scientists' ability to identify and*



Dr. Kary Mullis

manipulate genetic material. It facilitates the identification of precise segments of DNA and accurately reproduces millions of copies of the given segment in a short period of time. It makes abundant what was once scarce - the genetic material required for experimentation."[261]

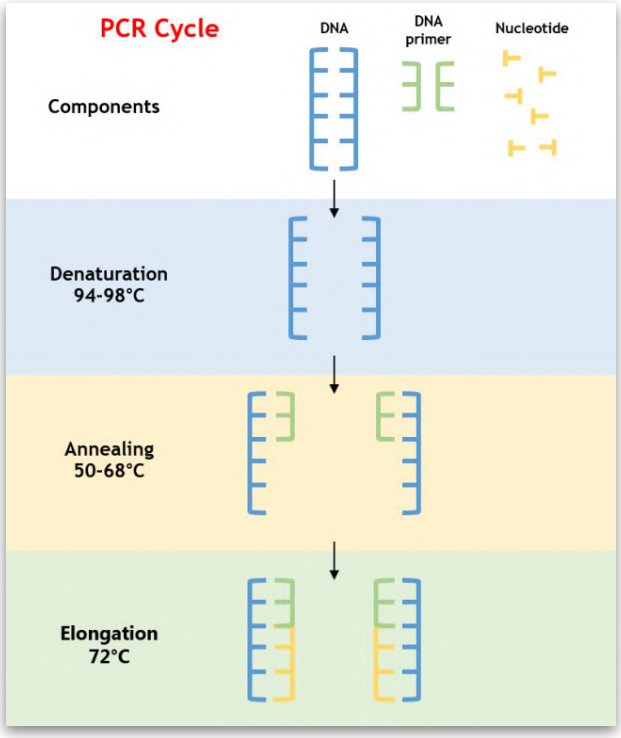


Diagram of basic steps in the PCR process

Mullis conceived of the idea while working at **Cetus Corporation** (one of the very first biotech companies, now a part of pharmaceutical giant **Novartis**)[262] described the invention for the first time in 1985, and was awarded a patent in 1987.[263] He went on to win a **Nobel Prize** for PCR in 1993.[264]

PCR's uses have been widespread and groundbreaking, reaching from forensic analysis of bodily fluids to exonerate crime suspects to "the ability to study DNA from a 40,000-year-old frozen mammoth." It even served as the basis for the fictional reanimating of dinosaurs in the Jurassic Park book and film series, based on strands of prehistoric DNA.[265] In vivid summary, it was revolutionary.

However, Mullis quickly came to understand the ways in which his technology could be misused - including by individuals who sought to benefit from the appearance of an infectious disease outbreak, perhaps entirely created by PCR.

FALSE EPIDEMICS

The COVID-19 pandemic is not the first time in recent history PCR has been used questionably in the context of public health.

In 2006, an internist at **Dartmouth-Hitchcock Medical Center** in New Hampshire developed a cough that had lasted several weeks. Her co-workers soon started coughing as well, leading the resident infectious disease specialist Dr. **Kathryn Kirkland** to panic. She was concerned that a **whooping cough** outbreak was imminent - despite the fact that early symptoms of the illness are broad and unspecific. As a result, the hospital began mass-testing samples from staff using PCR technology to which they had only recently been given access. "*And that… was why 1,445 health care workers ended up taking antibiotics and 4,524 health care workers at the hospital, or 72 percent of all the health care workers there, were immunized against whooping cough in a matter of days.*"[266]

Vial of blood for PCR HIV test

However, there was no whooping cough. "*Not a single case of whooping cough was confirmed with the definitive test, growing the bacterium,* ***Bordetella pertussis****, in the laboratory. Instead, it appears the health care workers probably were afflicted with ordinary respiratory diseases like the common cold*." After a couple of weeks, it became clear that PCR results had been misinterpreted due to a fundamental misunderstanding of the capabilities and limitations of the test. "*…their very sensitivity makes false positives likely, and when hundreds or thousands of people are tested, as occurred at Dartmouth, false positives can make it seem like there is an epidemic*." The growth of the microorganism *in vitro*, in a controlled laboratory setting, is the correct tool to determine if the sampled material contains viable

organisms that are able to actually cause infections. The confirmatory *in vitro* testing was performed only after declaring the outbreak, proving it to be erroneous.

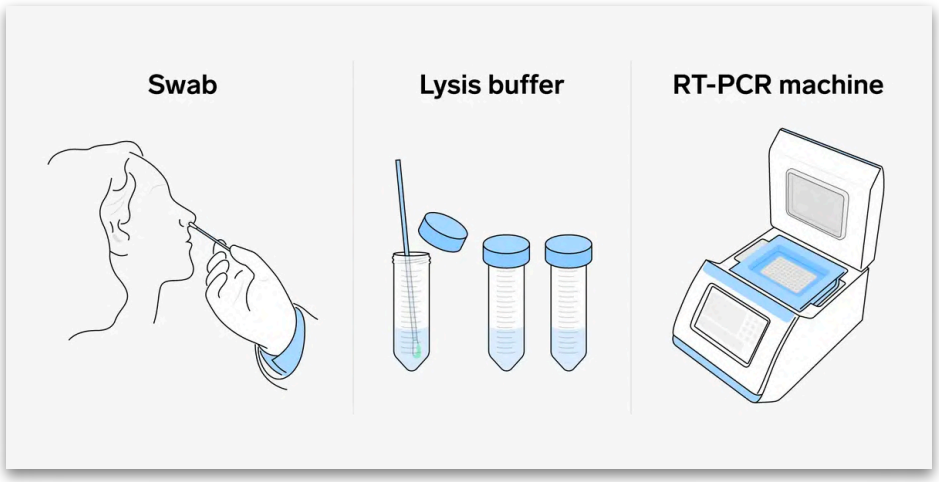
Similarly, great controversy still abounds surrounding the use of PCR to establish the presence of HIV in suspected infections. Like COVID-19, the AIDS epidemic of the 1980s and 90s (continuing today in parts of the world) is an emotionally-charged subject as it is intrinsically tied to social factors such as sexuality, poverty and race. Even the acknowledgement that there remains debate over aspects of the disease can be grounds for retraction in scientific journals.[267]

Despite this, reviewing the historical record of the peer-reviewed literature demonstrates the same criticism from the whooping cough incident: PCR "is not sufficiently accurate to be used for the diagnosis of HIV infection without confirmation."[268] Mullis publicly shared his concern with how PCR was being misrepresented in the HIV crisis on several occasions. "With PCR, if you do it well, you can find almost anything in anybody. It starts making you believe in the… Buddhist notion that everything is contained in everything else."[269] Mullis aggressively dismissed the notion that confirming the presence of a single molecule in an overwhelmingly complex organism is itself meaningful, and strongly criticized several prominent public health leaders who he felt were taking advantage of the public's lack of familiarity with the technology.

TESTING PROTOCOLS

The primary problem exposed by the 2006 whooping cough pseudo-epidemic was the lack of standardization across jurisdictions. When it comes to pertussis, "there are probably 100 different P.C.R. protocols and methods being used throughout the country," and as the New York Times reported at the time, "it is unclear how often any of them are accurate."

One variable across PCR protocols is **Ct value**, which stands for **Cycle threshold**.[270] The Ct value is the number of "**amplification cycles**" the test performs on a given sample, each cycle doubling the genetic material that was present in the prior cycle. Once viral SARS-CoV-2 RNA is detected, the test is considered "positive." The number of amplification cycles needed for detection is the Ct.



However, as noted by the **Public Health Agency of Canada**, the Ct value is "defined by the manufacturer of the test or the laboratory during the validation process." In other words, there is no standardization in Ct values used to decide what constitutes a "positive test." PHAC does, however, state that "there is good evidence that when more than 35 cycles are required to detect virus, the virus concentration is so low that it is unlikely to grow the virus in the laboratory."

Anthony Fauci, the head of the **National Institute of Allergies and Infectious Diseases (NIAID)** in the United States, concurred with this when he stated clearly in July 2020 that any results generated using a cycle threshold (Ct) of 35 or more are almost definitely a false positive.[271]

In spite of this, the **US Food and Drug Administration** and the CDC published instructions indicating an upper Ct value of 40 was used to calibrate the tests that they had authorized for Emergency Use.[272]

Canadian laboratories equally failed to establish a uniform testing standard. **Public Health Ontario** admits in an official guidance document that "how commonly [a false positive] occurs in the province is not known, as individual reports that are corrected are not centrally documented." It does, however, establish that laboratories across Ontario work with Ct values as high as 40, with re-testing of weak results commonly occurring in the 35-39 Ct range.[273]

Even so, this standard was not applied across the rest of the country, or even Ontario itself. Across Canada, Ct values most often ranged from 35 - 45, leaving the bulk of Canada's test-positivity rate severely in question.[274]

The **New York Times** acknowledged in August 2020 the likelihood that many positive PCR tests were in fact, "diagnosing huge numbers of people who may be carrying relatively insignificant amounts of the virus." The article quoted University of California virologist Dr. **Julie Morrison** as saying "I'm shocked that people would think that [a Ct value of] 40 could represent a positive."[275] Dr. **Beda Stadler**, Swiss biologist and former director of the Institute of Immunology at the University of Bern, concurred, having stated that previous month, "even if the infectious viruses are long dead, a corona test can come back positive, because the PCR method multiplies even a tiny fraction of the viral genetic material enough [to be detected]."[276] For her part, Ontario's Associate Chief Medical Officer of Health Dr. **Barbara Yaffe** had said in July 2020 that testing is only supposed to be kept for doubtful situations, individuals with indication of symptoms and their connections - and that mandatory mass testing of teachers "will just complicate the picture."[277]

Members of the scientific community vocalized their concerns with the testing protocol, with laboratory researchers and academics warning in September 2020 that the sheer quantity of false positives (combined with misguided public health instructions on interpreting test results) was misleading the public on the true rate of infection, which was significantly lower than was reported by officials and the media.[278] In November 2020, a group of leading life scientists published a scathing criticism of the "**Corman-Drosten**" paper,[279] the apparently fraudulent publication that was used as a basis to roll out a SARS-CoV-2 PCR test designed by German virologist Dr. **Christian Drosten**.[280] In an accompanying letter calling for the retraction of the study, the group wrote, "*Considering the severe errors in design and methodology of the RT-PCR test published by Eurosurveillance, this raises the concern whether the paper was subjected to peer-review at all.*"[281]

Olfert Landt, founder of TBI Molbiol

This Corman-Drosten paper would come to be the subject of further controversy,[282] when it was revealed that the co-authors of this publication were also in charge of editorial review for the **Eurosurveillance** journal, and were stakeholders in **TIB Molbiol**,[283] the company that manufactured the vast majority of the tests recommended and used by the WHO.[284, 285]

U.S. President **Donald Trump**'s administration was criticized at the time for declining when these tests were offered to the United States by the WHO, with White House COVID-19 response coordinator Dr. **Deborah Birx** alluding to possible quality issues.[286] The CDC was already under fire for mismanaging the rollout of tests it did approve for distribution, which turned out to be faulty.[287]

A court in Portugal ruled in November 2020 that based on the evidence that RT-PCR testing has up to a 97% false-positive rate when used at Ct value of 35 or more, it should not be recognized as a suitable test for COVID-19 diagnosis.[288]

These and similar conclusions were reached across the globe. By January 2021, the sheer volume of false positive "cases" globally was so obvious that the **World Health Organization (WHO)** "reminded" practitioners that "*...careful interpretation of weak positive results is needed", and "the cycle threshold (Ct) needed to detect virus is inversely proportional to the patient's viral load.*"[289]

In May 2021, the **Justice Centre for Constitutional Freedoms** challenged the Manitoba government on its lockdown and social distancing protocols on behalf of several individuals and churches, arguing there was no scientific justification for preventing Canadians from associating.[290] The province's Chief Microbiologist and Laboratory Specialist Dr. **Jared Bullard** testified under oath to PCR's "significant limitations." He admitted that "PCR test results do not verify infectiousness, and were never intended to be used to diagnose respiratory illnesses." He further testified that "PCR tests can be positive for up to 100 days after an exposure to the virus, and that PCR tests do nothing more than confirm the presence of fragments of viral RNA of the target SARS-COV-2 virus in someone's nose."

While this is a matter of fact and was not overly controversial, Dr. Bullard then confirmed that the fundamental problem that revealed itself during the response to the 2006 whooping cough pseudo epidemic was occurring again - that the most accurate way to determine whether someone is actually infectious with SARS-CoV-2 is to attempt to grow a cell culture in the lab from a patient sample. Shockingly, Dr. Bullard and his colleagues found that only 44% of positive PCR test results would actually grow in the lab, meaning 56% of all positive cases that they had examined were most likely false positives.

This was not limited to a single Manitoba laboratory, such as **Cadham Provincial Laboratory** where Dr. Bullard is lead scientist. Both Dr. Bullard and Manitoba Chief Medical Officer Dr. **Brent Roussin** confirmed under cross-examination that Ct values are not provided to public health officials by laboratories when submitting their test results. Dr. Roussin admitted that he could mandate that the Ct value be provided to him, but that he has not done so. Lastly, Bullard revealed that samples tested at a Ct of over 25 produced no viable lab cultures. At the time, Manitoba had confirmed that it was aware of Ct values as high as 40 and 45 being used within the province.

Dr. Brent Roussin

MIXED DIAGNOSES

In 1994, London medical lab statisticians Drs. Douglas Altman and J. Martin Bland emphasized the importance of not misusing or misinterpreting solely a positive result from a diagnostic test as diagnosis of disease:[291]

- "*The whole point of a diagnostic test is to use it to make a diagnosis, so we need to know the probability that the test will give the correct diagnosis. The sensitivity and specificity do not give us this information.*"[292]

- "*If the prevalence of the disease is very low, the positive predictive value will not be close to 1 even if both the sensitivity and specificity are high. Thus in screening the general population it is inevitable that many people with positive test results will be false positives.*"

- "*...it does not necessarily follow that a positive test is a good indicator of the presence of disease.*"

The CDC in the United States took a different approach, by instructing officials and test operators to mark any “presumptive” cases as “confirmed.”[293]

Finland’s national health authority initially approached their testing strategy with the same caution as Altman and Bland. On March 20, 2020, head of health security Dr. **Mika Salminen** stated that “*We don’t understand the WHO’s instructions for testing. We can’t fully remove the disease from the world anymore. If someone claims that, they don’t understand pandemics*.”[294] She argued that mass-testing was unnecessary, especially for those who are not vulnerable and could simply stay home when sick. The U.S. state of **North Carolina** opted for a similar strategy, despite the fact that WHO had called on countries to test as many patients as possible for coronavirus.[295, 296]

On July 2, 2021, lawyer **Philip Hyland** of **PJH Law** wrote a letter to the United Kingdom’s **National Health Service (NHS)** accusing the agency of keeping primary care workers “out of the diagnostic loop” by withholding key details surrounding PCR and rapid antigen/lateral flow testing protocols.[297]

On July 21, 2021, the CDC announced they were phasing out the use of RT-PCR for SARS-CoV-2 testing by the end of 2021.[298] Instead, the CDC instructs testing facilities to use an FDA-approved test that can differentiate between SARS-CoV-2 and influenza viruses. This means that the CDC and the FDA were aware that a significant enough number of COVID-19 “cases” interpreted from PCR-positive test results were likely the result of misidentification of viral genetic material - including that of Influenza family viruses, completely unrelated to SARS-CoV-2 in context. A new version of the SARS-CoV-2 PCR test was introduced within weeks, which was specifically designed to make such a differentiation between SARS-CoV-2, Influenza A and Influenza B.[299]

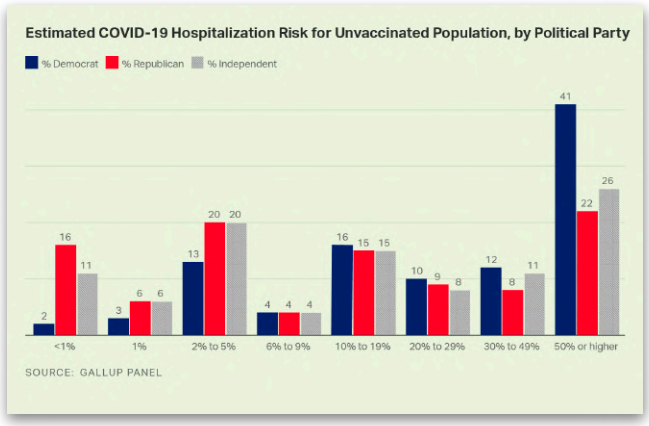
This was not a new phenomenon that the CDC was naive to until mid-2021. In fact, discussions on conflating COVID-19 with the flu or common cold were had as far back as February 2020 when the original outbreak in China was still active, and it was a known flaw in the testing protocol concerning both false positives and false negatives.[300] This led to confusion and worry when some patients presented with symptoms of an upper respiratory infection but tested negative six times before finally testing positive.[301] It is unclear why a simple diagnosis of cold or flu was not considered after so many negative tests, and demonstrated the necessity of clinical evaluation - *not* just a test - to diagnose COVID-19.

Another factor in the PCR process that is rarely considered is the fact that only a small section of the viral RNA is used as a reference, or “primer.” Depending on the primer, this can result in false positives because of similarity to other viruses or even the RNA/DNA of the patient being tested.[302]

While the regulatory agencies quietly began retiring the PCR test having been used as the tool to establish case numbers since early 2020, public health bodies began publicly discussing the need to shift to a completely new kind of test that would generate its own set of misunderstandings: **rapid antigen**.[303] The problem, though, wasn’t at all limited to the format and mechanism of test device being used to detect viral material - it was the fact that the mere presence of viral material does not constitute a medical diagnosis.

Further, neither RT-PCR or rapid antigen tests can meaningfully distinguish between variants of SARS-CoV-2, including the currently-circulating Omicron variant (at the time of writing).[304] The **College of American Pathologists** stated in September 2021 that both PCR and rapid antigen tests were likely no longer sufficient to detect new variants as they emerged, particularly the latter. Despite this, jurisdictions across Canada have committed billions of dollars to purchasing “sufficient quantities of rapid tests to meet the continued demand across the country”, which are being distributed everywhere from drive-through pop-ups to elementary schools.[305] Despite the well-documented scientific basis to stop using PCR for COVID-19

diagnosis, the Government of Canada inexplicably re-upped its September 2020 commitment of $3 billion to bolster provincial PCR capabilities.[306, 307]



Unfortunately, the damage was already done. Despite slow and steady disclosure of the relatively low threat posed by COVID-19 for the vast majority of the population, the accumulated "case counts" had left a scar in the psyche of the general public along the lines of a new form of **Post-Traumatic Stress Disorder (PTSD)**.[308, 309]

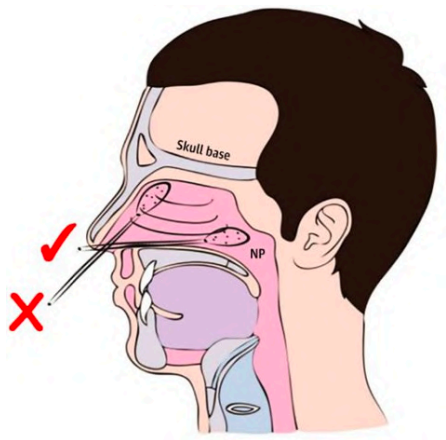
A Gallup poll published September 27, 2021 found that "the American public has a poor understanding of the true risks associated with the COVID-19 pandemic and that misperceptions vary by political party."[310] While the effects of SARS-CoV-2 infection do not play politics, the polarized sense of danger has borne itself out in the fact that 41% of Democrat respondents believed that 50% of "unvaccinated"[311] people have been hospitalized due to COVID-19. The 26% of independents and 22% of Republicans who believe the same didn't fare all that much better, all things considered.

