Kinks in the armor, holes in the dike

Something Amiss
A forum dedicated to bringing to light instances in which bias, corruption, hypocrisy and other players have stacked the deck against specific doctors and other professionals.

Bias, Hypocrisy, Corruption

Welcome to "Something Amiss" which is devoted to exposing instances in which an individual was targeted, railroaded, maligned or otherwise dealt an injustice by a medical board or other agency (state or federal) and/or the fourth estate (press, media, etc). Click "The Other Side" in menu to read "The Rest of the Story"
Content

Two insightful documents follow below. Both were penned by Dr. Anthony Payne and are used with his permission.

DOCUMENT 1:

Skewed: Bias, Corruption & Hypocrisy in Contemporary Science & Medicine (Updated 2016)

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DOCUMENT 2:

HARM: Side & adverse effects of conventional medicine & hospitals vs. natural (alternative medicine or CAM) health care practitioners and supplements & Side & adverse effects of natural & wholistic health care practices & supplements (A Compendium)
Bias, Corruption & Hypocrisy in Contemporary Science & Medicine

In 2002, Dr. Roger Pielke, Jr. Director of the Center for Science and Technology Policy Research at the University of Colorado made a statement about the political currents running through the world of science that was not only astute, but almost prophetic:

"As political battles are waged through 'science', many scientists are willing to adopt tactics of demagoguery and character assassination as well as, or even instead of, reasoned argument ... science is increasingly the battlefield on which political advocates, not to mention lawyers and those with commercial interests, manipulate 'facts' to support their positions"


In 2006 The Harris Poll® conducted a survey to determine the most trusted occupations and professions. Scientists were in the top five. *Their ranking had actually gone up nine percentage points over what pollsters found in 2002!*

Perhaps if what Dr. Pielke shared in *Nature* had enjoyed wider circulation among the general populace scientists would not have fared so well in that 2006 Harris Poll®.

But maybe people know this but are jaded, even cynical. I mean, why should scientists be immune from the filtering of reality, bias and corruption that go hand-in-hand with the
concentration of power, influence and resources in virtually all sectors of life? Perhaps people know this and just have resigned themselves to it. Or they simply harbor the deep-seated belief that scientists are, by virtue of their quest for empiric truth, less prone to the excesses and extremes, not to mention the myopia that has characterized and even animated politicians, lawmakers, and a host of others down through the ages. Or if they are not genuinely less prone than most to act out of passion, weakness, ignorance, gain or simply to do what’s expedient “for the greater good,” then surely scientists are at very least more likely to come to their senses and make course corrections over time (Sometimes with prompting from the public, the body politic or judiciary.)

History bears ample testimony to the fact that scientists and the scientific enterprise is not immune to corruption from within and being steered from without. The good news is that bad theories, practices and ideas as well as opposition to good ones eventually crumble in the face of contrary evidence and reason. Or at the very least wind up sidelined and held onto by only diehard zealots. The tools of science rightly used “delivers the goods,” as Dr. Carl Sagan was fond of saying. But there is a “bad news” or “dark” side. For one thing, many professional societies formulate consensus opinions or polices that they not only resist modifying, but which they seek to have treated as the final word. Some act as though they are better equipped to decide what is true or genuine or trustworthy, especially those that disagree with them. Some appear to favor playing this role at a governmental or official level or partnering up with agencies that do (Sort of like being “reserve sheriff’s deputies.”)

One example of this in recent times (2010) is the International Society for Stem Cell Research (ISSCR), “an independent, nonprofit organization established (in 2002) to promote and foster the exchange and dissemination of information and ideas relating to stem cells, to encourage the general field of research involving stem cells and to promote professional and public education in all areas of stem cell research and application” (From the ISCCR Mission Statement.)

Judging from their Mission Statement, the ISSCR’s purpose is both noble and benign. Contrast this with this excerpt from a June 10, 2010 article titled “Stem Cell Society to Get Tough on “Charlatans” & Unproven Treatments”:

“The International Society for Stem Cell Research has had enough. When the organization of stem cell scientists met last week in San Francisco, its leaders promised to get serious about unregulated stem cell treatments.

First, society president Irving Weissman declared his intention to “smoke out the charlatans,” New Scientist reported. The ISSCR is investigating its members who provide advice to clinics that offer experimental stem cell treatments (no such treatments have yet received FDA approval).

At a press briefing on 17 June, he revealed that these members are being told to explain their connections with such clinics. Expulsion from the society was a possibility for members who
continue to associate themselves with unproven “therapies”, added Sean Morrison of the University of Michigan in Ann Arbor, a member of the ISSCR board of directors [New Scientist]."

A more prudent response would have been for the ISSCR to draw on the experiences and knowledge of these consultants to help determine what is of merit and what is not in terms of the treatments being done and their outcomes at these private foreign stem cell clinics. Expelling those who possess this experience and insight risks the kind of backlash that many political parties experience when they totally disenfranchise and alienate their dissident members.

