





# The Deadly Rise of Anti-science: A Scientist's Warning

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### **Advancing Science & Combating Anti-Science**





Anti-Science

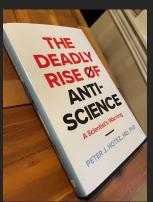






### THE ROCKEFELLER UNIVERSITY

Science for the benefit of humanity









### The Two Faces Texas













# Texas Children's CVD NATIONAL SCHOOL OF TROPICAL MEDICINE, BAYLOR COLLEGE OF MEDICINE

- Portfolio of Global Health
   & Neglected Disease
   Vaccines
- Schistosomiasis
- Hookworm
- Chagas Disease
- Leishmaniasis
- Coronavirus Infections
  - SARS CoV
  - SARS CoV2
  - MERS













### The Antipoverty Vaccines





### **Developing Country Vaccine Manufacturers Network**

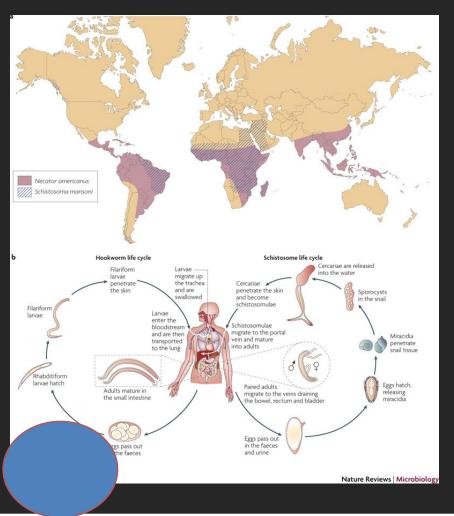


- Bangladesh
- China
- India
- Indonesia
- Thailand
- Vietnam
- Argentina
- Brazil
- Cuba





# Vaccine Targeting Hookworm and Schistosomiasis Co-Infections



A MULTIVALENT
VACCINE TARGETING
HOOKWORM + SCHISTO



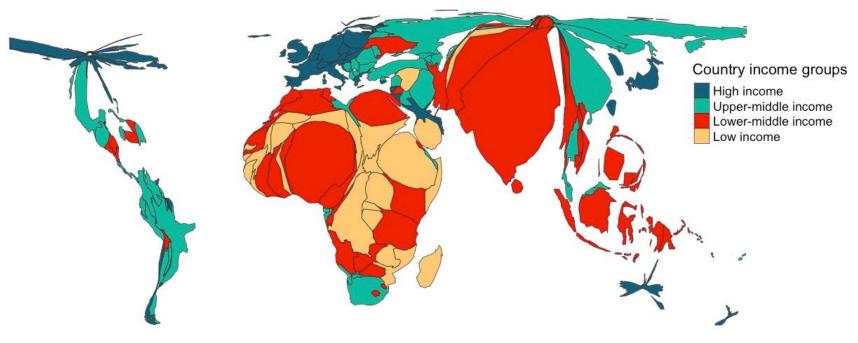




# Vaccine Access: COVID-19 Unvaccinations in 2021

### The unvaccinated population

Land mass scaled to reflect absolute number of unvaccinated (transformed EPSG 3410 equal-area projection)



Source: Schellekens (2021); OWID; WPP. Updated: 2022-01-13. Latest: pandem-ic.com.