SWAB SAFETY

Despite repeated assertions of the safety of the PCR testing process, numerous concerns have been raised at the procedural level as well as in terms of quality control of the materials involved.

INJURIES

In September 2021, a case study was published examining a man who suffered an injury to his cribriform plate at the base of his skull after being swabbed by a mobile testing unit outside his home.[312] His nose began leaking cerebrospinal fluid, which the physicians described as a "rare but dangerous complication." The man required a skin graft to begin to heal the injury. The researchers concluded, "Complications after nasal swab testing can be expected during the COVID-19 pandemic owing to an increase in nasal swab testing." This was not the first such case documented, with a similar incident described in October 2020.[313]



As horrific as leaking spinal fluid sounds, the cases range from irritating to gruesome. Nose bleeds have been documented (a relatively predictable risk), but particularly in individuals with existing conditions such as prior facial surgery, cardiovascular disease, simple nasal congestion, and those taking blood thinners at the time of the swabbing.[314]

Health Canada notes that swabs must maintain a minimum degree of durability so as to not break while being used.[315] Unfortunately, cases of broken swabs have occurred nonetheless, suggesting at least some fallibility in quality control or lax regulatory oversight.

Despite how ubiquitous the PCR and antigen testing has become, the scientific literature nonetheless emphasizes that only trained medical professionals should be conducting nasal swabbing due to the inherent risks, including life-threatening injuries.[316] Of course, the sharp increase in the number of tests being done would result in a proportionate increase in possible adverse events.

However, the general public was told that no such risks existed at all, leading to a breach in the legally required process of informed consent. For example, an online consent form for rapid COVID-19 PCR testing provided by **Valley Drug** in Emerson, Washington does not provide any information whatsoever on any of the potential risks, instead using the informed consent section to build up legal protection for the pharmacy.[317] This is also the case in Santa Ana, California, where **Edinger Urgent Care** offers both PCR and rapid antigen testing without disclosing the risks on their consent form.[318]

The **Canadian Red Cross** limits their information to acknowledging that patients "may experience possible discomfort and other complications," and that they must "release, waive, discharge and agree to indemnify, to the fullest extent permitted by applicable law," the Red Cross and its associates from "any claims, demands, damages, losses, costs (including legal costs), expenses, actions and causes of action arising out of any injury to persons (including injuries resulting in death)," "which may be or be alleged to be caused by or suffered as a result of the performance or non-performance of the COVID Test(s)."[319]

VIRAL CONTAMINATION

In March 2020, the United Kingdom suffered a widespread setback in implementing its own mass testing program due to "probes and primers" - components of the PCR testing process, with "probes" likely referring to swabs - becoming "contaminated with coronavirus."[320] Luxembourg-based manufacturer **Eurofins** defended itself and insisted that this was an issue that affected multiple providers, though no clear explanation emerged to clarify what exactly occurred.

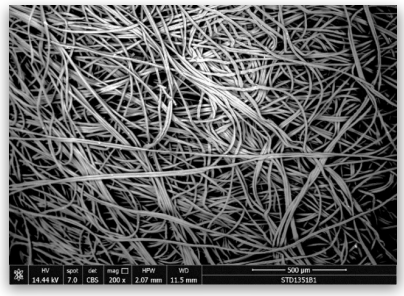
ETHYLENE OXIDE

Concerns have also been raised regarding the physical and chemical contents of the PCR swabs. For example, many (if not all) of the available swabs are treated using a chemical called **ethylene oxide (EO)**, which is widely used to sterilize medical equipment.[321] The swabs are exposed to the gaseous form of EO, which kills bacteria and viruses, then are left to sit for several hours until the chemical dissipates.[322]

Despite insistence that EO does not remain on the final packaged product, this is left up to the swab manufacturer to ensure, leaving open the risk of inconsistent quality control and possible variations in how much EO actually winds up in the nose. The **United Kingdom's Medicines and Healthcare products Regulatory Agency (MHRA)** admitted to Reuters that the agency "does not hold specific information relating to the materials used in sample collection swabs."[323]

This is problematic due to EO's well-documented risks to humans and animals. The CDC notes that EO can pose a risk to patients, and even acute contact "may result in irritation (e.g., to skin, eyes, gastrointestinal or respiratory tracts) and central nervous system depression." "Occupational exposure in healthcare facilities has been linked to hematologic changes and an increased risk of spontaneous abortions and various cancers." It is also "a known human carcinogen."[324]

A *Science & Justice* paper published in January 2017 found that after three weeks, "residual [EO] levels were below measurable levels," but "swabs should not be used until 5 weeks post EO treatment." Even so, the authors found "negligible effect of EO treatment on DNA" - an effect, nonetheless.[325] It is unclear how this 3-5 week safety window reconciles with the "several hours" afforded to the swabs following sterilization.



Concerns have been raised that studies have not been done to determine the safety of long-term exposure to EO in an area as sensitive and porous as the upper nasal passage, and it is unclear whether repeated swabbing presents more or less of a safety risk of built-up EO than what would normally be expected when using other health care devices traditionally sterilized the same way.[326] Dr. **Joel S. Holmes**, a vocal critic of many aspects of government policies on COVID-19 and foreign policy, noted "millions of people are tested daily, and this is part of a rush and panic to get massive testing done. I suppose rushing into anything in a panic is not a very sound principle."[327]

SWAB DESIGN

While one might assume the swabs being used for PCR and rapid antigen testing are a familiar material like cotton, they are actually a more complex structure manufactured with tough plastic-like fibres.

For example, **FLOQSwabs** (manufactured by the Italian **Copan Group**) is coated with short perpendicular nylon fibres.[328] These are distributed by Vancouver Coastal Health and Fraser Health in packages alongside

FLOQSwabs packaging

rapid antigen tests manufactured by **BD**, supplied by the BC Centre for Disease Control.[329] The nylon fibre-based tip is designed to facilitate "efficient dislodging of the target cells."[330]

The primary patent underlying Copan's FLOQSwabs describes the fibres as made "from rayon, polyester, polyamide, carbon fibre, alginate; natural fibres such as cotton and silk; or their mixtures."[331]

NANO-MATERIALS

Dr. **Antonietta M. Gatti** is a highly credentialed multidisciplinary researcher with over three decades of experience in the field of biomaterials and biocompatibility (in addition to her expertise in nanotechnology, toxicology and forensic pathology, among others).[332] She has worked in advisory groups for the **European Commission** on nanotoxicology,[333] and is a selected expert for the **United Nations Food and Agriculture Organization** for the safety of nanotechnology in food.[334]

She is also the co-founder and principal investigator at Nanodiagnostics, the laboratory at which she chose to examine various swabs used for SARS-CoV-2 detection.[335] Using electron microscopy, Dr. Gatti alleges to have identified the following:

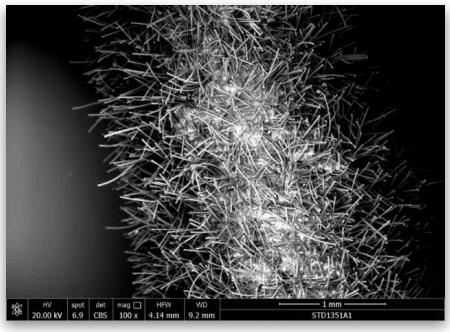
- Calcium carbonate, stainless steel and silicates, on a swab made by **Biocomma** in Shenzhen, China;

- Fibreglass, carbon, oxygen, aluminum, silicon and titanium, on a different Biocomma swab;

- Broken fibres, as well as carbon, oxygen, silicon, zirconium, sulfur, aluminum, titanium and sodium, on a swab from Manta, China;

- A silicate-zirconium-titanium combination on the nylon surface of a FLOQSwab.

While these findings are preliminary, Gatti asserts that these nano materials have not been declared by the manufacturers and pose potential health risks to patients.[336]



In September 2021, researcher **Peter Grandics** published a preprint analysis of his own electron microscopy study on two types of swabs used during the COVID-19 pandemic.[337] As explained in his abstract, Grandics identified "carbon, oxygen, nitrogen, aluminum and silicon as main components at highly variable concentrations within the cross sections of the fibers. In some spots, the concentrations of aluminum and silicon were as high as 7.25% and 14.06%, respectively. The base matrix appeared to be nylon with inorganic ingredients mixed in. Aluminum and silicon can both present health hazards, and this can explain the rapid-onset nasal bleed and strong and lasting adverse reactions reported by the tested individuals."

The majority of individuals seem to experience no issues with regular testing, but that does not dismiss the lived experiences of those that have dealt with an adverse event due to a low-quality swab or unprofessional technique. PCR and rapid antigen tests are invasive examinations, which are intimate intrusions into the privacy of those who don't want those materials collected. In short, there are many reasons why somebody would choose to avoid testing for SARS-CoV-2, and for all the reasons discussed above, it is dangerous and unethical to force or coerce anybody into submitting to one (or many) the way we have during the COVID-19 pandemic.

---

[256] Branswell, H. (2020, March 11). *Why "flattening the curve" may be the world's best bet to slow the coronavirus.* STAT News. https://archive.ph/xkeby

[257] Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases (NCIRD). (2020, August 31). *Stay home when you are sick.* CDC. https://archive.ph/EsLGQ

[258] *LabCorp COVID-19 RT-PCR test EUA summary.* (2021). U.S. Food and Drug Administration. https://web.archive.org/web/20220116234002/https://www.fda.gov/media/136151/download

[259] The Royal Swedish Academy of Sciences. (1993, October 13). *The Nobel Prize in Chemistry 1993.* Nobel Prize. https://archive.ph/PyHf0

[260] Shampo, M. A., & Kyle, R. A. (2002). *Kary B. Mullis—Nobel Laureate for procedure to replicate DNA.* Mayo Clinic Proceedings, 77(7), 606. https://doi.org/10.4065/77.7.606

[261] Rabinow, P. (1996). *Making PCR: a story of biotechnology.* University Of Chicago Press. https://archive.org/details/makingpcrstoryof00rabi/mode/1up

[262] Merrill, R. D. (2015, March 4). *First-hand: Starting up Cetus, the first biotechnology company - 1973 to 1982.* Engineering and Technology History Wiki. https://archive.ph/WdWMF

[263] Pai-Dhungat, J. (2019, September). *Kary Mullis-inventor of PCR.* Journal of the Association of Physicians of India. https://japi.org/r2646444/kary-mullis-inventor-of-pcr

[264] Pineda, D. (2019, August 13). *Kary Mullis, quirky Nobel laureate whose DNA discovery changed the science world, dies.* Los Angeles Times. https://archive.ph/kq1Cu

[265] Balmer, A. J. (2013, August 1). *Jurassic Park and the race for ancient DNA.* Scientific American Blog Network. https://archive.ph/cihPT

[266] Kolata, G. (2007, January 22). *Faith in quick test leads to epidemic that wasn't.* The New York Times. https://archive.ph/8bGft

[267] Goodson, P. (2014). *Questioning the HIV-AIDS hypothesis: 30 years of dissent.* Frontiers in Public Health, 2. https://doi.org/10.3389/fpubh.2014.00154

[268] Owens, D. K., Holodniy, M., Garber, A. M., Scott, J., Sonnad, S., Moses, L., Kinosian, B., & Schwartz, J. S. (1996). *Polymerase chain reaction for the diagnosis of HIV infection in adults. A meta-analysis with recommendations for clinical practice and study design.* Annals of Internal Medicine, 124(9), 803–815. https://doi.org/10.7326/0003-4819-124-9-199605010-00004

[269] Kary Mullis. (1993). *Kary Mullis speaks to misuse of PCR.* Internet Archive. https://archive.org/details/kary-mullis-speaks-to-misuse-of-pcr-1993

[270] Public Health Agency of Canada. (2021, June 10). *COVID-19 testing: Polymerase chain reaction (PCR) and cycle threshold (Ct) values.* Government of Canada. https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/polymerase-chain-reaction-cycle-threshold-values-testing.html#a1

[271] Racaniello, V. (2020, July 16). *TWiV 641: COVID-19 with Dr. Anthony Fauci.* YouTube. https://youtu.be/a_Vy6fgaBPE?t=268

[272] Centers for Disease Control and Prevention (CDC). (2021). *CDC 2019-Novel Coronavirus (2019-nCoV) real-time RT-PCR diagnostic panel for emergency use only instructions for use.* U.S. Food and Drug Administration (FDA). https://www.fda.gov/media/134922/download

[273] Public Health Ontario, & The Ontario COVID-19 Testing Technical Working Group. (2020). *An overview of cycle threshold values and their role in SARS-CoV-2 real-time PCR test interpretation.* https://www.publichealthontario.ca/-/media/documents/ncov/main/2020/09/cycle-threshold-values-sars-cov2-pcr.pdf?la=en

[274] LeBlanc, J. J., Gubbay, J. B., Li, Y., Needle, R., Arneson, S. R., Marcino, D., Charest, H., Desnoyers, G., Dust, K., Fattouh, R., Garceau, R., German, G., Hatchette, T. F., Kozak, R. A., Krajden, M., Kuschak, T., Lang, A. L. S., Levett, P., Mazzulli, T., & McDonald, R. (2020). *Real-time PCR-based SARS-CoV-2 detection in Canadian laboratories.* Journal of Clinical Virology, 128, 104433. https://doi.org/10.1016/j.jcv.2020.104433

[275] Mandavilli, A. (2020, August 29). *Your coronavirus test is positive. Maybe it shouldn't be.* The New York Times. https://archive.ph/exHm3

[276] Stadler, B. M. (2020, June 10). *Coronavirus: Why everyone was wrong.* Medium. https://web.archive.org/web/20201022032242/https://medium.com/@vernunftundrichtigkeit/coronavirus-why-everyone-was-wrong-fce6db5ba809

[277] CTV News (@CTVNews). (2020, July 30). *Ontario Associate Chief Medical Officer of Health Dr. Barbara Yaffe says mandatory COVID-19 testing for teachers "will just complicate the picture."* Twitter. https://twitter.com/CTVNews/status/1288907122818854913

[278] Cohen, A. N., Kessel, B., & Milgroom, M. G. (2020). *False positives in reverse transcription PCR testing for SARS-CoV-2.* medRxiv. Preprint. https://doi.org/10.1101/2020.04.26.20080911

[279] Corman, V., Bleicker, T., Brünink, S., Drosten, C., Landt, O., Koopmans, M., Zambon, M., & Peiris, M. (2020). *Diagnostic detection of Wuhan coronavirus 2019 by real-time RTPCR.* World Health Organization. https://web.archive.org/web/20220128080729/https://www.who.int/docs/default-source/coronaviruse/wuhan-virus-assay-v1991527e5122341d99287a1b17c111902.pdf?sfvrsn=d381fc88_2

[280] International Consortium of Scientists in Life Sciences (ICSLS). (2020, November 27). *Review report Corman-Drosten et al. Eurosurveillance 2020.* Corman Drosten Review Report. https://archive.ph/xlLvq

[281] International Consortium of Life Science Scientists. (2020, November 28). *Retraction request letter to Eurosurveillance editorial board.* Corman Drosten Review Report. https://archive.ph/gh5qD

[282] Eurosurveillance editorial team. (2020). *Editorial note: possible undisclosed conflict of interest*. Eurosurveillance, 25(30). https://doi.org/10.2807/1560-7917.es.2020.25.30.2007301

[283] *Olfert Landt.* TIB Molbiol. Retrieved February 21, 2022, from https://archive.ph/6XkLC

[284] *Laboratory testing of 2019 novel coronavirus (2019-nCoV) in suspected human cases: interim guidance, 17 January 2020*. (2020, January 17). World Health Organization. https://archive.ph/8kzS9

[285] Nicola, S. (2020, March 12). *A Berlin biotech company got a head start on coronavirus tests.* Bloomberg. https://archive.ph/q1UJd

[286] McNeil, Jr, D. G. (2020, March 18). *Did federal officials really question W.H.O. tests for coronavirus?* The New York Times. https://archive.ph/WtHYp

[287] Patel, N. V. (2020, March 5). *Why the CDC botched its coronavirus testing.* MIT Technology Review. https://archive.ph/bWzpk

[288] Paramés, A., & de Almeida, M. R. (2020, November 11). *Acórdão do Tribunal da Relação de Lisboa.* DGSI. https://archive.ph/jyxWh

[289] *WHO information notice for IVD users 2020/05.* (2021, January 13). World Health Organization (WHO). https://www.who.int/news/item/20-01-2021-who-information-notice-for-ivd-users-2020-05

[290] *Manitoba Chief Microbiologist and Laboratory Specialist: 56% of positive "cases" are not infectious.* (2021, May 11). Justice Centre for Constitutional Freedoms. https://archive.ph/ORRUi

[291] Altman, D. G., & Bland, J. M. (1994). *Statistics Notes: Diagnostic tests 2: predictive values.* BMJ, 309(6947), 102. https://doi.org/10.1136/bmj.309.6947.102

[292] Altman, D. G., & Bland, J. M. (1994). *Diagnostic tests. 1: Sensitivity and specificity.* BMJ (Clinical Research Ed.), 308(6943), 1552. https://doi.org/10.1136/bmj.308.6943.1552

[293] *ICD-10-CM official coding and reporting guidelines.* (2020). Centers for Disease Control and Prevention. https://web.archive.org/web/20220211043453/https://www.cdc.gov/nchs/data/icd/COVID-19-guidelines-final.pdf

[294] Kauranen, A. (2020, March 20). *Finnish health boss questions WHO coronavirus testing advice.* Reuters. https://archive.ph/OWf24

[295] *The massive coronavirus testing protocol fraud.* (2020, March 27). Great Game India. https://archive.ph/ON7va

[296] Owens, G., & Kerr, R. (2020, March 25). *COVID-19 testing protocol changes, raising concerns about tracking virus in NC* (D. Strange, Ed.). WRAL. https://www.wral.com/covid-19-testing-protocol-changes-raising-concerns-about-tracking-virus-in-nc/19029220/