The damage being done by politics-driven, sometimes biased scientists (in both the private and government sectors), scientific and medical consumer organizations and regulatory agencies is but the tip of the iceberg according to many experts. What has emerged in many instances is essentially a “disconnect” between what is believed and even promulgated by these people and organizations and what is actually taking place or true. Some of the more prominent distortions or misrepresentations -- myths (if you will) -- that have emerged over time include what follows.

**Nota bene on Irvine Weisman**: Think time mellowed Dr. Weisman? Hardly! During a Sept 12-13 2016 FDA public “workshop” on four draft guidance documents it drafted to better regulate (among other things) the clinical use of stem cells, Weisman spoke. Lawyer Richard Jaffe, in a blog article titled *"A Really Tough Day for Stem Cell Advocates"*, had this to say about Dr. Weisman:

"The day's moderator was Irv Weisman, who is one of the biggest names in academic stem cell research. In his summary, he suggested that U.S. physicians who perform unregulated stem cell transplants abroad to skirt U.S. regulations be delicensed."
hESCR = human embryonic stem cell research

It certainly needed a boost -- very little scientific evidence supports hESCR. Nonetheless, the "scientific community" insisted there was a "consensus" that embryonic stem cells had the greatest potential to cure any number of diseases, period. This bogus "scientific consensus" soon became the new orthodoxy, and there was to be no dissent.

In April 2007, Nature Neuroscience set its sights on Maureen Condic, professor of Neurobiology and Anatomy at the University of Utah. In an editorial, the journal attacked her for being "anti-scientific" and "polemical" and engaging in "disingenuous distortions of scientific arguments." Her crime? In the pages of First Things (the editorial attack pointedly described it as a "conservative Roman Catholic magazine"), Prof. Condic, relying on the peer-reviewed, published literature, challenged the prevailing orthodoxy, throwing much-needed cold water on the extravagant hESCR claims, going so far as to suggest that adult stem cells may well prove to be more efficacious in actually helping patients!

In 2002, Roger Pielke, Director of the Center for Science and Technology Policy Research at the University of Colorado, noted in the journal Nature the trend to politicize science: "As political battles are waged through 'science', many scientists are willing to adopt tactics of demagoguery and character assassination as well as, or even instead of, reasoned argument ... science is increasingly the battlefield on which political advocates, not to mention lawyers and those with commercial interests, manipulate 'facts' to support their positions"[ix].

...Or ignore facts altogether. In 2007, Sen. Tom Harkin waved away evidence for adult stem cells, saying, "Scientists have known about adult stem cells for forty years, and they still haven't provided the answer for juvenile diabetes." He said this on the very day that the Journal of the American Medical Association (JAMA) published clinical trial results using adult stem cells in a treatment that reversed juvenile diabetes in patients.

Myth #1: Mainstream doctors, scientists and medical (consumer) advocates are champions of open-mindedness, objectivity and fairness

From “Playing Politics with Stem Cells” By Gene Tarne and David Prentice (American Thinker website)
From **Stem Cell Society to Get Tough on “Charlatans” & Unproven Treatments:**

June 22, 2010

The International Society for Stem Cell Research has had enough. When the organization of stem cell scientists **met last week in San Francisco**, its leaders promised to get serious about unregulated stem cell treatments.

First, society president **Irving Weissman** declared his intention to “smoke out the charlatans,” *New Scientist* reported. The ISSCR is investigating its members who provide advice to clinics that offer experimental stem cell treatments (no such treatments have yet received FDA approval).

At a press briefing on 17 June, he revealed that these members are being told to explain their connections with such clinics. Expulsion from the society was a possibility for members who continue to associate themselves with unproven “therapies”, added Sean Morrison of the University of Michigan in Ann Arbor, a member of the ISSCR board of directors [New Scientist].

**Update on Irvine Weisman:**: Think time mellowed Dr. Weisman? Hardly! During a Sept 12-13 2016 FDA public “workshop” on four draft guidance documents it drafted to better regulate (among other things) the clinical use of stem cells, Weisman spoke. Lawyer Richard Jaffe, in a blog article titled “A Really Tough Day for Stem Cell Advocates”, had this to say about Dr. Weisman:

"The day’s moderator was Irv Weisman, who is one of the biggest names in academic stem cell research. In his summary, he suggested that U.S. physicians who perform unregulated stem cell transplants abroad to skirt U.S. regulations be delicensed."

**From The Pro-Life Case for Stem Cell Treatment:**

And yet, the doctors providing the treatment that makes such a life-changing reversal possible are dismissed by the media, while their patients are characterized as “tourists.” Reuters notes that “the International Society of Stem Cell Research has cautioned against so-called stem cell tourism,” and quotes Dr. David Scadden, co-director of the Harvard Stem Cell Institute:

> When these kinds of treatments are proposed, they’re being essentially marketed by virtue of the anecdotal report. I feel the danger of exploitation is extremely high.

OK, so Murillo’s story is anecdotal. But had Reuters done its fact-checking, it would have discovered that ISSCR is hardly an unbiased source to be asking about adult stem cells; its physician-entrepreneur president is a proponent of embryonic cells.
Quackwatch review - Is Stephen Barrett a Quack? Is he fair, balanced, or biased, by Ray Sahelian, M.D.