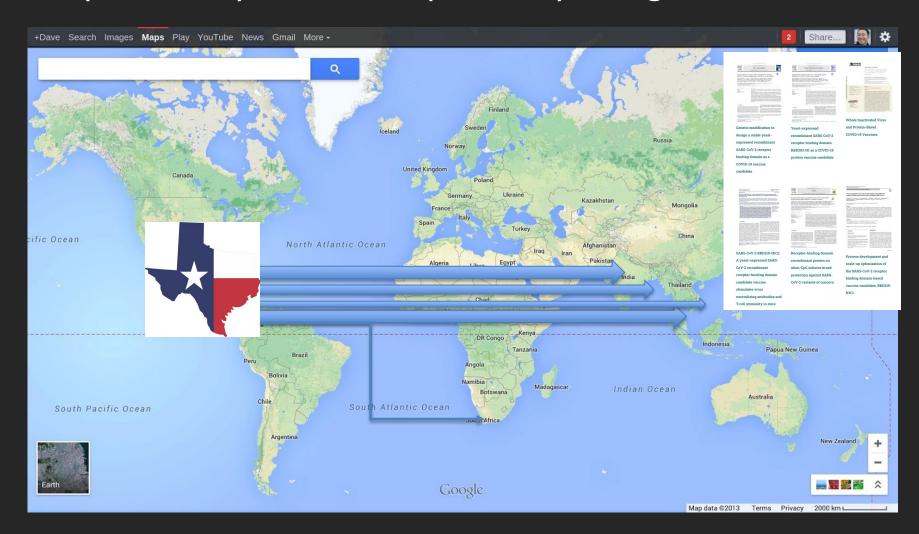
# CORBEVAX (Biological E)





## **Technology Transfer:**

India (Corbevax), Indonesia (IndoVac), Bangladesh, S Africa





### **CORBEVAX Phase 1 and Phase 2**

#### eBioMedicine

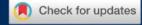
Part of THE LANCET Discovery Science

ARTICLES | VOLUME 83, 104217, SEPTEMBER 01, 2022

Evaluation of safety and immunogenicity of receptor-binding domainbased COVID-19 vaccine (Corbevax) to select the optimum formulation in open-label, multicentre, and randomised phase-1/2 and phase-2 clinical trials

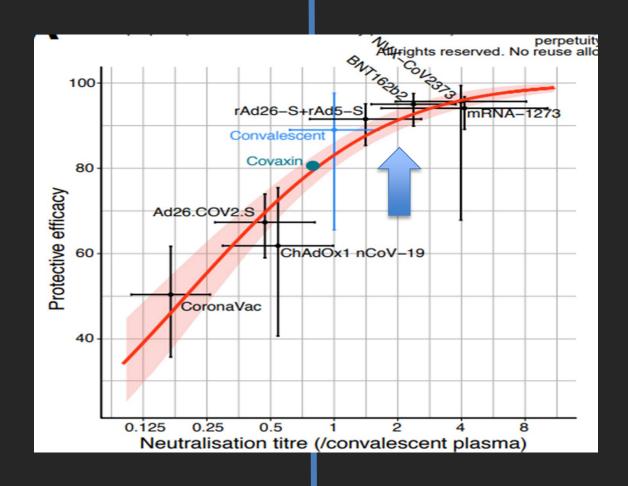
Subhash Thuluva △ ☑ • Vikram Paradkar • Subba Reddy Gunneri • Vijay Yerroju • Rammohan Mogulla • Kishore Turaga • et al. Show all authors

Open Access • Published: August 12, 2022 • DOI: https://doi.org/10.1016/j.ebiom.2022.104217 •





# Corbevax (Bio E) Immunogenicity





### **CORBEVAX in Children & Adolescents**



#### Vaccine

Available online 31 October 2022

In Press, Corrected Proof (?)



Safety, tolerability and immunogenicity of Biological E's CORBEVAX™ vaccine in children and adolescents: A prospective, randomised, double-blind, placebo controlled, phase-2/3 study

Subhash Thuluva <sup>a</sup>  $\stackrel{\circ}{\sim}$   $\stackrel{\boxtimes}{\sim}$ , Vikram Paradkar <sup>a</sup>, Subhash Thuluva <sup>a</sup>  $\stackrel{\circ}{\sim}$   $\stackrel{\boxtimes}{\sim}$  Nikram Paradkar <sup>a</sup>, Subhash Thuluva <sup>a</sup>  $\stackrel{\circ}{\sim}$   $\stackrel{\longrightarrow}{\sim}$   $\stackrel{\longrightarrow}{\sim}$   $\stackrel{\longrightarrow}{\sim}$   $\stackrel{\longrightarrow}{\sim}$  Nikram Paradkar <sup>a</sup>, Subhash Thuluva <sup>a</sup>  $\stackrel{\longrightarrow}{\sim}$   $\stackrel{\longrightarrow}{\sim}$ Pothakamuri Venkata Suneetha<sup>a</sup>, Kishore Turas Adabala a, Aditya Sri Javvadi a, Guruprasad Medi Aymaan Zaheer b, Amit Awasthi b, Manish Nara