[297] Hyland, P. (2021). *Re: My client: Dr Sam White.* COVID-19 Assembly. https://web.archive.org/web/20210921212245/https://www.covid19assembly.org/wp-content/uploads/2021/07/Letter-to-Sir-Simon-Stevens.pdf

[298] Laboratory Outreach Communication System (LOCS). (2021, July 21). *Lab alert: Changes to CDC RT-PCR for SARS-CoV-2 testing.* Division of Laboratory Systems (DLS); Centers for Disease Control and Prevention (CDC). https://www.cdc.gov/csels/dls/locs/2021/07-21-2021-lab-alert-Changes_CDC_RT-PCR_SARS-CoV-2_Testing_1.html

[299] CDC/DDID/NCIRD/Influenza Division. (2021). *CDC Influenza SARS-CoV-2 (Flu SC2) multiplex assay for emergency use only instructions for use catalog # Flu SC2-EUA 500 reactions for in vitro diagnostic (IVD) use.* U.S. Food and Drug Administration. https://web.archive.org/web/20220131041704/https://www.fda.gov/media/139743/download

[300] Gallagher, J. (2020, February 13). *Are coronavirus tests flawed?* BBC News. https://archive.ph/kMVq7

[301] Xie, X., Zhong, Z., Zhao, W., Zheng, C., Wang, F., & Liu, J. (2020). *Chest CT for typical 2019-nCoV pneumonia: relationship to negative RT-PCR testing.* Radiology, 200343. https://doi.org/10.1148/radiol.2020200343

[302] Khan, K. A., & Cheung, P. (2020). *Presence of mismatches between diagnostic PCR assays and coronavirus SARS-CoV-2 genome.* Royal Society Open Science, 7(6), 200636. https://doi.org/10.1098/rsos.200636

[303] Swanson, S. (2022, February 14). *UCHealth doctor explains how (and when) to best use at-home COVID-19 rapid antigen tests.* Yahoo! News; Fort Collins Coloradoan. https://archive.ph/pLV7t

[304] *Testing for COVID-19 variants: Questions and answers.* (2021, September 10). College of American Pathologists. https://documents.cap.org/documents/Testing-for-COVID-19-Variants-Questions-and-Answers.pdf

[305] Paterson, S. (2022, February 20). *New details on B.C.'s rapid test distribution plan for K-12 students and seniors.* CTV News. https://archive.ph/OyCfX

[306] Intergovernmental Affairs. (2020, September 16). *The Safe Restart Agreement.* Government of Canada. https://archive.ph/S4aJ2

[307] Health Canada. (2022, January 31). *Government of Canada introduces legislation to increase access to rapid testing across the country.* Government of Canada. https://archive.ph/RGBh2

[308] Kira, I. A., Shuwiekh, H. A. M., Ashby, J. S., Elwakeel, S. A., Alhuwailah, A., Sous, M. S. F., Baali, S. B. A., Azdaou, C., Oliemat, Enas. M., & Jamil, H. J. (2021). *The impact of COVID-19 traumatic stressors on mental health: Is COVID-19 a new trauma type.* International Journal of Mental Health and Addiction. https://doi.org/10.1007/s11469-021-00577-0

[309] Bridgland, V. M. E., Moeck, E. K., Green, D. M., Swain, T. L., Nayda, D. M., Matson, L. A., Hutchison, N. P., & Takarangi, M. K. T. (2021). *Why the COVID-19 pandemic is a traumatic stressor.* PLOS ONE, 16(1), e0240146. https://doi.org/10.1371/journal.pone.0240146

[310] Witters, D., & Rothwell, J. (2021, September 27). *U.S. adults' estimates of COVID-19 hospitalization risk.* Gallup. https://archive.ph/rVn2Z

[311] The definitions of "vaccinated" and "unvaccinated" will be explored in a later section.

[312] Knížek, Z., Michálek, R., Vodička, J., & Zdobinská, P. (2021). *Cribriform plate injury after nasal swab testing for COVID-19. JAMA Otolaryngology–Head & Neck Surgery*, *147*(10), 915. https://doi.org/10.1001/jamaoto.2021.2216

[313] Sullivan, C. B., Schwalje, A. T., Jensen, M., Li, L., Dlouhy, B. J., Greenlee, J. D., & Walsh, J. E. (2020). *Cerebrospinal fluid leak after nasal swab testing for Coronavirus Disease 2019.* JAMA Otolaryngology–Head & Neck Surgery, 146(12), 1179. https://doi.org/10.1001/jamaoto.2020.3579

[314] Varanasi, A. (2021, April 29). *Can painful complications arise after a COVID-19 nasal swab test?* Forbes. https://www.forbes.com/sites/anuradhavaranasi/2021/04/29/can-painful-complications-arise-after-a-covid-19-nasal-swab-test/

[315] Health Canada. (2020, September 23). *Testing devices for COVID-19: test swabs safety and effectiveness guidance.* Government of Canada. https://archive.ph/540dc

[316] Koskinen, A., Tolvi, M., Jauhiainen, M., Kekäläinen, E., Laulajainen-Hongisto, A., & Lamminmäki, S. (2021). *Complications of COVID-19 nasopharyngeal swab test.* JAMA Otolaryngology–Head & Neck Surgery, 147(7), 672. https://doi.org/10.1001/jamaoto.2021.0715

[317] Valley Drug. *COVID-19 Rapid PCR test consent form.* Jotform. Retrieved March 26, 2022, from https://archive.ph/W4MPu

[318] Edinger Urgent Care. (2021, February 12). *Informed consent for COVID-19 testing.* PatientPop. https://web.archive.org/web/20220326223141/https://sa1s3.patientpop.com/assets/docs/259492.pdf

[319] *Notice, consent & waiver for COVID-19 screening.* Canadian Red Cross. Retrieved March 26, 2022, from https://web.archive.org/web/20220225011727/https://www.redcross.ca/crc/documents/How-We-Help/Current-Emergency-Responses/COVID-19/Consent-form-individuals-participating-in-Screening.pdf

[320] Gardner, B., & Yorke, H. (2020, March 30). *Coronavirus testing effort hampered by kits contaminated with COVID-19.* The Telegraph. https://archive.ph/LbVYI

[321] Government of Israel. (2021, January 9). *True: Nasal swabs are ethylene oxide free and safe to use.* Ministry of Health. https://archive.ph/Ba2X1

[322] National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Healthcare Quality Promotion (DHQP). (2016, September 18). *Ethylene oxide sterilization.* Centres for Disease Control and Prevention. https://archive.ph/7b8My

[323] Reuters Fact Check. (2022, February 18). *Fact Check - No evidence of lithium in COVID-19 test swabs.* Reuters. Retrieved March 27, 2022, from https://archive.ph/nfbYy

[324] National Library of Medicine. *Ethylene oxide.* Webwiser. Retrieved March 25, 2022, from https://archive.ph/qHZ16

[325] Wilson-Wilde, L., Yakovchyts, D., Neville, S., Maynard, P., & Gunn, P. (2017). *Investigation into ethylene oxide treatment and residuals on DNA and downstream DNA analysis.* Science & Justice, 57(1), 13–20. https://doi.org/10.1016/j.scijus.2016.09.001

[326] *Nurse warns of ethylene oxide in COVID test nasal swabs.* (2021, December 15). Belizean Rights and Justice Movement. https://archive.ph/NcrsV

[327] Holmes, J. S. (2022, January 9). *Are the PCR test swabs dangerous?* America out Loud. https://web.archive.org/web/20220115014138/https://www.americaoutloud.com/are-the-pcr-test-swabs-dangerous/

[328] *Flocked swabs: FLOQ® Technology.* Copan. Retrieved January 15, 2022, from https://archive.ph/6HPee

[329] *COVID-19 swab request.* Vancouver Coastal Health. Retrieved January 15, 2022, from https://archive.ph/nmDWe

[330] COPAN Diagnostics Inc. (2022, February 1). *FLOQSwabs*. Retrieved March 26, 2022, from https://archive.ph/VmyOP

[331] Triva, D. (2007). *Swab for collecting biological specimens* (Canada Patent No. CA 2515205). Canadian Intellectual Property Office. https://web.archive.org/web/20220327174930/https://www.ic.gc.ca/opic-cipo/cpd/eng/patent/2515205/summary.html?type=number_search&tabs1Index=tabs1_1

[332] *Antonietta M. Gatti.* Alliance for Human Research Protection. Retrieved March 26, 2022, from https://ahrp.org/trzboard/antonietta-m-gatti-phd/

[333] Gatti, A. M. (2005). *Nanotoxicity and health risk related to managing nanoparticles.* European Commission. https://web.archive.org/web/20220327041514/https://www.oecd.org/science/nanosafety/37289229.pdf

[334] *Dr Antonietta M. Gatti.* AZoNano. Retrieved March 26, 2022, from https://www.azonano.com/experts.aspx?iExpertID=151

[335] Weaver. (2021, May 23). *COVID PCR test swabs are as dangerous as inhaling asbestos.* Tap Newswire. Retrieved March 27, 2022, from https://archive.ph/Qh5Wm

[336] Tim Truth. (2021, August 24). *Abrasive "porcupine" swabs: Dr. Antonietta Gatti's research On Covid swab elemental composition [Video].* BitChute. https://www.bitchute.com/video/UMTvSOpTR7Jm/

[337] Grandics, P. (2021). *Undeclared hazardous components in nasopharyngeal test swabs used in COVID-19 PCR tests.* ResearchGate, Preprint. https://www.researchgate.net/publication/354812591_Undeclared_Hazardous_Components_in_Nasopharyngeal_Test_Swabs_Used_in_COVID-19_PCR_Tests

PREVENTION AND TREATMENT

Over the course of the COVID-19 pandemic, it has become exceedingly clear to the medical community that COVID-19 is an illness that can be both prevented and treated with the doctor-prescribed use of pharmaceutical drugs, vitamins, and over-the counter products.

Despite widespread belief that COVID-19 is so new and unknown as to be completely untreatable, this has been disproven through two and a half years of real-world clinical experience and backed up by peer-reviewed scientific literature.[338] In fact, a variety of repurposed medications were already known to have antiviral properties, but these were widely dismissed through misleading messaging and regulatory overreach.

The following is a broad overview of some of the specific medicines and products that have been established as effective in treating COVID-19, carrying well-understood and relatively mild side effects, and an understanding of the mechanisms that make them work. They are not necessarily listed in order of importance, as each operates differently and provides different benefits in preventing and treating COVID-19. Additionally, it is vital to realize that front line physicians treating the disease *do not rely on any single medicine*. Prophylaxis and treatment protocols are multi drug therapies, which is why it's important to consult with a doctor or nurse practitioner who has studied the body of literature on successful protocols.

Everything discussed here is for informational purposes, and should not be construed as medical advice. While the information contained within was reviewed and approved by the CCCA's Science and Medical Advisory Committee before publication, it cannot replace medical advice sought directly with your doctor or another appropriate health care practitioner.

VITAMIN D

Vitamin D is one of the most important factors in maintaining good health. It has a role to play across the human body, in virtually every type of cell.[339] Vitamin D is understood to decrease the risk of chronic illnesses such as autoimmune disease and cardiovascular disease, as well as infectious diseases.[340] Maintaining higher-than-average levels of Vitamin D has also been shown to improve dental health, combat colorectal cancer, as well as decrease the risk of bone injury.[341] Vitamin D deficiency is also a significant risk factor for HIV patients,[342] and likely increases susceptibility of populations to seasonal influenza.[343] It's such a vital molecule to good health that it appears to play a significant role in regulating the immune system, including against viral pathogens.[344] In fact, the very immune cells targeted by the various COVID-19 vaccine products are themselves regulated by Vitamin D, including B cells, T cells and antigen-presenting cells.[345]

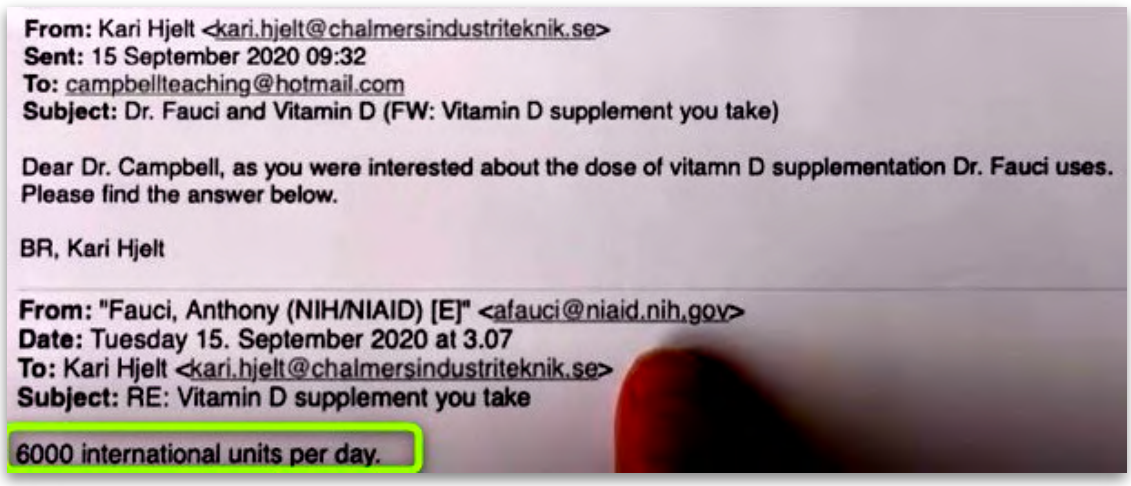
Despite this, Vitamin D deficiency is extremely widespread.[346] The vast majority of our Vitamin D comes from the sun, which has lead populations north of the equator to become immunocompromised in the winter months.[347] As such, nations such as Canada, the United Kingdom and Europe can be understood to have been predisposed to their significant early wave of COVID-19 infections. Up to 42% of Americans are Vitamin D deficient.[348] Despite several foods such as fish, eggs and mushrooms also providing a source for the nutrient, diet alone may not be sufficient to achieve healthy levels.[349, 350]

Severe COVID-19 patients in Italy were found to have had lower Vitamin D levels than those with mild cases, directly correlated with the severity of illness.[351] Darker skinned individuals and ethnic groups are less able to absorb Vitamin D from the sun,[352] which coincides with the higher risk of severe COVID-19 outcomes in people from African, Afro-Caribbean and South Asian backgrounds.[353]

By the time the **Canadian Covid Care Alliance (CCCA)** published their official position in September 2021,[354] the peer-reviewed scientific literature had determined that Vitamin D works against COVID-19 by blocking the spike protein's ability to bind to the ACE2 receptor, reducing the likelihood of infection.[355] This, combined with the fact that it is a "safe, inexpensive, and widely available agent, even in countries with limited resources",[356] shows that Vitamin D should have been seen as one of (if not the) single most important public health tools to implement against COVID-19.

Strangely, government and public health officials seemed to balk at the suggestion, and in some cases actively push back. When independent MP **Derek Sloan** asked Canada's Health Minister **Patty Hadju** in April 2021 to explain why **Health Canada** was not recommending Vitamin D supplements despite its acknowledgement of widespread deficiency, Hadju replied, "I would encourage the member opposite to not fall prey to the myriad of fake news articles that are circulating around the Internet."[357] As noted in the **Toronto Sun**, the evidence at the time was widely available via even a simple Google search, rendering Hadju's dismissal suspect.

In fact, Dr. Anthony Fauci had himself explained in September 2020 that, "If you are deficient in vitamin D, that does have an impact on your susceptibility to infection. So I would not mind recommending, and I do it myself taking vitamin D supplements."[358] Emails disclosed through a **Freedom of Information Act (FOIA)** request later revealed that Fauci's personal recommendation was 6000 IU per day[359, 360] - significantly more than the 800 IU recommended for his age group by the **National Institutes of Health**.[361]



A scientific review in September 2020 found that "prophylactically correcting possible vitamin D deficiency during the COVID-19 pandemic is extremely safe. Widely recommending 2,000 IU of vitamin D daily for all populations with limited ability to manufacture vitamin D from the sun has virtually no potential for harm and is reasonably likely to save many lives."[362]

The truth is that public health agencies in Canada and around the world knew, or should have known, that Vitamin D was a safe, effective, inexpensive and widely available preventative treatment for COVID-19. Instead of suggesting increasing time spent outdoors in the daylight, we were kept indoors and told not to believe "misinformation" about Vitamin D.[363]

As of March 2022, 69 treatment studies have found 81% improvement in early stage COVID-19 patients, and 50% in late treatment.[364]

FLUVOXAMINE

Fluvoxamine is a selective serotonin reuptake inhibitor (SSRI) traditionally prescribed to treat obsessive-compulsive disorder and depression.[365]

It is a medication with a long history of use, having been one of the first SSRI antidepressants ever introduced to the market.[366] It was approved by the FDA in 1994 and has seen widespread use ever since, including for off-label uses.[367] Fluvoxamine is known to have milder side effects compared to other SSRIs, with the exception of increased gastrointestinal effects.[368, 369] It is on the World Health Organization's list of essential medicines,[370] and has been included in successful treatment protocols used by organizations like the **Front Line COVID-19 Critical Care Alliance (FLCCC)** in the United States,[371] and the Canadian Covid Care Alliance and **Canadian Covid TeleHealth** in Canada.[372]

Fluvoxamine is understood to help COVID-19 patients by decreasing cytokines,[373] which are proteins released during an immune response that cause inflammation.[374] It also helps keep melatonin, an important hormone for many healthy functions including sleep, from degrading too quickly[375] - an effect understood decades before the COVID-19 pandemic.[376]

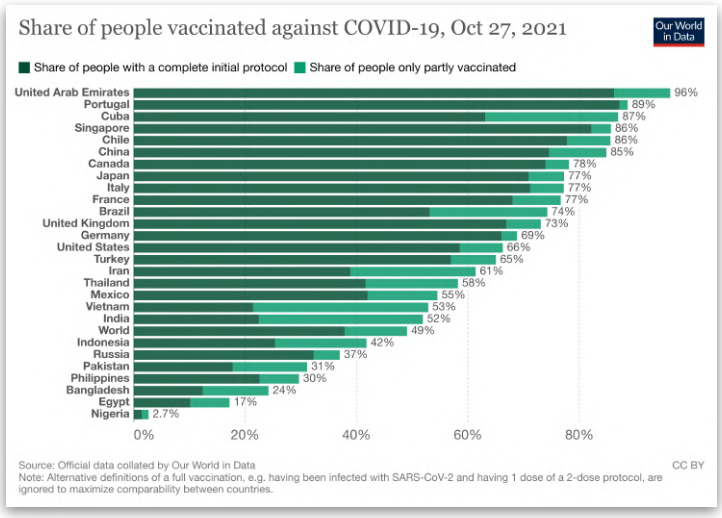
In fact, fluvoxamine is not the only SSRI shown to have a positive effect on COVID-19 patients. The use of antidepressants overall has been associated with a lower risk of intubation and death in patients hospitalized with COVID-19.[377, 378, 379] This may explain why depression is not among the many noted comorbidities for COVID-19 severity, with about 11% of Americans actively taking prescribed antidepressants in 2020.[380] A similar drug, **fluoxetine** (also known as **Prozac**) has also demonstrated comparable effect.[381, 382]

Fluvoxamine's use in COVID-19 has been widely acknowledged as effective, including in legacy media reporting.[383, 384] The two most-cited studies are the **STOP-COVID** and **TOGETHER** trials, which both demonstrated benefit to patients that received treatment within seven days of symptom onset.[385, 386]

However, investigations into the drug began as early as July 2020. Engineer and entrepreneur **Steve Kirsch** founded the **COVID-19 Early Treatment Fund (CETF)**, which began studying fluvoxamine alongside several other repurposed drugs with scientists at universities across the United States.[387] These trials began showing promising results by October and November 2020,[388, 389] further supporting Kirsch's claim that early treatment protocols should be adopted without delay to minimize hospitalizations and deaths from COVID-19.[390] A related study reached the peer-reviewed literature on November 12, 2020, corroborating the drug's positive results.[391]

Unfortunately, it seemed the medical community was in no rush to accept the preliminary results as a go-ahead to begin treating patients outside of pre-approved standards of care. The discussion remained stalled without resolving the increasingly pressing dilemma - as the **Washington Post** put it, "Finding the balance between being ultra-rigorous in trials and trying to keep patients alive."[392]

The irony of the situation was that while the CETF and others were hard at work trying to take the shortest possible route to bring existing lifesaving medicine to sick patients, the bulk of the pharmaceutical industry and regulatory agencies were focused on developing brand new, never before used vaccine products that deserved far more scrutiny than was even being levelled to the repurposed drugs being studied.[393] This imbalance in approach would become clear and better understood further into 2021, which will be explored



in a later section - in short, the existence of “adequate, approved and available alternatives” would prevent any novel COVID-19 vaccine or therapeutic products from receiving **Emergency Use Authorization (EUA)**.[394] The EUA framework is specific to the United States — Canada’s equivalent would be the issuance of “interim orders” to allow distribution of experimental pharmaceutical products in the COVID-19 context. Still, America’s EUA carries significant weight in the regulatory approvals internationally.

