# THE FUTURE OF SCIENCE IS OURS.

IPAK. IPAK-EDU, LLC. SCIENCE, PUBLIC HEALTH POLICY&THE LAW... AND MORE...

**JAMES LYONS-WEILER, PHD** 

# ACADEMIC INTEGRITY.

- DO NOT LIE
- DO NOT CHEAT
- DO NOT STEAL

 DO NOT FUND, EXECUTE AND MESS UP DEADLY GAIN OF FUNCTION RESEARCH.

# PUBLIC HEALTH SOLVENCY.

- FOCUS ON REALITY, NOT MESSAGING.
- DO NOT TRY TO EARN BACK TRUST. ACT TRUSTWORTHY.
- DO NOT ONLY DO THINGS RIGHT. DO THE RIGHT THINGS.

# **RESPECT FOR THE LAW AND POLICY.**

- UNDERSTAND AND USE BOTTOM-UP LEARNING.
- RESPECT THE BASIS OF SOVEREIGNTY.
- RESPECT INDIVIDUAL RIGHTS.
- ASK, DO NOT DEMAND, PERSONAL SACRIFICE.

## IPAK

- INDEPENDENT RESEARCH IN THE PUBLIC INTEREST WITHOUT PROFIT MOTIVE.
- LET THE DATA SPEAK.
- PUBLISH WHAT YOU FIND, NOT WHAT YOU WANT TO FIND.

IPAKNOWLEDGE.ORG

# **IPAK-EDU LLC**

- 40 COURSES
- 30 INSTRUCTORS
- WEBINARS
- INFORMATION SHEETS

• IPAK-EDU.LLC

## **IPAK-EDU CURRICULUM TRACKS**

- BIOLOGICAL (INTRO, GENETICS, IMMUNOLOGY, ENV TOX)
- HEALTH & WELLNESS (AUTOIMMUNITY, BIOLOGY OF CANCER)
- LAW/LEGAL (HISTORY OF LAW, CONSTITUTIONAL LAW)
- MIND SCIENCE (INTEGRATIVE)
- CREATOR/NFT (LEARNING THROUGH EXPRESSIONS)
- ANH FACULTY TRACK (INT. ALLIANCE FOR NATUAL HEALTH)

# SCIENCE, PUBLIC HEALTH POLICY & THE LAW

- OPEN ACCESS
- INTERNATIONAL
- COPE-COMPLIANT PEER REVIEW
- MASSIVE IMPACT 2020-2023
- MASSIVE OVERHAUL IN 2024

Science, Public Health Policy, and the Law Volume 4:144–189 November, 2022 Clinical and Translational Research An Institute for Pure and Applied Knowledge (IPAK)

> Public Health Policy Initiative (PHPI)



### Article

## Evidence-Based Evaluation of PCR Diagnostics for SARS-CoV-2 and the Omicron Variants by Gold Standard Sanger Sequencing

Sin Hang Lee

#### Abstract

Both SARS-CoV-2 and SARS-CoV-1 initially appeared in China and spread to other parts of the world. SARS-CoV-2 has generated a COVID-19 pandemic causing more than 6 million human deaths worldwide, while the SARS outbreak quickly ended in six months with a global total of 774 reported deaths. One of the factors contributing to this stunning difference in the outcome between these two outbreaks is the inaccuracy of the RT-qPCR tests for SARS-CoV-2, which generated a large number of false-negative and false-positive test results that have misled patient management and public health Science, Public Health Policy, and the Law

Volume 4:190–195 November, 2022 Clinical and Translational Research An Institute for Pure and Applied Knowledge (IPAK)

> Public Health Policy Initiative (PHPI)



## Editorial

The Use of Arbitrary and Generalized Ct Values in COVID-19 Non-Quantitative Reverse Transcriptase Polymerase Chain Reaction (nonQ-RT-PCR) Testing Must End

James Lyons-Weiler

An elementary problem with the polymerase chain reaction (PCR) – recognized at its inception – is that

SARS-CoV-2 infections vary in their viral load – and their clinical swab samples vary arbitrarily in

Science, Public Health Policy, and The Law Volume 2:37–58 May, 2021 Clinical and Translational Research An Institute for Pure and Applied Knowledge (IPAK) Public Health Policy Initiative (PHPI)



## Significant Under-Reporting of Quadrivalent Human Papillomavirus Vaccine-Associated Serious Adverse Events in the United States: Time for Change?