And, from How can Quackwatch be considered a "reliable source"?:

In a critical website review of Quackwatch, Joel M. Kauffman evaluated eight Quackwatch articles and concluded that the articles were "contaminated with incomplete data, obsolete data, technical errors, unsupported opinions, and/or innuendo..." and "...it is very probable that many of the 2,300,000 visitors to the website have been misled by the trappings of scientific objectivity.

From http://en.wikipedia.org/wiki/Talk%3AOrthomolecular_medicine/Archive_3#REGARDING_THE_ALLEGED_RELIABILITY_OF_QUACKWATCH:

A number of webpages (8) were selected arbitrarily because their topics were familiar to this reviewer, and these were examined minutely. The findings are used to make generalizations about the website. The section titles below are from www.Quackwatch.com, as accessed on 31 Oct 01, each one followed by Comments based on the most reliable evidence I have found.

[...BIG snip...] [...full text is at the URL...]

All 8 pages from www.Quackwatch.com that were examined closely for this review, which were chosen simply because their topics were familiar to this reviewer, were found to be contaminated with incomplete data, obsolete data, technical errors, unsupported opinions, and/or innuendo; no other pages were examined. Hostility to all alternatives was expected and observed from the website, but not repetition of groundless dogma from mainstream medicine, examples of which were exposed. As a close friend and colleague reminded me, the operators of this site and I may have the same motivation -- to expose fraud. It remains a mystery how they and I have interpreted the same body of medical science and reached such divergent conclusions. While Dr. Barrett may (or may not) have helped many victims of quacks to recover funds and seek more effective treatment, and while some of the information on pages of the website not examined in this review may be accurate and useful, this review has shown that it is very probable that many of the 2,300,000 visitors to the website have been misled by the trappings of scientific objectivity.

At least 3 of the activities in the Mission Statement:

-- Distributing reliable publications

-- Improving the quality of health information on the Internet
-- Attacking misleading advertising on the Internet

...have been shown to be flawed as actually executed, at least on the 8 webpages that were examined. Medical practitioners such as Robert Atkins, Elmer Cranton and Stanislaw Burzynski, whom I demonstrated are not quacks, were attacked with the energy one would hope to be focused on real quacks. The use of this website is not recommended. It could be deleterious to your health.

Acknowledgment. Expert online searches and editorial aid were provided by Leslie Ann Bowman. Additional aid from other faculty at The University of the Sciences in Philadelphia was obtained from Gina Kaiser, Robert C. Woodley and Sylvia Tarzanin. Ted Pollard made valuable contributions.

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—The preceding unsigned comment was added by 216.86.90.44 (talk • contribs) 20:09, 28 August 2006 (UTC)

Doug Sipp - critic of private clinics doing "unregulated" stem cell therapy
http://sipper2.blogspot.com/search?updated-min=2013-01-01T00:00:00-08:00&updated-max=2014-01-01T00:00:00-08:00&max-results=1

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Additional reading:

When does ‘Skepticism’ become dogma?
Skeptiko

This philosopher goes toe-to-toe with materialist science… so far he’s undefeated
Myth #2: The big pharmaceutical companies do not unduly influence the medical profession or the conduct of scientific research

BOOK: On The Take: How Medicine’s Complicity with Big Business Can Endanger Your Health [Hardcover]


⭐⭐⭐⭐⭐ Big Pharma Out of Control, January 19, 2005

By Joel M. Kauffman

This review is from: On The Take: How Medicine's Complicity with Big Business Can Endanger Your Health (Hardcover)

Fact-dense, well referenced, yet balanced in tone and easy to read, this book is the best exposé I have ever read on the financial conflicts of the medical profession caused by the efforts of Big Pharma, which for this review will include device and test manufacturers as well as drug makers. From pens and pads to cruises and fake consulting arrangements, Big Pharma has caused financial conflicts in many physicians and others "on the take". Many of the consulting deals are to give talks, ostensibly based on good medical science, that promote a product. Much of this is shown to occur at Continuing Medical Education courses sponsored by Big Pharma in which gifts are freely dispensed, reprints of journal articles favorable to products are handed out, and financial ties of the "consultants" giving talks are minimized or concealed.

Academic researchers are tainted as well. By being encouraged by their universities to obtain grants with overhead from Big Pharma, they must do research that helps in product development. Agreements may delay, prevent or pollute the publication of results. When a product possibility from a government (usually NIH) grant is seen, federal legislation passed 20 years ago allows the researcher to patent discoveries, form a company, and do clinical trials on his own potential product. While this may have led to valuable results, the potential for bias at every step due to financial conflict is clearly laid out.

Journals fare little better, even the prominent JAMA, NEJM and Annals of Internal Medicine. Papers that may have been ghost-written by Big Pharma on clinical trials with selectively favorable results are published [see Joel M. Kauffman, Bias in Recent Papers on Diets and Drugs in Peer-Reviewed Medical Journals, J. Am. Physicians & Surgeons, 9(1), 11-14 (2004)]. Editors and peer-reviewers may have ties to Big Pharma. Editorials and comments in medical journals may be written by authors with financial conflicts of interest. Revealing such conflicts is mostly on the honor system at present.

