We are Unhappily Lost at Sea, and We must Swim Back to the Shore of Medical Ethics to Avoid Drowning in Self-Inflicted Denigration and Moral Injury

Alex Vasquez DO ND DC FACN

The paradoxical discord of studying medical sciences while avoiding adverse effects of medicines

Among the many topics insufficiently detailed in medical school and post-graduate medical training is that of adverse drug effects, except for those adverse effects that might appear on medical licensing exams, with those in particular being rather bland and of low consequence, e.g., reversible constipation resulting from certain calcium-channel blocking drugs. Rather than avoiding the topic of risk, I propose here that Medicine (as an educational process, a discipline and a profession) should embrace the truth of risk, obviously but not simply for the benefit of our patients, for the inner peace and intellectual clarity that such a relationship to truth can provide.

Focusing on false dichotomies distracts us from better options

More and more, public "news" and professional conversations (journals, continuing education programs) about certain classes of drugs are failing to account for risks of harm, risks of inefficacy and risks of distraction.1-12 While risks of harm are clear and concrete (see hyperlinked citations below) and can be calculated as real numbers (assuming the researchers are honest and the numerators and denominators are accurate13), the distractive risks of inefficacy of medical interventions hardly receive discourse other than the bipolar extremes of "it works" or "it doesn't work."

Is Drug X better than placebo? How will we ever know if the researchers used a fake placebo14, the journal accepted their overt lies15 and subtle absurdities16 for publication then refused to publicize disclosure of the grossest error17, and then the story was repeated ad nauseam throughout the pharma echo chamber18 via news and headlines that directly impacted more than 10 million people? If Medicine allows the degradation of the very science that underlies and supports the profession19, then medical journals function as nothing more than drug catalogs20 and Medicine as a profession has allowed itself to be rightly denounced as a cult of drug-pushers.

Between and beyond the false dichotomies of placebos/interventions and efficacy/inefficacy is a conversation that matters: discussing options, some of which may be far superior to the treatment being discussed in terms of availability, safety, affordability, efficacy and collateral benefits, such as those common to nutritional interventions, such as using the amino acid (acetyl)cysteine in the prevention and treatment of viral infections (recently reviewed in video presentation21). Would not the study and practice of Medicine be more satisfying and efficacious if we empowered ourselves with detailed knowledge of how to provide maximum benefit by giving the patient what he/she needs, rather than whatever drug correlates with whatever diagnostic code and pharma-friendly demographic?

Lost in a Sea of Pro-Pharma Oversimplification

Medicine as a profession, especially in America, is increasingly lost, inefficient, depressed, suicidal22, "morally injured"23, industry-controlled24, overly attached to electronics25 and catastrophically detached from its ethical core—multifaceted yet singular—mission of

1) Beneficence: providing benefit,
2) Non-maleficence: do no harm,
3) Autonomy: acknowledging the patient’s the freedom to choose the course of their healthcare),
4) Education, informed consent: patients are free to choose only if/when they have been fairly educated about the treatment risks, benefits, and alternatives; the

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education of the patient is the responsibility of the physician,
5) Respect for human rights, The Nuremberg Code: doctors cannot torture people, cannot experiment on people, and cannot use coercion, intimidation, fraud, deceit, or threats,
6) Justice: ensuring fairness, such as with the distribution of resources, and
7) Confidentiality.

Nuremberg Code—the most important document in the history of the medical ethics: "The voluntary consent of the human subject is absolutely essential. This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, overreaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision." Shuster E., New England Journal of Medicine 1997

How many practicing physicians can even name the pillars of medical ethics? How many medical students are crushed and overworked within an inch of their lives by the educational steamroller that is medical training and yet have never had a single impactful lecture on medical ethics? Medical ethics is not a dry abstraction; ethics is ultimately respecting the person in front of us. Remove any of the main pillars—beneficence, non-maleficence, autonomy, human rights—and the doctor has turned the patient into a manipulable object, degrading not only the patient but also the potential and purpose of the therapeutic relationship and ultimately the doctor's own profession, work, life and (for those capable of reflection) self-image.

Stated more plainly: When doctors passively genuflect to pharma-bribed politicians and obviously fraudulent research (yes, even when published in big journals, i.e., following the logical fallacy of submission to authority, e.g., the genetic/source fallacy), they are denying their own autonomy and intellectuality, in effect converting themselves into slaves for an obviously corrupt machine. This is self-degradation—the mind insulting itself for the sake of compliance, submission to authority, and the ease of not having to think but rather just follow orders. This is self-inflicted moral injury. Further to this self-insult is the simultaneous degradation of the patient, who is now reduced to an object to be drugged and medicated without respect, without care, and without the connection that is inherent to interpersonal responsibility. In other words, as medical physicians (“MD”) submit to function as Medical Dispensers and patients are turned into living and breathing drug targets, the medical profession contributes to its own depression and despair by eliminating the most intimate, rewarding, and reciprocally-sustaining aspects of Medicine. The irony is that when physicians mindlessly follow pharma-bought protocols and mandates, they are not practicing Medicine but avoiding the practice of Medicine by practicing mindlessness, which is inherently self-degrading. As stated by Branden, "If we do not bring an appropriate level of consciousness to our activities, if we do not live mindfully, the inevitable penalty is a diminished sense of self-efficacy and self-respect. We cannot feel competent and worthy while conducting our lives in a mental fog. Our mind is our basic tool of survival. Betray it and self-esteem suffers. The simplest form of this betrayal is the evasion of discomfitting facts. ... Consciousness that is not translated into appropriate action is a betrayal of consciousness; it is mind invalidating itself. Living consciously means more than seeing and knowing; it means acting on what one sees and knows.”