Of course, the TOGETHER trial would come to be hailed as demonstrating fluvoxamine’s use as a COVID-19 treatment, but only well after the vast majority of the world had received at least one dose of a COVID-19 vaccine.[395, 396]

While Kirsch brought together groups of academics to perform the CETF’s study using crowdsourced funds and his personal wealth, the TOGETHER trial was the creation of a coalition of institutional bodies.[397] These founders included **UNITAID**, **Elon Musk**, the **Chan Zuckerberg Initiative**, Twitter’s **Jack Dorsey**, PayPal’s **Peter Thiel**, the **Bill & Melinda Gates Foundation** and other big names.[398, 399, 400] As such, it appears possible that fluvoxamine was among many other treatments successfully slow-rolled as a hedge against TOGETHER’s investors other ventures in new pharmaceuticals. Whether this was intentional or not, this was a tremendous **conflict of interest (COI)** that inherently risked the integrity of the scientific process from day one.

Almost two years into Canada’s pandemic response, fluvoxamine has been added to a handful of official treatment protocols. The **Ontario COVID-19 Science Advisory Table (OST)** “made a conditional recommendation for the use of fluvoxamine in patients with COVID-19 who are not on supplemental oxygen,”[401] while the **British Columbia Centre for Disease Control (BCCDC)** acknowledged that the drug can be used in a COVID-19 context outside of a clinical trial.[402] Still, despite the compounding scientific evidence,[403] the National Institutes of Health in the United States continues to advise against its use.[404]

INHALED BUDESONIDE

Budesonide is a corticosteroid used to treat a variety of conditions.[405] It is commonly used to treat asthma in its inhaled form by preventing inflammation in the lungs,[406] and can be prescribed for treatment of respiratory symptoms or lung inflammation.[407] It is even available over-the-counter in some formulations as a year-round allergy medicine.[408]

Because inhaled corticosteroids deliver the medicine directly into the lungs, smaller doses can be used to treat acute respiratory symptoms compared to the amount required if the same medication was taken orally.[409] Overall, budesonide is another medicine with an excellent track record for safety, and has a wide range of common uses.[410]

While the FLCCC approaches budesonide with a healthy skepticism, the organization notes that inhaled steroids were likely the reason why asthmatic patients didn’t fare worse in the COVID-19 pandemic compared to the normal population, despite the fact that asthma was expected to be a comorbidity.[411, 412]

Other doctors are more enthusiastic, such as Dr. **Richard Bartlett**, former top medical advisor for Texas Governor Rick Perry. In the Summer of 2020, the West Texas-based physician began alerting colleagues and local media about his success treating COVID-19 patients with inhaled budesonide in combination with zinc, Aspirin and Clarithromycin.[413] A July 2, 2020 interview with Debbie Georgatos on **America Can We Talk?** went viral on YouTube,[414, 415] drawing acclaim from patients and skepticism from some local healthcare facilities, with some attempting to dismiss the treatment on the grounds that it had not undergone "enough testing."[416, 417, 418]

Responding to a flood of inquiries from patients following the interview, Dr. **Craig DeLisi** of Titus Regional Medical Center noted that because clinical trials for use in COVID-19 had not yet begun, he could neither affirm nor refute Dr. Bartlett's claims of efficacy.[419] DeLisi went on to note that Dr. Bartlett's differing perspective on the efficacy of face masks and social distancing, as well as his skepticism of the then-upcoming COVID-19 vaccines, led him to be "dismissive of his claim."

The America Can We Talk? channel was terminated in 2021.[420] Nonetheless, as studies have gone on examining fluvoxamine specifically for COVID-19,[421] Dr. Bartlett and other front line physicians have continued to achieve high rates of clinical success with their patients.[422] The Ontario COVID-19 Science Advisory Table incorporated the medicine into their official recommendations for targeted use, stating it "may be considered in selected patients, as it may reduce patient-reported symptoms and time to recovery."[423] The BCCDC added inhaled budesonide to its clinical practice guidance for certain patient groups on April 18, 2021.[424]

IVERMECTIN

Ivermectin is an anti-parasitic medicine commonly used to treat "river blindness" and other parasitic diseases.[425] It is widely understood to be one of the safest drugs on the planet,[426] and has been on the World Health Organization's list of essential medicines since its original addition in 1987.[427] It stands alongside penicillin and aspirin as among the most celebrated pharmaceutical achievements of all time.[428]

Ivermectin was first synthesized in 1978 by Irish biologist and parasitologist Dr. **William C. Campbell** after he succeeded in culturing a strain of the *Streptomyces avermitilis* bacterium, purifying and then chemically modifying a substance called avermectin.[429] The result, ivermectin, proved effective in treating parasite-induced river blindness and elephantiasis.[430] A 1980 study described the compound as "a highly effective drug for the treatment of a wide variety of metazoan parasitic diseases in animals."[431]

In 1981, pharmaceutical giant **Merck** began collaborating with the **World Health Organization** to develop and begin human trials for use against river blindness in Senegal.[432] This led to the approval of the single-dose pill in 1987, under the name Mectizan.[433] For almost four decades since, Merck has donated over four billion doses of the drug to countries including Colombia, Ecuador, Guatemala, and Mexico, vowing to contribute "as much as needed for as long as needed."[434] In March 2022, the program expanded further through a $500,000 donation to strengthen laboratory facilities associated with the Mectizan program in Africa.[435]

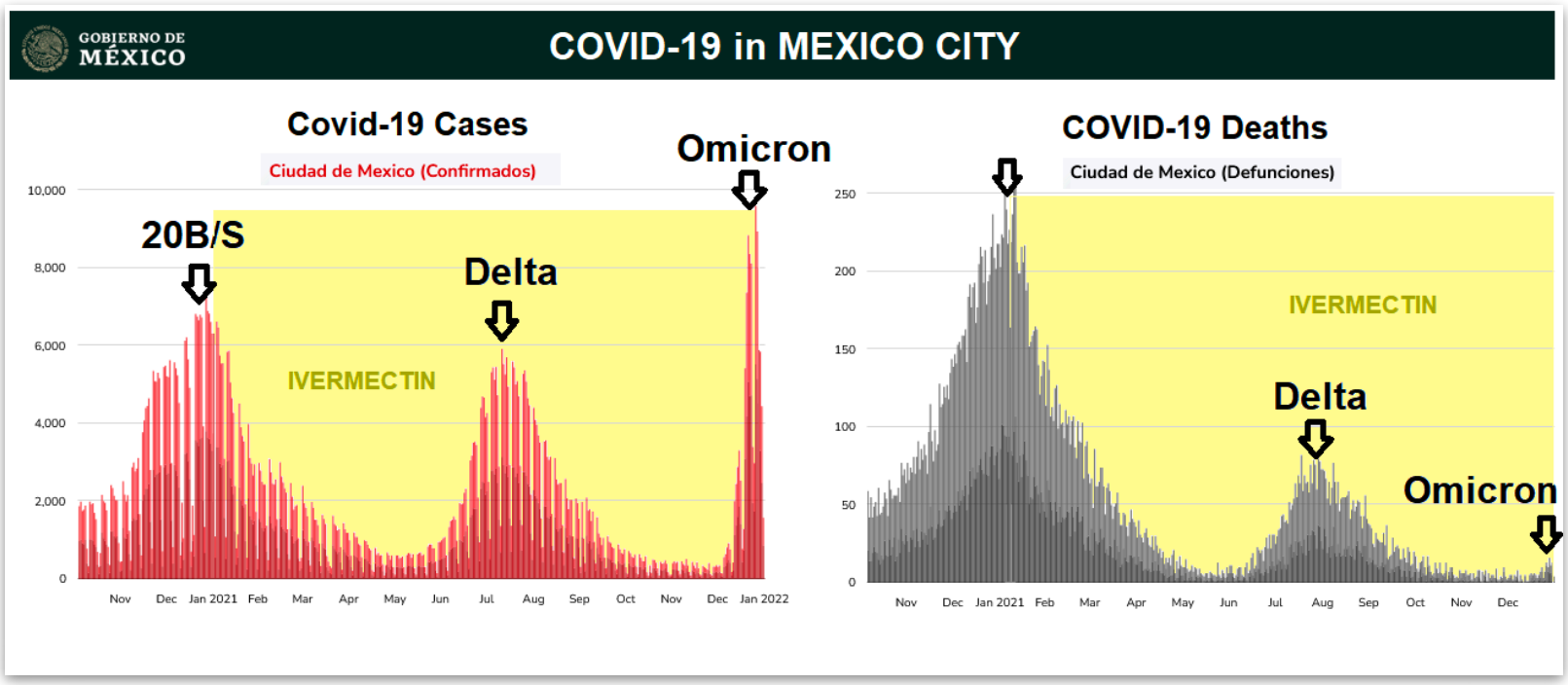
Campbell was awarded the **Nobel Prize in Physiology or Medicine** in 2015 for this discovery alongside Dr. **Satoshi Ōmura**, the scientist to first identify *S. avermitillis* in Japan in the 1970s.[436, 437] The first commercially available human formulation of ivermectin was officially approved by the FDA in 1996.[438]

Studies exploring the mechanisms of the drug continue to this day, revealing even more mechanisms of action than previously celebrated.[439] In addition to its anti-parasitic effects, research demonstrates ivermectin's potential to regulate cholesterol and glucose levels in diabetes;[440] suppress the spread of malignant cells in some cancers;[441] inhibit replication of flaviviruses like Dengue, West Nile and Yellow Fever;[442] kill malaria-carrying insects;[443, 444] and even inhibit replication of HIV viruses.[445]

Prior to the chaos of the COVID-19 pandemic, ivermectin was hailed as a "wonder drug,"[446] having had an "immeasurably beneficial impact in improving the lives and welfare of billions of people throughout the world."[447] In fact, powerful institutional entities like the Bill & Melinda Gates Foundation, United States Agency for International Development (USAID), and the Department for International Development (DFID) have all enthusiastically embraced the drug through extensive funding for additional research and distribution capabilities.[448]

Most people will find the above information shocking. Far from representing reality, public discussion of ivermectin in 2020 and 2021 has been hijacked for reasons other than its actual risks and benefits as a medicine. However, despite the widespread condemnation from media and public health officials in the United States and Canada,[449] ivermectin has been a highly effective treatment against COVID-19 around the world since 2020.[450]

In May 2020, **Uttar Pradesh** (the most populous state in India) dispensed ivermectin liberally for early treatment of symptoms and to prevent infection.[451] One year later, government officials announced "the drug helped the state to maintain a lower fatality and positivity rate as compared to other states." The protocol also included **Vitamin D** and **doxycycline**, an antibiotic with its own antiviral and anti-inflammatory properties.[452, 453, 454] Ivermectin was then added to India's national treatment recommendations.[455, 456]



Starting in January 2021, Mexico City distributed tens of thousands of medical kits containing ivermectin, aspirin, paracetamol and oximeters to residents.[457] Preliminary analysis showed "a significant reduction in hospitalizations among patients who received the ivermectin-based medical kit", in the range of 52%-76%.[458]

National government data for Mexico showed that despite relatively high "case" rates in the Delta and Omicron variant waves, COVID-19 related deaths aggressively diminished in Mexico City directly proportional to the rollout of ivermectin.[459]

Despite this, American media condemned Mexico City's ivermectin use as scandalous and unethical. The **Washington Post** compared the data analysis that followed to the Tuskegee Experiments, accusing the study's authors of failing to obtain informed consent from the recipients, and failing to disclose "conflicts of interest" due to the fact that Mexico City would be looked at favourably if the treatment program succeeded.[460] SocArXiv, the pre-print server on which the authors shared their preliminary results, censored the paper and issued a statement accusing the authors of "spreading misinformation, promoting an unproved medical treatment in the midst of a global pandemic."[461] Dr. Philip N. Cohen, director of SocArXiv, acknowledged that the paper did not violate their terms of submission, nor did a policy exist as precedent for its unilateral removal. Most importantly, none of the criticisms leveled at the program or the report explore the fact that the distributed kits had a clear effect on the impact of COVID-19 in the region, or acknowledge similar results in the state of Chiapas.[462]

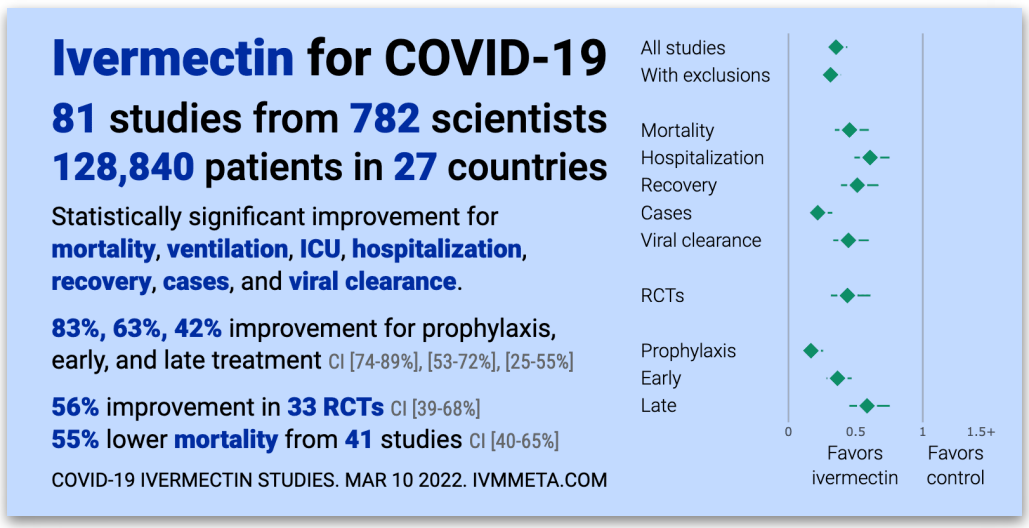
In January 2022, el Instituto Mexicano del Seguro Social (IMSS) removed ivermectin from its COVID-19 kits. [463] Within a matter of weeks, ICU occupancy in Mexico City reached peak Delta levels.[464]

As ivermectin became the second major medicine to reach the zeitgeist of prescribing doctors and their eager patients, pharmaceutical regulators and medical colleges made the strange decision to vilify the drug and those promoting its use in COVID-19.

On August 21, 2021, the FDA published a Tweet saying "You are not a horse. You are not a cow. Seriously, y'all. Stop it."[465] This was a centrepiece in a campaign to rebrand ivermectin as a "horse dewormer", making it sound ridiculous and dangerous for humans to consider it a viable treatment for COVID-19. Internal emails revealed that FDA officials including Associate Commissioner for External Affairs **Eric V. Jefferson**, were "pleased with the response" when they realized their attempt at humour overtook their previous most-popular Tweet acknowledging incidents of blood clots following the **Johnson & Johnson** COVID-19 vaccine.[466] The officials also discussed how this viral Tweet helped prepare their marketing campaign in an "effort to counter much of the vaccine information out there as we prepare to approve Comirnaty."[467]

Misleading stock image used in the Oklahoma news story

Just over a week later, several media outlets reported a story about hospitals in Oklahoma being overrun by cases of "horse dewormer" poisoning.[468] The stories alleged that patients with gunshot wounds were unable to receive treatment due to the backlog, with a photo of a lineup outside a building.[469] However, this story was quickly found to be a fabrication by the doctor originally quoted, Dr. **Jason McElyea.** The hospital in question, **Northeastern Health System - Sequoia**, released a statement dismissing Dr. McElyea's claims - noting he had not worked at the facility in over two months - but also that they had not had to turn away any patients for any reason.[470] Importantly, no such ivermectin poisonings had presented to their care.



While **Rolling Stone** acknowledged NHS Sequoia's rebuttal, they largely did not accept responsibility for their role in

spreading a false news story.[471] MSNBC's **Rachel Maddow** played a large role in propagating the story,[472] as did **Business Insider**, **Newsweek**, **New York Daily News** and **The Hill**.[473] It was subsequently described by **CNN** as "a poor piece of journalism -- inadequate in its reporting, inaccurate in its depiction of what was happening in Oklahoma,"[474] with the **Washington Post** opining that "[the] story was just too good to check."[475] While the fabricated and exaggerated stories honed in on the very real concern of people self-medicating with veterinary medicines, they completely failed to identify any examples of patients experiencing any adverse events following a doctor-prescribed course of ivermectin in its traditional pill form.