Lucija Tomljenovic,1 Emily Tarsell,2 James Garrett,3 Christopher A. Shaw,4 & Mary S. Holland5

#### Abstract

The Vaccine Adverse Event Reporting System (VAERS) was created in 1990 by the Center for Disease Control and Prevention (CDC) to track adverse events following inoculations (AEFIs). Less than 1% of AEFIs are reported and accurate recording of AEFIs is compromised on many levels. One contributing error to the accurate monitoring of vaccine safety may be the CDC's apparent use of a truncated definition of what constitutes a serious adverse event (SAE) to rate cases rather than the statutory Code of Federal Regulation (CFR) definition. The authors set out to test if this criteria error affected rates of

Science, Public Health Policy, and The Law Volume 2:59–80 May, 2021 Clinical and Translational Research An Institute for Pure and Applied Knowledge (IPAK) Public Health Policy Initiative (PHPI)



## A Report on the U.S. Vaccine Adverse Events Reporting System (VAERS) of the COVID-19 Messenger Ribonucleic Acid (mRNA) Biologicals

Jessica Rose, PhD, MSc, BSc

#### Abstract

Following the global roll-out and administration of the Pfizer/BioNTech (BNT162b2) and Moderna (mRNA-1273) COVID-19 vaccines<sup>1</sup> on December 17, 2020 in the United States, and of the Janssen COVID-19 Vaccine PF (produced by Johnson & Johnson) on April 1st, 2021, tens of thousands of individuals have reported adverse events (AEs) using the Vaccine Adverse Events Reports System (VAERS). This work summarizes this data to date and serves as information for the public and a reminder of the relevance of any adverse events, including deaths, that occur as a direct result of biologicals as prophylactic treatments. This is especially relevant in the context of technologically novel treatments in the experimental phase of development. Analysis suggests that the vaccines are likely the cause of reported deaths, spontaneous abortions, anaphylactic reactions

#### Sci, Pub Health Pol, & Law

#### VAERS Report on COVID-19 mRNA Biologicals – May, 2021

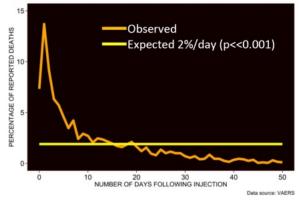
## Table 3. Percentages of individuals reportingAEs following 24- and 48-hour periods

j.	AE within 24 hrs (% of cases)	AE within 48 hrs (% of cases)
Death	13	44
Hospital	15	47
ER	18	47

The distribution of data is not skewed toward a specific age in a statistically significant way (abs(I)=0.1). Of the women who reported having a spontaneous abortion, 65% did so after receiving the first dose. In the following section, the likelihood of causation is investigated since it is absolutely necessary to elucidate the conditions that induced miscarriage in these women, since plans for large-scale roll-out of these products into pregnant women are looming or currently active.

3. Evidence to support causation

Figure 8.1 Time series plot — Percentage of reported deaths by time elapsed between the injection date and the reported adverse event



Figures 8.1–3 shows the number of days following injection as a percentage of the reported AEs with regards to deaths, hospitalizations and emergency doctor visits. The percentages of reported deaths, hospitalizations and emergency doctor visits are highest in the first two days post-injection.

Figure 8.2 Time series plot — Percentage of reported hospitalizations by time elapsed between injection date and adverse event

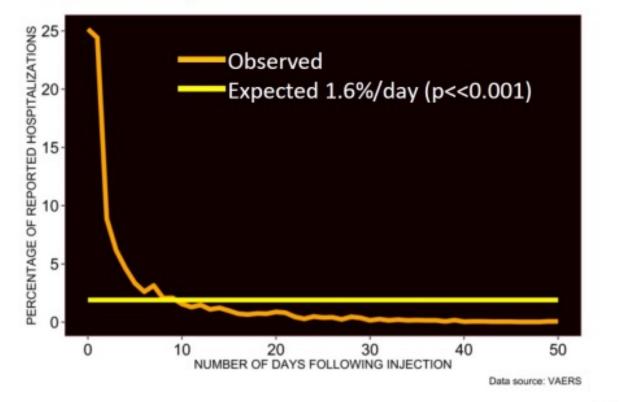
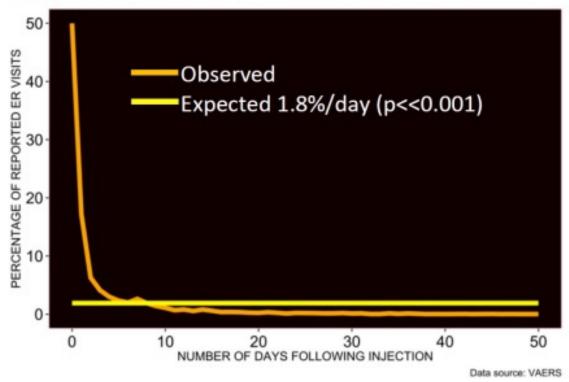