Drug mandates void Medicine’s claim to professionalism: Per the Nuremberg Code, “the voluntary consent of the human subject is absolutely essential.” Doctors cannot torture, cannot experiment on people, cannot use coercion, intimidation, fraud, deceit, or threats. Shuster, New England Journal of Medicine 1997

No medical student and no physician was ever inspired to practice Medicine under the rule and dictate of pharma-bought “research” and pharma-bribed politicians.

As I stated in 2005/2006, “A clinician who is unaware of the political forces that shape healthcare policy and research is analogous to a captain of an oceangoing ship not knowing how to use a compass, sextant, or coastline map. Medical science and healthcare policy are influenced by a myriad of powerful private interests which are motivated by their own goals, at times different from the stated goals of medicine, which purports to hold paramount patients’ welfare. Scientific objectivity and the guiding ethical principles of informed consent, beneficence, autonomy, and nonmalefeasance are subject to different interpretations depending upon the lens through which a dilemma is viewed. When this “dilemma” is the whole of healthcare, what first appears as order and structure now appears as the disarrayed tug-

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of war between factions and private interests, with paradigmatic victory often being awarded to those with the best marketing campaigns and political influence with less importance given to safety, efficacy, and the economic burden to consumers. To be ignorant of such considerations is to be blind to the nature of research, policy, and our own biased inclinations for and against particular paradigms, assessments, and interventions.”—quote from Dr Alex Vasquez, Inflammation Mastery: Textbook of Clinical Nutrition and Functional Medicine, quote originally excerpted from Vasquez A. Web-like interconnections of physiological factors. Integrative Medicine 2006. 28

Citations:
1. "We believe that adverse ocular effects of vaccines in general are far more prevalent than reported in the literature.” Adverse ocular effects following influenza vaccination. Eye 1999;13:381–382 https://www.nature.com/articles/eye1999101.pdf
3. "In this child, no infectious, vascular, granulomatous, viral or immune-related cause of optic neuritis was identified. This case provides compelling evidence that supports the nasal flu vaccination as a cause of optic neuritis.” Reversible blindness in bilateral optic neuritis associated with nasal flu vaccine. Binocular Strabology Q Simms Romano. 2012;27(3):171-3 https://www.ncbi.nlm.nih.gov/pubmed/22989339
10. "The authors describe a rare case of bilateral asymmetric optic neuritis with leptomeningeal enhancement on magnetic resonance imaging (MRI) in a previously healthy young woman who received inactivated influenza vaccination 2 weeks before the onset of symptoms.” Atypical Optic Neuritis After Inactivated Influenza Vaccination. Neuroophthalmology. 2017 Aug 17;42(2):105-108. doi: 10.1080/01658107.2017.133533 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5858858/
11. "RESULTS: Our patient developed bilateral optic neuritis on two occasions, 1 year apart. No evidence of neuroretinitis, syphiolis, or systemic lupus erythematosus was identified. Influenza vaccination was given 2 weeks before the onset of each episode. CONCLUSION: This case provides compelling clinical evidence that implicates influenza vaccination as a cause of optic neuritis.” Optic neuritis after influenza vaccination. Am J Ophthalmol. 1997 Nov;124(5):703-4 https://doi.org/10.1016/s0002-9394(14)70918-3
12. "Two patients, 39 and 23 years of age, were seen with acute optic neuritis 1 month and 2 weeks, respectively, after anthrax booster vaccination and successfully treated with intravenous methylprednisolone. The first patient had a typical presentation and course of unilateral retrobulbar optic neuritis with excellent visual recovery. The second patient had a bilateral anterior optic neuritis and has required chronic immunosuppression to maintain his vision. Retinal and optic nerve autoantibodies were present in the second patient. No cross-reactive epitopes between anthrax vaccine and retina/optic nerve were identified.” CONCLUSION: Optic neuritis is a potential adverse reaction of anthrax vaccination. Optic neuritis after anthrax vaccination. Ophthalmology. 2002 Jan;109(1):99-104 https://doi.org/10.1016/S0161-6420(01)00844-2

Conclusion
Medicine needs to right its ship, re-prioritize the patient, and honor the pillars of medical ethics that distinguish the Medical profession from drug sales. Embracing the truths of biomedicine can help alleviate the institutionalized cognitive dissonance (forced upon medical trainees, mandated by bribed politicians) and self-inflicted moral injury to produce more competent, flexible, and happy (or at least less suicidal) physicians, and I am quite sure this will help physicians to provide better and more ethical care to their patients.

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22. "Each year, more than 1 million Americans lose their doctors to suicide. Across the country, our doctors are jumping from hospital rooftops, overdosing in call rooms, found hanging in hospital chapels. It's medicine's dirty secret and it's covered up by our hospitals, clinics, and medical schools. Why Doctors Kill Themselves— TEDMED talk by Pamela Wible, MD. https://www.medpagetoday.com/tedmed/tedmed/82008

23. "At the same time, physicians are overworked, pressured with productivity targets, and stymied by regulations and rules. Today's healthcare system often prevents physicians from being able to deliver the care that they feel is right and best for the patient. ... Some have called it a "moral injury" that is being inflicted upon physicians." Kane L. How Healthcare Is Causing 'Moral Injury' to Doctors. Medscape March 13, 2019 https://www.medscape.com/viewarticle/910309. "Doctors are dissatisfied and demoralized with how they are required to practice today, and as a result physician burnout is taking a huge toll on medicine. Innumerable surveys show that more than 50 percent admit to at least one symptom of burnout and that many are relocating in hopes of finding a better practice climate, or exiting clinical practice through early retirement, moving to administration, or simply leaving medicine altogether. But we cannot pretend that burnout is an inadequate diagnosis for the condition and, instead, that physicians are experiencing moral injury." Talbot SG, Dean W. Medical Economics 2019 March 15 https://www.medical economics.com/med-e-c/1-14-burnout-real-problem-facing-doctors-moral-injury