HYDROXYCHLOROQUINE

Hydroxychloroquine is a drug created out of extracts from the bark of the tropical Cinchona tree, found in South America.[476] It is one of several medicines derived from the tree, and they have collectively treated a multitude of diseases since their evolution out of natural medicine in the 17th century.[477] A precursor of the drug, **chloroquine** (CQ), is traditionally used to treat **malaria**.[478] In 1947, hydroxychloroquine (HCQ) was synthesized from CQ and found to be even less toxic.[479]

As with ivermectin, HCQ is on the World Health Organization's list of essential medicines.[480] The drug saw between 5-6 million prescriptions on average over the last three pre-COVID years (2017-2019) in the United States alone.[481] It was given FDA approval in the US in 1955 and has been used with an established safety profile ever since against lupus and rheumatoid arthritis.[482, 483] HCQ is given over-the-counter in Africa, where it is taken by millions of people as prophylaxis against malaria.[484] It is included on the U.S. CDC's list of suggested medications for travellers, where it is described as being safe for use in "all trimesters of pregnancy."[485]

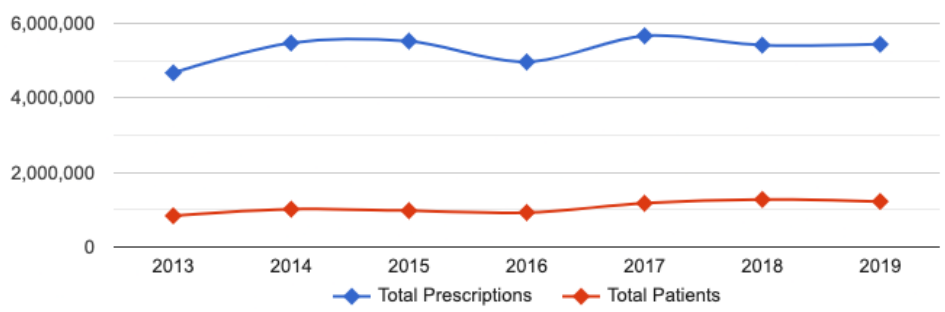


Chart of United States HCQ prescriptions and patients from 2013-2019

According to another CDC information sheet, "Hydroxychloroquine can be prescribed to adults and children of all ages. It can also be safely taken by pregnant women and nursing mothers." Indeed, the only demographic the CDC has previously identified as at risk from HCQ is individuals with psoriasis, which affects around 3% of the world population.[486]

Most laypeople in the United States and Canada had not heard the name "hydroxychloroquine" until it was championed by U.S. President Donald Trump on March 19, 2020.[487] For the average person, it was the first utterance of a potential treatment for COVID-19, which was immediately soured by its concerning characterization in the media.[488, 489] However, knowledge of its potential benefit existed in the peer-reviewed literature from as far back as 2005.

President Donald Trump

As a result of studying the SARS outbreak of 2003, researcher **Martin Vincent** and colleagues noted that chloroquine is a potent inhibitor of SARS coronavirus infection and spread *in vitro*.[490] Importantly, they found beneficial effects were observed when given "either before or after exposure to the virus, suggesting both prophylactic and therapeutic advantage" at "clinically admissible"

doses. In short, CQ interfered with the virus' spike protein being able to bind to the cells' ACE2 receptor. Similar research was conducted on MERS-CoV, published in 2014.[491] This was confirmed to be the case with HCQ in March 2020, with patients in China and France reporting significant improvement during initial clinical studies.[492] As such, the two drugs became the subject of active study throughout 2020 to reinforce their use in COVID-19 despite the highly skeptical regulatory agencies.[493, 494]

Early institutional criticism of the drug stemmed from three major areas:

1. HCQ was not approved by the FDA or Health Canada for use in COVID-19;[495]
2. Its off-label use for COVID-19 would cause shortages, preventing its use for other diseases;[496, 497, 498] and
3. Taking large amounts of HCQ can be very toxic.[499]

One scientific article focusing on analyzing Google search trends following endorsement of the drug by Trump and Elon Musk referenced an incident in which an Arizona man died after swallowing a product used for cleaning fish tanks, conflating it with pharmaceutical-grade hydroxychloroquine and using it to argue HCQ was dangerous.[500]

It is also entirely plausible that the mere fact of association with the drug with President Trump ruled it out for over half of the population, with an August 2020 Pew Research Center survey reporting that 59% of American voters disapproved of his performance around that time.[501] However, the idea of trying (and then promoting) an anti-malaria medicine didn't originate in the President's imagination as implied by critics.[502]

When COVID-19 first hit New York, Dr. **Vladimir Zelenko** saw many of his patients fall ill after a positive test, leading him to estimate around 20,000 COVID-19 patients in his close-knit community of Kiryas Joel in Monroe, NY.[503] With some 1500 patients considered "high-risk", Zelenko referenced international guidance and identified a protocol used in South Korea based on hydroxychloroquine and zinc.[504, 505, 506] He further located early results from French Dr. **Didier Raoult**, who combined HCQ with an antibiotic called **azythromycin**.[507] Several months later in August 2020, Zelenko co-authored a paper alongside Drs. **Peter McCullough**, **Paul E. Alexander**, **Richard Bartlett**, **Elizabeth Lee Vliet**, **Brian Tyson**, **Richard Urso**, **George Fareed** and two dozen others emphasizing the necessity of multifaceted, highly targeted, multi-drug early treatment for COVID-19.[508] In this publication, the doctors describe the HCQ protocol by likening HCQ to a gun; zinc acting as the bullet; and azithromycin potentiating the anti-viral effect.[509]

In an open letter to the White House and scientists around the world, Zelenko explained that HCQ acted as an ionophore, helping zinc enter the cell to inhibit viral replication.[510] Additionally, azythromycin seemed to successfully prevent secondary bacterial infection, with synergistic effects when used with HCQ and zinc.[511] Zelenko reported tremendous results, with none of his patients requiring hospitalization, and all survived with 10% reporting side effects of temporary nausea and diarrhea.

Governor Andrew Cuomo

In an unprecedented move, New York Governor **Andrew Cuomo** responded by issuing an executive order banning the dispensing of HCQ and CQ for COVID-19 at pharmacies in the state.[512] Instead of engaging with Dr. Zelenko's plea to broaden access to the prescription medicine, Cuomo severely limited its use to SARS-CoV-2 positive patients participating in state-approved clinical trials, effectively cutting off the vast majority of New York patients who would benefit from its early use.[513]

Similar restrictions on HCQ were simultaneously issued in Nevada and Ohio, specifically targeting its use for preventing COVID-19 infection.[514] All three orders also insisted that patients must have a confirmed positive test, not simply present as a "presumptive" case.[515] Further restrictions followed in Idaho, Kentucky, North Carolina, and Texas.[516] These actions followed guidance sent to the FDA and state pharmaceutical boards by pharmaceutical cooperative **Vizient** advising that (among other actions) retail dispensers should redirect inventory to hospitalized COVID-19 patients, reserving pharmacy access to those already taking HCQ and CQ for "labeled/well-established indications (*e.g.*, lupus, rheumatoid arthritis)."[517]

This was problematic for a number of reasons, primarily due to the necessity that patients begin treatment as early as possible to avoid progression to Stage II of COVID-19, where lung damage from **Acute Respiratory Distress Syndrome (ARDS)** begins.[518] Data from Wuhan, China had already demonstrated that 50% of patients who developed ARDS died, compared to only 9% who avoided the syndrome.[519] As explained by Dr. Zelenko, "Based on my front-line experience, it is essential to start treatment against COVID-19 immediately upon clinical diagnosis of the infection and not to wait for confirmatory testing. There is a very narrow window of opportunity to eliminate the virus before pulmonary complications begin. Delaying treatment is the essence of the problem."[520] The arbitrary delay introduced by these state restrictions would mean patients would avoid a limited window of opportunity to slow or stop the illness in the first phase.[521]

HCQ had never been treated with such apprehension by regulatory agencies, pharmacies or prescribing physicians, and it has historically been available over the counter around the world just as one would easily purchase Tylenol. Strangely, this began to change in the early days of the pandemic, with France suddenly moving the medicine to prescription-only on January 13, 2020 after decades on store shelves.[522] Even in the United States and Canada, where HCQ has been available by prescription only for longer, the widely-used and longstanding drug was reframed as unproven based on the misleading premise that its potential use in COVID-19 made it "experimental," In British Columbia, **Vancouver Coastal Health** allowed HCQ and CQ to be used in elderly patients already at serious risk of COVID-19, while **Vancouver Island Health** and **Fraser Health** attempted to ban its use outright.[523]

Conversely, the province of **New Brunswick** embraced HCQ as an early treatment for COVID-19 and swiftly arranged for clinical trials to begin treating patients as soon as possible.[524] In April 2020, Dr. **Gabriel Girouard**, microbiologist at Dr. Georges-L.-Dumont University Hospital Centre in Moncton, explained (in French), "If we prefer waiting randomized controlled studies, it is very possible that the storm will be behind us and that we will be too late."[525] Girouard and his team opted instead to use their judgment as clinicians, and embraced the telehealth model to allow patients to avoid hospitalization in order to receive HCQ. A year later, former Newfoundland Premier **Brian Peckford** shared on his blog the article written by **Jean-Pierre Kiekens** and asked, "Did you read this or know about it? I did not see it in the mainstream news."[526]

While officially-sanctioned randomized controlled trials (RCTs) were taking place at academic research facilities across Canada[527] - including the Gates Foundation-funded TOGETHER trial[528] - **Health Canada** issued a "recall", warning patients against taking HCQ outside of a doctor's direction.[529] Despite the implication, it is not clear that there ever was an issue of self-medicating, and the majority of media coverage focused on doctors who were prescribing this particular drug off-label (while outlets continued to describe it as "Trump's drug").[530, 531]

Hearing the outcry from Zelenko and other physicians, the White House weighed in to instruct the FDA to grant an Emergency Use Authorization for HCQ to set a pretence for its off-label prescription nationwide.[532] While this should not have been a necessary step due to the drug having a long-standing FDA approval, the EUA did allow for HCQ to be collected and distributed from the national stockpile.[533] After its issuance, the

US **Department of Health and Human Services** received 63 million doses of hydroxychloroquine and 2 million doses of chloroquine from a group of pharmaceutical giants including **Novartis**, **Bayer** and **Sanofi**.[534]

However, the White House decision was not unanimous. Dr. **Rick Bright**, who served as the head of the **Biomedical Advanced Research and Development Authority (BARDA)** at the time, described the efforts to promote CQ and HCQ for COVID-19 as "misguided directives."[535] It was Bright's project to oversee the development of a COVID-19 vaccine, which would have not been necessary in the presence of any safe and effective treatment already on the market. He alleges he was fired and redeployed to another department of the **National Institutes of Health** due to his disagreement with the President.

In short time, the FDA withdrew the EUA due to "new information" about cardiac safety concerns, which allegedly only occurred when used in treating COVID-19, and not in any of its other use cases such as when treating malaria, lupus, and rheumatoid arthritis.[536]

This left millions of viable doses of HCQ and CQ locked up behind closed doors.[537] In Canada, two million doses of HCQ had been donated by **Apotex** (the only Canadian manufacturer) to the Public Health Agency of Canada for use in clinical trials, and ostensibly available to approved researchers by contacting the company directly.[538] Still, no widespread distribution of the drug occurred. This renders the notion of shortages for non-COVID-19 patients very questionable, as instead of stockpiling and hampering efforts to access the drug, Canadian and American governments could have opted to instead attempt to compassionately allocate the available doses while directing some of the billions of COVID-19 relief money towards ramping up domestic production off the off-patent drug.

To further complicate the situation, the CEO of Apotex, Dr. **Barry Sherman**, and his wife Honey, had been found dead in December 2017 under circumstances still not fully explained to this day.[539] This followed a period of controversy involving unpaid debts and patent lawsuits for the company (the only one able to manufacture HCQ in the country) that paints a picture of the compromised nature of Canada's ability to effectively produce and distribute hydroxychloroquine at the time it was needed most, just over two years later.[540]

While shortages never actually occurred, the mere suggestion resulted in thousands of non-COVID-19 patients in Québec having their HCQ refill requests denied by the province's order of pharmacists.[541]

Beyond simple strategic errors, it is a matter of record that regulatory agencies and governments actively sought to manipulate scientific consensus through what have now been determined to be fraudulent studies. The first major falsehood underpinning the regulatory halt on HCQ was the deadly pair of studies called the **SOLIDARITY** and **RECOVERY** trials. SOLIDARITY was funded by the World Health Organization,[542] while RECOVERY is funded by the Bill and Melinda Gates Foundation, **National Institute for Health Research** (NIHR), **Wellcome Trust**, and the United Kingdom government.[543] While both studies alleged to be seeking to validate HCQ's potential safety and efficacy in treating COVID-19, their trial designs instead enabled toxic doses of the drug (four times higher than the dosage previously used in hospital patients) to be administered to late-stage patients without the prescribed synergies of zinc and azithromycin.[544] The result was the confirmation that when taken at unprecedentedly high doses, HCQ can indeed kill patients. In a blatant disregard for the premise of seeking to help patients, the WHO used the consequences of these reckless tactics to declare HCQ dangerous and discontinue the HCQ arm of the SOLIDARITY trial.[545]

RECOVERY
Randomised Evaluation of COVID-19 Therapy

The second scandal that contributed to SOLIDARITY's cancellation - and the widespread dismissal of HCQ as a viable COVID-19 treatment in the eyes of many - was a pair of studies that appeared in the **Lancet** and the **New England Journal of Medicine** in Spring 2020.

The papers were titled "*Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis*",[546] and "*Cardiovascular Disease, Drug Therapy, and Mortality in COVID-19*",[547] respectively. The studies found that HCQ actually *increased* mortality in trial participants, and cited data from an alleged global database of medical information from 600 healthcare facilities and 96,000 patients.[548] However, the mysterious company behind the study, **Surgisphere**, was unable to stand up to scrutiny and declined to provide supporting materials to those who questioned the veracity of their claims, including a consortium of 200 independent scientists.[549, 550] By June 5, 2020, the Lancet retracted the paper and acknowledged their mistake.[551] The NEJM followed suit just over an hour later.[552]

Health Canada lucidly acknowledged the problematic nature of the effects of these fraudulent studies, and argued that it was not wise of the World Health Organization to halt their own HCQ trials based on Surgisphere's data.[553] Health authorities in the North African nations of Morocco and Algeria also pushed back on the WHO, citing their own positive clinical results.[554, 555] Regulators in Spain equally expressed skepticism at the evidentiary basis for stopping the use of HCQ.[556]

Unfortunately, the damage of HCQ's portrayal as dangerous was already done, with the FDA's withdrawal of its EUA,[557] the WHO and the UK Government ending their own HCQ trials,[558] and multiple European nations banning its use altogether.[559]

The significance of these two publications has been noted in no uncertain terms: "The sheer number and magnitude of the things that went wrong or missing are too enormous to attribute to mere incompetence," as written by **James Heathers** in The Guardian.[560] Many have concluded that the authors and journals that published the papers had genuinely committed fraud by intentionally misleading readers with fabricated data.[561] The lead author of the Lancet paper, Dr. **Mandeep Mehra**, held striking conflicts of interest due to his employment at **Brigham and Women's Hospital** in Boston, Massachusetts,[562] a facility partnered with **Gilead Sciences** and running COVID-19 clinical trials on their repurposed Ebola drug **remdesivir**.[563] Mehra has himself received funding from **Abbott Laboratories**,[564] a large-scale manufacturer of COVID-19 rapid antigen and molecular tests.[565, 566]

Dr. Mandeep Mehra

In November 2020, a report commissioned by the **North Atlantic Treaty Organization (NATO)** on the subject of Cognitive Warfare references the "deliberately biased" Lancet study on chloroquine that came amongst "a massive amount of texts on the subject" which created an "information and knowledge overload."[567] The report argues that this was an example of cognitive warfare, which implies that NATO was aware both of the fraudulent nature of the study in question, as well as the distinct possibility that CQ and HCQ would be beneficial in ending the COVID-19 pandemic.

On February 11, 2022, the Attorney General of North Carolina reaffirmed that doctors in the state do, in fact, have the right and ability to prescribe hydroxychloroquine and other COVID-19 treatments based on their

own clinical decision making. In his opinion, AG **Alan Wilson** wrote that doctors have ”especially broad discretion to prescribe what he or she deems the appropriate medication in a given situation,” specifically including when "prescribing or dispensing of medicines for off-label use to attempt to combat the coronavirus.”[568]

---

[338] *COVID-19 early treatment: real-time analysis of 605 studies.* C19 Early. Retrieved March 2, 2022, from https://web.archive.org/web/20220302192326/https://c19early.com/

[339] Nakatsu, K., & Karrow, N. (2021). *Vitamin D 3 and COVID-19: a brief for family physicians in patients.* Canadian Covid Care Alliance. https://www.campfire.wiki/lib/exe/fetch.php?media=vitamin-d-review-for-ccca.pdf

[340] Heying, H. (2021, October 26). *Vitamin D deficiency and COVID-19.* Natural Selections; Substack. https://archive.ph/cEc4i

[341] Bischoff-Ferrari, H. A., Giovannucci, E., Willett, W. C., Dietrich, T., & Dawson-Hughes, B. (2006). *Estimation of optimal serum concentrations of 25-hydroxyvitamin D for multiple health outcomes.* The American Journal of Clinical Nutrition, 84(1), 18–28. https://doi.org/10.1093/ajcn/84.1.18

[342] Akimbekov, N. S., Ortoski, R. A., & Razzaque, M. S. (2020). *Effects of sunlight exposure and vitamin D supplementation on HIV patients.* The Journal of Steroid Biochemistry and Molecular Biology, 200, 105664. https://doi.org/10.1016/j.jsbmb.2020.105664

[343] Cannell, J. J., Vieth, R., Umhau, J. C., Holick, M. F., Grant, W. B., Madronich, S., Garland, C. F., & Giovannucci, E. (2006). *Epidemic influenza and vitamin D.* Epidemiology and Infection, 134(6), 1129–1140. https://doi.org/10.1017/s0950268806007175

[344] Beard, J. A., Bearden, A., & Striker, R. (2011). *Vitamin D and the anti-viral state.* Journal of Clinical Virology, 50(3), 194–200. https://doi.org/10.1016/j.jcv.2010.12.006

[345] Aranow, C. (2011) *Vitamin D and the immune system.* JIM. 59(6):881–886. https://doi.org/10.2310/JIM.0b013e31821b8755

[346] Cashman, K. D., Dowling, K. G., Škrabáková, Z., Gonzalez-Gross, M., Valtueña, J., De Henauw, S., Moreno, L., Damsgaard, C. T., Michaelsen, K. F., Mølgaard, C., Jorde, R., Grimnes, G., Moschonis, G., Mavrogianni, C., Manios, Y., Thamm, M., Mensink, G. B., Rabenberg, M., Busch, M. A., & Cox, L. (2016). *Vitamin D deficiency in Europe: pandemic?* The American Journal of Clinical Nutrition, 103(4), 1033–1044. https://doi.org/10.3945/ajcn.115.120873

