

# 2025 Science & Research Updates



DR.  
**PAUL  
MARIK**



DR.  
**LYNN  
FYNN**



DR.  
**JACK  
TUSZYŃSKI**



**MATT  
HALMA**

**MODERATED BY**



DR.  
**JOSEPH  
VARON**



# IMA's Four Pillars

Combating Chronic Disease

Patient Empowerment

Transparency in Medicine

Building a Healthy Culture



# Science and Publications

- **Science:**
  - Involves observation, experimentation, and analysis.
  - Generates data and insights.
  - Aims to answer specific questions or test hypotheses
- **Publications:**
  - Are the formal record of **scientific findings**
  - Include things like original research articles, reviews, case reports, and letters
  - Follow a standard structure (e.g., Introduction, Methods, Results, Discussion—aka **IMRaD**)
  - Go through **peer review** to ensure quality and credibility
  - Are **published** in journals (e.g., *Nature*, *The Lancet*, *JAMA*, etc.)





# Journal of INDEPENDENT MEDICINE™

*JournalOfIndependentMedicine.org*

- Peer-Reviewed
- Transparency
- Underreported Topics
- No Big Pharma Influence



**Joseph Varon, MD, FACP, FCCP, FCCM, FRSM**  
*Editor-in-Chief*  
President and Chief Medical Officer, Independent  
Medical Alliance





# Goals

- This journal will be a sanctuary for researchers and clinicians who want to engage in Honest Medicine and publish findings that can truly help patients, rather than serve financial interests
- Our goal is *simple but profound*—restore trust in medical research by publishing truthful, high-quality science that is free from corporate and political influence



In memoriam

## A Doctor's Lasting Echo: The Unspoken Cry for Help

Katarina Lindley<sup>1</sup>

In the hallowed halls of medicine, where life and death dance a delicate cotillion, there exists a shadow seldom spoken of the suicide of doctors. This essay is not a statistical analysis or a call to action; it's a lament, a heartfelt reflection on the lives of those who, paradoxically, save lives while silently suffering.

Doctors, often perceived as invincible heroes, are in reality, just as vulnerable as the patients they care for. The relentless pursuit of perfection in the medical profession leaves little room for personal struggles. This is where the story unfolds, in the silent corners of a physician's mind where despair can take root.

The narrative of a doctor's suicide is woven with threads of pressure, burnout, and isolation. The pressure to perform, to never err, is a silent killer. Each mistake, each patient lost, becomes a scar, not just on the record but on the soul. Burnout, a clinically discussed term, is, in reality, a smoldering fire that consumes slowly but surely. And isolation? In a field where empathy is taught but often self-care is neglected, loneliness becomes the doctor's unwanted companion.

Consider the story of a young resident, brilliant yet overwhelmed by the system's expectations. The sleepless nights, the endless shifts, the constant fear of missing something critical. His suicide was a shock, but for those who knew him intimately, it was the culmination of a battle fought in silence. His note, if there was one, might have echoed the sentiment, "The things that make me happy no longer outweigh the things that make me sad." Then there's the story of a seasoned surgeon whose hands have saved countless lives but could not save her from her despair. Her colleagues might speak of her brilliance, her patients of her kindness, but none knew the depth of her solitude or the weight of her unspoken burdens. Her loss left a void, not just in the medical community but in the hearts of those who knew her as more than a doctor.

While unique in their details, these stories share a common tragedy: the inability to reach out and admit vulnerability. The medical culture, which prides itself on resilience, often misses the mark when it comes to mental health. Doctors are expected to heal, but who heals the healer when the healer is broken?

This essay is a call to action, a plea for change. For every doctor who has felt the weight of their profession, for every life lost to this silent epidemic, change is imperative. We must create an environment where mental health is as routinely checked as physical health, where seeking help is a sign of strength, and where the healing of the healer is as important as the healing of the patient.

To all those in the medical profession, remember that your worth is not solely measured by the lives you save, but also by the life you lead. It's okay to be vulnerable, to reach out, and to seek help. Your story doesn't have to end in tragedy; it can be a testament to the resilience that is possible in both medicine and life.

### On a personal note...

We have recently lost one of our own. A wonderful soul, a fearless warrior, a lioness defender of the truth, and a gentle mother who wiped many of our tears. Many of us are asking ourselves if we have failed her. How did we miss her cries? What could we have done? I don't have the answer to those questions yet, but I find peace in knowing that she is watching us from above. We may have lost the earthly star, but we have gained a heavenly one that is shining the light for us here on Earth. I still hear her laughter and her words encouraging me to go on. Her spirit will continue guiding me and others, and her light will shine bright for future generations.

In memoriam, Dr. Jackie Stone, FLCCC Senior Fellow, Holistic and Integrative Medicine (1965-2024).

<sup>1</sup> Board Certified in Family Medicine, President of Global Health Project, Director of Independent Medical Alliance International Fellowship Program

**Corresponding author:**  
Katarina Lindley, D.O. FACOFP  
Board Certified in Family Medicine  
President Global Health Project  
Director of IMA International Fellowship Program  
2100 FM 1189, Brock, Texas 76087, USA  
Email: klindley@theflccc.org

Original article

## Integrative Analysis of Neutrophil to Lymphocyte Ratio, CD4+, and CD8+ Cell Counts in COVID-19 Patients: A Retrospective Cohort Study

Claudia M. Ramirez<sup>1</sup>, Mohamed Ziad-M. Said<sup>2,3</sup>, Andreu Comas-Garcia<sup>4</sup>, Pedro Carmo<sup>5</sup>, Jesus Mendez-Castro<sup>6</sup>, Joseph Varon<sup>1,3,5,6</sup>

### Abstract

**Introduction:** Immune dysregulation affecting neutrophils, CD4+, and CD8+ T lymphocytes is common in severe coronavirus disease 2019 (COVID-19) cases. This study assessed the association between neutrophil-lymphocyte ratio (NLR), CD4+ and CD8+ counts, and outcomes in COVID-19 patients.