26. "Critics of Senate Bill 277, which would eliminate the personal belief and religious exemptions for schoolchildren, accuse the measure's supporters in the Legislature of doing the bidding of donors who make vaccines and other pharmaceuticals. ... Receiving more than $95,000, the top recipient of industry campaign cash is Sen. Richard Pan, a Sacramento Democrat and doctor who is carrying the vaccine bill. In addition, the industry donated more than $500,000 to outside campaign spending groups that helped elect some current members last year. Leading pharmaceutical companies also spent nearly $3 million more during the 2013-2014 legislative session lobbying the Legislature, the governor, the state pharmacists' board and other agencies, according to state filings." Miller J. Drug companies donated millions to California lawmakers before vaccine debate. Sacramento Bee 2015 Jun https://www.sacbee.com/news/politics-government/capitol-alert/article24913978.html


Educational Errors in "Effect of Vitamin D and Omega-3 Fatty Acid Supplementation on Kidney Function in Patients with Type 2 Diabetes" published in JAMA 2019
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Context
Major medical journals publish bogus pro-drug and anti-nutrition research in order to 1) groom medical audiences for pharmaceutical purchases, 2) defend and please their pharmaceutical advertisers (who—in addition to spending hundreds of millions of dollars on advertising—commonly purchase article reprints for millions of dollars/$, euros/€, pounds/£), 3) maintain the financial and sociopolitical dominance of the medical profession, 4) deter the general public from seeking and using nonmedical treatments, and 5) misinform physicians and policymakers so that laws, public funds, policies, and research monies will be directed in favor of the medical profession, including medical schools (that produce consecutive generations of pharmacologically indoctrinated and nutritionally illiterate clones) and drug researchers who use public funds to create privatized drugs that escalate profit of the pharmaceutical industry. While such has always been the inherent bias of the medical publishing industry, some of us noted a new wave of remarkable exacerbations of this bias including overt deceptions and ethical departures published in the biomedical research starting in 2018.2,3 The cyclical—reciprocal feeding of misinformation from medical journals and drug companies to medical students, physicians, policymakers, the media (e.g., television, magazines, and newspapers—all of which receive millions of $/€/£ in drug company advertising) creates the pro-pharma “echo chamber” which—when repetition becomes consensus becomes practice becomes sales becomes profit for bribing politicians to write pro-pharma laws forcing the population to receive mandatory drugs4—becomes the pro-pharma “power vortex” with each aspect reinforcing the other, ultimately leading to medical profligating, political dominance, censorship of information, blockade of criticism, and restriction of free speech, including banning of books, blockade of documentary films, censorship of individuals, and aggressive and structured attacks against medical professionals to “destroy, neutralize, discredit” them.5

Critique en breve
On November 8 of 2019, JAMA—Journal of the American Medical Association published “Effect of
How to Improve Scientific Writing and Journal Editing: A Short Narrative-Video Guide, Part I

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Introduction
“Hello everyone, Dr. Alex Vasquez here, and today I’m going to start a different series of videos, and this time the conversation is going to focus around journal editing and writing. I’m calling this “Editing and Writing Tips #1”, and I’m going to start with a few of my own perspectives and experiences, then I’ll talk about a few basics, and a few influential ideas. In later videos, I will talk about some more specific examples, and then perhaps at some point we will have a review and conclusion.

Early Experiences and Influences
Very briefly I’ll talk about some of my own experiences, and the reason for my doing this is to share with you and segue into some examples that I think are very important. Basic though they might be, a lot of our success in various fields of life actually comes from respecting and appreciating and utilizing those basic concepts.

Let us start here with some of my initial experiences. I started becoming aware of language and the fact that I had some facility for it, first, when I was about 12 years old. I remember writing a poem in class, and again this is somewhat peripheral to the main topic of today, but I do remember that everyone in the class was kind of my entryway, I think, in that what our assignment was to write a poem, and I remember writing this poem in class, and going on and on, and—compared with some of the other kids who just wrote a few lines—compared with some of the other kids, I just realized that writing for me was just something I enjoyed doing.

Then again, when I was serving in the military school, I remember in our English class being asked questions, and I remember just how the answers to understanding grammar and language just came very easy to me, and I do remember feeling like I had some facility for the structure of language.

Another influential experience I had when I was about 11 years old, totally unrelated to language, is that we took, in the late 1970s or early ‘80s, a Computer Science class in our elementary school, and I remember that class also specifically having some influence on me, in terms of structuring logic. We basically had to write our own computer programs and this was back when computers were very new. Obviously today everybody has computers; back in the late ’70s, computers were a novelty. I consider myself lucky to have taken this Computer Science class; it was obviously extremely basic, but we did have to write some code and what I remember from that is just the sequential manner in which communication has to take place in order to be successful. In this case, we were writing programs for computers and doing basic

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Translating Microbiome (Microbiota) and Dysbiosis Research into Clinical Practice: The 20-Year Development of a Structured Approach that Gives Actionable Form to Intellectual Concepts