[347] Pearce, S. H., & Cheetham, T. D. (2010). *Diagnosis and management of vitamin D deficiency.* BMJ, 340(jan11 1), b5664–b5664. https://doi.org/10.1136/bmj.b5664

[348] Bjarnadottir, A., & Chin, K. (2021, February 15). *How much Vitamin D should you take for optimal health?* Healthline. https://archive.ph/m28VB

[349] Lamberg-Allardt, C. (2006). *Vitamin D in foods and as supplements.* Progress in Biophysics and Molecular Biology, 92(1), 33–38. https://doi.org/10.1016/j.pbiomolbio.2006.02.017

[350] Cardwell, G., Bornman, J., James, A., & Black, L. (2018). *A review of mushrooms as a potential source of dietary vitamin D.* Nutrients, 10(10), 1498. https://doi.org/10.3390/nu10101498

[351] Campi, I., Gennari, L., Merlotti, D., Mingiano, C., Frosali, A., Giovanelli, L., Torlasco, C., Pengo, M. F., Heilbron, F., Soranna, D., Zambon, A., Di Stefano, M., Aresta, C., Bonomi, M., Cangiano, B., Favero, V., Fatti, L., Perego, G. B., Chiodini, I., & Parati, G. (2021). *Vitamin D and COVID-19 severity and related mortality: a prospective study in Italy.* BMC Infectious Diseases, 21(1). https://doi.org/10.1186/s12879-021-06281-7

[352] Public Health England. (2016, July 21). *PHE publishes new advice on vitamin D.* Government of the United Kingdom. https://www.gov.uk/government/news/phe-publishes-new-advice-on-vitamin-d

[353] Public Health Agency of Canada, & Tam, T. (2021, February 21). *CPHO Sunday edition: The impact of COVID-19 on racialized communities.* Government of Canada. https://www.canada.ca/en/public-health/news/2021/02/cpho-sunday-edition-the-impact-of-covid-19-on-racialized-communities.html

[354] *COVID-19 Canadian Covid Care Alliance Declaration (p. 7).* (2021). Canadian Covid Care Alliance (CCCA). https://www.canadiancovidcarealliance.org/wp-content/uploads/2021/12/Canadian-Covid-Care-Alliance-Declaration-v2.pdf

[355] Song, Y., Qayyum, S., Greer, R. A., Slominski, R. M., Raman, C., Slominski, A. T., & Song, Y. (2021). *Vitamin D3 and its hydroxyderivatives as promising drugs against COVID-19: a computational study.* Journal of Biomolecular Structure and Dynamics, 1–17. https://doi.org/10.1080/07391102.2021.1964601

[356] Sidiropoulou, P., Docea, A., Nikolaou, V., Katsarou, M.-S., Spandidos, D., Tsatsakis, A., Calina, D., & Drakoulis, N. (2020). *Unraveling the roles of vitamin D status and melanin during COVID-19 (review).* International Journal of Molecular Medicine, 47(1), 92–100. https://doi.org/10.3892/ijmm.2020.4802

[357] Malcolm, C. (2021, April 24). *MALCOLM: No, Minister Hajdu, the Vitamin D conversation isn't "fake news."* Toronto Sun. https://archive.ph/xX37h

[358] Scipioni, J. (2020, September 14). *The supplement Dr. Fauci takes to help keep his immune system healthy.* CNBC. https://archive.ph/SLoua

[359] *Dr. Fauci takes 6,000 IU of Vitamin D daily – Sept 2020.* (2020, November 13). VitaminDWiki. https://archive.ph/ITmnj

[360] Dr. John Campbell. (2020, September 16). *Vitamin D and pandemic science.* YouTube. https://web.archive.org/web/20220302185416/https://www.youtube.com/watch?v=ZqZLMoLvhgk

[361] National Institutes of Health. (2021, August 17). *Vitamin D.* National Institutes of Health (NIH). https://archive.ph/DJ7zP

[362] Benskin, L. L. (2020). *A basic review of the preliminary evidence that COVID-19 risk and severity is increased in Vitamin D deficiency.* Frontiers in Public Health, 8. https://doi.org/10.3389/fpubh.2020.00513

[363] Schraer, R. (2021, April 4). *Vitamin D: The truth about an alleged Covid "cover-up."* BBC News. https://archive.ph/Lcf8I

[364] *Vitamin D for COVID-19: real-time analysis of all 232 studies.* COVID-19 Vitamin D Studies. Retrieved March 2, 2022, from https://web.archive.org/web/20220302191608/https://c19vitamind.com/

[365] National Institutes of Health (NIH). (2021, December 16). *Fluvoxamine*. COVID-19 Treatment Guidelines. https://archive.ph/MAeG2

[366] *Fluvoxamine.* Bionity. Retrieved March 2, 2022, from https://web.archive.org/web/20200814044405/https://www.bionity.com/en/encyclopedia/Fluvoxamine.html#_note-0/

[367] Leslie, L. K. (2005). *The Food and Drug Administration's deliberations on antidepressant use in pediatric patients.* Pediatrics, 116(1), 195–204. https://doi.org/10.1542/peds.2005-0074

[368] Vezmar, S., Miljkovic, B., Vucicevic, K., Timotijevic, I., Prostran, M., Todorovic, Z., & Pokrajac, M. (2009). *Pharmacokinetics and efficacy of fluvoxamine and amitriptyline in depression.* Journal of Pharmacological Sciences, 110(1), 98–104. https://doi.org/10.1254/jphs.09013fp

[369] Viatris. (2013, January 15). *TGA eBS - Product and consumer medicine information licence.* Therapeutic Goods Administration. https://www.ebs.tga.gov.au/ebs/picmi/picmirepository.nsf/pdf?OpenAgent&id=CP-2010-PI-07140-3&d=20220302172310101

[370] World Health Organization. (2021). *World Health Organization model list of essential medicines: 22nd list (2021).* World Health Organization. https://apps.who.int/iris/handle/10665/345533. License: CC BY-NC-SA 3.0 IGO

[371] FLCCC Alliance. (2022). *I-MASK+ prevention & early outpatient treatment protocol for COVID-19.* COVID-19 Critical Care. https://covid19criticalcare.com/wp-content/uploads/2020/11/FLCCC-Alliance-I-MASKplus-Protocol-ENGLISH.pdf

[372] *Treatment Protocols.* Canadian Covid Care Alliance. Retrieved March 3, 2022, from https://www.canadiancovidcarealliance.org/treatment-protocols/

[373] Hamed, M. G. M., & Hagag, R. S. (2020). *The possible immunoregulatory and anti-inflammatory effects of selective serotonin reuptake inhibitors in coronavirus disease patients.* Medical Hypotheses, 144, 110140. https://doi.org/10.1016/j.mehy.2020.110140

[374] Ragab, D., Salah Eldin, H., Taeimah, M., Khattab, R., & Salem, R. (2020). *The COVID-19 cytokine storm; what we know so far.* Frontiers in Immunology, 11. https://doi.org/10.3389/fimmu.2020.01446

[375] Sukhatme, V. P., Reiersen, A. M., Vayttaden, S. J., & Sukhatme, V. V. (2021). *Fluvoxamine: A review of its mechanism of action and its role in COVID-19.* Frontiers in Pharmacology, 12. https://doi.org/10.3389/fphar.2021.652688

[376] Härtter, S., Wang, X., Weigmann, H., Friedberg, T., Arand, M., Oesch, F., & Hiemke, C. (2001). *Differential effects of fluvoxamine and other antidepressants on the biotransformation of melatonin.* Journal of Clinical Psychopharmacology, 21(2), 167–174. https://doi.org/10.1097/00004714-200104000-00008

[377] Hoertel, N., Sánchez-Rico, M., Vernet, R., Beeker, N., Jannot, A.-S., Neuraz, A., Salamanca, E., Paris, N., Daniel, C., Gramfort, A., Lemaitre, G., Bernaux, M., Bellamine, A., Lemogne, C., Airagnes, G., Burgun, A., & Limosin, F. (2021). *Association between antidepressant use and reduced risk of intubation or death in hospitalized patients with COVID-19: results from an observational study.* Molecular Psychiatry, 1–14. https://doi.org/10.1038/s41380-021-01021-4

[378] Zimering, M. B., Razzaki, T., Tsang, T., & Shin, J. J. (2020). *Inverse association between serotonin 2A receptor antagonist medication use and mortality in severe COVID-19 infection.* Endocrinology, diabetes and metabolism journal, 4(4), 1–5.

[379] Hoertel, N. (2021). *Do the selective serotonin reuptake inhibitor antidepressants fluoxetine and fluvoxamine reduce mortality among patients with COVID-19?* JAMA Network Open, 4(11), e2136510. https://doi.org/10.1001/jamanetworkopen.2021.36510

[380] Patel, U. (2021, March 23). *Update on America's state of mind – 4 key takeaways.* Evernorth. https://archive.ph/xONiB

[381] Oskotsky, T., Marić, I., Tang, A., Oskotsky, B., Wong, R. J., Aghaeepour, N., Sirota, M., & Stevenson, D. K. (2021). *Mortality risk among patients with COVID-19 prescribed selective serotonin reuptake inhibitor antidepressants*. JAMA Network Open, 4(11), e2133090. https://doi.org/10.1001/jamanetworkopen.2021.33090

[382] Ishima, T., Fujita, Y., & Hashimoto, K. (2014). *Interaction of new antidepressants with sigma-1 receptor chaperones and their potentiation of neurite outgrowth in PC12 cells.* European Journal of Pharmacology, 727, 167–173. https://doi.org/10.1016/j.ejphar.2014.01.064

[383] Fox, M. (2021, October 28). *Cheap, generic anti-depressant may reduce severe COVID-19 disease, study finds.* CNN. https://archive.ph/LnVrn

[384] Walsh, J. (2021, October 27). *Study finds fluvoxamine — a $4 antidepressant — may cut Covid hospitalization risk.* Forbes. https://www.forbes.com/sites/joewalsh/2021/10/27/study-finds-fluvoxamine---a-4-antidepressant---may-cut-covid-hospitalization-risk/?sh=615f4d442444

[385] Reis, G., dos Santos Moreira-Silva, E. A., Silva, D. C. M., Thabane, L., Milagres, A. C., Ferreira, T. S., dos Santos, C. V. Q., de Souza Campos, V. H., Nogueira, A. M. R., de Almeida, A. P. F. G., Callegari, E. D., de Figueiredo Neto, A. D., Savassi, L. C. M., Simplicio, M. I. C., Ribeiro, L. B., Oliveira, R., Harari, O., Forrest, J. I., Ruton, H., & Sprague, S. (2021). *Effect of early treatment with fluvoxamine on risk of emergency care and hospitalisation among patients with COVID-19: the TOGETHER randomised, platform clinical trial.* The Lancet Global Health. https://doi.org/10.1016/s2214-109x(21)00448-4

[386] Leaf, D., Brigham and Women's Hospital, Icahn School of Medicine at Mount Sinai, Montefiore Medical Center, Baylor College of Medicine, Baylor Health Care System, Beth Israel Deaconess Medical Center, University of Colorado, Denver, Cook County Hospital, The Cooper Health System, Duke University, Georgetown University, Hackensack Mountainside Hospital, Hackensack Meridian Health, Indiana University Health Methodist Hospital, Johns Hopkins University, Loma Linda University, Mayo Clinic, Medical College of Wisconsin, & Northwestern. (2021, December 23). *Study of the treatment and outcomes in critically ill patients with COVID-19.* Clinicaltrials.gov. https://clinicaltrials.gov/ct2/show/NCT04343898

[387] Aydelotte, T. (2020, July 20). *As COVID-19 surges, leading doctors, epidemiologists and business leaders call on Americans to support the COVID-19 Early Treatment Fund.* COVID-19 Early Treatment Fund. https://archive.ph/0UMop

[388] Massar, C., Sweeney, P., & Holloway, D. (2020, October 14). *The $120B idea behind a 2020 Nobel Prize.* Bloomberg. https://www.bloomberg.com/news/audio/2020-10-14/the-120b-idea-behind-a-2020-nobel-prize-podcast?sref=c5sFglvQ

[389] Brooks, M. (2020, November 19). *Repurposed antidepressant shows early promise in COVID-19.* Medscape. https://archive.ph/MfZiv

[390] Saey, T. H. (2020, August 24). *New treatments aim to treat COVID-19 early, before it gets serious.* Science News. https://archive.ph/x3jyq

[391] Lenze, E. J., Mattar, C., Zorumski, C. F., Stevens, A., Schweiger, J., Nicol, G. E., Miller, J. P., Yang, L., Yingling, M., Avidan, M. S., & Reiersen, A. M. (2020). *Fluvoxamine vs placebo and clinical deterioration in outpatients with symptomatic COVID-19.* JAMA, 324(22). https://doi.org/10.1001/jama.2020.22760

[392] Klausner, J. (2021, January 27). *Existing drugs could help treat COVID-19. How do we know when to use them?* Washington Post. https://archive.ph/DU2Uk

[393] Danzig, L. (2020, November 30). *Coronavirus latest: Vaccine distribution on the horizon & Thanksgiving travel.* Cheddar. https://web.archive.org/web/20220303220736/https://cheddar.com/media/coronavirus-latest-vaccine-distribution-on-the-horizon-and-thanksgiving-travel

[394] Center for Biologics Evaluation and Research. (2020). *Emergency use authorization for vaccines explained.* U.S. Food and Drug Administration (FDA). https://archive.ph/KIclt

[395] Mathieu, E., Ritchie, H., Ortiz-Ospina, E. *et al*. (2021) *A global database of COVID-19 vaccinations.* Nat Hum Behav

[396] Mueller, B. (2021, October 27). *A cheap antidepressant lowers the risk of Covid hospitalization, a large study finds.* The New York Times. https://archive.ph/daoSw

[397] *Who we are.* TOGETHER Trial. Retrieved March 3, 2022, from https://www.togethertrial.com/who-we-are

[398] *Bill and Melinda Gates fund global ivermectin & fluvoxamine clinical trial targeting COVID-19: Together COVID-19 trial.* (2021, February 11). TrialSiteNews. https://archive.ph/jVQ9I

[399] *Emergent Ventures.* Mercatus Center. Retrieved March 3, 2022, from https://archive.ph/6Y2n9

[400] *Fast funding for COVID-19 science.* Fast Grants. Retrieved March 3, 2022, from https://archive.ph/YQI2N

[401] Kellar, J., Wu, P., Reiersen, A., Neil, U., Muggah, L., Watt, K., Pai, M., Miller, K. J., Grindrod, K., Killeen, R., Carlin, S., Ivers, N., Healey, A., & Poon, A. (2022). *Fluvoxamine: What prescribers and pharmacists need to know.* Ontario COVID-19 Science Advisory Table. https://web.archive.org/web/20220114165817/https://covid19-sciencetable.ca/wp-content/uploads/2022/01/Fluvoxamine-What-prescribers-and-pharmacists-need-to-know_20220112-1.pdf

[402] *Treatments.* British Columbia Centre for Disease Control (BCCDC). Retrieved March 3, 2022, from http://www.bccdc.ca/health-professionals/clinical-resources/covid-19-care/treatments

[403] *Fluvoxamine for COVID-19: real-time analysis of all 12 studies.* COVID-19 Fluvoxamine Studies. Retrieved March 3, 2022, from https://archive.ph/LirAb

[404] National Institutes of Health. (2021, December 16). *Fluvoxamine clinical data.* COVID-19 Treatment Guidelines. https://www.covid19treatmentguidelines.nih.gov/tables/fluvoxamine-data/

[405] American Society of Health-System Pharmacists. (2022, February 15). *Budesonide*. MedlinePlus Drug Information. https://archive.ph/SHcQ9

[406] IBM Micromedex. (2022, February 1). *Budesonide (inhalation route) description and brand names.* Mayo Clinic. https://archive.ph/VZq9X

[407] *Budesonide inhalation - budesonide suspension.* (2019, September 25). DailyMed. https://archive.ph/tlvYQ

[408] *Budesonide (Rhinocort Allergy): Basics, side effects & reviews.* GoodRx. Retrieved March 4, 2022, from https://www.goodrx.com/rhinocort-allergy/what-is

[409] Tukiainen, H., Taivainen, A., Majander, R., Poussa, T., Svahn, T., Puolijoki, H., & Terho, E. O. (2000). *Comparison of high and low dose of the inhaled steroid, budesonide, as an initial treatment in newly detected asthma.* Respiratory medicine, 94(7), 678–683. https://doi.org/10.1053/rmed.2000.0796

[410] Ramakrishnan, S., Nicolau, D. V., Langford, B., Mahdi, M., Jeffers, H., Mwasuku, C., Krassowska, K., Fox, R., Binnian, I., Glover, V., Bright, S., Butler, C., Cane, J. L., Halner, A., Matthews, P. C., Donnelly, L. E., Simpson, J. L., Baker, J. R., Fadai, N. T., & Peterson, S. (2021). *Inhaled budesonide in the treatment of early COVID-19 (STOIC): a phase 2, open-label, randomised controlled trial.* The Lancet Respiratory Medicine, 0(0). https://doi.org/10.1016/S2213-2600(21)00160-0

[411] Junghanns, F. B. (2021, May 17). *Optional medicines.* FLCCC | Front Line COVID-19 Critical Care Alliance. https://archive.ph/8qicl

[412] Lombardi, C., Gani, F., Berti, A., Comberiati, P., Peroni, D., & Cottini, M. (2021). *Asthma and COVID-19: a dangerous liaison?* Asthma Research and Practice, 7(1). https://doi.org/10.1186/s40733-021-00075-z

[413] Drbeen Medical Lectures. (2020, August 1). *Nebulized steroids (budesonide) talk with Dr. Richard Bartlette.* YouTube. https://www.youtube.com/watch?v=205Unk4TQXI

[414] Barber, C. (2020, July 24). *Commentary: Is a new steroid treatment a miracle solution for COVID-19—or is it snake oil?* Fortune. https://archive.ph/DAT5d

[415] America Can We Talk? (2020). *Dr. Richard Bartlett | ACWT 7.2.20 [Interview].* YouTube. https://archive.ph/bD4eB

[416] Steele, S. (2020). *COVID patients defend Dr. Bartlett's "silver bullet" medicine regimen.* NewsWest9. https://archive.ph/FOFaq

[417] Marks, M. (2020, August 19). *Some Texas doctors are treating COVID patients with a "silver bullet" drug that hasn't been fully tested.* Texas Standard. https://archive.ph/65TVh

[418] Mercedes, C. (2020, July 16). *VERIFY: No, this Texas doctor has not discovered a cure for COVID-19 using "inhaled steroids."* KHOU-TV. https://archive.ph/DU0k0

[419] DeLisi, C. (2020, July 10). *Research and facts are key to sorting out news of COVID breakthroughs.* Titus Regional Medical Center. https://archive.ph/S00iT

