

*COVID-19 misinformation
in anti-vaccination websites:*

**a content analysis of
archived websites**

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ARCHIVES

#HEALTHMISINFONLM

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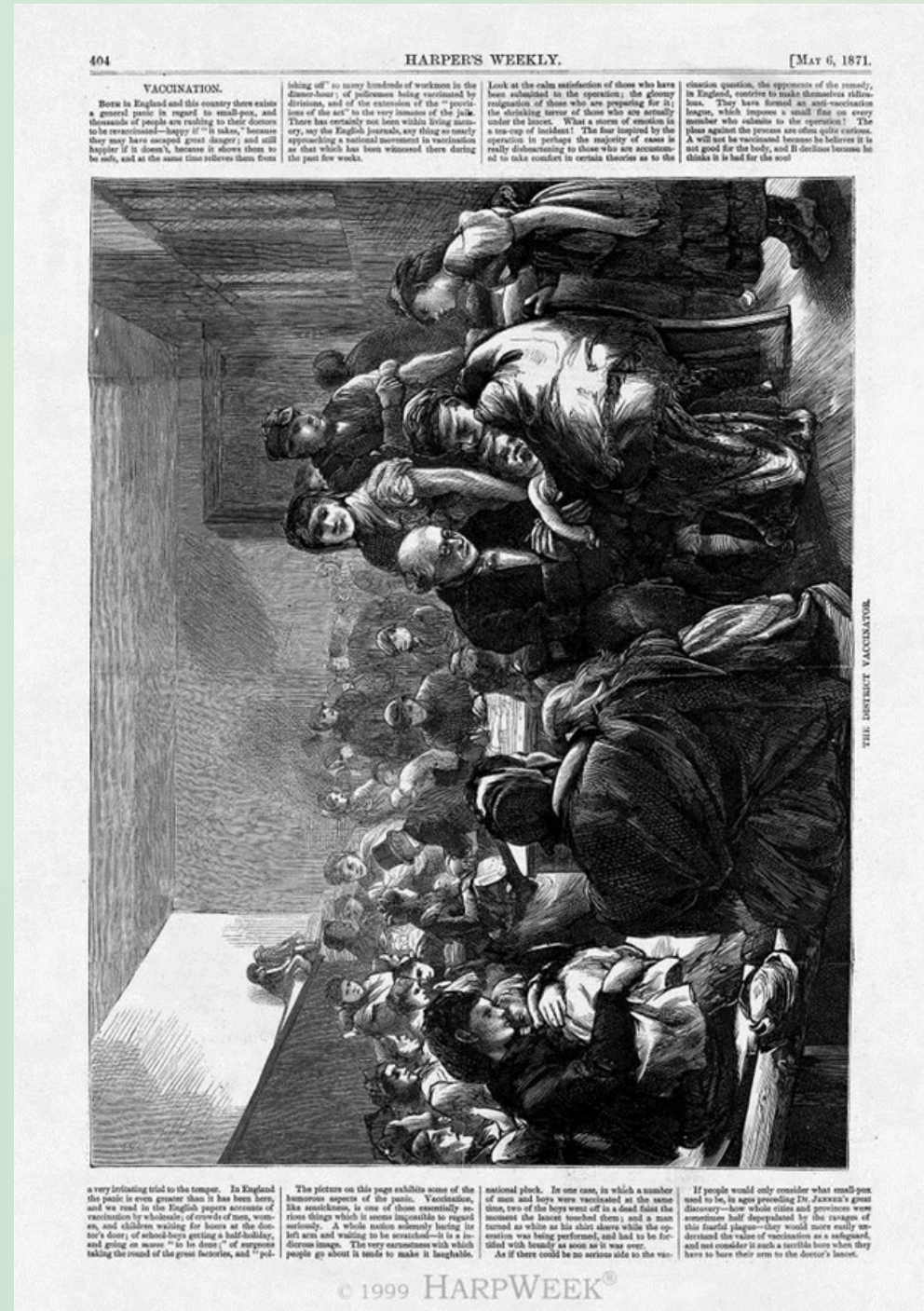
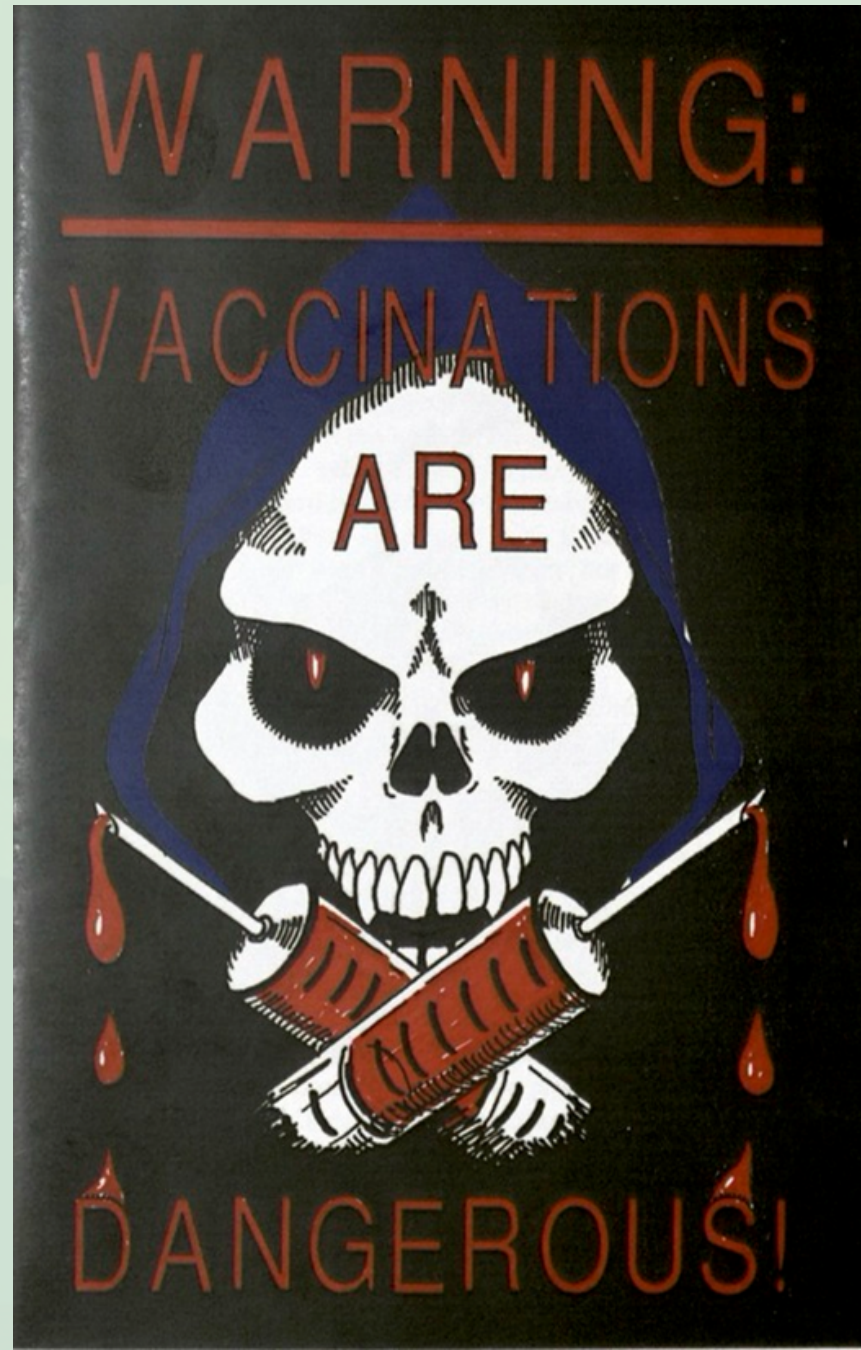
samantha.kaplan@duke.edu

Agenda

- **Historical Context**
- **Capturing the Ephemera of Today**
- **J.B Handley Case**
- **COVID-19 Misinformation**
- **Web Archiving for Misinformation Research**

Historical context

Historical Context



[HTTPS://EXHIBITS.LIBRARY.DUKE.EDU/ITEMS/SHOW/12094](https://exhibits.library.duke.edu/items/show/12094)

HARPERS WEEKLY 1871

#HEALTHMISINFONLM

Historical Context

Don't Buy Medicine For Stomach Trouble

Accept Bottle Konjola FREE

TO SUFFERERS FROM STOMACH TROUBLE

I want to give every person who suffers from stomach trouble a bottle of America's most famous medicine FREE to try. Particularly those people who have tried many medicines without results. Simply fill out the coupon below and use it. Do this in your own interest.