**Methods:** A retrospective study on adult patients admitted to a COVID-19 critical care unit between March 2020 and February 2022. Admission, leukocytes, and lymphocytes were obtained, and NLR was calculated. Also, CD4+ and CD8+ cell counts were recorded upon hospital admission and at their lowest point during the hospitalization. A receiver operating characteristic (ROC) curve was used to predict mortality risk and determine the best cutoff values for NLR, CD4+, and CD8+. Based on these cutoffs, the patients were divided into groups and then analyzed based on demographic characteristics, severity scores, and laboratory findings, which were compared between the groups. Primary outcomes were the length of stay (LOS), the need for cardiopulmonary resuscitation (CPR), and survival at hospital discharge. Descriptive statistics, Mann-Whitney U, Chi<sup>2</sup>, Fisher exact tests, multivariate analysis, bivariate analysis, and multiple linear regression were utilized. **Results:** For NLR analysis, 985 patients were included. The odds ratio (OR) of death for patients with NLR  $\geq 3.63$  on admission was 3.53 (2.51-4.98);  $p < 0.001$ . The adjusted OR (aOR) of death for these patients was 1.5 (1.003- 2.436);  $p = 0.049$ . 439 patients (44.5%) had NLR  $\geq 3.63$ , while 546 patients had NLR  $< 3.63$  (55.4%). It was observed that patients with an NLR value of  $\geq 3.63$  were more commonly older than 65 years (72%), male (64.7%), and of Caucasian race (24.9%) compared to those with an NLR  $< 3.63$ ;

$p < 0.001$ . To analyze CD4+ cells, 798 patients with available CD4+ cell counts at hospital admission were included. ROC logistic regression found that a  $< 200$  cells/ $\mu$ l count was associated with an increased risk of death. Of these patients, 583 (73.1%) had  $\geq 200$  CD4+ T cells/ $\mu$ l, and 215 (26.9%) had  $< 200$  CD4+ T cells/ $\mu$ l. Acute Physiology and Chronic Health Evaluation II (APACHE II), sequential organ failure assessment (SOFA), and ICHIKADO CT scores on admission were all higher in the group with lower CD4+ cell counts.

This group also had a higher rate of CPR need (21.9% vs. 11.0%,  $p < 0.001$ ), LOS (8 days vs. 7 days,  $p = 0.049$ ), and higher mortality (34.0% vs. 15.1%,  $p < 0.001$ ) when compared to higher CD4+ cell counts. For the analysis of CD8+ cells, 797 patients with available CD8+ cell counts at admission were included; ROC logistic regression found that a  $< 100$  cells/ $\mu$ l count was associated with an increased risk of death. Of these patients, 628 (78.8%) had  $\geq 100$  CD8+ cells/ $\mu$ l, and 167 (21.2%) had  $< 100$  CD8+ cells/ $\mu$ l. The group with lower CD8+ cell counts had higher APACHE II, SOFA, and ICHIKADO CT scores, as well as prolonged LOS (9 days vs. 7 days,  $p < 0.001$ ), higher rates of CPR (23.3% vs. 10.5%  $p < 0.001$ ), and higher mortality (41.3% vs. 14.5%  $p < 0.001$ ) when compared with higher CD8+ cell counts.

**Conclusions:** Admission NLR  $\geq 3.63$ , CD4+  $< 200$  cells/ $\mu$ l, and CD8+  $< 100$  cells/ $\mu$ l were associated with worse outcomes. CD8+  $< 100$  cells/ $\mu$ l, along with patient characteristics and biochemical markers, appears to be a stronger predictor of the need for CPR, prolonged LOS, and in-hospital mortality. Additionally, a significant drop in CD4+ or CD8+ levels during hospitalization was a strong indicator of in-hospital mortality.

**Keywords:** COVID-19, lymphocytes, CD4+, CD8+, in-hospital mortality, severe acute respiratory syndrome.

<sup>1</sup> Dorrington Medical Associates, Houston, Texas, USA  
<sup>2</sup> Department of Critical Care, United Memorial Medical Center, Houston, Texas, USA  
<sup>3</sup> Caribbean Medical University, Curacao  
<sup>4</sup> Department of Microbiology, Universidad Autonoma de San Luis Potosi, San Luis Potosi, MEX  
<sup>5</sup> Professor, The University of Houston College of Medicine, Houston, Texas, USA  
<sup>6</sup> President and Chief Medical Officer, Independent Medical Alliance, Washington, DC, USA

**Corresponding author:**  
Joseph Varon, MD, FACP, FCCP, FCCM, FRSM  
2219 Dorrington Street, Houston, Texas, USA, 77030, USA  
Tel: +1-713-669-1670  
Fax: +1-713-669-1671 FAX  
Email: jvaron@uh.edu

## Traditional Chinese medicine (TCM) - A review (part 1)

Pei Harris<sup>1</sup>, Adylle Varon<sup>2</sup>

### Abstract

Having been used for over 5,000 years in Asian countries, traditional Chinese medicine (TCM) has emerged as a highly sought-after alternative treatment option both during and after the COVID-19 pandemic. This article provides an overview of TCM, covering its history and roots in culture and philosophy, core concepts and theories, definitions of terms used in TCM, and examples of TCM being used in clinical settings. Both traditional Chinese and English versions of the titles of each TCM publication, along with

**Keywords:** Traditional Chinese medicine (TCM), acupuncture, acupressure, long-COVID, neurological disorders, qi.

### History of TCM

Traditional Chinese Medicine (TCM) is rooted within Chinese culture, and it was founded at least five thousand years ago on the Central Plain of the Yellow River Basin in northern China. (1) The first medical literature on herbal medicine were discovered in Classic of Changes 易经 (Yi Jing) and Classic of Poetry 詩經 (Shi Jing). (1-4) Later, TCM evolved into a separate discipline as acquired knowledge was chronicled in medical publications.

the names of TCM theories, modalities, and key concepts, are provided.