Show more 🗸

+ Add to Mendeley & Share 55 C

https://doi.org/10.1016/j.vaccine.2022.10.045

#### Highlights

- Limited data availble on safety and immunogenicity of sub unit COVID-19 vaccines in children from large phase-3 trials.
- · We demonstrated the safety and immunogenicity of RBD based sub unit covid-19 vaccine (CORBEVAX<sup>TM</sup>) in pediatric population.
- CORBEVAX™ was found to be safe and tolerable when compared to placebo group.
- · The nAbs elicited in pediatric age cohorts were non-inferior to the adult cohort in terms of ratio of GMT's.



# Times of India March 15, 2022











### Indovac (BioFarma) Indonesia





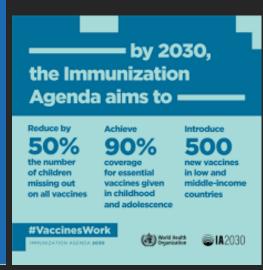
### WHO Immunization Agenda 2030

# IMPLEMENTING THE IMMUNIZATION AGENDA 2030:

A Framework for Action through Coordinated Planning, Monitoring & Evaluation, Ownership & Accountability, and Communications & Advocacy











### World Health Organization Immunization Coverage

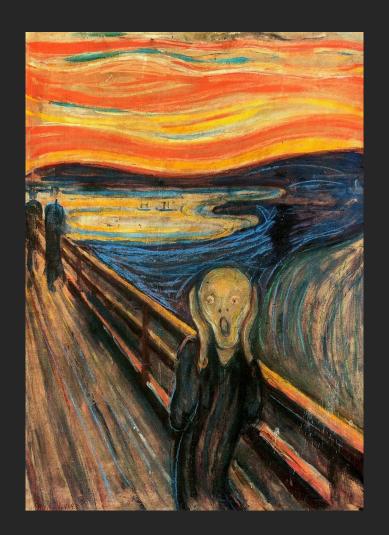
### Key facts

- Only 25 vaccine introductions other than COVID-19 vaccine were reported in 2021.
- Global coverage dropped from 86% in 2019 to 81% in 2021
- An estimated 25 million children under the age of 1 year did not receive basic vaccines, which is the highest number since 2009.
- The number of girls not vaccinated against human papillomavirus (HPV) increased by 3.5 million, compared to 2019.
- In 2021, the number of completely unvaccinated children increased by 5 million since 2019.



### The Concern

- We don't bounce back
- A new rise in US and global antivaccine activism
- Something new and ominous has happened





# **Antivaccine-Antiscience Ecosystems and Empires**

V.1.0 Vaccines and Autism V.2.0
Politicization
Health
Freedom

V.3.0 Globalization "The Empire"