Why Made

I make this offer because I believe Konjola will help sufferers amazingly. That is, that it will help considerably, over half the people who try it. And that they will keep on using it. I want no money from those it does not help.

You've heard about Konjola. Know that everywhere people tell wonderful stories about it. Know that so many people use it that it is often shipped to many communities in cardboard boxes. Never in the history of proprietary medicine has a remedy swept from one end of America to the other like it has.

Now—so that everybody may try it—I propose to give it away. Hence, nobody can lose finding out whether it benefits or not. So it is fully not to try it.

What Konjola Is

Konjola is a mixture of some thirty-two ingredients; twenty-two of extracts of nature's own roots and herbs, and not one a harmful foreign drug.

Now—the functional goal of these herbs and medicinal ingredients is to mix with the food in the stomach—shortly after you eat—in the effort to help nature throw off the poisons of stomach troubles, rheumatism and neuritis, and to permit the kidneys and liver to function properly.

So amazing are the stories told about Konjola by those who claim virtual miracles for it, that it is today taken by probably more people than any other medicine America has ever known. What its exact scientific status is nobody knows. But what its possible effects may be makes one of the most amazing records in modern-day health annals.

Try It FREE

Now, whether Konjola will do for you what so many thousands of others have claimed it has done for them—whether it will ease your pain in a day or a week—remains to be seen. But in light of the tremendous Public Acclamation given it, it is certainly a mistake not to try it.

Clip the coupon now. Do it before you forget. Accept a FREE bottle of America's most famous family medicine to try. Find out for yourself whether or not it will help you. Do this in fairness to yourself and your family. Konjola is on sale, too, at all drug stores. If you want to buy a bottle today instead of waiting for a free bottle, by mail, just ask your druggist for Konjola.

(Signed) G. H. MOSBY,
President—Konjola, Inc.
Cope, 1521, Fifth Street, N.E., for Konjola, Inc.

GOOD FOR FREE BOTTLE

Konjola Inc., C-26
3262 Reading Road,
Cincinnati, Ohio.
Please send me FREE bottle of Konjola.

Name

Street

City and State

Konjola

Better Than WHISKEY for Colds and Flu

Delightful Elixir, Called Aspironal, Medicated With Latest Scientific Remedies That Are Endorsed by Medical Authorities to Cut Short a Cold or Cough Due to Cold and Prevent Complications.

Every Druggist in U.S. Instructed to Refund Price While You Wait at Counter if You Don't Feel Relief Coming in Two Minutes.

DELIGHTFUL TASTE, IMMEDIATE RELIEF, QUICK WARM-UP.

The sensation of the drug trade is Aspironal, the two-minute cold and cough reliever, authoritatively guaranteed by the laboratories; tested, approved and most enthusiastically endorsed by the people on tea trees as quick and effective as whiskey, and not only so, but they have even tried.

All drug stores are supplied with the wonderful elixir, so all you have to do to get relief from that cold is to stop over the nearest drug store, hand the clerk a half dollar for a bottle of Aspironal and tell him to serve you two aspirinoids. With your watch in your hand, take the drink at one swallow and call for your money back in two minutes! If you cannot feel the depressing symptoms of your cold fading away like a dream within the time limit, don't be hasty, for all druggists want you and expect you to try it. Everybody's drug store.

When your cold or cough is relieved, take the remainder of the bottle home to your wife and children; for Aspironal is by far the safest and most effective, the easiest to take and the most agreeable cold and cough remedy for children as well as adults. (Children relief for ear, nose, throat and chest.)

Don't Let That Cold Run Into Something Worse—
Stop it Now With **ASPIRONAL**

ALCOHOL 10%
IS NOT CONTAIN ANY OPIATE
TAKE WELL BEFORE TAKING
DIRECTIONS FOR USE:
Dose for Adults
Aspironal without water, then 2 aspirinoids
all levels more than 1 aspirinoid
desired effect is secured.
Dose for Children
months, 1 to 5 drops; 6 months to 1 year, 5 to 10 drops;
1 to 30 drops; 5 years to 10 years, 10 to 20 drops to 1

Manufactured Only by
ASPIRONAL LABORATORIES
ATLANTA, GEORGIA
PRICE 50 CENTS

So HUMILIATED WHEN SHE REALIZED the cause of her husband's frigidity

WHY, OH WHY, DIDN'T I READ THIS BOOK SOONER...

Send for FREE BOOK telling about this grave womanly offense. Learn how no other type liquid antiseptic-germicide tested for the douche is so powerful yet harmless!

Isn't it a shame when a woman doesn't realize how important it is to always practice hygiene (internal cleanliness) often results in such needless tragedies—homes broken up, few social invitations, the feeling of being shunned without knowing why.

A modern woman realizes how important hygiene is to health, married happiness, after her periods, and to combat an offensive odor even greater than bad breath or body odor—an odor she herself may not detect but is so apparent to people around her.

And isn't it reassuring to know that: NO OTHER TYPE LIQUID ANTISEPTIC-GERMICIDE TESTED FOR THE DOUCHE IS SO POWERFUL YET SAFE TO TISSUES AS ZONITE!

ZONITE'S Miracle-Action
Developed by a famous surgeon and scientist—the ZONITE principle was the first in the world to be so powerfully effective yet so harmless. ZONITE is positively non-poisonous, non-irritating, non-burning. Remember that ZONITE is SAFE! SAFE! SAFE! to the most delicate tissues. You can use ZONITE as directed as often as needed without the slightest risk of injury.

Gives BOTH Internal and External Hygienic Protection

ZONITE deodorizes not by "masking"—it actually destroys, dissolves and removes odor-causing waste substances. And ZONITE has such a soothing effect. It promptly relieves any itching or irritation if present. ZONITE gives BOTH internal and external protection, leaving one with such a refreshed, dainty feeling—so e-o-o-s! Complete douching directions come with every bottle. Buy ZONITE today! Get it at any drugstore.

FREE! NEW!

For amazing enlightening new Booklet containing frank discussion of intimate physical facts, recently published—mail this coupon to Zonite Products Corp., Dept. MR-26, 100 Park Avenue, New York 17, N. Y.*

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Address _____
City _____ State _____

*Offer good only in the U.S.

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Present Day



NFID Vaccine Memes

@NFID_Vaccines

My face when someone tells me they are not up to date with their recommended vaccines

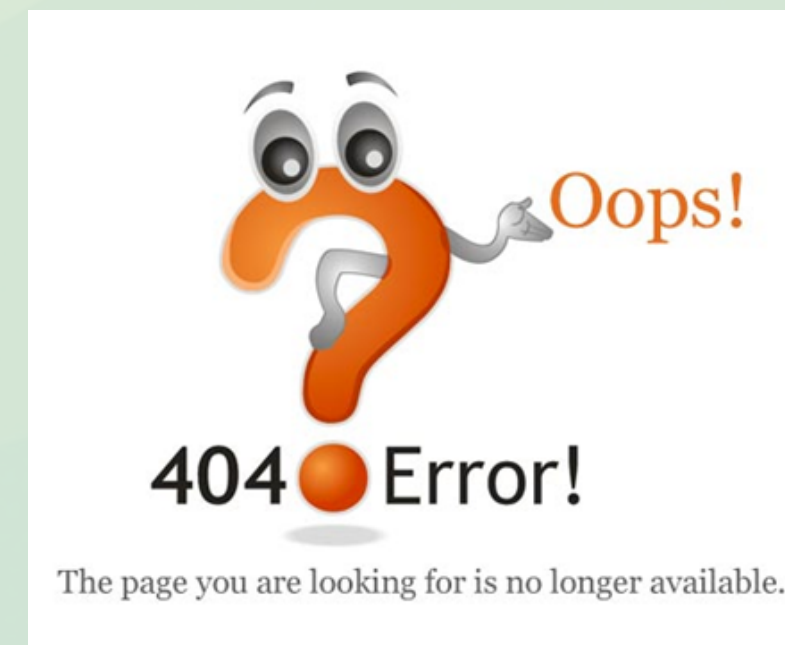


#HEALTHMISINFONLM

Capturing the ephemera of today



“The disappearance of heritage in whatever form constitutes an impoverishment of the heritage of all nations.”