Alex Vasquez DC ND DO FACN

Experience and Perspectives

Many years ago when I published my first books\(^1\)\(^2\) and articles\(^3\) detailing "dysbiosis", the word could hardly be found in the Medline index, the topic was controversial at best and ethereal at worst, the term "microbiome" (first published in French in 1949 and in English in 1988) was virtually unknown, and I spent most of the time and space in my lectures and articles substantiating and defending the condition's existence. These days, everyone is talking about microbiome, dysbiosis, "leaky gut" (thanks largely to Leo Galland MD), and my 1996 article on “Silent Infections and Gastrointestinal Dysbiosis" has been downloaded at least 4,000 times and is one of the top 1% most popular articles on Academia.edu.\(^4\) In the preparation of my dysbiosis lecture at a major functional medicine conference in 2010, I found that only 180 Medline articles indexed the term “dysbiosis”, and now—slightly less than five years later—more than 1,200 articles index that term. Obviously, the dysbiosis concept has become popular, but it has nothing to do with modern medicine or functional medicine. In the Complete Microbiota Project, the microbiota is defined as the microorganisms that live in the gut, and their role in health and disease, and the potential for altering the microbial composition for therapeutic benefit (integrating the concept being integral to modern medicine). However, the concept of dysbiosis has practical application in healthcare and is often used as a diagnostic tool for various conditions. Dysbiosis is an important concept, but doctors cannot treat concepts. We have to define, describe, and deconstruct the microbes, molecules, and mechanisms into their components, then rebuild a conceptual scaffold and intellectual structure that becomes a useful tool that, with study and experience, can be used in a clinical setting to effective benefit. However, since the concept of dysbiosis is so broad and multifaceted, it is often difficult to apply it in practice. Dysbiosis is not a disease, but rather a state of imbalance in the gut microbiota, which can be caused by various factors such as diet, stress, and antibiotics. In conclusion, dysbiosis is a concept that has become increasingly important in modern medicine, and it is essential for doctors to understand the concept in order to provide effective treatment for their patients.

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- See various videos and course excerpts here: [https://www.ichnfm.org/image-gallery-dysbiosis-course](https://www.ichnfm.org/image-gallery-dysbiosis-course)

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Pharma Echo Chamber, Sociopolitical Matrix, and Power Vortex: A Diagram-Centric Conceptualization

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Current Status of Vortex Diagram and Descriptions
Due to escalating political misbehavior in March 2019, the main diagram has been updated and is now being further developed and more widely distributed. This version was updated on March 3, 2019, and updated versions will be periodically uploaded to the archival website: https://www.academia.edu/38476348

Previous versions
1. This diagram originated spontaneously during the production of a review—titled “Introduction to #Cardionutrition: Kidney Stones and the Ketogenic Diet”—published in video and text format in 2018.
2. The diagram was again published with additional explanation in a peer-reviewed editorial published in 2019: Vasquez A, Pizzorno J. Concerns About The Integrity Of The Scientific Research Process—Focus On Recent Negative Publications Regarding Nutrition, Multivitamins, Fish Oil And Cardiovascular Disease, Integrative Medicine 2019 Feb; 8-15

Commentary
The recent censorship of information that has occurred—originating from the United States but also influencing access to information worldwide—requires commentary, context and concrete documentation of its existence. Perhaps the most important contribution of this article is the demonstration of the interconnectedness of the systems that originate and sustain thought-control and intellectual censorship in what otherwise might appear to be democratic societies. This article contends that information requires context and that while isolated facts may be very important by themselves they cannot be more important or influential than their overall context and the resulting synergistic-exponential influence they produce; furthermore, the appreciation of these components that occur over time establishes that these events are systematic and coordinated rather than incidental and isolated.

Data and Citations
1. Medical journals are inherently biased toward publishing drug-praising articles that can also serve as advertisements and infomercials for the pharmaceutical industry, which commonly pays millions of dollars for journal reprints: Medical journals/organizations publish pro-drug research which becomes paid advertising when the drug companies buy reprints or direct advertising for millions of dollars (Smith, PLOS Medicine 2005).
2. Headline-making newspapers, magazines, and television programs re-publish pro-drug information to the delight of their drug advertisers: Positive news about drugs and vaccines is headlined and featured, while actionable information about nutrition is unavailable or tainted with controversy. Medicine-positive television features “medical heroes” reinforcing medical authority, medical dependency, and the drugs-as-salvation paradigms. News stories highlighting fear of infectious diseases serve to maintain constant fear, medical dependency, and xenophobia (e.g., "Africanized" bees, Zika, El Niño, Asian flu, Xenophobia: Ebola Stigma, Discrimination for Africans, Time Magazine 2014). Many of these stories are revealed as lies after they have served their political purposes; PolitiFact named the panicked US response to Ebola as the 2014 "Lie of the Year", Time Magazine 2014.
3. Science and popular media become an echo chamber of biased pro-drug propaganda; drug companies pay US politicians to promote pro-drug laws (e.g., mandatory vaccinations), protect drug companies from liability (e.g., National Childhood Vaccine Injury Act of 1986), and promote international expansion of US drug sales. US politicians gag and censure free speech on topics related to medical dangers by pressuring bookstores and social media to burn books and ban documentary films. Documentary and case report films of vaccine-induced injury and death are labeled “anti-vaccine movies” and are disappeared from bookstores and
Headline-making newspapers, magazines, and television programs re-publish pro-drug information to the delight of their drug advertisers. Positive news about drugs and vaccines is headlined and featured, while actionable information about nutrition is unavailable or tainted with controversy. Medicine-positive television features "medical heroes" reinforcing medical authority, medical dependency, and the drugs-as-salvation paradigms. News stories highlighting fear of infectious diseases serve to maintain constant fear, medical dependency, and xenophobia (eg, "Africanized bees, Zika, El Niño, Asian flu, Xenophobia: Ebola Stigma, Discrimination for Africans Associated with Disease. Time Magazine October 29, 2014). Many of these stories are revealed as lies after they have served their political purposes. PolitiFact named the panicked US response to Ebola as the 2014 "Lie of the Year", Time Magazine Dec 15, 2014.