Figure 8.3 Time series plot — Percentage of reported emergency doctor visits by time elapsed between injection and adverse event



69

Figure 10.1 Time series plot — Percentage of reported anaphylaxis with respect to time elapsed between date of injection and AE

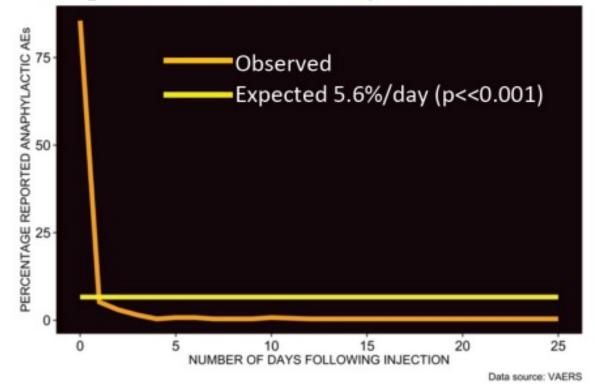
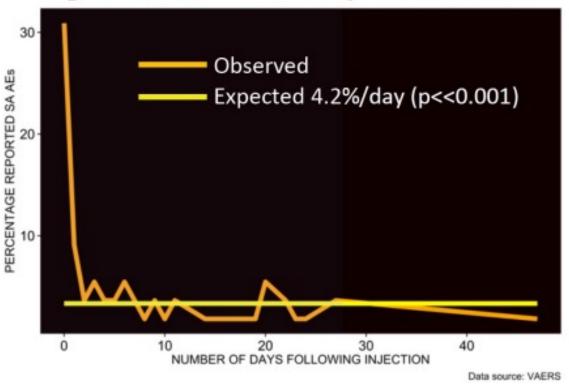


Figure 10.2 Time series plot — Percentage of reported spontaneous abortions by time elapsed between date of injection and AE



Science, Public Health Policy, and The Law Volume 2:4-22 July, 2020 Clinical and Translational Research

An Institute for Pure and Applied Knowledge (IPAK) Public Health Policy Initiative (PHPI)



## A Novel Approach to Treating COVID-19 Using Nutritional and Oxidative Therapies

David Brownstein, M.D. \*<sup>†</sup>, Richard Ng, M.D. <sup>†</sup>, Robert Rowen, M.D. <sup>‡</sup>, Jennie-Dare Drummond , PA <sup>†</sup>, Taylor Eason, NP <sup>†</sup>, Hailey Brownstein, D.O. <sup>§</sup>, and Jessica Brownstein <sup>¶</sup>

#### Abstract

**Objective:** This report is a case series of consecutive patients diagnosed with **COVID-19** treated with a nutritional and oxidative medical approach. We describe the treatment program and report the response of the 107 **COVID-19** patients.

Study Design: Observational case series consecutive.

Setting: A family practice office in a suburb of Detroit, Michigan.

Patients: All patients seen in the office from February through May 2020 diagnosed with COVID-19 were included in the study. COVID-19 was either diagnosed via PCR or antibody testing as well as those not tested diagnosed via symptomology.

**Interventions:** Oral Vitamins A, C, D, and iodine were given to 107 subjects (99%). Intravenous solutions of hydrogen peroxide and Vitamin C were given to 32 (30%) and 37 (35%) subjects. Thirty-seven (35%) of the cohort was treated with intramuscular ozone. A dilute, nebulized hydrogen peroxide/saline mixture, with Lugol's iodine, was used by 91 (85%).

Main Outcome Measures: History and physical exam were reviewed for COVID-19 symptoms including cough, fever, shortness of breath, and gastrointestinal complaints. Laboratory reports were examined for SARS-CoV-2 results. Symptomatic improvement after treatment

#### Sci, Pub Health Pol, & Law

**Table 3** demonstrates the interventions that the patients received from CHM (total cohort). The most common intervention was a protocol of oral supplements, including Vitamin A, Vitamin D, Vitamin C, and iodine. 106 patients of the 107 total patients were taking oral supplements (99%). The other interventions at CHM include 32 patients receiving IV hydrogen peroxide (30%), 37 patients receiving IV Vitamin C (35%), 37 patients receiving intramuscular ozone injections (35%), 91 patients receiving a nebulized solution of normal saline and dilute hydrogen peroxide (85%), and 91 patients receiving nebulized iodine (85%).

**Figure 2** shows the average number of days that patient reported symptomatic improvement after CHM interventions (for total cohort). On average, patients reported their first improvement by 2.4 days following CHM interventions. Patients reported feeling mostly better by 4.4 days following interventions. Patients reported feeling completely better after 6.9 days following CHM interventions.