# V.1.0: Vaccines and Autism "Moving Goalposts"



Autism

Spacing Alum

**HPV** 

Infertility
Autoimmunity

Chronic Illness



# Vaccine Scientist, Pediatrician, Parent of Adult Daughter with Autism, and the "OG Villain"



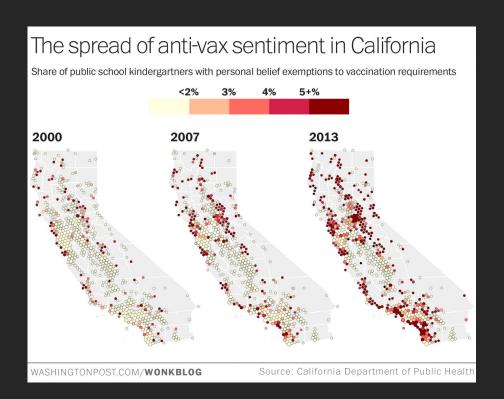


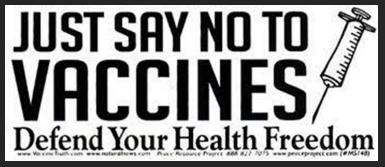






# V.2.0: Origins of the Health Freedom Movement in Orange County and then to Texas





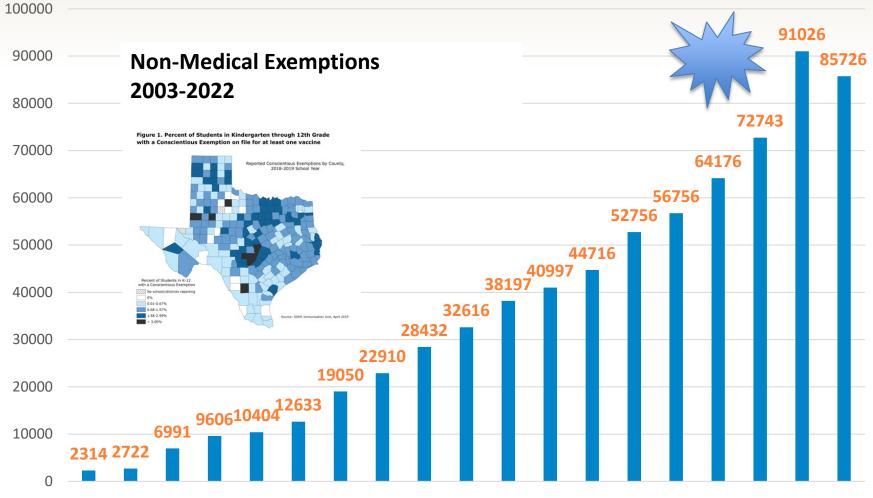








### Expansion of Health Freedom to Texas



2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 to to 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022



Hospital'

**PUBLISH** 

ABOUT

**BROWSE** 

### PLOS GLOBAL PUBLIC HEALTH



OPINION

#### The great Texas COVID tragedy

Peter J. Hotez 🗹

Published: October 20, 2022 • https://doi.org/10.1371/journal.pgph.0001173

Article	Authors	Metrics	Comments	Media Coverage
*				

References

**Figures** 

Reader Comments

**Figures** 





# Daily Trends in Number of COVID-19 Deaths in Texas Reported to the CDC, per 100,000 population, 2020–2022





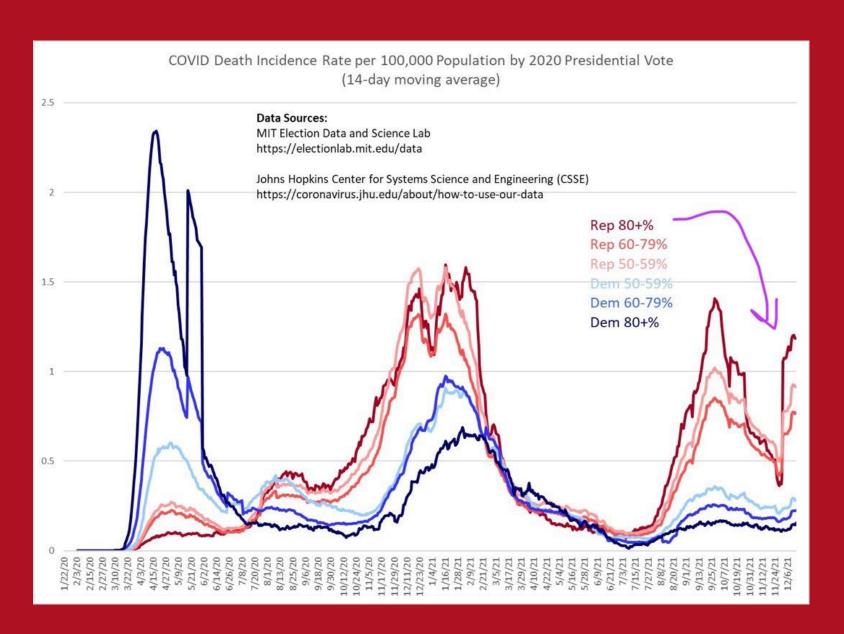
# Antiscience Kills: 200,000 Americans Needlessly Lost