Medical journals/organizations publish pro-drug research which becomes paid advertising when the drug companies buy reprints or direct advertising for millions of dollars (Smith, PLOS Medicine 2005)

Science and popular media become an echo chamber of biased pro-drug propaganda; drug companies pay US politicians to promote pro-drug laws (eg, mandatory vaccinations), protect drug companies from liability (eg, National Childhood Vaccine Injury Act of 1986), and promote international expansion of US drugs. US politicians gag and censure free speech on topics related to medical dangers by pressuring bookstores and social media to burn books and ban documentary films. Anti-vaccine movies disappear from Amazon after CNN Business report. CNN Business, March 1, 2019

Drug companies become more profitable and therefore more powerful than governments. Drug companies utilize US political and military power by influencing international trade agreements, eg, enforcing mandatory drug/vaccine policies, dismantling cancer research, replicating US’s healthcare bureaucracy, expense, risk; note the Orwellian description of vaccines as "weapons of mass protection" (Milstien et al, Health Affairs 2006) and the deployment of military forces under the banner of humanitarian aid (National armies for global health? Lancet 2014 Oct 25)

Notice the language of such "free trade" agreements, "seek the elimination of government measures such as price controls and reference pricing which deny full market access for United States products in overseas markets... legalizing direct to consumer advertising (DTCA) via the internet: Each Party shall permit a pharmaceutical manufacturer to disseminate... information regarding its pharmaceuticals that are approved for sale in the Party’s territory..." (Lopert R, Gleeson D. The High Price of “Free” Trade: U.S. Trade Agreements and Access to Medicines. Journal of Law, Medicine & Ethics 2013 Apr, 196:251-61) The United States seeks to redesign national health care systems in its own image. By concluding free trade agreements, the United States is gaining greater influence over the domestic health care and drug coverage programs of its trading partners... The U.S. (and Australian) pharmaceutical industry perceived a free trade agreement to present an opportunity to undermine the evidence-based, strict and effective procedures underpinning Australia’s Pharmaceutical Benefits Scheme (PBS)... After the treaty’s conclusion, however, drug manufacturers expressed delight with the implications for prices, profits and investment... Free trade agreements reflect the U.S. enduring adherence to market-based solutions, coupled with a conviction that government intervention is unnecessary and unhelpful. Thus the U.S. Trade Representative is mandated to pursue the "elimination of government measures such as price controls and reference pricing which deny full market access for United States products" in overseas markets. This is despite the U.S. health care system itself exhibiting the characteristics of market failure... enabling triple damages for patent violations... The United States deploys an aggressive trade agenda to expand markets for U.S. goods and services. Tully SR. Free Trade Agreements With The United States: 8 Lessons For Prospective Parties From Australia’s Experience. British Journal of American Legal Studies 2016 Dec, 395-418. "There is growing international concern about the risks posed by direct-to-consumer advertising (DTCA) of prescription pharmaceuticals, including via the internet. Recent trade agreements negotiated by the United States, however, incorporate provisions that may constrain national regulation of DTCA. Some provisions explicitly mention DTCA, others enable foreign investors to seek compensation if new regulations are seen to harm their investments." Gleeson D, Menkes DB. Trade Agreements and Direct-to-Consumer Advertising of Pharmaceuticals. International Journal of Health Policy and Management 2013 Feb, 98-100. "Opposition to Breast-Feeding Resolution by U.S. Stuns World Health Officials. When that failed, they turned to threats, according to diplomats and government officials who took part in the discussions. Ecuador, which had planned to introduce the measure, was the first to find itself in the cross hairs. The Americans were blunt: If Ecuador refused to drop the resolution, Washington would unleash punishing trade measures and withdraw crucial military aid. The Ecuadorian government quickly acquiesced. " New York Times July 8, 2018 "Trump Stance on Breast-Feeding and Formula Criticized by Medical Experts: Global health experts say breast milk is especially important for babies in poor countries, where unsafe water supplies can make powdered infant formula dangerous. The Trump administration’s aggressive attempts to water down an international resolution supporting breast-feeding go against decades of advice by most medical organizations and public health experts." New York Times July 9, 2018
media outlets. (CNN Business 2019). This government-representative-directed action must be noted as a violation of the First Amendment of the United States Constitution that explicitly protects “free speech” among American citizens; in the 2019 situation, the books and documentary films were effectively banned from public access when a US politician sent a “warning letter” to various social media platforms and media retailers, thereby using government influence to restrict privately-distributed access to information. U.S. Constitution, First Amendment: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances."

4. **Drug companies become more profitable and therefore more powerful than governments.** Drug companies utilize US political and military power by influencing international trade agreements, eg, enforcing mandatory drug/vaccine policies, dismantling consumer protections, replicating US's healthcare bureaucracy, expense, risk; note the Orwellian description of vaccines as "weapons of mass protection" (Milstien et al, Health Affairs 2006) and the deployment of military forces under the banner of humanitarian health aid (National armies for global health? Lancet 2014)

5. **Drug companies infiltrate media, television shows, education, and public policy.** Defunding public science forces schools and journals to rely on pharma funding. Drug companies pay "researchers", professors, and editors to publish and teach information favorable to the drug paradigm and products; medical schools love to receive funding from drug companies. Medical students and doctors are kept insanely busy, exhausted, suicidally depressed/stressed, and fearfully compliant; anyone who questions the drug paradigm, especially vaccines, is a target for censure, expulsion. US medical physicians have the highest rates of suicide of any profession. (Physicians Experience Highest Suicide Rate of Any Profession, Medscape 2018)