This review is divided into two sections and has five components overall. Part 1 includes the following elements: the summary, the history of TCM, core concepts and theories of TCM, and definitions of acupuncture, moxibustion, and acupressure; part 2 includes the summary, definitions of the rest of TCM modalities and TCM clinical application examples. This is the part 1 of the review.

(2-4) The most well-known and fundamental four classics include the Inner Canon of the Yellow Emperor 黃帝內經 (Huang Di Nei Jing ~26 BCE), Yellow Emperor's Canon of Eighty-One Difficult Issues 黃帝八十一難經 (Nan Jing ~106 CE), Treatise on Cold Damage Disorders 傷寒論 (Shang Han Lun, ~206 CE), and Shennong's Materia Medica 神農本草經 (Shen Nong Ben Cao Jing, ~220 CE). (2-4)

Prior to the sixth century AD, Chinese Buddhist priests introduced Chinese medicine to Korea and Japan. During the Tang period (618–907), traveling priests further disseminated Chinese medical expertise to these regions. (3)

According to World Health Organization (WHO) statistics, TCM has been recognized by 29 nations and territories, including Australia, Canada, Austria, Singapore, and Vietnam, through legislation, with 18 countries and regions covering Traditional Chinese Herbal Medicine (TCHM) in medical insurance. Many TCHMs have been registered sequentially in the European Union (EU), Russia, Singapore, Cuba, and Vietnam. In contrast to the EU and other nations, TCHM must submit a new drug application (NDA) for marketing in the United States. This is in accordance with the FDA's Guid-

<sup>1</sup> Director of Scientific Research for Independent Medical Alliance and CMO for Athena Medical & Wellness

<sup>2</sup> President of Ambrozia Integrative Healthcare and affiliated with Dorrington Medical Associates

### Corresponding author:

Adylle Varon L.Ac., DAcOM, MAcOM, Dip. OM (NCCAOM), AOBTA&CP  
President of Ambrozia Integrative Healthcare and affiliated with Dorrington Medical Associates  
2219 Dorrington St. Houston, TX 77030, USA  
Email: Aih@ambroziatcm.com

## Ivermectin, a Molecular Swiss Army Knife: A Review of Mechanisms, Indications and Safety Concerns in Drug Repurposing

Matthew Halma<sup>1</sup>, Paola Vottero<sup>2</sup>

### Abstract

Ivermectin, originally developed for the treatment of parasitic diseases such as onchocerciasis (river blindness), has earned its title of "wonder drug" due to its broad-spectrum therapeutic activity. Ivermectin's potential to address unmet global health challenges makes it an important focus for future medical research. This review explores ivermectin's mechanisms of action and its expanding therapeutic applications, including

in parasitic, bacterial and viral infections, and cancer among other disorders. It demonstrates a robust safety profile, and wide scale studies have found a low rate of adverse events. This review highlights the ongoing research and emphasizes the need for careful consideration of both the benefits and risks of ivermectin. Further studies are required to support its repurposing for new indications.

### Introduction

The discovery of ivermectin was serendipitous and fortuitous, it is a story in which the discovery could have easily been missed, and billions of people deprived of its benefits. Ivermectin's illustrious story begins in 1972, when Dr. Satoshi Ōmura launched a research project to bioprospect for antibiotics from organisms in natural environments (Figure 1). (1) Ōmura of the Kitasato Institute in Japan formed a collaboration the next year with the laboratories of

Merck, Sharpe and Dohme (MSD) in the United States, led by Dr. William Campbell.

Between 1973 and 1974, Ōmura collected soil samples to screen for the biological activity of compounds. One of these samples, collected at a golf course in Kawana, about 80 miles outside Tokyo, was sent to the MSD laboratories for testing as an anthelmintic agent. (2) Sample number MA-4680 showed potent anthelmintic activity across a broad range of concentrations, with crude extracts potently inhibiting roundworms at concentrations as low as 0.0003%. (3) The compound appeared safe, as the toxicity observed in the *in vivo* tests was attributable to a microbial metabolite, which could be removed in subsequent isolation. (3) The anthelmintic compound was named avermectin, and the bacterial species which produced it was named *Streptomyces avermitilis*. The discovery of *Streptomyces avermitilis* by Ōmura was extremely fortunate, it wasn't until 1992 that another isolate of the same species was found in a field sample in Italy. (4) Since then, the bacterium has been discovered only a handful more times from soil samples, underscoring its rarity. (5,6) Ivermectin (IVM) has been widely used throughout

<sup>1</sup> Independent Medical Alliance, Washington, D.C, USA

<sup>2</sup> University of Alberta, Edmonton, Alberta, Canada

### Corresponding author:

Matthew Halma  
Independent Medical Alliance  
2001 L St. NW Suite 500, Washington, D.C. 20036, USA  
Email: mhalma@imallhealth.org