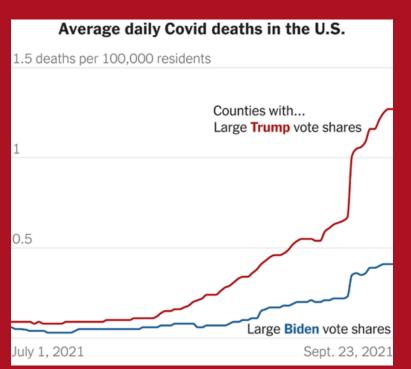
USA: Up to 40% of Deaths after COVID-19 Vaccines Widely Available After May 1, 2021



### **Red COVID Deaths**



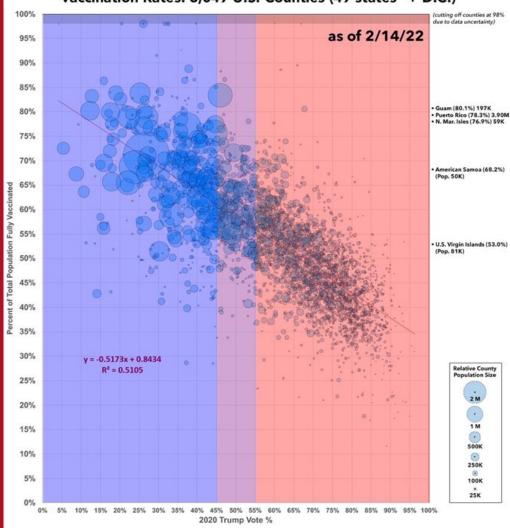
# COVID-19 Vaccinations and Deaths (Charles Gaba)



COVID-19 2-DOSE (or 1 J&J) VACCINATION LEVELS OUT OF TOTAL POPULATION BY COUNTY Data for most states via Centers for Disease Control; for some via COVID Act Now or state health dept.

Graph by Charles Gaba @charles\_gaba / ACASignups.net

Vaccination Rates: 3,049 U.S. Counties (49 states\* + D.C.)



https://www.nytimes.com/2021/09/27/briefing/covid-red-states-vaccinations.html

https://acasignups.net/22/02/14/weeklyupdate-county-level-covid19-vaccinationlevels-2020-partisan-lean

### **Societal Causes of Death 2021-22**

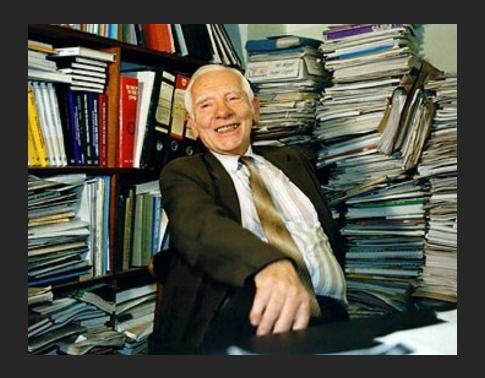
- Causes and Deaths
  - Anti-science activism
    - 200,000 deaths
  - Gun violence
    - 90,000-100,000
  - Road traffic accidents
    - 90,000-100,000
  - Suicide
    - 90,000-100,000
  - Terrorism
    - 30





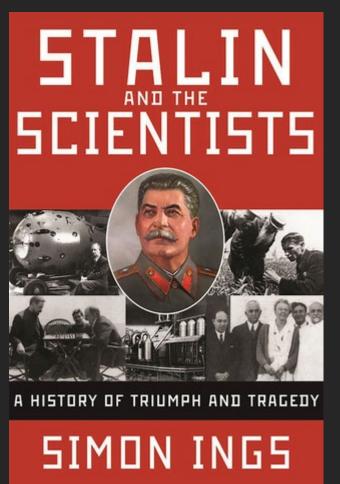
### Sir Joseph Rotblat CBE FRS

"Precepts such as 'science is neutral' or 'science has nothing to do with politics' still prevail. They are remnants of the ivory tower mentality, although the ivory tower was finally demolished by the Hiroshima bomb"





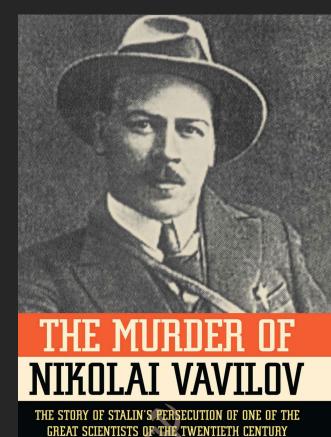
### **USSR** and Targeting Prominent Scientists