#HEALTHMISINFONLM

Web archiving: why it matters

After one year, 80% of webpages are no longer available as they were originally published.

After 27 months, 13% of web references in scholarly articles disappear.



Web archiving with Archive-It



Internet Archive founded in 1996



Archive-It launched in 2006

Ivy Plus Libraries Web Collecting Program established in 2017



Vaccination in Modern America Web Archive created in January 2020

#HEALTHMISINFONLM

Vaccination in Modern America: Misinformation vs. Public Health Advocacy

Collected by: [Ivy Plus Libraries Confederation](#)

Archived since: Jan, 2020

Description: The Vaccination in Modern America: Misinformation vs. Public Health Advocacy Web Archive is an initiative developed by librarians in the Ivy Plus Libraries Confederation. The Archive identifies and captures webpages representing the current state of public discourse and contrasting approaches to authority on the topic in the United States, with a focus on sites that are both pro- and anti-vaccination. The purpose of this collection is to capture potentially ephemeral information about vaccination that could be used by health service researchers, information scientists, sociologists, and others to understand the motivations, practices, and outcomes of health information and misinformation. Anti-vaccination sites were those that opposed the established national guidelines for vaccination and vaccination schedules, as well as those that focus on chemical vaccine adjuvants or organic natural living as a replacement for vaccination. Prominent natural living advocates and bloggers who have made anti-vaccination arguments, or who have expressed sympathies to vaccine avoidance, have been included to provide additional context around anti-vaccination information campaigns.

Subject: [Science & Health](#), [Vaccines — Government policy](#), [Vaccination — Social aspects](#), [Vaccination — Public opinion](#), [Anti-vaccination movement](#)

Creator: [Ivy Plus Libraries Confederation](#)

Coverage: [United States](#)

- **40 seeds (aka websites)**
 - **27 anti-vaccination**
 - **12 pro-vaccination**
 - **1 anti and pro**
- **New seeds added**
- **Crawled every 6 months**
- **Collection:**
<https://duke.is/wjy49>

Sites for this collection are listed below. Narrow your results at left, or enter a search query below to find a site, specific URL or to search the text of archived webpages.

Sites

Search Page Text

Page 1 of 1 (40 Total Results)

Sort By: [Title \(A-Z\)](#) | [Title \(Z-A\)](#) | [URL \(A-Z\)](#) | [URL \(Z-A\)](#)

Title: Health Freedom Action

URL: <http://healthfreedomaction.org/>

Captured 10 times between February 03, 2020 and March 01, 2023

Subject: [Anti-vaccination movement](#), [Clearinghouses](#)

Group: [Anti-vaccination](#)

Language: [English](#)

The case of J.B. Handley

J.B. Handley



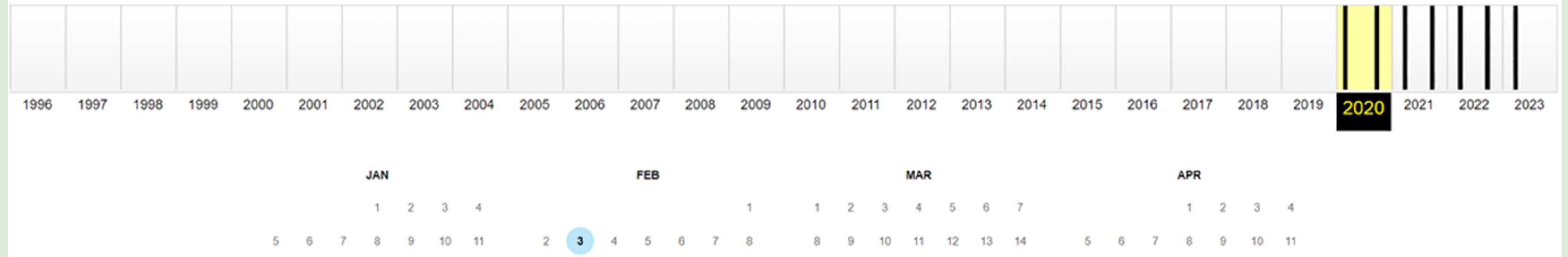
About the Author

J.B. Handley is the best-selling author of *How to End the Autism Epidemic* and co-author with his son Jamie of a new book, *Underestimated: An Autism Miracle*. Together with his wife Lisa, he founded Generation Rescue, a non-profit organization dedicated to autism recovery. He and his wife also produced the documentary film *Autism Yesterday*. J.B. founded Swander Pace Capital, a middle-market private equity firm with more than \$1.5 billion under management where he served as managing director for two decades. He is an honors graduate of Stanford University and lives in Portland, Oregon, with Lisa and their three children.

Vaccination in Modern America: Misinformation vs. Public Health Advocacy, archived by Ivy Plus Libraries Confederation

Searched for <https://jbhandleyblog.com/>  

Saved **14 times** between February 3, 2020 and March 1, 2023.



Title: J.B. Handley Blog

URL: <https://jbhandleyblog.com/>

Captured 14 times between February 03, 2020 and March 01, 2023

Videos: 9 Videos Captured

Subject: Anti-vaccination movement, Vaccination of children, Vaccination—Public opinion, Vaccines—Government policy, Vaccines—Social aspects

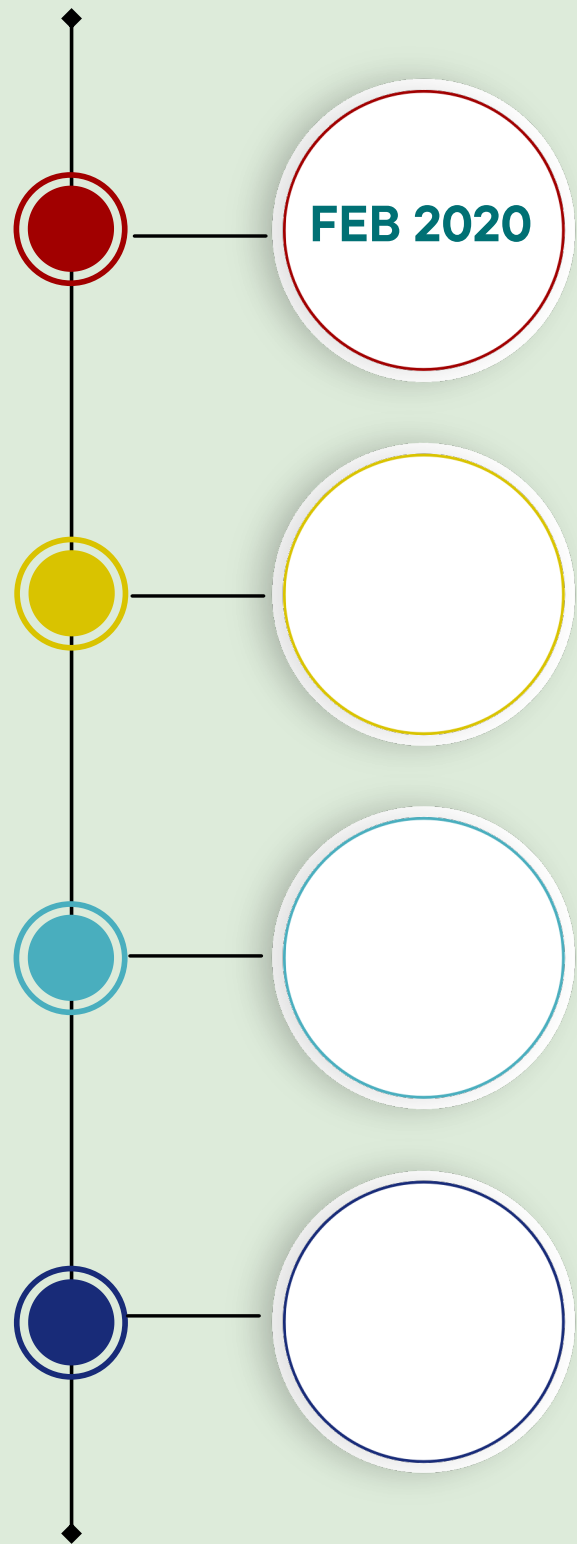
Group: Anti-vaccination

Creator: Handley, J. B.