# Ending

## Tackling Chronic Disease Burden

A research roadmap



# Top sources of disease burden in the USA (2022)

Burden of disease scenarios by state in the USA, 2022–50: a forecasting analysis for the Global Burden of Disease Study 2021  
 Mokdad, Ali H et al. The Lancet, Volume 404, Issue 10469, 2341 - 2370

2022 Leading causes	Age-standardised rate (per 100,000)
1 Drug use disorders	1965.7 (1662.4 to 2267.1)
2 Ischaemic heart disease	1491.9 (1383.6 to 1567.9)
3 COVID-19	1242.9 (1009.3 to 1594.6)
4 Low back pain	1180.6 (858.0 to 1536.9)
5 Other musculoskeletal disorders	976.4 (704.4 to 1293.7)
6 Diabetes mellitus	960.7 (764.8 to 1198.8)
7 Depressive disorders	799.1 (566.9 to 1084.4)
8 Chronic obstructive pulmonary disease	776.2 (725.6 to 820.7)
9 Road injuries	710.6 (653.2 to 769.3)
10 Stroke	689.1 (627.3 to 747.3)
11 Headache disorders	686.2 (136.8 to 1451.0)
12 Neonatal disorders	684.4 (609.7 to 766.3)
13 Anxiety disorders	680.3 (460.7 to 891.5)
14 Self-harm	639.0 (615.9 to 660.0)
15 Tracheal, bronchus, and lung cancer	624.4 (587.1 to 649.9)
16 Alzheimer's disease and other dementias	520.6 (240.1 to 1089.2)
17 Falls	468.9 (372.8 to 591.5)
18 Chronic kidney disease	421.4 (389.0 to 443.4)
19 Age-related and other hearing loss	420.2 (294.8 to 583.4)
20 Asthma	418.0 (283.9 to 611.3)

# Our Approach

- Identify natural products and repurposed drugs for chronic diseases with the highest evidentiary basis
- Validate
- Iterate
- Connect Basic Science with Clinical Application

# Our Targets

- Opioid Use Disorder (OUD)
- Chronic Pain
- Spike protein related diseases
- Depression
- Dementia
- Nervous System disorders (anxiety, autism)
- Hypertension
- Hypothyroidism
- Diseases of Aging

# Why?

- After decades of the same approach, chronic disease is still high, in many cases rising still.
- Aging trends mean an increased level of chronic age-related diseases - early intervention averts disaster
- Repurposed drugs and natural products obviate issue of drug shortages



2022 Leading causes	Age-standardised rate (per 100,000)	
1 Drug use disorders	1965.7 (1662.4 to 2267.1)	W
2 Ischaemic heart disease	1491.9 (1383.6 to 1587.9)	
3 COVID-19	1242.9 (1009.3 to 1594.6)	
4 Low back pain	1180.6 (858.0 to 1536.9)	W
5 Other musculoskeletal disorders	976.4 (704.4 to 1293.7)	✓
6 Diabetes mellitus	960.7 (764.8 to 1198.8)	✓
7 Depressive disorders	799.1 (566.9 to 1084.4)	✓
8 Chronic obstructive pulmonary disease	776.2 (725.6 to 820.7)	W
9 Road injuries	710.6 (653.2 to 769.3)	
10 Stroke	689.1 (627.3 to 747.3)	
11 Headache disorders	686.2 (136.8 to 1451.0)	W
12 Neonatal disorders	684.4 (609.7 to 766.3)	
13 Anxiety disorders	660.3 (460.7 to 891.5)	W
14 Self-harm	639.0 (615.9 to 660.0)	✓
15 Tracheal, bronchus, and lung cancer	624.4 (587.1 to 649.9)	✓
16 Alzheimer's disease and other dementias	520.6 (240.1 to 1089.2)	✓
17 Falls	468.9 (372.8 to 591.5)	
18 Chronic kidney disease	421.4 (389.0 to 443.4)	
19 Age-related and other hearing loss	420.2 (294.8 to 583.4)	
20 Asthma	418.0 (283.9 to 611.3)	

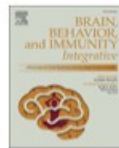
W: Work in progress  
: Published work



Contents lists available at ScienceDirect

## Brain Behavior and Immunity Integrative

journal homepage: [www.editorialmanager.com/bbii](http://www.editorialmanager.com/bbii)



Review

## Cancer Metabolism as a Therapeutic Target and Review of Interventions

Matthew T. J. Halma <sup>1,2</sup>, Jack A. Tuszyński <sup>3,4,5</sup> and Paul E. Marik <sup>6,\*</sup>

- 1 Department of Physics and Astronomy, Vrije Universiteit Amsterdam, 1081 HV Amsterdam, The Netherlands
  - 2 EBM Squared CIC, Bath BA2 4BL, UK
  - 3 Department of Physics, University of Alberta, 11335 Saskatchewan Dr NW, Edmonton, AB T6G 2M9, Canada
  - 4 Department of Data Science and Engineering, The Silesian University of Technology, 44-100 Gliwice, Poland
  - 5 DIMEAS, Politecnico di Torino, Corso Duca degli Abruzzi 24, I-1029 Turin, Italy
  - 6 Frontline COVID-19 Critical Care Alliance, Washington, DC 20036, USA
- \* Correspondence: [pmarik@fccc.org](mailto:pmarik@fccc.org)



pharmacoeconomics

Article

## DARE-SAFE: Denominator-Adjusted Rate Estimates of Substance Adverse Events Frequency Evaluation in Pharmaceuticals and Vaccines