Clinical guidelines for physicians are promulgated by committees whose members often have close ties to Big Pharma. The products included in formularies of HMOs, Medicare and other
insurers, the only products that will be paid for, are influenced by Big Pharma, whose general lobbying efforts are already legendary.

Dr. Kassirer gives many specific examples of financial conflicts. Far from quitting with the devastating description of how bad things are, he goes on to make specific suggestions for reform, while being very realistic about their success without federal action for certain conflicts. He lists many desirable changes, such as no gifts from Big Pharma at all, boycotting meetings sponsored by Big Pharma, disclosure mandated for all financial ties, and selection of journal editors, officers of medical societies and leaders of medical schools who have no financial conflicts. He did not seem to indicate the degree of influence of Big Pharma on the FDA.

Trying not to alienate most of the medical profession, Dr. Kassirer wrote that most MDs are basically ethical and went into the profession for non-financial as well as financial reasons. Reductions in income with increased workloads due to inadequate compensation from HMOs and Medicare is one of the reasons so many MDs have looked outside normal practice for income.

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He dropped a few hints that most major classes of drugs are more beneficial than they actually are [see Joel M. Kauffman, "Drugging Cardiovascular Disease", J. Am. Physicians & Surgeons, 9(4), 98-99 (2004)], and that alternative practices are not worth much [see Joel M. Kauffman, "Alternative Medicine: Watching the Watchdogs at Quackwatch", Website Review, J. Scientific Exploration 16(2), 312-337 (2002)]. This is a very minor blemish on one of the great exposés of all time, the "Unsafe at Any Speed" of the medical madness in the USA today.

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Daniel Haley's "Politics in Healing" describes the squashing of alternatives. Charles T. McGee's "Heart Frauds" exposes the mythology behind so much medical advice. H. Gilbert Welch's "Should I Be Tested for Cancer?" gives the evidence for the harm in excessive testing. John Anderson's "Overdosed America" reveals the extent of perverted clinical drug trials. Merrill Goozner's "The $800 Million Pill" give the lie to Big Pharma's claim that high prices are needed for the discovery of breakthrough drugs, as does... Marcia Angell's "The Truth About the Drug Companies", which also suggests how the perversion of drug trials can be halted.

**Sponsoring by the Pharmaceutical Industry Can Bias the Results of Drug Studies, Study Suggests**

**EXCERPT:**

In the current issue of *Deutsches Ärzteblatt International* (Dtsch Arztebl Int 2010; 107(16): 279-85), a research group headed by the Chairman of the Drug Commission of the German Medical
Association, Prof. Wolf-Dieter Ludwig, describes the influence of sponsoring on the results, protocol and quality of drugs studies.

The authors conclude that pharmaceutical companies exploit a wide variety of possibilities of manipulating study results. Apart from financing the study, financial links to the authors, such as payments for lectures, may tend to make the results of the study more favorable for the company. Not only the results themselves, but also their interpretation are significantly more often in accordance with the wishes of the sponsor.

In some publications, the authors detected evidence that sponsors from the pharmaceutical industry had influenced study protocols. For example, placebos were more frequently used in drug studies than was the case with independently financed studies. On the other hand, some favorable effects were linked to financial support from the pharmaceutical industry. The methodological quality of studies with industrial support tended to be better than with independent drug studies.

**Docs Not Immune to Drug Marketing, Study Finds**

“Pharmaceutical promotion may cause some doctors to prescribe more expensively, less appropriately and more often, according to a new study.”

**How Doctors Rationalize Acceptance of Industry Gifts**

“Despite heightened awareness about the undue influence that gifts from pharmaceutical companies can have on doctors’ prescribing practices, and despite expanding institutional conflict-of-interest policies and state laws targeted at preventing such practices, companies continue to reward doctors for prescribing their drugs with gifts ranging from pens and paper, to free dinners and trips.”

**Inverse Benefits Due to Drug Marketing Undermine Patient Safety and Public Health, Study Finds**

“Drugs that pharmaceutical companies market most aggressively to physicians and patients tend to offer less benefit and more harm to most patients -- a phenomenon described as the "inverse benefit law" in a paper from the University of Texas Medical Branch at Galveston.”

**Medicine’s Secret Archives**

“In science the phenomenon is called "publication bias," i.e. bias through selective publication. This occurs on two levels: On the first level complete studies remain unpublished. For example, an analysis of 90 drugs that had been newly approved in the US showed that they had been tested in a total of 900 trials. However, even 5 years after approval, 60% of these studies were unpublished. On the second level only selected outcomes from studies are published. Nowadays researchers have to specify in a study protocol which outcomes they want to measure and how they are going to analyze them. Comparisons of protocols and journal articles of studies showed that in 40% to 60% of studies, results had either been completely omitted or analyses changed. "In this way study results are often presented in a more positive way than is
actually the case,” says Beate Wieseler, Deputy Head of IQWiG’s Drug Assessment Department.