Language: English

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[HTTPS://ARCHIVE-IT.ORG/COLLECTIONS/13389?Q=J.B.&PAGE=1&SHOW=SITES](https://archive-it.org/collections/13389?q=j.b.&page=1&show=sites)
[HTTPS://WAYBACK.ARCHIVE-IT.ORG/13389*/HTTPS://JBHANDLEYBLOG.COM/](https://wayback.archive-it.org/13389/*/https://jbhandleyblog.com/)



j.b. handley blog



Dec 10

J.B. Handley: Autism Treatment and Recovery



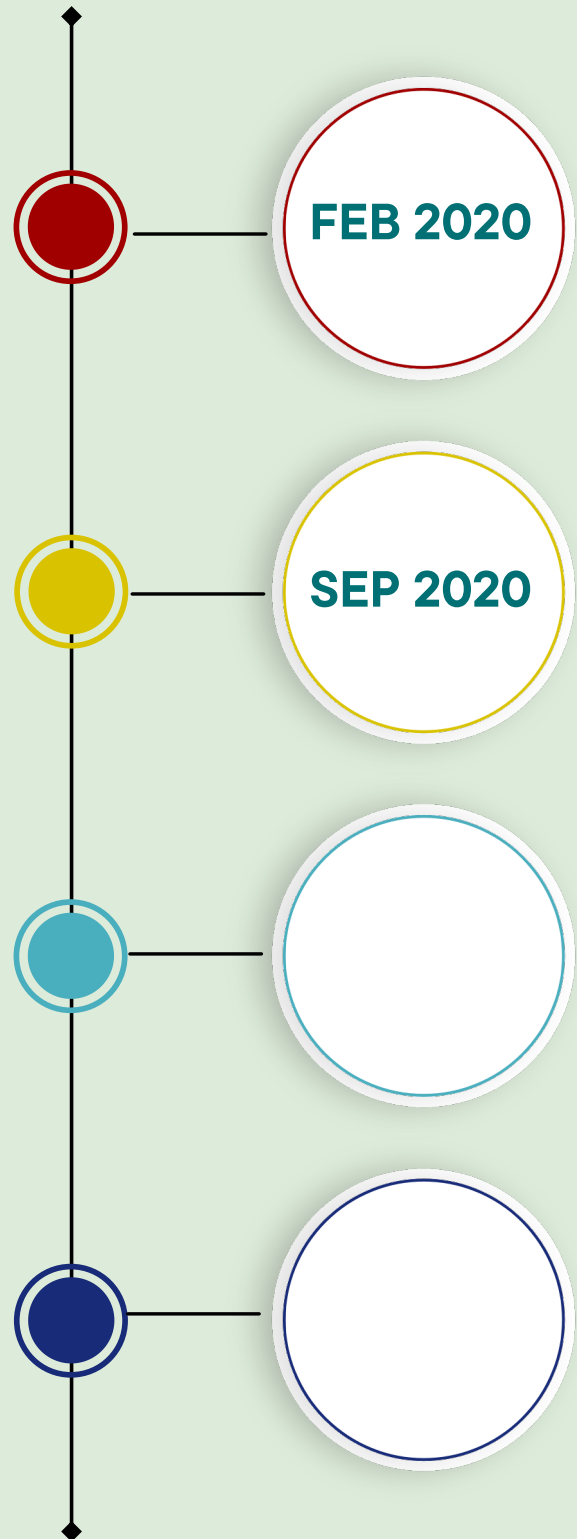
Nov 6

J.B. Handley: Is there a path to end the autism epidemic?

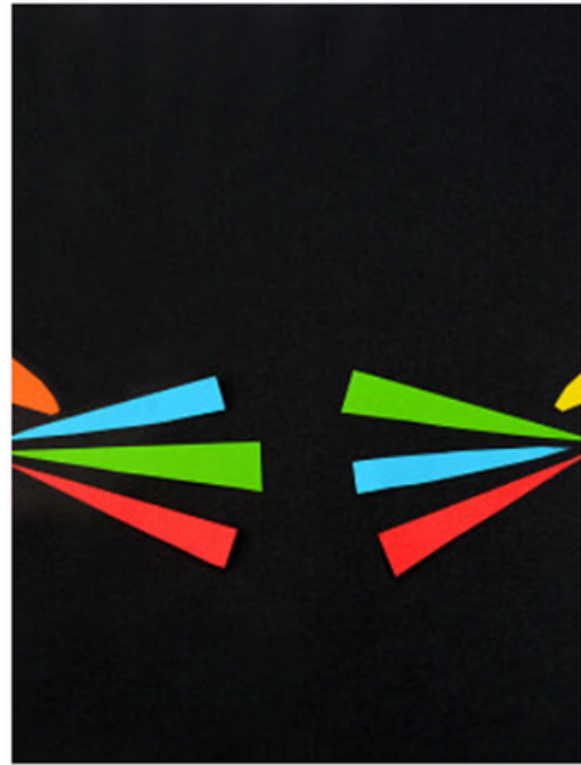


Apr 2

J.B. Handley: International scientists have found autism's cause. What will Americans



j.b. handley blog



Aug 9

Is the science really settled?