Matthew Halma <sup>1,2,\*</sup> and Joseph Varon <sup>1</sup>

- 1 Independent Medical Alliance, Washington, DC 20036, USA; [jvaron@thefccc.org](mailto:jvaron@thefccc.org)
  - 2 Open Source Medicine Foundation OÜ, 13517 Tallinn, Estonia
- \* Correspondence: [mhalma@thefccc.org](mailto:mhalma@thefccc.org)

## Lifestyle medicine for healthy cognitive aging: A narrative review

Matthew Halma <sup>a,\*</sup>, Paul Marik <sup>b</sup>, Suzanne Gazda <sup>c</sup>, Jack Tuszyński <sup>d,e,f</sup>

- <sup>a</sup> EBM Squared CIC, Bath BA2 4BL, UK  
<sup>b</sup> Frontline COVID-19 Critical Care Alliance, Washington, DC 20036, USA  
<sup>c</sup> Neurology Institute of San Antonio, San Antonio, TX 78231, USA  
<sup>d</sup> Department of Physics, University of Alberta, 11335 Saskatchewan Dr NW, Edmonton, AB T6G 2M9, Canada  
<sup>e</sup> Department of Data Science and Engineering, The Silesian University of Technology, Gliwice 44-100, Poland  
<sup>f</sup> DIMEAS, Politecnico di Torino Corso Duca degli Abruzzi 24, Turin I-1029, Italy



Contents lists available at ScienceDirect

## Endocrine and Metabolic Science

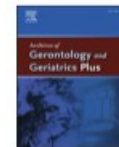
journal homepage: [www.elsevier.com/locate/endmts](http://www.elsevier.com/locate/endmts)



Contents lists available at ScienceDirect

## Archives of Gerontology and Geriatrics Plus

journal homepage: [www.sciencedirect.com/journal/archives-of-gerontology-and-geriatrics-plus](http://www.sciencedirect.com/journal/archives-of-gerontology-and-geriatrics-plus)



## Blood biomarkers associated with all-cause mortality risk: Accessibility and clinical utility for lifestyle medicine

Matthew Halma <sup>a,b,\*</sup>, Mariyam Anwar <sup>c</sup>, Edgar Selem <sup>d</sup>, Jack Tuszyński <sup>e</sup>, Joseph Varon <sup>b</sup>, Paul Marik <sup>b</sup>

- <sup>a</sup> Open Source Medicine Foundation OÜ, Pärnu mnt 139c, Kesklinna linnaosa, Tallinn, Harju maakond, 11317, Estonia  
<sup>b</sup> Independent Medical Alliance, 2001 L St. NW Suite 500, WA, D.C. 20036, USA  
<sup>c</sup> Department of Pharmaceutical Chemistry, Faculty of Pharmacy, The Islamia University of Bahawalpur, Bahawalpur 63100, Pakistan  
<sup>d</sup> Universidad Autónoma de Yucatán, Calle 60 No. 491-A x 57, Centro Histórico, CP 97000, Mérida, Yucatán, Mexico  
<sup>e</sup> University of Alberta, 116 St and 85 Ave, Edmonton, AB T6G 2R3, Canada

Review

## Exploring autophagy in treating SARS-CoV-2 spike protein-related pathology

Matthew T.J. Halma <sup>a,\*</sup>, Paul E. Marik <sup>b</sup>, Yusuf M. Saleeby <sup>b,c</sup>

- <sup>a</sup> EBM Squared CIC, Bath, United Kingdom  
<sup>b</sup> Front Line COVID-19 Critical Care Alliance (FLCCC), Washington, DC, USA  
<sup>c</sup> Carolina Holistic Medicine, Mount Pleasant, SC, USA



Journal of American Physicians and Surgeons



Winter 2023 - Volume 28 - Number 4

## Potential Dietary and Lifestyle Interventions for Decreasing Insulin Resistance

Matthew Thomas J. Halma, M.Sc.; Mobeen Syed, M.B.B.S., M.Sc.; Paul E. Marik, M.D.

DE GRUYTER

Open Health 2024; 5: 202301

Matthew Halma\*

## Towards robust pharmacovigilance surveillance systems

<https://doi.org/10.1515/oh-2023-0033>  
received January 04, 2024; accepted May 27, 2024



Review

## Integrative Interventions for Improving Outcomes in Depression: A Narrative Review

Matthew Halma <sup>1,\*</sup>, Christof Plothe <sup>1</sup> and Paul E. Marik <sup>2,\*</sup>



microorganisms

Review

## Strategies for the Management of Spike Protein-Related Pathology

Matthew T. J. Halma <sup>1</sup>, Christof Plothe <sup>2</sup>, Paul Marik <sup>3</sup> and Theresa A. Lawrie <sup>1,\*</sup>

- 1 EbM Squared CIC, 11 Laura Place, Bath BA2 4BL, UK
  - 2 Center for Biophysical Osteopathy, Am Wegweiser 27, 55232 Alzey, Germany
  - 3 Front Line COVID-19 Critical Care Alliance (FLCCC), 2001 L St. NW Suite 500, Washington, DC 20036, USA; [pmarik@fccc.net](mailto:pmarik@fccc.net)
- \* Correspondence: [tess@e-bmc.com](mailto:tess@e-bmc.com)



## Therapeutic potential of compounds targeting SARS-CoV-2 helicase

Matthew T. J. Halma <sup>1,2\*</sup>, Mark J. A. Wever <sup>3,4†</sup>, Sanne Abeln <sup>5</sup>, Didier Roche <sup>6</sup> and Gijs J. L. Wuite <sup>1\*</sup>

- <sup>†</sup>Department of Physics and Astronomy, Vrije Universiteit Amsterdam, Amsterdam, Netherlands; <sup>‡</sup>LUMICKS B.V., Amsterdam, Netherlands; <sup>1</sup>OCM, University of Grenoble Alpes, Grenoble, France; <sup>2</sup>Edebris, Lyon, France; <sup>3</sup>Department of Computer Science, Vrije Universiteit Amsterdam, Amsterdam, Netherlands



OPEN

Review

## Alterations of SARS-CoV-2 Evolutionary Dynamics by Pharmaceutical Factors

Matthew Halma\*

EbM Squared CIC, Bath BA2 4BL, United Kingdom.