**Table 4** illustrates the disease course in the total cohort. 34 of the 107 total patients (32%) were tested for COVID-19. Of those 34 tested, 27 patients tested positive for COVID 10 (70%). There

# Table 3. Patient InterventionsINTERVENTIONtotal (cohort)N (%)

	11(10)
Total patients	107 (100)**
Oral supplements	106 (99)
IV H202	32 (30)
IV Vitamin C	37 (35)
IM Ozone	37 (35)
Nebulized NS/H202	91 (85)
Nebulized Iodine	91 (85)

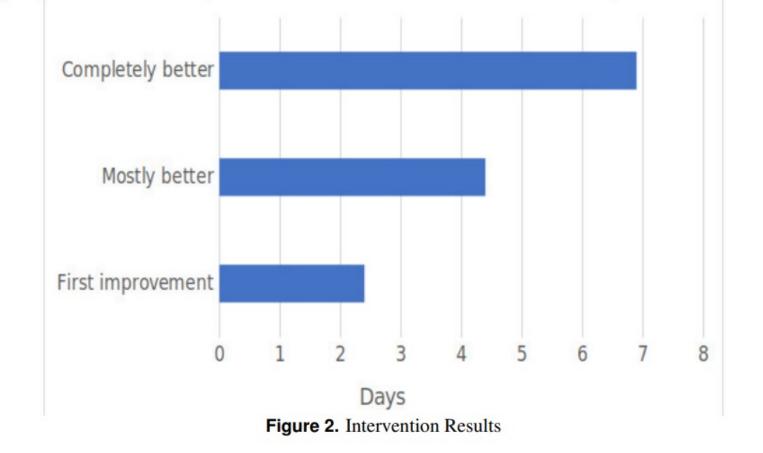
Table 4.	Disease	Course
----------	---------	--------

	N (%)
Total cohort	107 (100)
Tested for COVID-19	34 (32)
Tested positive for COVID-19	27 (25)
Hospitalized	3 (3) *
Death	0 (0)

\* Of the three patients hospitalized, two were hospitalized before instituting treatment One was hospitalized on the oral Vitamin

### COVID19 Therapy Case Series- July 7, 2020

## Symptomatic Improvement After Intervention (total cohort)



## 4. Discussion

**COVID-19** is a worldwide pandemic caused by

jects. The next most common symptom included upper respiratory symptoms which included a rhinorrhea, drippy eyes, cough, and congestion. Short-

# SCIENCE, PUBLIC HEALTH POLICY & THE LAW

- STUDIES
- REVIEWS
- SYSTEMATIC REVIEWS
- META-ANALYSES
- EDITORIALS
- NEWS ITEMS
- RESEARCH LETTERS



# SCIENCE, PUBLIC HEALTH POLICY & THE LAW

- LETTERS TO THE EDITOR
- CORRESPONDENCE
- CORRIGENDA
- ERRATA

Science, Public Health Policy, and the Law

Volume 4:130–143 November, 2021 Clinical and Translational Research An Institute for Pure and Applied Knowledge (IPAK)

> Public Health Policy Initiative (PHPI)