6. **International political agreements are written to the favor of drug companies rather than to the citizens of those countries:** Notice the language of such "free trade" agreements, "seek the elimination of government measures such as price controls and reference pricing which deny full market access for United States products in overseas markets... legalizing direct to consumer advertising (DTCA) via the internet: Each Party shall permit a pharmaceutical manufacturer to disseminate... information regarding its pharmaceuticals that are approved for sale in the Party’s territory..." Lopert R, Gleeson D. The High Price of “Free” Trade: U.S. Trade Agreements and Access to Medicines. Journal of Law, Medicine & Ethics 2013. “The United State seeks to redesign national health care systems in its own image... By concluding bilateral and regional agreements, the United States is gaining greater influence over the domestic health care and drug coverage programs of its trading partners... The U.S. (and Australian) pharmaceutical industry perceived a free trade agreement to present an opportunity to undermine the evidence-based, strict and effective procedures underpinning Australia’s Pharmaceutical Benefits Scheme (PBS)... After the treaty’s conclusion, however, drug manufacturers expressed delight with the implications for prices, profits and investment... Free trade agreements reflect the U.S.’ enduring adherence to market-based solutions, coupled with a conviction that government intervention is unnecessary and unhelpful. Thus the U.S. Trade Representative is mandated to pursue “the elimination of government measures such as price controls and reference pricing which deny full market access for United States products” in overseas markets. This is despite the U.S. health care system itself exhibiting the characteristics of market failure... enabling triple damages for patent violations... The United States deploys an aggressive trade agenda to expand markets for U.S. goods and services " Tully SR. Free Trade Agreements with The United States: 8 Lessons For Prospective Parties From Australia’s Experience, British Journal of American Legal Studies 2016.

There is growing international concern about the risks posed by direct-to-consumer advertising (DTCA) of prescription pharmaceuticals, including via the internet. Recent trade agreements negotiated by the United States, however, incorporate provisions that may constrain national regulation of DTCA. Some provisions explicitly mention DTCA; others enable foreign investors to seek compensation if new regulations are seen to harm their investments." Gleeson D, Menkes DB. Trade Agreements and Direct-to-Consumer Advertising of Pharmaceuticals. International Journal of Health Policy and Management 2013. "Opposition to Breast-Feeding Resolution by U.S. Stuns World Health Officials. … When that failed, they turned to threats, according to diplomats and government officials who took part in the discussions. Ecuador, which had planned to introduce the measure, was the first to find itself in the cross hairs. The Americans were blunt: If Ecuador refused to drop the resolution, Washington would unleash punishing trade measures and withdraw crucial military aid. The Ecuadorian government quickly acquiesced." Opposition to Breast-Feeding Resolution by U.S. Stuns World Health Officials. New York Times 2018 "Global health experts say breast
milk is especially important for babies in poor countries, where unsafe water supplies can make powdered infant formula dangerous. The Trump administration’s aggressive attempts to water down an international resolution supporting breast-feeding go against decades of advice by most medical organizations and public health experts.” Trump Stance on Breast-Feeding and Formula Criticized by Medical Experts. New York Times July 9, 2018

Citations:
1. Vasquez A. Introduction to #Cardionutrition: Kidney Stones and the Ketogenic Diet. academia.edu/36947369/Introduction_to_Cardionutrition_Kidney_Stones_and_the_Ketogenic_Diet
8. “The stated aims of the DoD have moved from just protecting the health of US forces and US citizens from security threats to “partnering with other nations to achieve security cooperation and build partner capacity”. But this concept reflects the challenges posed by placing military personnel in sites of public health emergencies: the goals of deployments are in support of military strategy rather than as a purely humanitarian action. The use of the military for humanitarian operations is not militarily, politically, or legally neutral. Peacekeeping with combat troops has often proved to be a complicated arrangement and at times at odds with humanitarian needs and sometimes a precursor to hostility.” National armies for global health? Lancet. 2014 Oct 25;384(9953):1477. https://doi.org/10.1016/S0140-6736(14)61923-1
9. “With one completed suicide every day, US physicians have the highest suicide rate of any profession. In addition, the number of physician suicides is more than twice that of the general population, new research shows.” Anderson P. Physicians Experience Highest Suicide Rate of Any Profession. Medscape May 07, 2018 https://www.medscape.com/viewarticle/896257

About the author and presenter: Alex Kennerly Vasquez DO ND DC (USA), Fellow of the American College of Nutrition (FACN), Overseas Fellow of the Royal Society of Medicine: An award-winning clinician-scholar and founding Program Director of the world’s first fully-accredited university-based graduate program in Human Nutrition and Functional Medicine, Dr Alex Vasquez is recognized internationally for his high intellectual and academic standards and for his expertise spanning and interconnecting many topics in medicine and nutrition. Dr Vasquez holds three doctoral degrees as a graduate of University of Western States (Doctor of Chiropractic, 1996), Bastyr University (Doctor of Naturopathic Medicine, 1999), and University of North Texas Health Science Center, Texas College of Osteopathic Medicine (Doctor of Osteopathic Medicine, 2010). Dr Vasquez has completed hundreds of hours of post-graduate and continuing education in subjects including Obstetrics, Pediatrics, Basic and Advanced Disaster Life Support, Nutrition and Functional Medicine; while in the final year of medical school, Dr Vasquez completed a Pre-Doctoral Research
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Autism, Dysbiosis, and the Gut-Brain Axis

An Excerpt from "Deciphering the Gut-Brain Axis in Clinical Practice"

Alex Vasquez
“The purpose of life is to live it, to taste experience to the utmost, to reach out eagerly and without fear for newer and richer experience.”

Eleanor Roosevelt (1884 - 1962)
As of 2019 and for the foreseeable future, the most current versions of all major patient management and clinical treatment protocols are published in *Inflammation Mastery, 4th Edition* as a single volume of 1,182 pages available in full-color print at discounted pricing directly from ICHNFM from [https://www.ichnfm.org/im4](https://www.ichnfm.org/im4), while the digital formats are available via several different platforms, including Amazon’s Kindle (free) software, Barnes and Noble’s Nook, Apple iBook, etc as hyperlinked below. Per popular request by students who were studying (as a required textbook) only one section at a time, “IM4” was also published in two easier-to-carry separate volumes under the name *Textbook of Clinical Nutrition and Functional Medicine*, which contain chapters 1-4 (pages 1-712+index) and 5 (713-1154+index), respectively. Video access is included with IM4 and TCNFM,1+2.