Review

## Reversing Decline in Aging Muscles: Expected Trends, Impacts and Remedies

Matthew Halma <sup>1,2</sup>, Paul Marik <sup>2</sup>, Joseph Varon <sup>2</sup> and Jack Tuszyński <sup>1,3,4,\*</sup>

- 1 Open Source Medicine OÜ, 6-15 13517 Tallinn, Estonia; [mhalma@thefccc.org](mailto:mhalma@thefccc.org)
  - 2 Frontline COVID-19 Critical Care Alliance, Washington, DC 20036, USA
  - 3 Department of Physics, University of Alberta, Edmonton, AB T6G 2M9, Canada
  - 4 Politecnico di Torino, 10129 Torino, Italy
- \* Correspondence: [jack@ualberta.ca](mailto:jack@ualberta.ca)



## The Novelty of mRNA Viral Vaccines and Potential Harms: A Scoping Review

Matthew T.J. Halma, Jessica Rose, Theresa Lawrie

# Refocusing the NIH

Paul E. Marik, MD, FCCM, FCCP



# Questions

- Does Vitamin D prevent and improve outcome of cancer?
- Does ivermectin have a role in the treatment of cancer?
- Does ivermectin have a role in the treatment of type II diabetes?



***Global Importance,  
Global Impact...***

*The Journal of Clinical Endocrinology & Metabolism*, 2024, 00, 1–41

<https://doi.org/10.1210/clinem/dgae290>

Advance access publication 3 June 2024

**Clinical Practice Guideline**

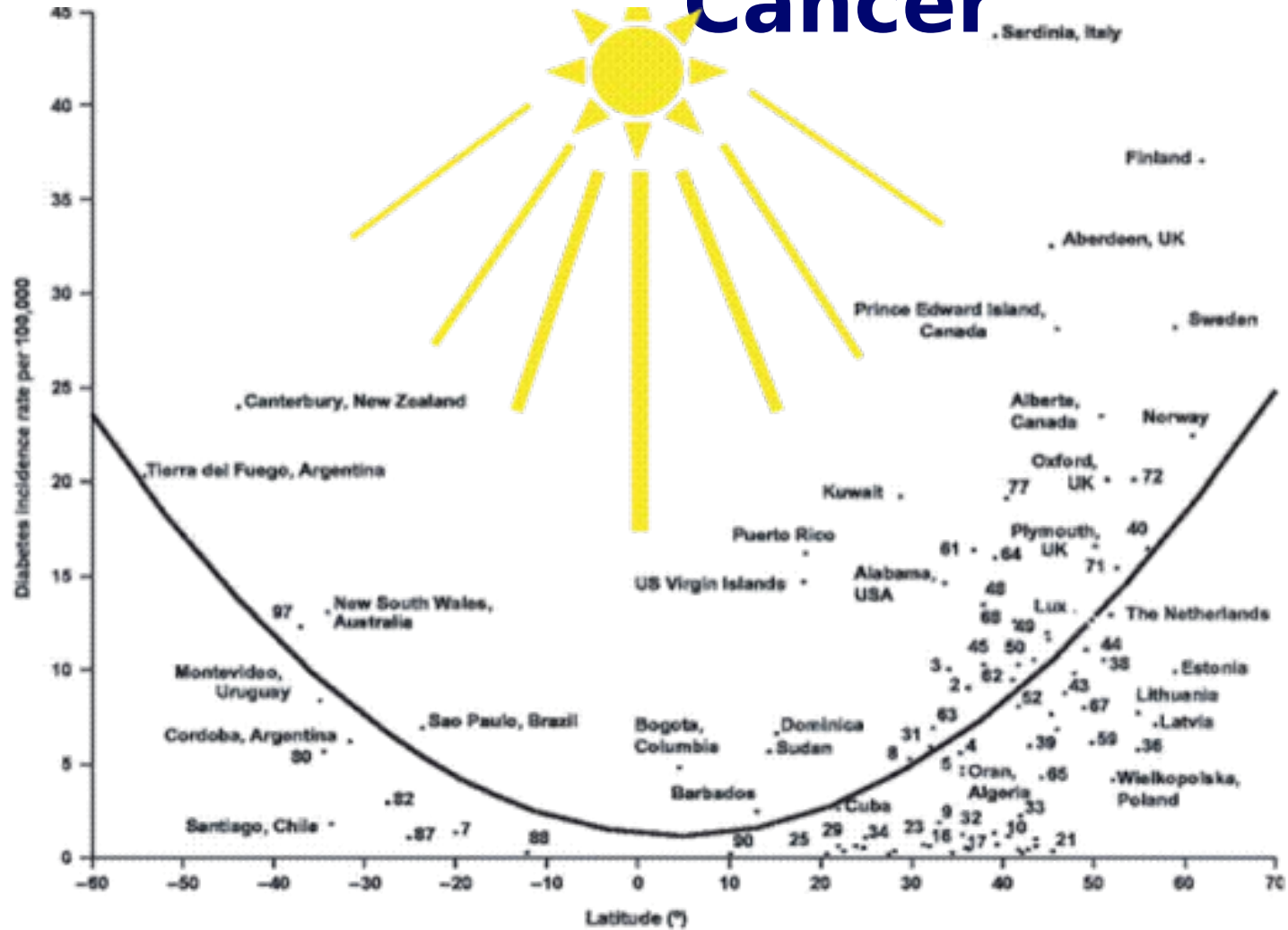