## Rapid Communication

## Spontaneous Abortions and Policies on COVID-19 mRNA Vaccine Use During Pregnancy

Aleisha R. Brock<sup>1</sup>, Simon Thornley<sup>2</sup>

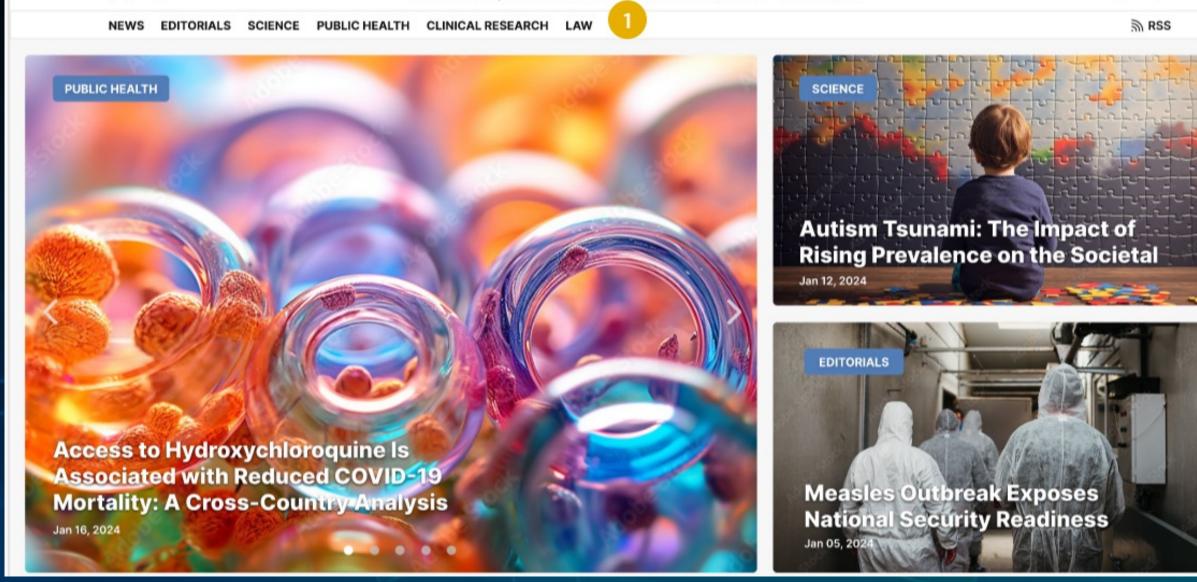
### Abstract

The use of mRNA vaccines in promance is new generally considered safe for protection against COVID-19 in countries such as New Zealand, OSA, and Australia. However, the influential CDC-sponsored article by Shinab kuro et al. (2021) used to support this idea, on closer inspection, provides little assurance, particularly for those exposed in early pregnancy. The study presents falsely reassuring statistics related to the risk of spontaneous abortion in early pregnancy, since the majority of women in the caledation tere exposed to the mRNA product after the outcome period was defined (20 weeks' gestation).

In this article, we draw attention to these errors and recalculate the risk of this outcome based on the cohort that was exposed to the vaccine before 20 weeks' gestation. Our re-analysis indicates a cumulative incidence of spontaneous abortion 7 to 8 times higher than the original authors' results

# SCIENCE, PUBLIC HEALTH POLICY & THE LAW

- SCIENCE
- PUBLIC HEALTH POLICY
- LAW
- CLINICAL RESEARCH
- MIND SCIENCE



Explore

## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

Q Log in

Jan 16, 2024



# Jan 05, 2024



## AI-Powered Medical Diagnostics: A New Era

#### Rachel Kim

Researchers unveil an AI system that significantly improves the accuracy and speed of medical diagnostics.

NEWS JUL 8, 2024



### The Ethics of Genetic Editing: A Modern Dilemma

#### Dr. Henry Foster

This editorial discusses the ethical implications and responsibilities associated with CRISPR and other genetic editing technologies.

EDITORIALS JAN 12, 2024

WE NEED



**Microplastics on Marine** 

Investigating the widespread

presence of microplastics in

oceans and their effects on

The Impact of

Dr. Emily Roberts

Life

SCIENCE FEBRUARY 26, 2024



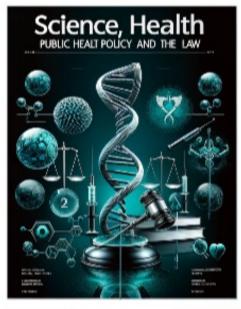
Combating the Rise of Antibiotic-Resistant Infections

#### Dr. Kevin Patel

FEED

Addressing the growing concern of antibiotic resistance and strategies to prevent the spread

#### CURRENT ISSUE



CONTENTS

SUBSCRIBE

## NEWS

#### View more

JANUARY 20, 2024





## EDITOR'S CHOICE

Unveiling the Mysteries of Dark Matter JAN 12, 2024

The Psychology of Social Media Addiction JAN 12, 2024

## NEWS





Breakthrough in Quantum Computing Achieved Sarah Lee

NEWS JAN 12, 2024



View more

Mars Rover Discovers Evidence of Ancient Water

David Chen NEWS JAN 12, 2024



Advancements in Renewable Energy Storage Kevin Patel NEWS JAN 12, 2024



The Impact of Microplastics on Marine Life

Dr. Emily Roberts
NEWS JAN 12, 2024

## EDITOR'S CHOICE

Unveiling the Mysteries of Dark Matter JAN 12, 2024

The Psychology of Social Media Addiction JAN 12, 2024

The Global Fight Against Malaria: Progress and Challenges JAN 12, 2024

View more >



In appreciation to the McCullough Foundation

**EDITORIALS** 

View more

About the Journal

## FEATURED EDITORIALS



The Efficacy of New Alzheimer's Drugs in Clinical Trials

Dr. Rachel Green

NEWS

ecosystems.

in Breakthrough for Genetic Disorders Dr. David Kim

Investigating the widespread presence of microplastics in oceans and their effects on marine

Gene Therapy: A

JAN 12, 2024

The Role of Science in Shaping Public Policy JAN 12, 2024

Al-Powered Medical Diagnostics: A New Era JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