[420] *Video unavailable*. YouTube. Retrieved March 4, 2022, from https://www.youtube.com/watch?v=eDSDdwN2Xcg

[421] *Budesonide for COVID-19: real-time analysis of all 12 studies.* COVID-19 Budesonide Studies. Retrieved March 4, 2022, from https://c19budesonide.com/

[422] *Find providers.* Budesonide Works. Retrieved March 4, 2022, from https://archive.ph/OTxEs

[423] Morris, A. M., Andany, N., Bobos, P., *et al*. *Evidence-based use of therapeutics for ambulatory patients with COVID-19.* Science Briefs of the Ontario COVID-19 Science Advisory Table. 2021;2(48). https://doi.org/10.47326/ocsat.2021.02.48.1.0

[424] British Columbia COVID-19 Therapeutics Committee (CTC), & COVID-19 Therapeutics Review and Advisory Working Group (CTRAWG). (2021, April 18). *Antimicrobial and immunomodulatory therapy in adult patients with COVID-19*. COVEXIT. https://web.archive.org/web/20211019213734/https://covexit.com/wp-content/uploads/2021/04/Antimicrobial-Immunomodulatory-Therapy-adults.pdf

[425] Junghanns, F. B. *Ivermectin in COVID-19.* FLCCC | Front Line COVID-19 Critical Care Alliance. Retrieved March 9, 2022, from https://archive.ph/CS47X

[426] FLCCC Alliance. (2021). *Safety of ivermectin.* COVID-19 Critical Care. https://archive.ph/E5KPI

[427] *Ivermectin.* EEML - Electronic Essential Medicines List; World Health Organization (WHO). Retrieved March 9, 2022, from https://list.essentialmeds.org/medicines/58

[428] Cotton, S. (2014, June 27). *Natural medicine is great, but chemists can make it even better.* The Conversation. https://archive.ph/DnmBg

[429] Nobel Prize Outreach AB. *William C. Campbell facts.* NobelPrize.Org. Retrieved October 17, 2021, from https://www.nobelprize.org/prizes/medicine/2015/campbell/facts/

[430] Egerton, J. R., Ostlind, D. A., Blair, L. S., Eary, C. H., Suhayda, D., Cifelli, S., Riek, R. F., & Campbell, W. C. (1979). *Avermectins, new family of potent anthelmintic agents: Efficacy of the B1a component.* Antimicrobial Agents and Chemotherapy, 15(3), 372–378. https://doi.org/10.1128/aac.15.3.372

[431] Chabala, J. C., Mrozik, H., Tolman, R. L., Eskola, P., Lusi, A., Peterson, L. H., Woods, M. F., Fisher, M. H., & Campbell, W. C. (1980). *Ivermectin, a new broad-spectrum antiparasitic agent.* Journal of Medicinal Chemistry, 23(10), 1134–1136. https://doi.org/10.1021/jm00184a014

[432] National Historic Chemical Landmarks program. (2016, December 2). *Discovery of ivermectin.* American Chemical Society. https://archive.ph/6qHv4

[433] *Merck offers free distribution of new river blindness drug.* (1987, October 22). The New York Times, A14. https://archive.ph/EZFmt

[434] *History of the program.* Mectizan Donation Program. Retrieved March 9, 2022, from https://mectizan.org/history/

[435] Mectizan Donation Program. (2022, March 1). *MSD and the Mectizan Donation Program donate $500,000 to strengthen laboratory capacity to support Onchocerciasis elimination in Africa*. Cision Newswire. https://www.prnewswire.com/news-releases/msd-and-the-mectizan-donation-program-donate-500-000-to-strengthen-laboratory-capacity-to-support-onchocerciasis-elimination-in-africa-301493066.html

[436] C. Campbell, W. (2012). *History of avermectin and ivermectin, with notes on the history of other macrocyclic lactone antiparasitic agents.* Current Pharmaceutical Biotechnology, 13(6), 853–865. https://doi.org/10.2174/138920112800399095

[437] Nobel Assembly at Karolinska Institutet. (2015). *The Nobel Prize in Physiology or Medicine 2015.* Nobel Foundation. https://web.archive.org/web/20151005210425/http://www.nobelprize.org/nobel_prizes/medicine/laureates/2015/press.pdf

[438] Feigal, Jr., D. W. (1996). *Approval package for ivermectin.* U.S. Food and Drug Administration. https://web.archive.org/web/20211203181507/https://www.accessdata.fda.gov/drugsatfda_docs/nda/96/050742ap.pdf

[439] Laing, R., Gillan, V., & Devaney, E. (2017). *Ivermectin – old drug, new tricks?* Trends in Parasitology, 33(6), 463–472. https://doi.org/10.1016/j.pt.2017.02.004

[440] Jin, L., Wang, R., Zhu, Y., Zheng, W., Han, Y., Guo, F., Ye, F. B., & Li, Y. (2015). *Selective targeting of nuclear receptor FXR by avermectin analogues with therapeutic effects on nonalcoholic fatty liver disease.* Scientific Reports, 5(1). https://doi.org/10.1038/srep17288

[441] Yin, J., Park, G., Lee, J. E., Choi, E. Y., Park, J. Y., Kim, T.-H., Park, N., Jin, X., Jung, J.-E., Shin, D., Hong, J. H., Kim, H., Yoo, H., Lee, S.-H., Kim, Y.-J., Park, J. B., & Kim, J. H. (2015). *DEAD-box RNA helicase DDX23 modulates glioma malignancy via elevating miR-21 biogenesis.* Brain, 138(9), 2553–2570. https://doi.org/10.1093/brain/awv167

[442] Mastrangelo, E., Pezzullo, M., De Burghgraeve, T., Kaptein, S., Pastorino, B., Dallmeier, K., de Lamballerie, X., Neyts, J., Hanson, A. M., Frick, D. N., Bolognesi, M., & Milani, M. (2012). *Ivermectin is a potent inhibitor of flavivirus replication specifically targeting NS3 helicase activity: new prospects for an old drug.* Journal of Antimicrobial Chemotherapy, 67(8), 1884–1894. https://doi.org/10.1093/jac/dks147

[443] Pooda, S. H., Mouline, K., De Meeûs, T., Bengaly, Z., & Solano, P. (2013). *Decrease in survival and fecundity of Glossina palpalis gambiensis vanderplank 1949 (Diptera: Glossinidae) fed on cattle treated with single doses of ivermectin.* Parasites & Vectors, 6(1). https://doi.org/10.1186/1756-3305-6-165

[444] Pooda, H. S., Rayaisse, J.-B., Hien, D. F. de S., Lefèvre, T., Yerbanga, S. R., Bengaly, Z., Dabiré, R. K., Belem, A. M. G., Sidibé, I., Solano, P., & Mouline, K. (2015). *Administration of ivermectin to peridomestic cattle: a promising approach to target the residual transmission of human malaria.* Malaria Journal, 14(1). https://doi.org/10.1186/s12936-015-1001-z

[445] Wagstaff, Kylie M., Sivakumaran, H., Heaton, Steven M., Harrich, D., & Jans, David A. (2012). *Ivermectin is a specific inhibitor of importin α/β-mediated nuclear import able to inhibit replication of HIV-1 and dengue virus.* Biochemical Journal, 443(3), 851–856. https://doi.org/10.1042/bj20120150

[446] Crump, A. (2017). *Ivermectin: enigmatic multifaceted "wonder" drug continues to surprise and exceed expectations.* The Journal of Antibiotics, 70(5), 495–505. https://doi.org/10.1038/ja.2017.11

[447] Crump, A., & Ōmura, S. (2011). *Ivermectin, "Wonder drug" from Japan: the human use perspective.* Proceedings of the Japan Academy. Series B, Physical and Biological Sciences, 87(2), 13–28. https://doi.org/10.2183/pjab.87.13

[448] Li, D., Clemente, J., Loxam, T., Klug, A., Lawrence, J., & Sodahlon, Y. (2017, November 30). *Merck commemorates 30 years of MECTIZAN® donation program progress.* Business Wire; Berkshire Hathaway. https://archive.ph/Xsl0o

[449] Goldberg, E. (2021, August 30). *Demand surges for deworming drug for Covid, despite scant evidence it works.* The New York Times. https://archive.ph/I98zw

[450] *Continúa entrega de kits de medicamentos para tratar COVID-19.* (2021, January 2). Diario La Página. https://archive.ph/8Tunf

[451] Seth, M. (2021, May 12). *Uttar Pradesh government says early use of ivermectin helped to keep positivity, deaths low.* The Indian Express. https://archive.ph/VFvvD

[452] Malek, A. E., Granwehr, B. P., & Kontoyiannis, D. P. (2020). *Doxycycline as a potential partner of COVID-19 therapies.* IDCases, 21, e00864. https://doi.org/10.1016/j.idcr.2020.e00864

[453] Yates, P. A., Newman, S. A., Oshry, L. J., Glassman, R. H., Leone, A. M., & Reichel, E. (2020). *Doxycycline treatment of high-risk COVID-19-positive patients with comorbid pulmonary disease.* Therapeutic Advances in Respiratory Disease, 14, 175346662095105. https://doi.org/10.1177/1753466620951053

[454] Conforti, C., Giuffrida, R., Zalaudek, I., & Di Meo, N. (2020). *Doxycycline, a widely used antibiotic in dermatology with a possible anti-inflammatory action against IL-6 in COVID-19 outbreak.* Dermatologic Therapy, 33(4). https://doi.org/10.1111/dth.13437

[455] TrialSite Staff. (2021, May 28). *Mumbai move for ivermectin prophylaxis while Uttar Pradesh smashes COVID-19 but drug's use suppressed in media.* TrialSite News. https://archive.ph/P5vzB

[456] Ministry of Health and Family Welfare. (2021). *Clinical management protocol for COVID-19 (in adults).* Government of India. https://web.archive.org/web/20220315193319/https://www.mohfw.gov.in/pdf/UpdatedDetailedClinicalManagementProtocolforCOVID19adultsdated24052021.pdf

[457] GobCDMX. (2021, May 14). *Videoconferencia de prensa 14/05/21.* YouTube. https://www.youtube.com/watch?v=hrTVnJOMDjU

[458] Merino, J., Borja, V. H., Lopez, O., Ochoa, J. A., Clark, E., Petersen, L., & Caballero, S. (2021). *Ivermectin and the odds of hospitalization due to COVID-19: evidence from a quasi-experimental analysis based on a public intervention in Mexico City.* SocArXiv. Preprint (withdrawn). https://doi.org/10.31235/osf.io/r93g4

[459] *COVID-19 Tablero México.* Consejo Nacional de Ciencia Y Tecnología. Retrieved March 9, 2022, from https://datos.covid-19.conacyt.mx/

[460] Sheridan, M. B. (2022, February 9). *Mexico City gave ivermectin to thousands of covid patients. Officials face an ethics backlash.* Washington Post. https://archive.ph/L2U3G

[461] Cohen, P. N. (2022, February 4). *On withdrawing "ivermectin and the odds of hospitalization due to COVID-19," by Merino et al.* SocOpen: Home of SocArXiv. https://archive.ph/Gpa3y

[462] Chamie, J. (2021, November 16). *Ivermectin in Mexico.* Juan's Analyses. https://archive.ph/0bX0Y

[463] Chamie, J. (2022, February 5). *Mexico removed early treatment kits.* Juan's Analyses. https://archive.ph/Taixn

[464] *Sistema de Información de la Red IRAG.* Gobierno de México. Retrieved March 9, 2022, from https://www.gits.igg.unam.mx/red-irag-dashboard/reviewHome

[465] U.S. FDA (@US_FDA). (2021, August 21). *You are not a horse. You are not a cow. Seriously, y'all. Stop it. [Tweet].* Twitter. https://archive.ph/WpUSm

[466] U.S. FDA (@US_FDA). (2021, April 13). *Today FDA and @CDCgov issued a statement regarding the Johnson & Johnson #COVID19 vaccine. We are recommending a pause in the use of this vaccine out of an abundance of caution. [Tweet]* Twitter. https://twitter.com/US_FDA/status/1381925612743499778?s=20&t=G52bYOpKMylnPJu5M2unkw

[467] Merlan, A. (2021, October 1). *The FDA was internally thrilled over that viral ivermectin horse paste tweet.* VICE. https://archive.ph/mmvoH

[468] Sadeghi, M. (2021, September 15). *Fact check: No evidence Oklahoma hospitals are backed up due to ivermectin overdoses.* USA TODAY. https://archive.ph/y8938

[469] Rolling Stone (@RollingStone). (2021, September 3). *Gunshot victims left waiting as horse dewormer overdoses overwhelm Oklahoma hospitals, doctor says [Tweet].* Twitter. https://archive.ph/p3HXb

[470] Mcculley, L. (2021, September 8). *Hospital addresses doctor's statements on horse dewormer.* Sequoyah County Times. https://archive.ph/SHFUD

[471] Wade, P. (2021, September 6). *One hospital denies Oklahoma doctor's story of ivermectin overdoses causing ER delays for gunshot victims.* Rolling Stone. https://archive.ph/vAAxO

[472] Glenn Greenwald (@ggreenwald). (2021, September 6). *Rolling Stone has now issued a second "update" that effectively retracts its false story that gunshot victims are waiting in ER rooms in Oklahoma due to overflow from ivermectin poisoning, yet @maddow still has her tweet up from 4 days ago promoting it, with no subsequent note: [Tweet].* Twitter. https://archive.ph/qYFtq

[473] Drew Holden (@DrewHolden360). (2021, September 6). *We've got to talk about the Rolling Stone ivermectin article. Turns out the story about rural hospitals so flooded with ODs that they couldn't treat other patients was made up, entirely invented. A lot of people took the bait, and I've got the screenshots. [Tweet].* Twitter. https://archive.ph/Mq70b

[474] Dale, D. (2021, September 7). *Fact-checking the misinformation about Oklahoma hospitals and ivermectin.* CNN. https://archive.ph/mS6Z9

[475] Wemple, E. (2021, September 9). *Opinion: Bogus Oklahoma ivermectin story was just too good to check.* Washington Post. https://archive.ph/XJsa7

[476] Tolkushin, A. G., Luchinin, E. A., Kholovnya-Voloskova, M. E., & Zavyalov, A. A. (2020). *History of aminoquinoline preparations: from cinchona bark to chloroquine and hydroxychloroquinon.* Problems of Social Hygiene Public Health and History of Medicine, 28(Special Issue). https://doi.org/10.32687/0869-866x-2020-28-s2-1118-1122

[477] Permin, H., Norn, S., Kruse, E., & Kruse, P. R. (2016). *On the history of Cinchona bark in the treatment of Malaria.* Dansk medicinhistorisk arbog, 44, 9–30.

[478] *Medicines for the prevention of malaria while traveling hydroxychloroquine (Plaquenil™).* U.S. Centers for Disease Control and Prevention. Retrieved March 11, 2022, from https://web.archive.org/web/20220123210220/https://www.cdc.gov/malaria/resources/pdf/fsp/drugs/hydroxychloroquine.pdf

[479] Liu, J., Cao, R., Xu, M., Wang, X., Zhang, H., Hu, H., Li, Y., Hu, Z., Zhong, W., & Wang, M. (2020). *Hydroxychloroquine, a less toxic derivative of chloroquine, is effective in inhibiting SARS-CoV-2 infection in vitro.* Cell Discovery, 6, 16. https://doi.org/10.1038/s41421-020-0156-0

[480] *Hydroxychloroquine.* EEML - Electronic Essential Medicines List; World Health Organization. Retrieved March 12, 2022, from https://list.essentialmeds.org/medicines/276

[481] *Hydroxychloroquine - Drug usage statistics.* ClinCalc DrugStats Database. Retrieved March 12, 2022, from https://clincalc.com/DrugStats/Drugs/Hydroxychloroquine

[482] *Hydroxychloroquine*. DrugBank. Retrieved March 12, 2022, from https://archive.ph/3vjuP

[483] McCullough, P. A. (2020, August 7). *Why doctors and researchers need access to hydroxychloroquine.* The Hill. https://archive.ph/PRaty

[484] Immanuel, S. (2021). *Let America live: Exposing the hidden agenda behind the 2020 pandemic: My journey.* Charisma House.