This does not only affect studies sponsored by the pharmaceutical industry. In their paper, the IQWiG authors also cite an analysis in which 2000 studies on cancer topics were analyzed according to sponsorship. The proportion of published studies was extremely low: of the industry-sponsored studies, 94% were unpublished; however, even 86% of university-sponsored studies were also unpublished. "Due to legal regulations, regulatory authorities are also sometimes obliged to withhold data,” says Thomas Kaiser, Head of the Drug Assessment Department.”
"Is Peer Review Broken?" The Scientist, Vol. 20, #2, page 26

Excerpt: The literature is also full of reports highlighting reviewers’ potential limitations and biases. An abstract presented at the 2005 Peer Review Congress, held in Chicago in September, suggested that reviewers were less likely to reject a paper if it cited their work, although the trend was not statistically significant. Another paper at the same meeting showed that many journals lack policies on reviewer conflicts of interest; less than half of 91 biomedical journals say they have a policy at all, and only three percent say they publish conflict disclosures from peer reviewers. Still another study demonstrated that only 37% of reviewers agreed on the manuscripts that should be published. Peer review is a "lottery to some extent," says Smith.


"The Ideological Immune System: Resistance to New Ideas in Science" (SKEPTIC Magazine Vol 1, No4)

Flaws in Popular Research Method Exposed
"Influential studies into subjects such as the safety and effectiveness of medicines or class size in schools could be called into question by a new report into ways of identifying research bias.

The report by a leading statistician identifies the danger of relying solely on published work during systematic reviews of literature -- a common approach to research worldwide, which is often used to inform public policy."

Retraction Watch (Blog) - Tracking retractions as a window into the scientific process
"Reckless Medicine" by Jeanne Lenzer & Shannon Brownlee (November 2010 issue of DISCOVER magazine).

"Research shows, if patients understand the lack of evidence for effectiveness, and the risks of treatments, they would make different decisions than their doctors."

“Less than half the surgeries, drugs, and tests that doctors recommend have been proven effective”!

“87% of drug researchers and writers receive funding from the pharmaceutical industry.”

“More than 770,000 Americans are injured or die each year from drug side-effects.”

“Two drug reps were praised in a company memo for being ‘quite brilliant’ for sending their physicians sight-seeing during a presentation about low-cost safer alternatives to their product”

“Giving patients care they don’t need, and not giving them care they do need, accounts for 30% the U.S. spends annually on healthcare”

Only 1% of the National Institutes Of Health’s budget goes to research for comparing drug effectiveness, while 99% goes to pharmaceutical companies for development of new drugs!

“Most doctors are trained to memorize data, not analyze scientific data…or to think critically”
— Dean of University of California at Davis Medical School

In 2011 an article titled Health Care Myth Busters: Is There a High Degree of Scientific Certainty in Modern Medicine? appeared in Scientific American in which the authors, Sanjaya Kumar, MD, MSc, MPH and David B. Nash, MD, MBA, stated:

We could accurately say, "Half of what physicians do is wrong," or "Less than 20 percent of what physicians do has solid research to support it." Although these claims sound absurd, they are solidly supported by research that is largely agreed upon by experts. Yet these claims are rarely discussed publicly. It would be political suicide for our public leaders to admit these truths and risk being branded as reactionary or radical. Most Americans wouldn't believe them anyway.
Here are two examples of how recent misconduct on the part of medical boards in two separate states, Texas and Alabama, became the focus of activism on the part of the Association of American Physicians and Surgeons, Inc:


12/21/2007

DOCTORS SUE TEXAS MEDICAL BOARD FOR MISCONDUCT

Cites institutional culture of retaliation & intimidation

The entire Texas Medical Board (TMB) and its officials have been named in a lawsuit filed by the Association of American Physicians and Surgeons (AAPS). The complaint, filed this week in District Court in Texarkana, accuses the board of misconduct while performing its official duties, specifically:

1. Manipulation of anonymous complaints;
2. Conflicts of interest;
3. Violation of due process;
4. Breach of privacy; and
5. Retaliation against those who speak out.


Hall of Shame - Alabama Board of Medical Examiners

- Politically motivated license revocation on the pretext of sloppy handwriting

The AAPS’s filing (link above) in the case of a physician named Pascual Herrara, Jr. who had his license to practice medicine revoked by the Alabama Board of Medical Examiners, is very telling because this decision was based in part on Dr. Herrara’s alleged sloppy handwritten medical notes with respect to a case involving “three young adults from prominent families died from an overdose of OxyContin in Gadsden, Alabama” (The AAPS goes on to state in its suit that “Dr. Herrera had no connection or culpability with that tragedy, but as a foreign-born physician he was a convenient scapegoat.”)
Continuing from the AAPS “AMICUS CURIAE BRIEF OF THE ASSOCIATION OF AMERICAN PHYSICIANS & SURGEONS (AAPS) IN FAVOR OF PETITIONER” filing:

“The Commission’s asserted reasons for revoking Dr. Herrera’s license are woefully inadequate. The Commission based its revocation in part on the alleged sloppiness of Dr. Herrera’s handwriting. That rationale, if affirmed, would support the revocation of the licenses of hundreds of thousands of physicians, and quite a few attorneys as well. If that were truly the Commission’s concern, then it could simply require training and monitoring to address the issue. In fact, the handwriting of the Board’s own expert was no more legible than Dr. Herrera’s. The other cited bases for revocation are even less legitimate and self contradictory. The Commission found that Dr. Herrera failed to perform an adequate history and physical on three patients, but that he also performed unnecessary diagnostic tests on them and prescribed excessive medication. Thus, he supposedly tested too little and also tested too much.”
Concluding Remarks

The scientific and medical enterprise is indisputably riddled with weaknesses, flaws, biases, and even corruption. Abundant evidence exists attesting to the fact that some scientists, physicians, regulatory agencies, denizens of the pharmaceutical industry, medical (consumer) advocates and medical boards are not above (among other things) being influenced and even corrupted by monetary incentives and influences, their own greed and ego, and the seduction of power; given to taking positions based more so on political expediency or self-serving agendas than fairness or objective truth; and are even (at times) disposed to advocate policies and endorse drugs, medical procedures and tests that are not only lacking in genuine scientific validation or support but which actually enjoy none of this.

This is not to argue for scraping it all or (to put it in the vernacular) “to toss the baby out with the dirty diaper.” The fact is that there is no better, more reliable way to arrive at what is true or reliable in the physical (testable) realm than the methods and tools of science. However, we have to temper this realization with (1) an awareness of the things many scientists, regulators, pharmaceutical kingpins, medical board members and others have done (and will do) which impede and even undermine the very “engine of progress” they are part of and play a large role in steering; and (2) a willingness to act on this awareness so as to help facilitate “course corrections.” Of course, non-scientists cannot tell scientists how to do science any more than non-physicians can tell physicians how to practice medicine. However, an informed citizenry can help keep the scientific enterprise fair and honest using the very time-tested tools that have kept our democracy from veering too far into the sort of extremism that tends to breed intolerance, injustice and tyranny: Resisting what is untrue, skewed and just plain wrong coupled with grassroots advocacy and activism aimed at minimizing and ultimately eliminating this.

At the very least make a conscious point of questioning “official findings” or pronouncements – be it issued or quoted by an august scientific body, a government agency, a consumer advocate or journalist or your trusted family doctor. The peg they are hanging their hat on could be cracked or even broken.

ADDITIONAL READING

MEDIA BIAS

Manufacturing Consent: The Political Economy of the Mass Media

Media bias is real, finds UCLA political scientist

How the FDA Manipulates the Media (Scientific American, October 2016)

HOW SCIENCE IS BEING UNDERINED BY DOGMATIC SKEPTICS

Suppressed Science on Skeptics (Many who loudly advertise themselves as “skeptics”)
HARM:

Side & adverse effects of conventional medicine & hospitals vs. natural (alternative medicine or CAM) health care practitioners and supplements

&

Side & adverse effects of natural & wholistic health care practices & supplements

(A Compendium)
STATISTICS & OTHER INFORMATION ON SIDE & ADVERSE EFFECTS: CONVENTIONAL MEDICINE & HOSPITALS

The highlights box and charts that follow are reproduced from “Medication-Related Adverse Outcomes in U.S. Hospitals and Emergency Departments, 2008”


### HIGHLIGHTS

- In 2008, drug-related adverse outcomes were noted in nearly 1.9 million inpatient hospital stays (4.7 percent of all stays), and 838,000 treat-and-release ED visits (0.8 percent of all visits).

- Over the five years **between 2004 and 2008, there was a 52 percent increase in drug-related adverse outcomes in the inpatient setting**—more than half of this increase was due to corticosteroids, anticoagulants, and sedatives and hypnotics.

- In the inpatient setting, corticosteroids, such as prednisone, caused 13.2 percent of all drug-related adverse outcomes.

- Analgesics, antipyretics, and antirheumatics were the second most common general cause of drug-related adverse outcomes for both inpatient and treat-and-release ED events, accounting for 12.5 percent and 11.8 percent of events, respectively. Within this category, opiates were the most common specific cause of drug-related adverse outcomes, responsible for 5.6 percent of all inpatient events and 4.4 percent of treat-and-release ED events.

- **Over 53 percent of all inpatient stays with a drug-related adverse outcome were for patients 65 or older.** Only 18.5 percent of treat-and-release ED visits with a drug-related adverse outcome were for elderly patients.

- Among treat-and-release ED visits involving drug-related adverse outcomes, analgesics and antibiotics were common causes of events for all age groups. **Psychotropics were another common drug-related adverse outcome for all age groups younger than 65.** Agents affecting the blood (such as anticoagulants) were a common drug-related adverse outcome for those 65 and older.
Based on a total of 1,874,800 in-patient stays and 838,000 ED visits.