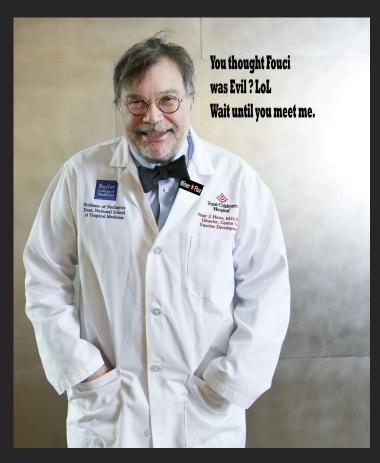




PETER PRINGLE



### The 2023 Politics of Antivaccine Activism







#### **Emails**

Sent: Wednesday, February 2, 2022 11:35 AM

To: Hotez, Peter Jay <hotez@bcm.edu>

Subject: You will hang for crimes against humanity

\*\*\*CAUTION:\*\*\* This email is not from a BCM Source. Only click links or open attachments you know are safe.

Soon the Republicans will be back in charge and investigating your sorry ass. You will be charged with treason and other crimes against humanity. You will be sentenced to hang by the noose until dead. I will celebrate the day I see you hanging from the Gallows.

Sent from AT&T Yahoo Mail on Android

From:

Sent: Tuesday, August 3, 2021 4:16 PM
To: Hotez, Peter Jay <hotez@bcm.edu>

Subject: hotez@bcm.edu

\*\*\*CAUTION:\*\*\* This email is not from a BCM Source. Only click links or open attachments you know are safe.

If you don't afford others FREE SPEECH, you deserve none yourself. You're not a scientist as much as you're an insurgent. An enemy of the United States Constitution. a living Mengele. I hope i live to see the day that you and your fifth column colleagues get what Ethel and Julius got, wet, and ten times over the column colleagues.

Date: May 9, 2021 at 6:38:16 PM CDT

To: "Hotez, Peter Jay" <hotez@bcm.edu>

Subject: dr(I use that term loosly) hotez, you print one more paper or blog suggesting the round up of free citizens to get an unproven, untested shot that is no more a vaccine than an m and m is. I will suggest to all my patriot friends that you be hunted and ...

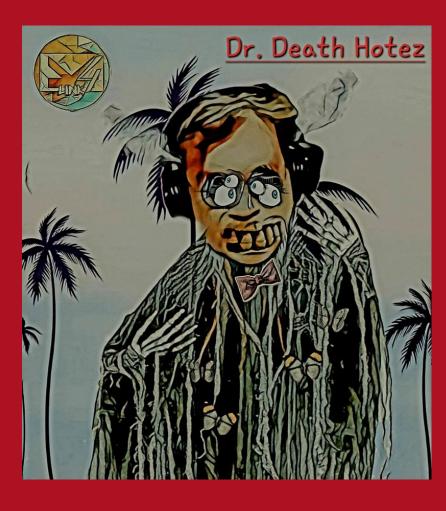
Thu 5/6/2021 5:44 PM To: Hotez, Peter Jay

\*\*\*CAUTION:\*\*\* This email is not from a BCM Source. Only click links or open attachments you know are safe.

Peter, 75 years ago people like you were tried, convicted and hung by the neck until dead. There is a Lawyers Committee right now collecting the names of people to be indicted for Nuremberg Crimes. I am turning your name over to the Prosecutor's Legal team.

https://www.corona-schadensersatzklage.de/

May The Force be with you,



### **Defending Science**







# V.3.0: Globalization of American Anti-Science Western Europe, Canada, African Nations

### **nature reviews** immunology

### **COMMENT**



### Will anti-vaccine activism in the USA reverse global goals?

Peter J. Hotez

In the time of the COVID-19 pandemic, anti-vaccine activism in the USA accelerated, amplified and formed an alliance with political groups and even extremists. An organized, well-funded and empowered anti-science movement now threatens to spill over and threaten all childhood immunizations in the USA and globally.