—



Aug 7

Oregon's Governor Brown just tanked the school year



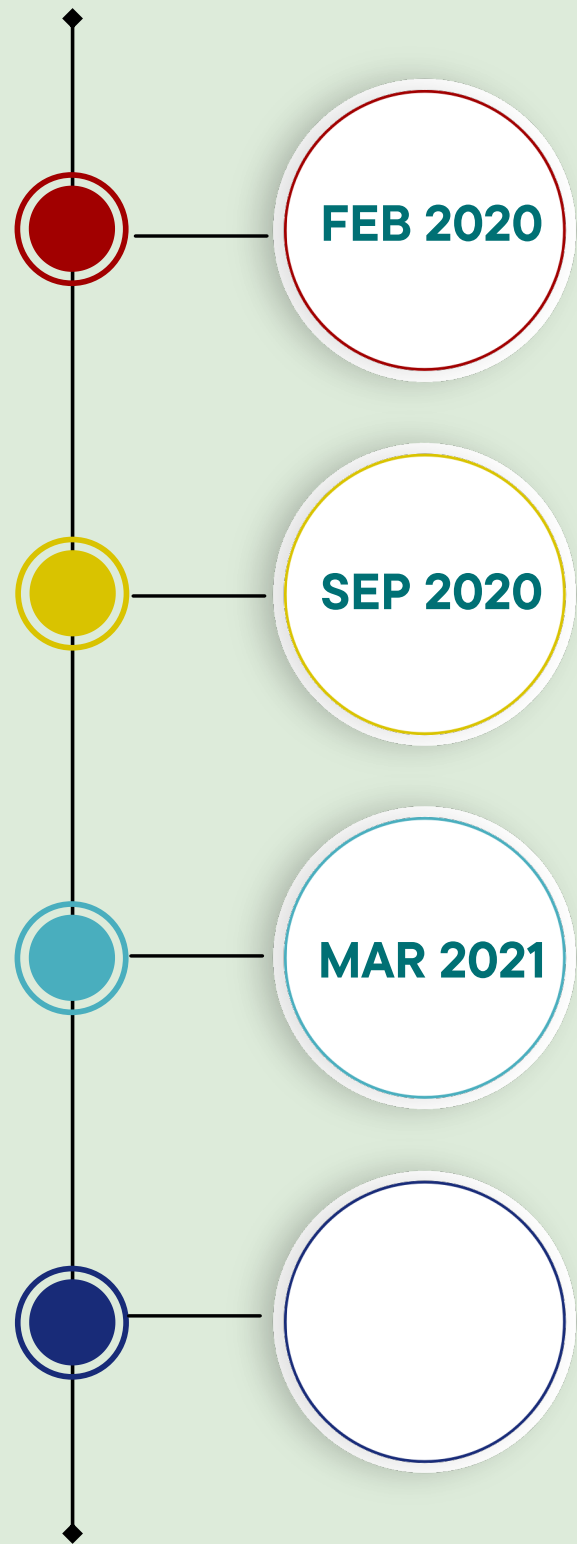
Jul 28

LOCKDOWN LUNACY 3.0:
It's over



Jul 1

Oregon's COVID-19 data isn't scary, so why the panic?

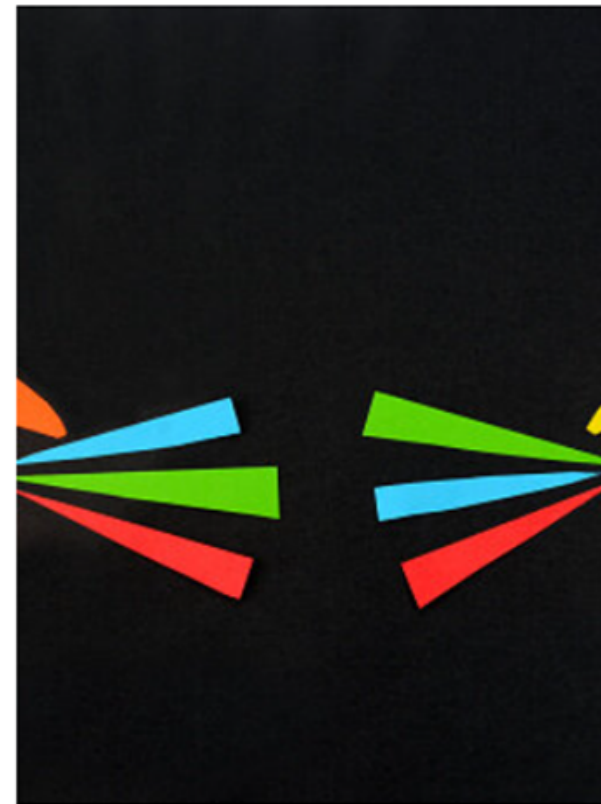


j.b. handley blog



Oct 29

Are vaccines really "safe and effective"?



Aug 9

Is the science really settled?



Jun 19

Did vaccines really save the world?



May 30

LOCKDOWN LUNACY: the thinking person's guide

j.b. handley blog



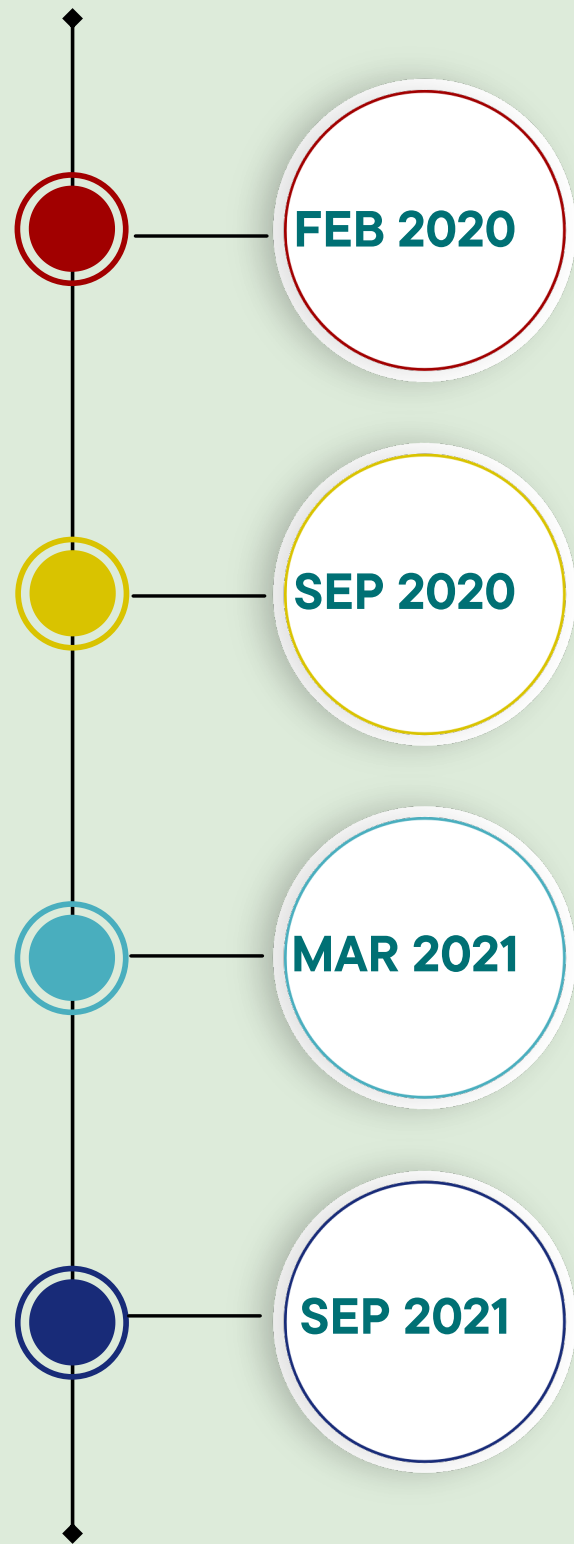
Mar 17

I was so wrong about autism
(thank God!)



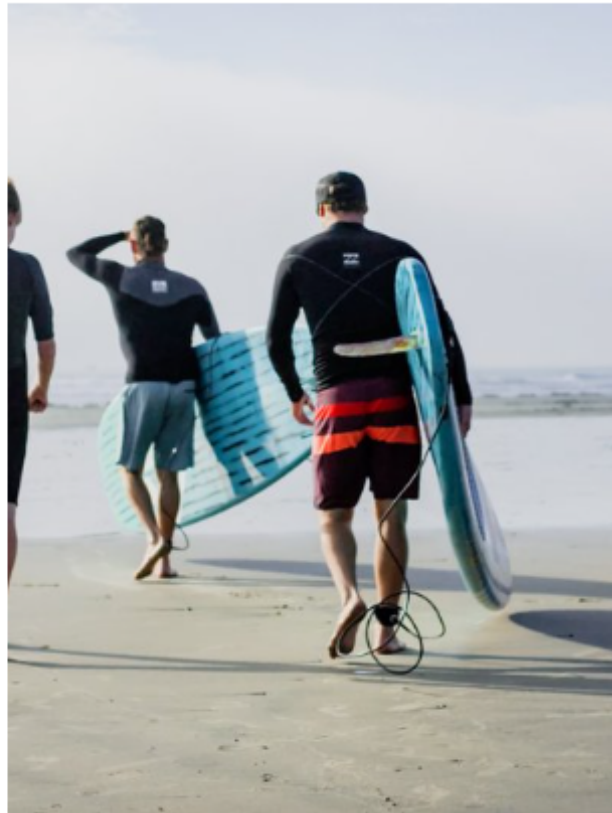
Dec 10

J.B. Handley: Autism
Treatment and Recovery



TODAY

j.b. handley blog



Mar 23

Here comes SPELLERS,
the year's most important
film



Sep 17

ASHA tells 50 million
nonspeakers, "you aren't
capable."