Availability in print and digital formats (examples):

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Concerns About The Integrity of The Scientific Research Process—Focus On Recent Negative Publications Regarding Nutrition, Multivitamins, Fish Oil And Cardiovascular Disease

Alex Vasquez, DC, ND, DO; Joseph Pizzorno, ND, Editor in Chief

Abstract
The next step in reestablishing credibility seems to us honesty and recognizing we all share a common goal of the health and wellness of the human community and the planet. Everyone agrees that the current healthcare system, despite its many incredible successes, is also showing its limitations and is no longer sustainable. We believe the solution starts with us the researchers and editors. A good first step might be formally recognizing the errors and showing how we can and intend to get better.

Evidence-based medicine—by definition—requires objective, reliable and accurate research and reviews from which to make the best decisions in patient care and public policy. The causes of inaccurate information, ranging from presumably innocent mistakes all the way to apparently intentional fraud, affect all scientific and biomedical disciplines. While these accidental and intentional errors can derail our understanding of diseases and impact tens of thousands of affected patients, such inaccuracies in the field of nutrition can have extreme ramifications worldwide. While a specific disease may impact a small percentage of the human population, research in this area is critical to proper nutrition research, particularly concerning the role of nutrition research in public health policy and healthcare professions in general. Clinically, the vast majority of medical training programs are obviously inadequate in gastroenterology and nutrition training in clinical settings. A major problem arises when unskilled and invalid research is published by authors (including nonphysician journalists) in major journals which mischaracterizes the validity of nutrition interventions (e.g., essentially always concluding that nutritional interventions are efficacious or potentially hazardous) and then such research is used politically and in the media to disparage, restrict and regulate practitioners and nutrition supplement industry to the detriment of human health.

Several factors disrupting the integrity of nutrition research are commonly found in studies published by “elite” universities in “top-tier” journals, which are then republished and distributed as “headlining news” in newspapers, magazines, and television via which they influence patient care and public policy and millions of people. The examples of such inaccurate publications, lists and journals are numerous and widespread solutions. The integrity of the nutrition science community and its role in clinical interventions are therefore brought into question. Concerns about the reliability of nutrition research and its influence on public health have become increasingly common in recent years. As a result, a growing number of patients are seeking alternative medicine to supplement or replace traditional treatments. Despite the growing prevalence of alternative medicine, there is limited evidence to support its effectiveness and safety. In some instances, speculations regarding the cause and consequences of identified errors are provided.

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- VIDEO: BRIEF Critique of “Effects of n−3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study” https://vimeo.com/287650812
- VIDEO: Bad Science in Medical Nutrition: Politics of Fish Oil https://vimeo.com/314997927
Misrepresentations of Clinical Nutrition in Mainstream Medical Media: Growing Importance of Legitimate Expertise in Independent Peer-Reviewed Publications - Part 1

2018 As a Milestone in the Post-Truth Era

Among the various topics that have either interested or fascinated me throughout my youth and well into my adult years, Nutrition has certainly reigned supreme. My personal routine has been to read as much as reasonably and practically possible on the topic, while not doing so to the exclusion of other topics in biomedicine, psychosociology and philosophy. Thus, with roughly 30 years of experience in reading books and primary research in the field of Nutrition, I could not help but notice the radical departures that occurred in 2018 from the previous norms to which I had grown accustomed.

Of course, 2018 was not the first year during which “bad research” was published in mainstream medical journals and then replicated throughout the echo chamber of mass media; one could observe this periodically occurring throughout the past 50 years, starting not at least with the demonization of dietary cholesterol and the glorification of processed foods, especially refined grains and so-called vegetable oils. But in 2018 what many of us observed was not simply poorly performed research but, in situations, radical departures from any attempt to present descriptions that could be considered “reasonably and reasonably” based on previous standard. Especially related to the topic of Nutrition, mainstream medical journals and the scientific community, which parrots their conclusions have begun to exhibit overt misrepresentations of Nutrition with regard for science, logic, biomedical history and philosophy.

One has to be aware of a few key ironies that characterize mainstream medical discussions of nutrition. First, that 1) medical physicians receive essentially no training in clinical nutrition in their graduate school education or in their post-graduate residency training; 2) medical physicians and organizations publish “research” commentaries (both of which commonly conclude that nutritional interventions are ineffectual or unsafe), despite their lack of formal education on the topic, and then 3) mainstream medical voices consistently call for “regulating the nutrition supplement industry” despite their lack of training on the topic and because of negative conclusions based on their own poorly conducted research and self-serving conclusions. As such, not only are the map-makers blind, but they mislead their blind followers, and then both groups promote themselves as expert cartographers and guides when advising the public on an area that none of them have studied or understood. We should have no surprise whatsoever when the “medical community” publishes poorly conducted and self-serving “research” on the topic of nutrition, to reach their desired conclusion that nutrition is unsafe and ineffectual, and that the profitable market needs to be managed of course by the selfsame “medical community” that is never received a decent 15 minutes on the topic of therapeutic nutrition. Pervasive and persistent ignorance on the topic of nutrition among medical physicians must be understood as intentional and strategic, because otherwise this problem would have been solved 30 years ago when it was first discussed during what was called at the time the “golden age of nutrition.” The easiest way to manipulate people and to keep them in a perpetual state of confusion, ineffectiveness, and dependency is to

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Mitochondrial Medicine Arrives to Prime Time in Clinical Care: Nutritional Biochemistry and Mitochondrial Hyperpermeability (“Leaky Mitochondria”) Meet Disease Pathogenesis and Clinical Interventions

Alex Vasquez, DC, ND, DO, FACN

Alex Vasquez, DC, ND, DO, FACN, is director of programs at the International College of Human Nutrition and Functional Medicine in Barcelona, Spain and online at ICHNFM.org. (Altern Ther Health Med. 2014;20(suppl 1):26-30.)