[485] Division of Parasitic Diseases and Malaria. (2018, November 15). *Travelers - Choosing a drug to prevent malaria.* Centers for Disease Control and Prevention. https://archive.ph/gToai

[486] Thomas, J. (2018, August 28). *Facts and statistics about psoriasis (D. Sullivan, Ed.).* Healthline. https://archive.ph/I72NY

[487] Taylor, M., & Roston, A. (2020, April 4). *Exclusive: Pressed by Trump, U.S. pushed unproven coronavirus treatment guidance.* Reuters. https://archive.ph/g4m2g

[488] Edwards, E., & Hillyard, V. (2020, March 23). *A man died after ingesting a substance he thought would protect him from coronavirus.* NBC News. https://archive.ph/GM5O8

[489] Waldrop, T., Alsup, D., & McLaughlin, E. C. (2020, March 25). *Arizona man dies after self-medicating with chloroquine to treat coronavirus.* CNN. https://archive.ph/vjL7c

[490] Vincent, M. J., Bergeron, E., Benjannet, S., Erickson, B. R., Rollin, P. E., Ksiazek, T. G., Seidah, N. G., & Nichol, S. T. (2005). *Chloroquine is a potent inhibitor of SARS coronavirus infection and spread.* Virology Journal, 2(1), 69. https://doi.org/10.1186/1743-422x-2-69

[491] de Wilde, A. H., Jochmans, D., Posthuma, C. C., Zevenhoven-Dobbe, J. C., van Nieuwkoop, S., Bestebroer, T. M., van den Hoogen, B. G., Neyts, J., & Snijder, E. J. (2014). *Screening of an FDA-approved compound library identifies four small-molecule inhibitors of Middle East Respiratory Syndrome coronavirus replication in cell culture.* Antimicrobial Agents and Chemotherapy, 58(8), 4875–4884. https://doi.org/10.1128/aac.03011-14

[492] Gautret, P., Lagier, J.-C., Parola, P., Hoang, V., Meddeb, L., Mailhe, M., Doudier, B., Courjon, J., Giordanengo, V., Vieira, V., Dupont, T., Honoré, S., Colson, P., Chabrière, E., Scola, B., Rolain, J.-M., Brouqui, P., & Raoult, D. (2020). *Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open- label non-randomized clinical trial.* International Journal of Antimicrobial Agents, 56(1). https://doi.org/10.1016/j.ijantimicag.2020.105949

[493] Wang, N., Han, S., Liu, R., Meng, L., He, H., Zhang, Y., Wang, C., Lv, Y., Wang, J., Li, X., Ding, Y., Fu, J., Hou, Y., Lu, W., Ma, W., Zhan, Y., Dai, B., Zhang, J., Pan, X., & Hu, S. (2020). *Chloroquine and hydroxychloroquine as ACE2 blockers to inhibit viropexis of 2019-nCoV Spike pseudotyped virus.* Phytomedicine, 79, 153333. https://doi.org/10.1016/j.phymed.2020.153333

[494] Office of the Commissioner. (2020, March 27). *Coronavirus (COVID-19) update: FDA continues to facilitate development of treatments.* U.S. Food and Drug Administration. https://archive.ph/fOavW

[495] *Frequently asked questions on the Emergency Use Authorization (EUA) for chloroquine phosphate and hydroxychloroquine sulfate for certain hospitalized COVID-19 patients.* (2020). U.S. Food and Drug Administration. https://web.archive.org/web/20220308122112/https://www.fda.gov/media/136784/download

[496] Sarkis, S. (2020, April 13). *Trump's hydroxychloroquine focus causes a shortage for others.* Forbes. https://archive.ph/7nz06

[497] Nadi, A. (2020, March 23). *"Lifesaving" lupus drug in short supply after Trump touts possible coronavirus treatment.* NBC News. https://archive.ph/XJ4mp

[498] Dickson, E. (2020, April 6). *Thanks to Trump, there's a hydroxychloroquine shortage for people who need it.* Yahoo! News; Rolling Stone. https://web.archive.org/web/20220312160706/https://www.yahoo.com/entertainment/thanks-trump-hydroxychloroquine-shortage-people-200940843.html?fr=sycsrp_catchall

[499] Busari, S., & Adebayo, B. (2020, March 23). *Nigeria records chloroquine poisoning after Trump endorses it for coronavirus treatment.* CNN. https://archive.ph/rrEX1

[500] Liu, M., Caputi, T. L., Dredze, M., Kesselheim, A. S., & Ayers, J. W. (2020). *Internet searches for unproven COVID-19 therapies in the United States.* JAMA Internal Medicine, 180(8), 1116. https://doi.org/10.1001/jamainternmed.2020.1764

[501] Dunn, A. (2020, August 24). *Trump's approval ratings so far are unusually stable – and deeply partisan.* Pew Research Center. https://archive.ph/5wWEx

[502] Piller, C. (2020, March 26). *"This is insane!" Many scientists lament Trump's embrace of risky malaria drugs for coronavirus.* Science. https://archive.ph/gC3jI

[503] Zelenko, V. (Zev). (2020, March 23). *Open letter to all medical professionals around the world.* University of Texas Rio Grande Valley. https://web.archive.org/web/20210912072719/https://faculty.utrgv.edu/eleftherios.gkioulekas/zelenko/Vladimir-Zelenko-treatment.pdf

[504] Lee, S. H., Son, H., & Peck, K. R. (2020). *Can post-exposure prophylaxis for COVID-19 be considered as an outbreak response strategy in long-term care hospitals?* International Journal of Antimicrobial Agents, 55(6), 105988. https://doi.org/10.1016/j.ijantimicag.2020.105988

[505] Fleccas Talks. (2021, July 28). *Dr. Zelenko discusses his affordable COVID treatment and the censorship that followed.* Rumble. https://rumble.com/vkfzi9-dr.-zelenko-discusses-his-affordable-covid-treatment-and-the-censorship-tha.html

[506] Sung-sun, K. (2020, February 13). *Physicians work out treatment guidelines for coronavirus.* Korea Biomedical Review. https://archive.ph/kZtil

[507] Lagier, J.-C., Million, M., Raoult, D., *et al.* (2020). *Outcomes of 3,737 COVID-19 patients treated with hydroxychloroquine/azithromycin and other regimens in Marseille, France: A retrospective analysis.* Travel Medicine and Infectious Disease, 36, 101791. https://doi.org/10.1016/j.tmaid.2020.101791

[508] McCullough, P. A., Alexander, P. E., Armstrong, R., Arvinte, C., Bain, A. F., Zelenko, V., *et al*. (2020). *Multifaceted highly targeted sequential multidrug treatment of early ambulatory high-risk SARS-CoV-2 infection (COVID-19).* Reviews in Cardiovascular Medicine, 21(4), 517. https://doi.org/10.31083/j.rcm.2020.04.264

[509] Kennedy, Jr., R. F. (2021). *The real Anthony Fauci: Bill Gates, Big Pharma, and the global war on democracy and public health (p. 23).* Skyhorse Publishing.

[510] te Velthuis, A. J. W., van den Worm, S. H. E., Sims, A. C., Baric, R. S., Snijder, E. J., & van Hemert, M. J. (2010). *Zn^{2+} inhibits coronavirus and arterivirus RNA polymerase activity in vitro and zinc ionophores block the replication of these viruses in cell culture.* PLoS Pathogens, 6(11), e1001176. https://doi.org/10.1371/journal.ppat.1001176

[511] Andreani, J., Le Bideau, M., Duflot, I., Jardot, P., Rolland, C., Boxberger, M., Wurtz, N., Rolain, J.-M., Colson, P., La Scola, B., & Raoult, D. (2020). *In vitro testing of combined hydroxychloroquine and azithromycin on SARS-CoV-2 shows synergistic effect.* Microbial Pathogenesis, 145, 104228. https://doi.org/10.1016/j.micpath.2020.104228

[512] Cuomo, A. (2020, March). *Executive Order No. 202.10.* Government of New York. https://web.archive.org/web/20220202161147/https://www.governor.ny.gov/sites/default/files/atoms/files/EO_202.10.pdf

[513] Polsky, C. (2020, March 26). *Cuomo limits prescriptions for two drugs to active virus cases.* Newsday. https://archive.ph/sLmTa

[514] Wuest, J. D. (2020). *Guidance on the dispensing of prescriptions for chloroquine and hydroxychloroquine in response to COVID-19.* Nevada State Board of Pharmacy. https://web.archive.org/web/20200329123650/http://bop.nv.gov/uploadedFiles/bopnvgov/content/Resources/ALL/Guidance%20on%20Dispensing%20Prescriptions%20for%20Chloroquine%20and%20Hydroxychloroquine%20in%20Response%20to%20COVID-19.pdf

[515] Board of Pharmacy. (2020, March 22). *Emergency rule for dispensing chloroquine and hydroxychloroquine.* Wayback Machine; State of Ohio. https://web.archive.org/web/20200325153413/https://www.pharmacy.ohio.gov/Documents/Pubs/Special/COVID19Resources/Emergency%20Rule%20for%20Dispensing%20Chloroquine%20and%20Hydroxychloroquine.pdf

[516] *State rules and recommendations regarding chloroquine, hydroxychloroquine and other drugs related to COVID-19.* (2020, March 27). National Academy for State Health Policy. https://web.archive.org/web/20200414102649/https://nashp.org/wp-content/uploads/2020/03/State-covid-drug-chart-3-27-2020.pdf

[517] Boliver, A. (2020, March 24). *Vizient offers recommendation to Coronavirus Task Force and FDA to improve hospitals' access to chloroquine and hydroxychloroquine as suppliers unable to keep up with 6,842% and 2,196% increases in orders.* Vizient Inc. https://web.archive.org/web/20200406041134/https://newsroom.vizientinc.com/press-release/clinical/vizient-offers-recommendation-coronavirus-task-force-and-fda-improve-hospital

[518] Feldman, A. (2020, March 24). *This doctor was already treating patients with Trump's "gift from God" drug - before FDA approval.* The Forward. https://web.archive.org/web/20220128080812/https://forward.com/news/442285/coronavirus-hydroxychloroquine-trump-doctor/

[519] Begley, S. (2020, March 3). *Who is getting sick? A look at coronavirus risk by age, gender, and more.* STAT News. https://archive.ph/zxp9g

[520] *About Vladimir Zelenko MD.* Vladimir Zelenko MD. Retrieved March 14, 2022, from https://web.archive.org/web/20220314214249/https://zstacklife.com/pages/about-vladimir-zelenko-md

[521] Sundararaj Stanleyraj, J., Sethuraman, N., Gupta, R., Thiruvoth, S., Gupta, M., & Ryo, A. (2020). *Treating COVID-19: are we missing out the window of opportunity?* Journal of Antimicrobial Chemotherapy, 76(2), 283–285. https://doi.org/10.1093/jac/dkaa442

[522] Paley-Vincent, C., & Boudet-Gizardin, N. (2020, April 7). *Covid 19: Can hydroxychloroquine be legally prescribed in France?* Ginestié Magellan Paley-Vincent - Avocats à La Cour. https://archive.ph/LABYK

[523] Hager, M. (2020, May 1). *Vancouver Coastal Health allows doctors to prescribe hydroxychloroquine on "compassionate" basis.* The Globe and Mail. https://web.archive.org/web/20200502050703/https://www.theglobeandmail.com/canada/british-columbia/article-vancouver-coastal-health-allows-doctors-to-prescribe/

[524] Letterick, K. (2020, April 3). *New Brunswick health networks collaborate on drug trial to treat people with COVID-19.* CBC News; CBC/Radio-Canada. https://archive.ph/xeWv3

[525] Kiekens, J.-P. (2020, April 2). *New Brunswick: first Canadian province to embrace early hydroxychloroquine-based treatment!* COVEXIT. https://archive.ph/hutcM

[526] Peckford, B. (2021, April 26). *New Brunswick: first Canadian province to embrace early hydroxychloroquine-based treatment!* Peckford42. https://archive.ph/MhboT

[527] Al-Hazzani, W., & St. Joseph's Healthcare Hamilton. (2020, May 1). *Hydroxychloroquine to prevent COVID-19 disease amongst healthcare workers (PROVIDE): A parallel randomized controlled trial.* Wayback Machine; ClinicalTrials.gov. https://web.archive.org/web/20200706162521/https://clinicaltrials.gov/ct2/show/NCT04371523

[528] Reis, G., Moreira Silva, E. A. dos S., Medeiros Silva, D. C., Thabane, L., Singh, G., Park, J. J. H., Forrest, J. I., Harari, O., Quirino dos Santos, C. V., Guimarães de Almeida, A. P. F., Figueiredo Neto, A. D. de, Savassi, L. C. M., Milagres, A. C., Teixeira, M. M., Simplicio, M. I. C., Ribeiro, L. B., Oliveira, R., & Mills, E. J. (2021). *Effect of early treatment with hydroxychloroquine or Lopinavir and Ritonavir on risk of hospitalization among patients with COVID-19.* JAMA Network Open, 4(4), e216468. https://doi.org/10.1001/jamanetworkopen.2021.6468

[529] Health Canada. (2020, April 25). *Chloroquine and hydroxychloroquine can have serious side effects. These drugs should be used only under the supervision of a physician.* Government of Canada. https://archive.ph/OlaQ5

[530] Sawa, T. (2020, March 27). *Doctors face sanctions for prescribing unproven COVID-19 drugs to friends and family, regulators warn.* CBC News; CBC/Radio-Canada. https://archive.ph/pA3J9

[531] Alozzi, R. (2020, March 28). *Ontario doctors told to stop prescribing unproven drug combination touted by Donald Trump.* The Toronto Star. https://archive.ph/2hJ2V

[532] Kaplan, T. (2020, March 24). *Pence: FDA approving "off-label" use for hydroxychloroquine to help coronavirus patients.* Fox News. https://archive.ph/Iqu2I

[533] Diamond, D. (2020, March 30). *FDA issues emergency authorization of anti-malaria drug for coronavirus care.* Politico. https://archive.ph/4Sx9I

[534] ASPR Press Office. (2020, March 29). *HHS accepts donations of medicine to Strategic National Stockpile as possible treatments for COVID-19 patients.* PageFreezer; U.S. Department of Health and Human Services. https://archive.ph/GOkFp

[535] *"Ousted" US vaccine expert Rick Bright to file whistleblower complaint.* (2020, April 24). BBC News. https://archive.ph/611QY

[536] *FDA cautions against use of hydroxychloroquine or chloroquine for COVID-19 outside of the hospital setting or a clinical trial due to risk of heart rhythm problems.* (2020). U.S. Food and Drug Administration. https://archive.ph/Yq2Ho

[537] Cohen, E., & Bruer, W. (2020, June 17). *US stockpile stuck with 63 million doses of hydroxychloroquine.* CNN. https://archive.ph/iYiP9

[538] Berman, J. (2020, April 21). *Canada's Apotex donates two million dosages of hydroxychloroquine to the Public Health Agency of Canada.* Apotex. https://archive.ph/whjzl

[539] Donovan, K. (2022, February 22). *Murder, missteps and the "elephant in the room" in the Barry and Honey Sherman case.* The Toronto Star. https://archive.ph/D0Q3a

[540] Donovan, K. (2022, January 19). *Barry Sherman owed $1 billion and was not going to pay, police documents reveal.* The Toronto Star. https://archive.ph/TnTWs

[541] Henriquez, G. (2020, April 30). *Quebec pharmacists to begin refilling hydroxychloroquine prescriptions again on Friday - Montreal.* Global News. https://archive.ph/RJeu6

[542] *UN health chief announces global "solidarity trial" to jumpstart search for COVID-19 treatment.* (2020, March 18). United Nations News. https://archive.ph/AiWwy

[543] *Welcome*. RECOVERY Trial. Retrieved March 12, 2022, from https://archive.ph/RBmks

[544] Nass, M. (2020, June 20). *COVID-19 has turned public health into a lethal, patient-killing experimental endeavor.* Alliance for Human Research Protection. https://archive.ph/QiqSY

[545] Harris, M., & Bagozzi, D. (2020, July 4). *WHO discontinues hydroxychloroquine and lopinavir/ritonavir treatment arms for COVID-19.* World Health Organization. https://archive.ph/kfcyV

[546] Mehra, M. R., Desai, S. S., Ruschitzka, F., & Patel, A. N. (2020). *Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis.* The Lancet, 0(0). https://doi.org/10.1016/S0140-6736(20)31180-6

[547] Mehra, M. R., Desai, S. S., Kuy, S., Henry, T. D., & Patel, A. N. (2020). *Cardiovascular disease, drug therapy, and mortality in COVID-19.* New England Journal of Medicine. https://doi.org/10.1056/nejmoa2007621

[548] Davey, M., Kirchgaessner, S., & Boseley, S. (2020, June 3). *Surgisphere: governments and WHO changed Covid-19 policy based on suspect data from tiny US company.* The Guardian. https://archive.ph/MQHoi

[549] James Watson on the behalf of 201 signatories. (2020). *An open letter to Mehra et al. and The Lancet (Version 4).* Zenodo. https://doi.org/10.5281/zenodo.3871094

[550] Servick, K., & Enserink, M. (2020, June 2). *A mysterious company's coronavirus papers in top medical journals may be unraveling.* Science. https://archive.ph/DKSeV

[551] Mehra, M. R., Ruschitzka, F., & Patel, A. N. (2020). *Retraction—Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis*. The Lancet, 395(10240), 1820. https://doi.org/10.1016/S0140-6736(20)31324-6

[552] Joseph, A. (2020, June 4). *Lancet, NEJM retract COVID-19 studies that sparked backlash.* STAT News. https://archive.ph/o9K6k

[553] Gravel, P. (2020, May 28). *Santé Canada autorise la poursuite des essais cliniques sur l'hydroxychloroquine.* Le Devoir. https://archive.ph/fetal

[554] Girbeau, S. (2020, May 27). *Covid-19 et hydroxychloroquine : le Maroc et l'Algérie recadrent l'OMS.* Afrik. https://web.archive.org/web/20210124132934/https://www.afrik.com/covid-19-et-hydroxychloroquine-le-maroc-et-l-algerie-recadrent-l-oms

[555] Le Monde avec AFP. (2020, May 27). *Coronavirus : l'Algérie ne compte pas renoncer à l'hydroxychloroquine.* Le Monde. https://www.lemonde.fr/afrique/article/2020/05/27/coronavirus-l-algerie-ne-compte-pas-renoncer-a-l-hydroxychloroquine_6040901_3212.html

[556] Güell, O. (2020, May 27). *España seguirá usando la hidroxicloroquina frente al coronavirus pese a la prohibición de Francia y las dudas de la OMS.* El País. https://archive.ph/EzmVs

[557] Hinton, D. M. (2020, June 15). *Letter revoking EUA for chloroquine phosphate and hydroxychloroquine sulfate.* U.S. Food and Drug Administration. https://web.archive.org/web/20220308104328/https://www.fda.gov/media/138945/download

[558] *Coronavirus: WHO halts trials of hydroxychloroquine over safety fears.* (2020, May 25). BBC News. https://archive.ph/E7cwE

[559] Blamont, M., Smout, A., & Parodi, E. (2020, May 28). *EU governments ban malaria drug for COVID-19, trial paused as safety fears grow.* Reuters. https://archive.ph/DtLSH

[560] Heathers, J. (2020, June 5). *The Lancet has made one of the biggest retractions in modern history. How could this happen?* The Guardian. https://archive.ph/u94Pj

[561] ICWA. (2020, June 1). *Fraud suspected: Scientists and doctors critical of Lancet article on hydroxychloroquine.* Informed Choice Washington. https://archive.ph/9ET6k

[562] *Mandeep R. Mehra, MD.* Brigham and Women's Hospital. Retrieved March 14, 2022, from https://archive.ph/DJP9I

[563] BrighamMarketing. (2020, March 26). *Two remdesivir clinical trials underway at Brigham and Women's Hospital.* Brigham Health on a Mission. https://archive.ph/ATkFJ

[564] Brigham and Women's Hospital. (2018, June 4). *New cardiac pump device more effective, less costly than standard pump: Analysis of data from MOMENTUM 3 trial finds Heartmate 3 can minimize cost of care over time for heart failure patients.* ScienceDaily. Retrieved March 14, 2022 from https://archive.ph/SMjbp

[565] *ID NOWTM COVID-19.* Abbott Laboratories. Retrieved March 14, 2022, from https://archive.ph/JPyW9

[566] *3 - Panbio - Abbott, COVID-19 Antigen Rapid Test.* EPI Canada. Retrieved March 14, 2022, from https://archive.ph/ix7oo

[567] du Cluzel, F., Cole, A., & le Guyader, H. (2020, November). *Cognitive Warfare.* Innovation Hub - ACT. Retrieved November 15, 2021, from https://web.archive.org/web/20220312211219/https://www.innovationhub-act.org/sites/default/files/2021-01/20210122_CW%20Final.pdf

[568] Wilson, A. (2022). *Letter to the Honorable Shane Martin & the Honorable Bill Taylor* (pp. 8–9). Office of the South Carolina Attorney General. https://web.archive.org/web/20220310023928/https://www.scag.gov/media/5dffxcxq/martins-taylorb-os-10742-final-opinion-2-11-2022-02898337xd2c78.pdf

PART II OF THE **TRUTH INITIATIVE** IS COMING SOON.

Canadian Covid Care Alliance
Alliance canadienne pour la prévention et prise-en-charge de la covid

WWW.CANADIANCOVIDCAREALLIANCE.ORG