Mar 17

I was so wrong about
autism (thank God!)



Dec 10

J.B. Handley: Autism
Treatment and Recovery

What Happened?





Follow the Author



J.B. Handley

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Underestimated: An Autism Miracle (Children's Health Defense)

Kindle Edition

by J. B. Handley (Author), Jamison Handley (Author) | Format: Kindle Edition

★★★★★ 699 ratings

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The incredibly moving and inspiring story about a quest to finally be heard.

In *Underestimated: An Autism Miracle*, Generation Rescue's cofounder J.B. Handley and his teenage son Jamison tell the remarkable story of Jamison's journey to find a method of communication that allowed him to show the world that he was a brilliant, wise, generous, and complex individual who had been misunderstood and underestimated by everyone in his life.

▼ [Read more](#)

Print length



120 pages ▼

Language



English

Sticky notes



On Kindle Scribe ▼

Publisher



Skyhorse

Publication date



March 23, 2021

File size



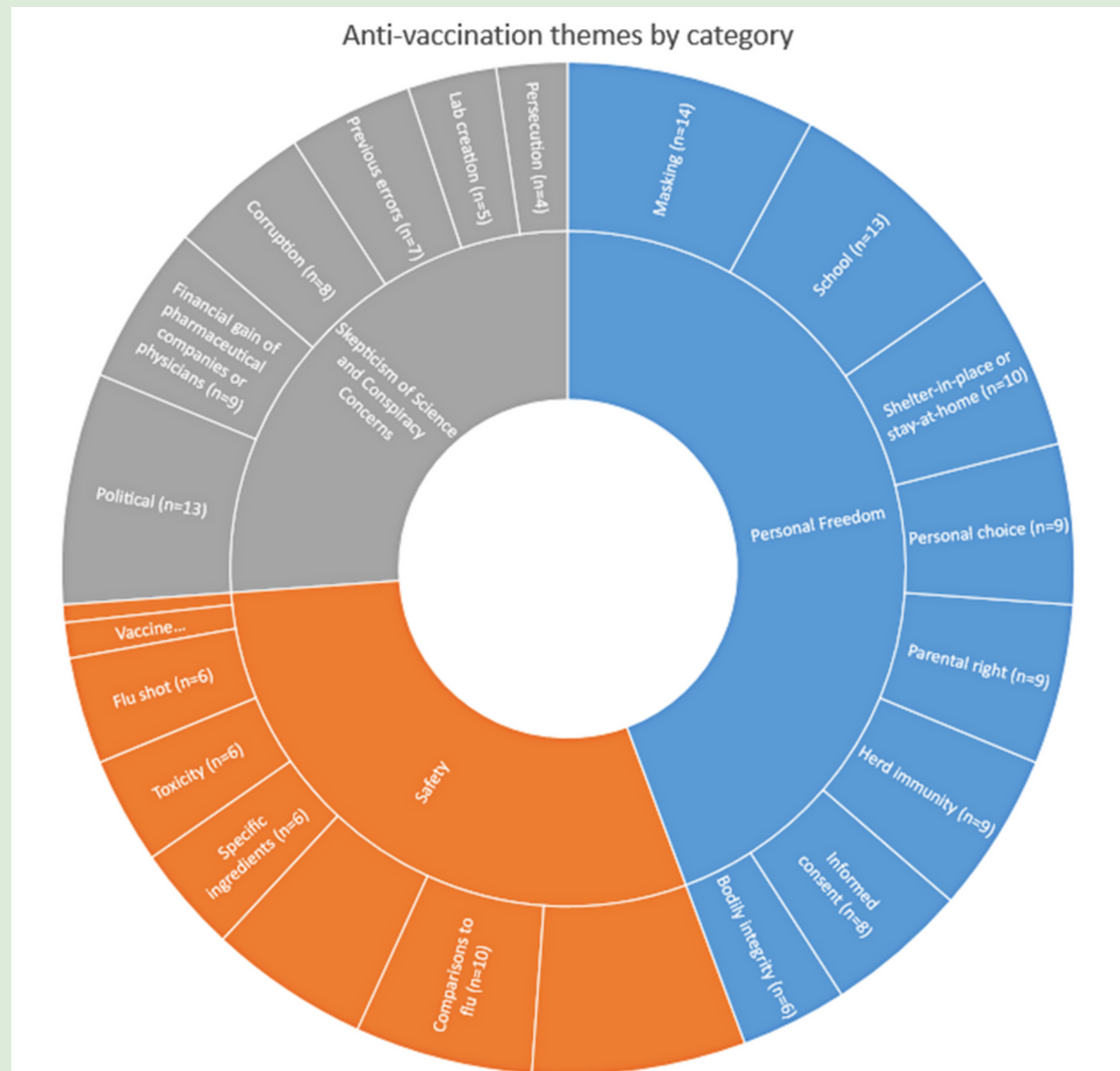
1070 KB

COVID-19 Misinformation

COVID-19 and Anti-Vaccination Information Behavior

- **Content analysis of the antivaccination websites in The Vaccination in Modern America Web Archive (n=25)**
- **Two pronged study:**
 - **Assess prepandemic anti-vax sites' COVID behavior**
 - **Test the web archive**
- **Coding schema (informed by existing anti-vax research) and codebook available with the manuscript**
- **Websites were assessed across broad categories:**
 - **COVID-19 vaccines (whether they mentioned them at all or by brand name)**
 - **Personal freedom (masking, bodily integrity, stay-at-home orders)**
 - **Safety concerns (compromised research process, inclusion of specific ingredients)**
 - **Distrust of science and institutions (financial motivations, corruptions, biological warfare)**
- **Analysis occurred during Dec 2021-Jan 2022**
- **Archived and live sites were used**

COVID-19 and Anti-Vaccination Information Behavior



- More than half (n=14, 56%) of sites solicited donations
- About half (n=12, 48%) mention their tax status. We did not collect tax status details, but sites largely purported to be nonprofits.
- In addition to collecting donations, 18 (72%) sites had a membership option of some kind.
- About two-thirds (n=16, 64%) of sites address COVID-19 vaccines in some way and
 - More than one-third mention at least 1 COVID-19 vaccine
 - Moderna was the most commonly mentioned (n=11, 44%), closely followed by Pfizer (n=9, 36%).
- 16 (64%) sites referencing some element of personal freedom
- 15 (60%) referencing skepticism of science and conspiracy concerns
- 52% referencing safety concerns



Prepandemic Antivaccination Websites' COVID-19 Vaccine Behavior: Content Analysis of Archived Websites

Samantha Kaplan¹ ; Megan von Isenburg¹ ; Lucy Waldrop¹ 

Article

Authors

Cited by

Tweetations (4)

Metrics

- [Abstract](#)
- Introduction
- Methods
- Results
- Discussion
- References
- Abbreviations
- Copyright

Abstract

Background:

The onset of the COVID-19 pandemic and the concurrent development of vaccines offered a rare and somewhat unprecedented opportunity to study antivaccination behavior as it formed over time via the use of archived versions of websites.

Objective:

This study aims to assess how existing antivaccination websites modified their content to address COVID-19 vaccines and pandemic restrictions.

Methods:

Using a preexisting collection of 25 antivaccination websites curated by the IvyPlus Web Collection Program prior to the pandemic and crawled every 6 months via Archive-It, we conducted a content analysis to see how these websites acknowledged or ignored COVID-19 vaccines and pandemic restrictions. Websites were assessed for financial behaviors such as having storefronts, mention of COVID-19 vaccines in general or by manufacturer name, references to personal freedom such as masking, safety concerns like side effects, and skepticism of science.