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MITOCHONDRIAL MEDICINE ARRIVES TO GENERAL PRACTICE AND ROUTINE PATIENT CARE

Mitochondrial disorders were once relegated to “orphan” status as topics for small paragraphs in pathology textbooks and the hospital-based practices of subspecialists. With the increasing appreciation of the high frequency and ease of treatment of mitochondrial dysfunction, this common cause and consequence of many conditions seen in both primary and specialty care deserves the attention of all practicing clinicians.

We all know that mitochondria are the intracellular organelles responsible for the production of the currency of cellular energy in the form of the molecule adenosine triphosphate (ATP); by this time, contemporary clinicians should be developing an awareness of the other roles that mitochondria play in (patho)physiology and clinical practice. Beyond being simple organelles that make ATP mitochondria play crucial roles in inflammatory disease such as diabetes and disorders such as cancer and cardiovascular disease. A good example is the role of mitochondria in the Krebs cycle, and mitochondrial DNA; (2) inner membrane—the largely impermeable lipid-rich convoluted/invaginated membrane that envelopes and defines the matrix and which is the structural home of many enzymes, transport systems, and important structures such as cardiolipin and the electron transport chain—contains the mitochondrial soluble and in many cases, comparatively small (less than 2 kDa) and—like the Krebs cycle—likely active and dynamic. Mitochondrial dysfunction to clinical diseases must be considered on a routine basis in clinical practice. Mitochondrial medicine is no longer an orphan topic, nor is it a superfluous consideration relegated to boutique practices. Mitochondrial medicine is ready for prime time—now—both in the general practice of primary care as well as in specialty and subspecialty medicine. What I describe here as the “new” mitochondrial medicine is the application of assessments and treatments to routine clinical practice primarily for the treatment of secondary/acquired forms of mitochondrial impairment that contribute to common conditions such as fatigue, depression, fibromyalgia, diabetes mellitus, hypertension, neuropsychiatric and neurodegenerative conditions, and other inflammatory and dysmetabolic conditions such as allergy and autoimmunity.

BEYOND BIOCHEMISTRY

Structure and function are of course intimately related and must be appreciated before clinical implications can be understood and interventions thereafter applied with practical precision. The 4 main structures and spaces of the mitochondria are (1) intramitochondrial matrix—the innermost/interior aspect of the mitochondria containing various proteins, enzymes of the Krebs cycle, and mitochondrial DNA; (2) inner membrane—the largely impermeable lipid-rich convoluted/invaginated membrane that envelopes and defines the matrix and which is the structural home of many enzymes, transport systems, and important structures such as cardiolipin and the electron transport chain—contains the mitochondrial soluble and in many cases, comparatively small (less than 2 kDa) and—like the Krebs cycle—likely active and dynamic. Mitochondrial dysfunction to clinical diseases must be considered on a routine basis in clinical practice. Mitochondrial medicine is no longer an orphan topic, nor is it a superfluous consideration relegated to boutique practices. Mitochondrial medicine is ready for prime time—now—both in the general practice of primary care as well as in specialty and subspecialty medicine. What I describe here as the “new” mitochondrial medicine is the application of assessments and treatments to routine clinical practice primarily for the treatment of secondary/acquired forms of mitochondrial impairment that contribute to common conditions such as fatigue, depression, fibromyalgia, diabetes mellitus, hypertension, neuropsychiatric and neurodegenerative conditions, and other inflammatory and dysmetabolic conditions such as allergy and autoimmunity.

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THE CLINICAL IMPORTANCE OF VITAMIN D (CHOLECALCIFEROL): A PARADIGM SHIFT WITH IMPLICATIONS FOR ALL HEALTHCARE PROVIDERS

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While we are all familiar with the important role of vitamin D in calcium absorption and bone metabolism, many doctors and patients are not aware of the recent research on vitamin D and the widening range of therapeutic applications available for cholecalciferol, which can be classified as both a vitamin and a pro-hormone. Additionally, we also now realize that the Food and Nutrition Board’s previously defined Upper Limit (UL) for safe intake at 2,000 IU/day was set far too low and that the physiologic requirement for vitamin D in adults may be as high as 5,000 IU/day, which is less than half of the >10,000 IU that can be produced endogenously with full-body sun exposure.12 With the discovery of vitamin D receptors in tissues other than the gut and bone—especially the brain, breast, prostate, and lymphocytes—and the recent research suggesting...

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Organic abnormalities with neuroinflammation, purine metabolism, neurotransmitter, and gut microbiome noted in autism, and many of these abnormalities are metabolites, and heightened serum levels. 

Keywords: gut–brain axis; autism; microbiome

In their recent review, Sherwin and colleagues among many other issues, the recognition of the gut microbiome–brain axis with section subtitled “Microbiota-based therapies for the treatment of autism: hype or reality” (Sherwin et al.1) largely discuss preclinical studies. In the 2017 open-label study by Klimo et al., used a sequence of oral vancomycin, polyethylene glycol laxative, and human fecal microbiota transplantation with no clinical benefit in subjects with autism.

Readers will likely benefit from additional relevant clinical studies, including an application by Sandler et al.3 showing evidence of autistic manifestations following oral vancomycin, as well as case reports showing positive impact of various antibiotics and therapies (metronidazole, ketoconazole, penicillin) in patients with autism.4,5,6 Studies have been shown to have gut dysbiosis, and as well as Clostridia species,6 the gut microbiome noted for their production of neurotoxic substances. International studies have consistently demonstrated that some species have heightened production of 3-(3,4-dihydroxyphenyl) lactic acid (3-HPL) and 3-hydroxypropionic acid (HPHPA) and the phenylalanine metabolite of Clostridium in the gastrointestinal tract.7,8 The HPHPA reported with the conversion of dopamine to

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Biological plausibility of the gut–brain axis in autism

Alex Vasquez