Source: AHRQ, Center for Delivery, Organization, and Marketing, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample and Nationwide Emergency Department Samples 2008
Based on a combined total of 2,147,700 drug-related adverse outcome events in 1,874,800 inpatient stays, and 997,100 events in 838,000 treat and release ED visits with at least one drug-related adverse outcome recorded.

* More than one event can be recorded during an inpatient stay or ED visit.

** See appendix for details on these categories. Diagnoses in these categories reflect adverse events of unidentified or unclassified drugs; more specific information is not available in the codes.

THE TOLL OF MEDICATION ERRORS FROM RIGHT DIAGNOSIS

A 2000 Institute of Medical (National Academies) report divulged a great deal of information concerning deaths and adverse events due to errors in medication:

- 7,391 deaths were estimated to result from medication errors in 1993.

- The IOM report cited a study which found that about 2% of hospital admissions had a preventable adverse drug event although the majority of them were not fatal.

- Medication error was the cause of death for 1 in 131 outpatient deaths and 1 in 854 inpatient deaths.

**Prescription errors:**

There were nearly 2.5 billion prescriptions dispensed by US pharmacies in 1998 compared to an estimated 3.75 billion drug administrations in hospitals.

The IOM report cites an Australian study (1988-1996) in which it was reported that 2.4 to 3.6 percent of hospital admissions were “due to medication events, of which 32 to 69% were preventable”.

**Causes of these errors:**

Individuals with kidney and liver conditions as well as known drug allergies were at greatest risk. The IOM report cites the following as causal in these errors:

- Failure to modify or alter a medication or dosage due to reduced kidney or liver function (13.9%)
- Known allergy to same medication class (12.1%)
- Using the wrong drug name, dosage form, or abbreviation (11.4%)
- Incorrect dosage calculations (11.1%)
- Atypical or unusual and critical dosage frequency considerations (10.8%)

The data showed that the greatest risk in prescription errors came from doctors rather than pharmacists. The estimates are as follows:
• Prescribing errors (68%)
• Administration errors (25%)
• Supply errors (7%)

Adverse drug reactions:

Adverse drug reactions (ADR) are not necessarily a medical error although they can be. In adverse drug reactions a patient suffers a reaction, side effect, or other injury from the drug given.

In one study (Lazarou, Pomeranz, and Corey published in the *Journal of the American Medical Association* "Incidence of adverse drug reactions [ADRs] in hospitalized patients: a meta-analysis of prospective studies," *JAMA*, 1998;279:1200-1205), the authors estimated that 6.7% of hospitalizations resulted in an adverse drug reaction, and 0.32% of cases were fatal. **This translates to about 2,216,000 cases annually in hospitalized patients and 106,000 deaths.**

In another study (Holland et al 1997) **it was estimated that as many as 1 million patients are injured while in hospital and about 180,000 die as a result.**

The cost of this is estimate at more than $136 billion annually.

**Right Diagnosis:** [http://www.rightdiagnosis.com/mistakes/medicat.htm](http://www.rightdiagnosis.com/mistakes/medicat.htm)

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**THE FLIP SIDE**

*Harriet Hall, MD,* discusses what's wrong with contrasting the harm done by modern medicine with that of alternative medicine in an article titled “Death by Medicine” that was posted in the Science Based Medicine” blog on 6-24-2008: [http://bit.ly/LJFGg4](http://bit.ly/LJFGg4)

In her blog entry Dr. Hall mentions Critics of “conventional” medicine delight in pointing out how much harm it causes. Carolyn Dean, Gary Null, and others have written extensively about “death by medicine.” This link is to the article “Death by Medicine” penned by the aforementioned individuals: [http://bit.ly/6SD7pX](http://bit.ly/6SD7pX)
Death and serious patient outcomes from FDA approved drugs
(2000-2010)

"These data describe the outcome of the patient as defined in U.S. reporting regulations (21 CFR 310.305, 314.80, 314.98, 600.80) and Forms FDA 3500 and 3500A (the MedWatch forms). Serious means that one or more of the following outcomes were documented in the report: death, hospitalization, life-threatening, disability, congenital anomaly and/or other serious outcome. Documenting one or more of these outcomes in a report does not necessarily mean that the suspect product(s) named in the report was the cause of these outcomes."

Editor's Note: These data show "deaths" totaling 452,780 and "serious outcomes" equaling 2,816,297 occurred during the eleven years from 2000 to 2010 as tabulated from the FDA's Adverse Event Reporting System for prescription drugs.

Comparing the five years (2001-2005) with the five years (2006-2010) finds that the number of deaths grew by +66.7% for the second time frame as compared to first. For the same comparative spans, serious patient leaped by almost three quarters (+77.5%).