---

# **Vitamin D for the Prevention of Disease: An Endocrine Society Clinical Practice Guideline**



# Vitamin D, Latitude and Risk of Cancer



**ARTICLE**

Epidemiology

# The effect of vitamin D supplementation on survival in patients with colorectal cancer: systematic review and meta-analysis of randomised controlled trials

Peter G. Vaughan-Shaw<sup>1,2</sup>, Louis F. Buijs<sup>1,2</sup>, James P. Blackmur<sup>1,2</sup>, Evi Theodoratou<sup>2,3</sup>, Lina Zgaga<sup>4</sup>, Farhat V. N. Din<sup>1,2</sup>, Susan M. Farrington<sup>1,2</sup> and Malcolm G. Dunlop<sup>1,2</sup>

**CONCLUSIONS: Meta-analysis demonstrates a clinically meaningful benefit of vitamin D supplementation on CRC survival outcomes.**

British Journal of Cancer (2020) 123:1705–1712

# AI Ranking Top 5 Anti-Cancer Drugs

Combining anti-cancer ranking, Stem Cell pathway activity and safety.

Rank	Compound	Pathways Targeted	Safety Category
1	Ivermectin	WNT, Notch, Hedgehog	Safe
2	Mebendazole	WNT, Hedgehog	Safe
3	Fenbendazole	WNT, Hedgehog	Safe
4	Curcumin	All except JAK/STAT	Safe
5	Resveratrol	WNT, Notch	Safe

ARTICLE

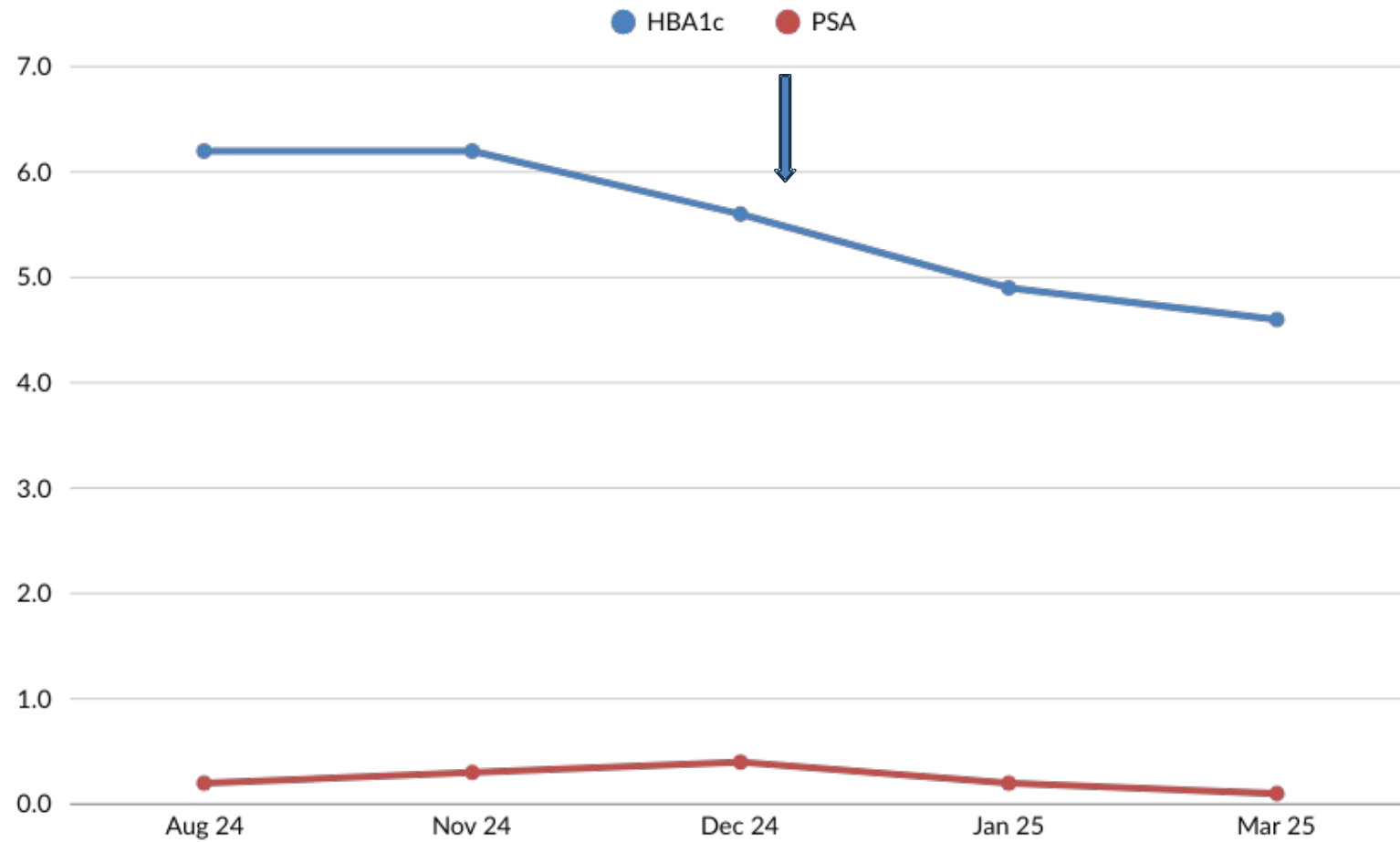
Received 3 Oct 2012 | Accepted 25 Apr 2013 | Published 3 Jun 2013