The Role of Science in Shaping Public Policy JAN 12, 2024 The Role of Science in Shaping Public Policy JAN 12, 2024

Al-Powered Medical Diagnostics: A New Era JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

 Unveiling the Mysteries of Dark Matter
 JAN 11, 2024

 A detailed look at the latest research efforts to understand dark matter and its role in the universe.
 EDITORIALS

 Dr. Sophia Zhang
 MCCULLOUGH

 The Impact of Microplastics on Marine Life
 JAN 1, 2024

 EDITORIALS
 JAN 1, 2024

 EDITORIALS
 MCCULLOUGH

## Explore

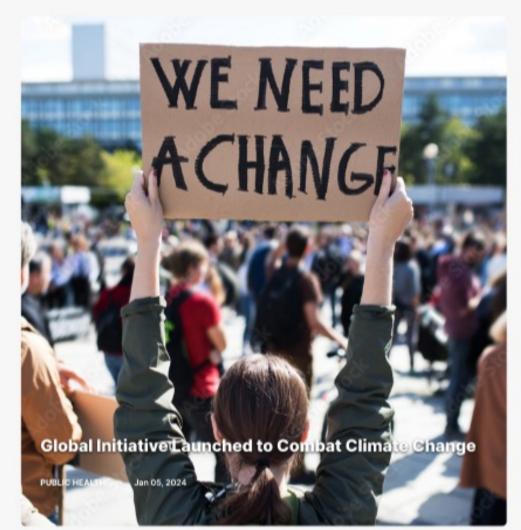
## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

NEWS EDITORIALS SCIENCE PUBLIC HEALTH CLINICAL RESEARCH LAW

ک Log in

RSS

## NEWS





Breakthrough in Quantum Computing Achieved

Sarah Lee NEWS JAN 12, 2024



Mars Rover Discovers Evidence of Ancient Water

David Chen NEWS JAN 12, 2024



The Ethics of Genetic Editing: A Modern Dilemma

Dr. Henry Foster NEWS JAN 12, 2024



Advancements in Renewable Energy Storage Kevin Patel NEWS JAN 12, 2024



The Impact of Microplastics on Marine Life Dr. Emily Roberts NEWS JAN 12, 2024



Combating the Rise of Antibiotic-Resistant Infections

Dr. Kevin Patel
NEWS JAN 12, 2024

Explore

## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

NEWS EDITORIALS SCIENCE PUBLIC HEALTH CLINICAL RESEARCH LAW

Log in



#### PUBLIC HEALTH

## Combating the Global Obesity Epidemic: Strategies and Challenges Dr. Henry Foster

This editorial discusses the ethical implications and responsibilities associated with CRISPR and other genetic editing technologies.

JAN 12, 2024

#### PUBLIC HEALTH

## Addressing Health Disparities: The Role of Community-Based

An exploration of how scientific findings and experts should influence government decisions and policies.

#### PUBLIC HEALTH

## Mental Health in the Digital Era: Trends, Risks, and Interventions Anita Singh

An opinion piece on the need for sustainable practices in industry to protect the environment while fostering economic growth.

FEB 1, 2024

#### PUBLIC HEALTH

## The Impact of Air Pollution on Respiratory Health: A Public Health

A critical examination of the consequences of ignoring scientific evidence on climate change.

#### PUBLIC HEALTH

## The Fight Against Antimicrobial Resistance:

Julia Martinez

This article debates the global issue of healthcare accessibility and the moral obligations of societies to provide it.

DEC 19, 2023

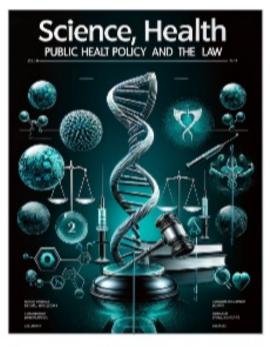
#### PUBLIC HEALTH

## Vaccine Hesitancy and Misinformation: A Public

r, Alexel Ivanov

Discussing the potential risks and rewards of AI development and the need for ethical guidelines.

## CURRENT ISSUE



CONTENTS

SUBSCRIBE

NOV 3, 2023

NOV 1, 2023

OCT 31, 2023

## FEATURED IN PUBLIC HEALTH

## FEATURED IN PUBLIC HEALTH





Gene Therapy: A

Breakthrough for

Genetic Disorders

The Efficacy of New Alzheimer's Drugs in Clinical Trials

Dr. Rachel Green NEWS Dr. David Kim JAN 12, 2024 NEWS

JAN 12, 2024

The Role of Science in Shaping Public Policy JAN 12, 2024

Al-Powered Medical Diagnostics: A New Era JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

The Role of Science in Shaping Public Policy JAN 12, 2024 The Role of Science in Shaping Public Policy JAN 12, 2024

Al-Powered Medical Diagnostics: A N Era JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

Combating the Rise of Antibiotic-Resistant Infections JAN 12, 2024

Unveiling the Mysteries of Dark Matter

A detailed look at the latest research efforts to understand dark matter and its role in the universe.