<https://duke.is/8rdx6>

#HEALTHMISINFONLM

Observations on using web archives for misinformation research

What Works

- Seeing what is missing can lead to understanding changes
- Much site content is captured



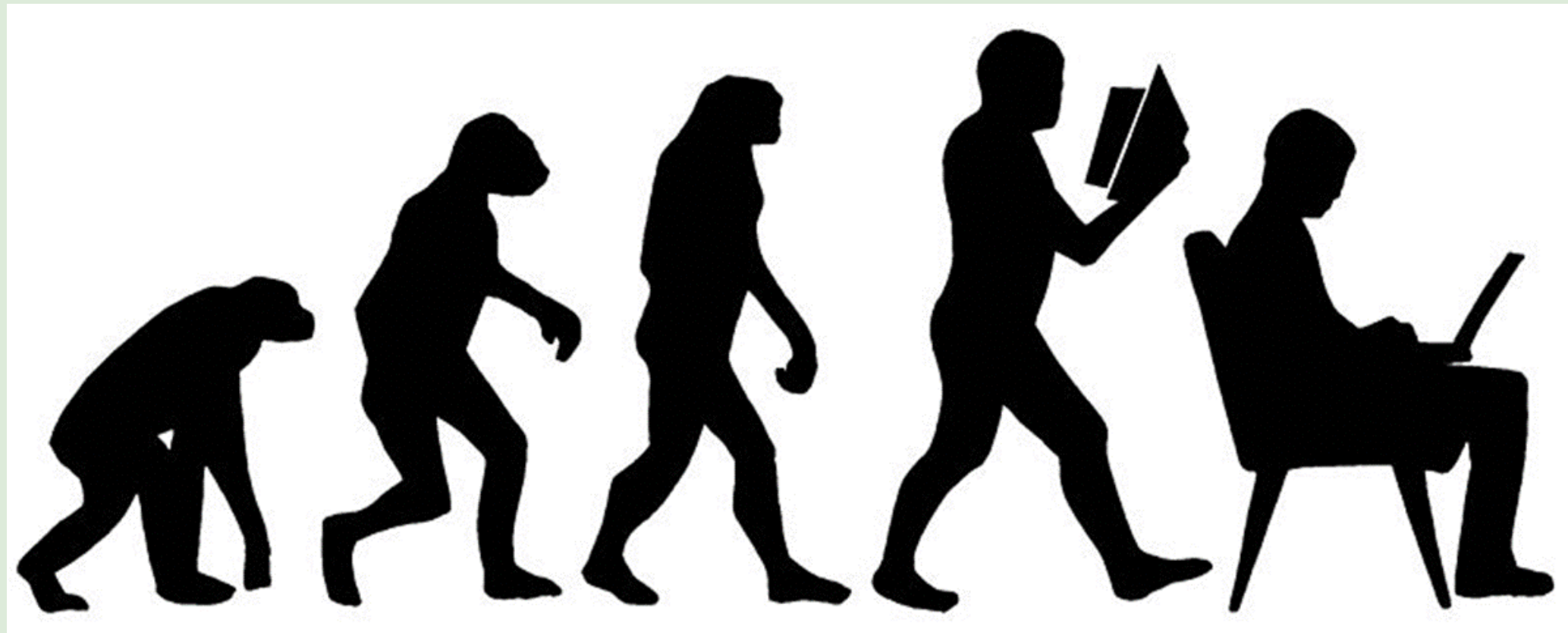
What Doesn't Work

- Graphics, videos, external links
- Search
- Slow processing times
- Premium content behind paywall
- Newsletters
- Social media



Concerns for the present and the future

- Content “expires”
- Adopted indicators of quality, such as seals of approval (Charity Navigator)
- Platform hopping
- Using strategies that avoid capture, like premium and newsletter





FREE!

Get Independent News While You Still Can

Today's articles will disappear in:

39 HOURS	5 MINUTES	17 SECONDS
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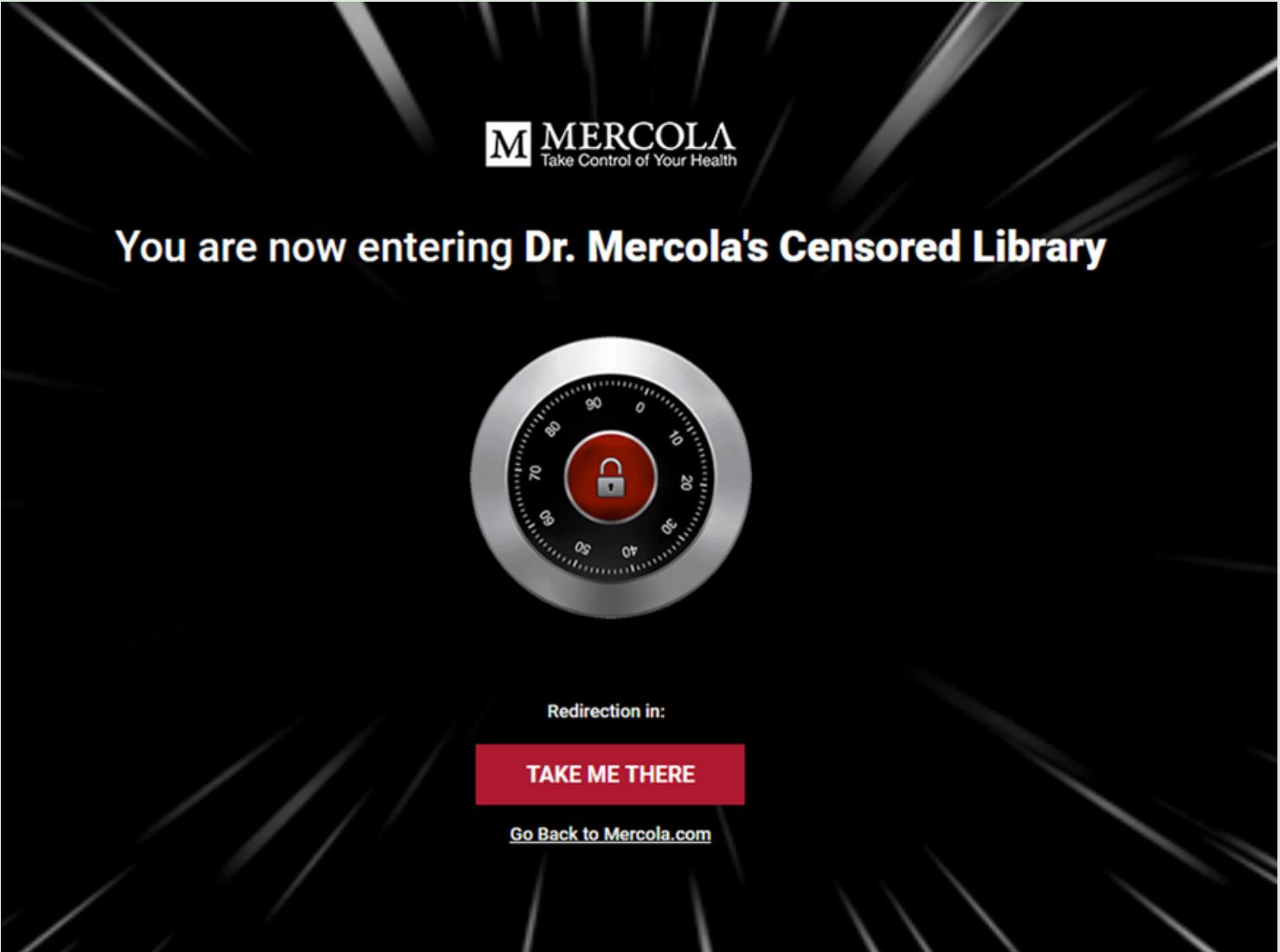
Daily Newsletter **RECOMMENDED** Weekly Newsletter (Every Monday)

By clicking below you agree to our use of cookies, [Privacy Policy](#) and [Terms of Service](#).

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Natural Immunity Is as Protective as COVID Jab

Analysis by Dr. Joseph Mercola

Fact Checked

March 07, 2023

Next >



STORY AT-A-GLANCE

> A recent systematic review and meta-analysis found natural immunity is "at least as high, if not higher" than that provided by two mRNA

Web standard "seal of authenticity"

Content on platform that cannot be captured

Reference published research

According to Kirsch, this is yet another "nail in the coffin" for the COVID jab. Alas, there are major errors and flaws^{17,18} in the data that allows the British government to claim the jabbed are doing better than the unjabbed, so this nail is still unlikely to seal the proverbial COVID casket shut.