DOI: [10.1038/ncomms2924](https://doi.org/10.1038/ncomms2924)

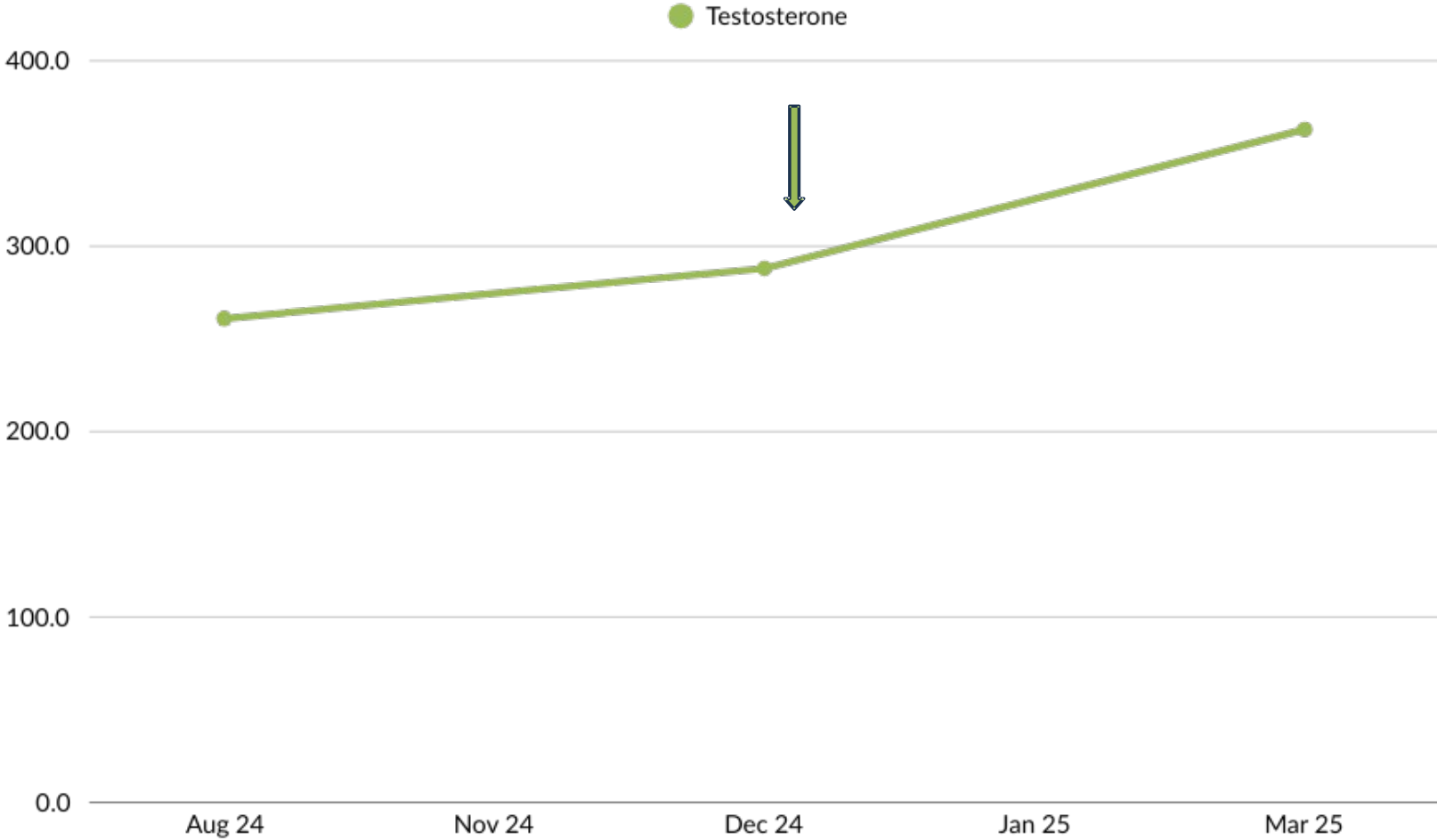
# The antiparasitic drug ivermectin is a novel FXR ligand that regulates metabolism

Lihua Jin<sup>1,\*</sup>, Xuhui Feng<sup>1,\*</sup>, Hui Rong<sup>2</sup>, Zhifu Pan<sup>1</sup>, Yuka Inaba<sup>2</sup>, Lin Qiu<sup>1</sup>, Weili Zheng<sup>1</sup>, Shengchen Lin<sup>1</sup>, Rui Wang<sup>1</sup>, Zhao Wang<sup>1</sup>, Shanshan Wang<sup>1</sup>, Hongyan Liu<sup>1</sup>, Song Li<sup>2</sup>, Wen Xie<sup>2</sup> & Yong Li<sup>1</sup>

# Magic Drug



# Magic Drug



• Ivermectin <sup>1 tab</sup> 6 mg  
Strongidosis

2 : 200 µg/kg/day

2 : 2 tab/day (BW ~ 60 kg)

2 : 2 Day



**2 : 2 cents a tab  
(WHO Pricing)**

[IMAhealth.org](http://IMAhealth.org)