Dr. Sophia Zhang

### The Impact of Microplastics on Marine Life

Investigating the widespread presence of microplastics in oceans and their effects on marine

JAN 11, 2024 PUBLIC HEALTH



JAN 1, 2024 PUBLIC HEALTH Explore

## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

## **CLINICAL RESEARCH**

#### CLINICAL RESEARCH

#### Revolutionizing Cancer Treatment: The Promise of Immunotherapy Dr. Henry Foster

This editorial discusses the ethical implications and responsibilities associated with CRISPR and other genetic editing technologies.

JAN 12, 2024

#### CLINICAL RESEARCH

## Precision Medicine in Clinical Practice: Tailoring Treatment to the Dr. Omar Khan

An exploration of how scientific findings and experts should influence government decisions and policies.

#### CLINICAL RESEARCH

The Role of Stem Cells in Regenerative Medicine: Current

An opinion piece on the need for sustainable practices in industry to protect the environment while fostering economic growth.

FEB 1, 2024

## CLINICAL RESEARCH

#### New Frontiers in Cardiac Care: Emerging Therapies for Heart Elizabeth Green

A critical examination of the consequences of ignoring scientific evidence on climate change.

#### CLINICAL RESEARCH

### Advances in Alzheimer's Disease Research: From Julia Martinez

This article debates the global issue of healthcare accessibility and the moral obligations of societies to provide it.

DEC 19, 2023

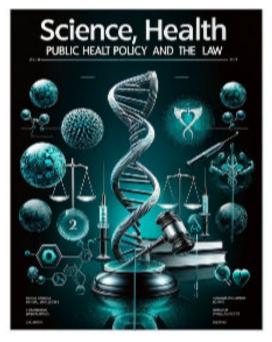
#### CLINICAL RESEARCH

## Clinical Trials in the Age of Personalized Medicine:

Dr. Alexei Ivanov

Discussing the potential risks and rewards of AI development and the need for ethical guidelines.

## CURRENT ISSUE



SUBSCRIBE

CONTENTS

NOV 3, 2023

NOV 1, 2023

OCT 31, 2023

## FEATURED CLINICAL RESEARCH

Explore

## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

EWS EDITORIALS SCIENCE PUBLIC HEALTH CLINICAL RESEARCH LAW

## LAW

#### W

## lavigating the Legal Landscape of liotechnology and Patent Law

his editorial discusses the ethical aplications and responsibilities associated ith CRISPR and other genetic editing echnologies.

N 12, 2024

#### W

## nvironmental Law: Balancing conomic Development and

. Omar Khan

n exploration of how scientific findings and sperts should influence government ecisions and policies.

OV 3, 2023

### LAW

## Data Protection and Cybersecurity Laws in the Era of Big Data Anita Singh

An opinion piece on the need for sustainable practices in industry to protect the environment while fostering economic growth.

FEB 1, 2024

#### LAW

## The Right to Privacy vs. Public Health Surveillance: A Legal

Elizabeth Green

A critical examination of the consequences of ignoring scientific evidence on climate change.

#### LAW

## Legal Challenges in Regulating Emerging Health Technologies Julia Martinez

This article debates the global issue of healthcare accessibility and the moral obligations of societies to provide it.

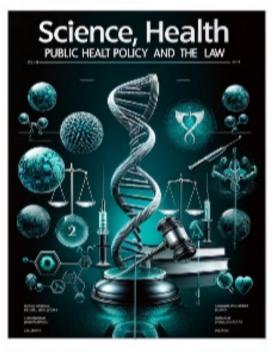
DEC 19, 2023

#### LAW

#### Intellectual Property Rights in Pharmaceutical Research: Legal Dr. Alexel Ivanov

Discussing the potential risks and rewards of AI development and the need for ethical guidelines.