**“ The unjabbed are undercounted by about 50%.
Once the data is corrected, the boosted actually
have higher non-COVID mortality than the
unjabbed.”**

For example, the unjabbed are undercounted by about 50%,¹⁹ so in the ONS report, it appears they have somewhat higher mortality than those who got one or more injections. Once the data is corrected, the boosted actually have higher non-COVID mortality than the unjabbed.

In summary, the key findings from the U.K. ONS data set are that excess mortality has steadily risen in 2022 while the attribution of deaths to COVID-19 has steadily declined. So, something other than COVID is killing people at an exaggerated rate, and no one in government can figure out what that is.

A Master's Course in Data Manipulation

The data manipulation that doggedly persistent analysts have unearthed over the past three years truly boggle the mind. Governments around the world have been caught using every conceivable trick to obscure data that would otherwise break the narrative that COVID-19 is a significant threat, early treatment doesn't work and the experimental COVID jabs are safe and effective.

I've covered many (but certainly not all) of these tactics as they were discovered. In closing, here's yet another one.

In the Substack, "Where Are the Numbers?" Norman Fenton (a mathematician and computer scientist) and Martin Neil (a computer science and statistics professor) provide²⁰ a step-by-step guide on how to manufacture "high-efficacy illusions" such as a study that claims the COVID shot is 90% effective even when the jabbed end up getting infected. As noted by Fenton and Neil:

Spotlight quotes and use references that look valid but are just other people's newsletters. This one is to "Igor's Newsletter"

Use headers that make strong implications that may or may not be substantiated

Create the Virus and Get Paid for the Vaccine

In related news, Moderna recently agreed to pay \$400 million to the National Institute of Allergy and Infectious Diseases (NIAID) for the patent it holds to its mRNA shot. The patent process is a part of the COVID mRNA shots that the media haven't really addressed.

As it turns out, behind the scenes, the manufacturers not only are fighting with the federal government over the core technology's origins but have been in ongoing litigation over it. Now, Moderna has finally agreed to pay.

According to Fierce Pharma,²² Moderna revealed in its latest earnings statement that the company had agreed to "a \$400 million 'catch-up payment' under a new royalty-bearing license agreement between the parties."

So, does the payment hit the company hard? "Moderna pulled down around \$36 billion in COVID-19 vaccine sales across 2021 and 2022, its two big launch years," Fierce Pharma said, adding, "While the \$400 million payment represents only around 1% of the company's total COVID-19 vaccine sales over that span, the lump-sum nature of the 'catch-up payment' drove up Moderna's fourth quarter's costs."

So, this is quite the racket the NIAID has going. First, it helps create the virus, and then it gets royalty payments for the supposed "vaccine"!

My **#1** Best-selling Book – Now in Paperback!

My latest book, "The Truth About COVID-19," is an instant best-seller. After thousands of reviews it has a nearly perfect 5-star rating, so grab your copy today before it's too late!

The Truth About
COVID-19
Exposing The Great Reset.

The Truth
About
COVID-19

Reference ulterior motives of others (in this case, pharmaceutical company profits)

Promote commercial products

- Web archiving and Archive-IT have opportunities and limitations.
- We hope that sharing our results and observations here and in our article will help spur other researchers to use web archives for misinformation and other research.
- We also hope that development on web archiving tools is enhanced to capture interconnected information, social media, paywalled and subscription content, search and embedded video and graphical content.



Prepandemic Antivaccination Websites' COVID-19 Vaccine Behavior: Content Analysis of Archived Websites

Samantha Kaplan ¹ ; Megan von Isenburg ¹ ; Lucy Waldrop ¹ 

Article	Authors	Cited by	Tweatations (4)	Metrics
<ul style="list-style-type: none"> • Abstract • Introduction • Methods • Results • Discussion • References • Abbreviations • Copyright 	<h3>Abstract</h3> <p>Background:</p> <p>The onset of the COVID-19 pandemic and the concurrent development of vaccines offered a rare and somewhat unprecedented opportunity to study antivaccination behavior as it formed over time via the use of archived versions of websites.</p> <p>Objective:</p> <p>This study aims to assess how existing antivaccination websites modified their content to address COVID-19 vaccines and pandemic restrictions.</p> <p>Methods:</p> <p>Using a preexisting collection of 25 antivaccination websites curated by the IvyPlus Web Collection Program prior to the pandemic and crawled every 6 months via Archive-It, we conducted a content analysis to see how these websites acknowledged or ignored COVID-19 vaccines and pandemic restrictions. Websites were assessed for financial behaviors such as having storefronts, mention of COVID-19 vaccines in general or by manufacturer name, references to personal freedom such as masking, safety concerns like side effects, and skepticism of science.</p>			

<https://duke.is/8rdx6>

Thank you!

REFERENCES

ABOUT THE INTERNET ARCHIVE. INTERNET ARCHIVE. 2022. URL: [HTTPS://ARCHIVE.ORG/ABOUT/](https://archive.org/about/) [ACCESSED 3/16/2023]

ABOUT THE INTERNET ARCHIVE. ARCHIVE-IT. 2014. URL: [HTTPS://ARCHIVE-IT.ORG/BLOG/LEARN-MORE/](https://archive-it.org/blog/learn-more/) [ACCESSED 3/16/2023]

COSTA M, GOMES D, SILVA MJ. THE EVOLUTION OF WEB ARCHIVING. INT J DIGIT LIBR 2017;18(3):191-205. [HTTPS://LINK.SPRINGER.COM/ARTICLE/10.1007/S00799-016-0171-9](https://link.springer.com/article/10.1007/s00799-016-0171-9) [ACCESSED 3/16/2023]

DELLAVALLE R, HESTER EJ, HEILIG LF, DRAKE AL, KUNTZMAN JW, GRABER M, ET AL. GOING, GOING, GONE: LOST INTERNET REFERENCES. SCIENCE 2003;302(5646):787-788. [HTTPS://WWW.SCIENCE.ORG/DOI/10.1126/SCIENCE.1088234](https://www.science.org/doi/10.1126/science.1088234) [ACCESSED 3/16/2023]

IVY PLUS LIBRARIES WEB COLLECTING PROGRAM. IVY PLUS LIBRARIES CONFEDERATION. 2022. URL: [HTTPS://IVPLUSLIBRARIES.ORG/PROGRAMS/IVY-PLUS-LIBRARIES-CONFEDERATION-WEB-COLLECTING-PROGRAM/](https://ivpluslibraries.org/programs/ivy-plus-libraries-confederation-web-collecting-program/) [ACCESSED 3/16/2023]

IVY PLUS LIBRARIES CONFEDERATION. VACCINATION IN MODERN AMERICA: MISINFORMATION VS. PUBLIC HEALTH ADVOCACY. ARCHIVE-IT. 2020. URL: [HTTPS://ARCHIVE-IT.ORG/COLLECTIONS/13389](https://archive-it.org/collections/13389) [ACCESSED 3/16/2023]

NTOULAS A, CHO J, OLSTON C. WHAT'S NEW ON THE WEB?: THE EVOLUTION OF THE WEB FROM A SEARCH ENGINE PERSPECTIVE. 2004 PRESENTED AT: WWW '04: PROCEEDINGS OF THE 13TH INTERNATIONAL CONFERENCE ON WORLD WIDE WEB; MAY 17-20, 2004; NEW YORK, USA. [HTTPS://DOI.ORG/10.1145/988672.988674](https://doi.org/10.1145/988672.988674) [ACCESSED 3/16/2023]

UNESCO. RECORDS OF THE GENERAL CONFERENCE, 32ND SESSION, PARIS, 29 SEPTEMBER TO 17 OCTOBER. LONDON, UK: UNESCO; 2003.