## CURRENT ISSUE



CONTENTS

SUBSCRIBE

NOV 1, 2023

OCT 31, 2023

#### FEATURED IN LAW/

## SCIENCE, PUBLIC HEALTH POLICY & THE LAW

Q Log in

RSS RSS

NEWS EDITORIALS SCIENCE PUBLIC HEALTH CLINICAL RESEARCH LAW

HOME > HEALTH > ADVANCEMENTS IN VACCINE TECHNOLOGY: PAVING THE WAY FOR NEXT-GENERATION IMMUNIZATIONS

#### **RESEARCH ARTICLE**

## Advancements in Vaccine Technology: Paving the Way for Next-Generation Immunizations

A GUPTA, ANANYA S. A RODRIGUEZ, CARLOS J. A LEE, SOPHIA H. A CHANG, WELY, HEALTH | 22 Jan 2024 | Vol 2024 | DOI: 10.1134/health.pdc.3942

## Abstract

This research paper delves into the recent advancements in vaccine technology, emphasizing the development of next-generation immunizations and their implications for global health. The study provides a comprehensive analysis of emerging technologies in vaccine design, including mRNA vaccines, viral vector-based vaccines, and nanoparticle-based delivery systems. Through a combination of laboratory research, clinical trial data, and global health perspectives, we evaluate the efficacy, safety, and scalability of these novel approaches. Our research also explores the challenges and opportunities associated with rapid vaccine development, particularly in response to emerging infectious diseases. The findings highlight the potential of these innovative technologies to revolutionize vaccine development, offering faster and more effective responses to pandemics and endemic diseases. The paper underscores the importance of international collaboration, ethical considerations, and equitable access in the realm of vaccine research and distribution. The conclusion presents future directions and policy recommendations to harness the full



× in f

50

## 🕘 Download PDF SECTIONS REFERENCES Abstract Introduction **mRNA** Vaccines Viral Vector-Based Vaccines Nanoparticle-Based Delivery Systems **Regulatory and Ethical Considerations** Materials and Methods Results Discussion Acknowledgements Author information

## IPAKIRB.ORG

- IRB FORMATION COMMITTEE
- 9 WEEKS OF MEETINGS
- 50 INVITATIONS
- 50 **YESSES**
- 35 HAVE TRAINED
- WE REGISTER WITH HHS NEXT MONTH

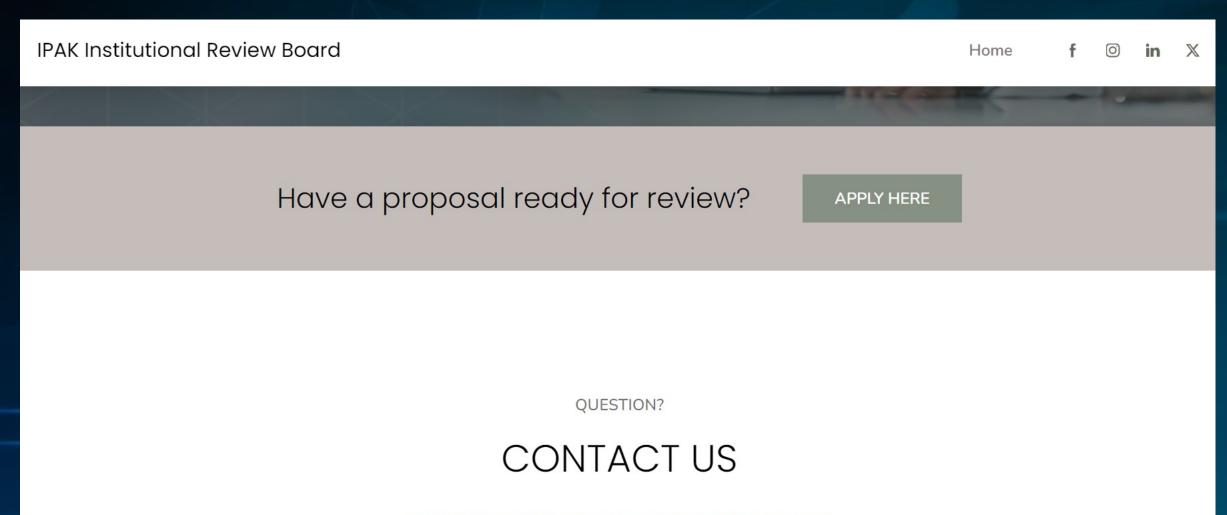
**IPAK Institutional Review Board** 

Home **f in** X

# IPAK INSTITUTIONAL REVIEW BOARD

EXPERT. THOROUGH. OBJECTIVE. RESPONSIVE.

Explore now



EMAIL IS THE MOST RELIABLE WAY TO CONTACT US.

# **IO YEARS SUSTAINED EFFORT**

- IPAK INDEPENDENT RESEARCH INSTITUTION
- IPAK-EDU.ORG INSTITUTION OF HIGHER LEARNING
- SCIPUBLHEALTHLAW PEER-REVIEWED JOURNAL, GALAXY CLASS
- IPAKIRB.COM