<table>
<thead>
<tr>
<th>Year</th>
<th>Death</th>
<th>Serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>19,445</td>
<td>153,818</td>
</tr>
<tr>
<td>2001</td>
<td>23,988</td>
<td>166,384</td>
</tr>
<tr>
<td>2002</td>
<td>28,181</td>
<td>159,000</td>
</tr>
<tr>
<td>2003</td>
<td>35,173</td>
<td>177,008</td>
</tr>
<tr>
<td>2004</td>
<td>34,928</td>
<td>199,510</td>
</tr>
<tr>
<td>2005</td>
<td>40,238</td>
<td>257,604</td>
</tr>
<tr>
<td>2006</td>
<td>37,465</td>
<td>265,130</td>
</tr>
<tr>
<td>2007</td>
<td>36,834</td>
<td>273,276</td>
</tr>
<tr>
<td>2008</td>
<td>49,958</td>
<td>319,741</td>
</tr>
<tr>
<td>2009</td>
<td>63,846</td>
<td>373,535</td>
</tr>
<tr>
<td>2010</td>
<td>82,724</td>
<td>471,291</td>
</tr>
</tbody>
</table>
1 AERS = Adverse Events Reporting System. This system managed by the U.S. Food and Drug Administration (FDA) contains over four million reports of adverse events and reflects data from 1969 to the present. Data from AERS are presented as summary statistics. These summary statistics cover data received over the last ten years. These data are presented at the individual report level; some of the numbers may reflect duplicate reporting due to factors such as follow-up reports received on a case or different persons reporting on the same patient case.

Source:

http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AERS/PatientOutcomes/
Side & adverse effects: Natural & wholistic health care practices & supplements

Reliable statistics on side and adverse effects of CAM practices and procedures as well as dietary supplements is not easy to come by.

THE FDA

The FDA does not appear to tabulate and publish sweeping statistics on side and adverse effects of CAM practices and procedures as well as dietary supplements. This federal agency does invite consumers and health care providers who have general complaints or concerns about food products including supplements contact them. Those who believe have had a “serious harmful effect or illness from a dietary supplement” are urged to have their health care provider report this by calling the FDA’s MedWatch hotline at 1-800-FDA-1088 or submitting a report online. “The MedWatch program allows health care providers to report problems possibly caused by FDA-regulated products such as drugs, medical devices, medical foods and dietary supplements. The identity of the patient is kept confidential.”

The FDA adds that “Consumers may also report an adverse event or illness they believe to be related to the use of a dietary supplement by calling FDA at 1-800-FDA-1088 or online. FDA would like to know when a product causes a problem even if you are unsure the product caused the problem or even if you do not visit a doctor or clinic.”

The FDA’s MedWatch program is found at http://www.fda.gov/Safety/MedWatch/default.htm

The FDA’s webpage on supplements is found at http://www.fda.gov/Food/DietarySupplements/default.htm

OTHER SOURCES

Information is available from various other governmental and private sector sources though no comprehensive or sweeping statistical analysis that covers hard done by both CAM treatments & diagnostic methods and dietary/herbal supplements appears to exist at this time.

JOURNAL OF MEDICAL TOXICOLOGY STUDY

For instance there was a paper published in the Journal of Medical Toxicology in June 2008 concerning the result of a study in which a firm called Amgen “collaborated with the FDA Center for Food Safety and Nutrition (CFSAN) to conduct a 1-year prospective surveillance study of dietary supplement-related poison control center calls in 2006. Prompt follow-up of symptomatic cases, laboratory analysis of implicated dietary supplements, and causality assessment by a case review expert panel were performed”.

Page 28 of 39
In the study abstract posted on PubMed, it states that “Of 275 dietary supplements calls, 41% involved symptomatic exposures; and two-thirds were rated as probably or possibly related to supplement use. Eight adverse events required hospital admission. Sympathomimetic toxicity was most common, with caffeine products accounting for 47%, and yohimbe products accounting for 18% of supplement-related symptomatic cases. Suspected drug-herb interactions occurred in 6 cases, including yohimbe co-ingested with buproprion (1) and methamphetamine (3), and additive anticoagulant/antiplatelet effects of NSAIDs taken with fish oils (1) and ginkgo (1). Laboratory analysis identified a pharmacologically active substance in 4 cases; supplement toxicity was ruled unlikely when analytical testing was negative in 5 cases.”

“Most supplement-related adverse events were minor. Clinically significant toxic effects were most frequently reported with caffeine and yohimbe-containing products. Active surveillance of poison control center reports of dietary supplement adverse events enables rapid detection of potentially harmful products, which may facilitate regulatory oversight.”

The entire paper can be accessed by clicking this link: http://bit.ly/MlIhuo

NATURAL PRODUCTS ASSOCIATION

The Natural Products Association, a private nonprofit organization “dedicated to the natural products industry” shared this on their website under “Dietary Supplement Safety”

Dietary supplements have a great safety record, especially compared with other consumer goods, such as drugs and even other foods. Below are a few statistics that support this claim.

The truth is that dietary supplements are far safer than most common foods and drugs that consumers use without a second thought. For instance, it may surprise you that ibuprofen, one of the most common pain relievers, is responsible for more than 17,000 deaths annually [New England Journal of Medicine].

Prescription drugs, for all the testing they go through and copious usage directions that are issued with them, are estimated to be one of the top five leading causes of death in the U.S. at more than 106,000 annually[Journal of the American Medical Association].

More than 5,000 Americans are killed each year by food borne illnesses [U.S. Centers for Disease Control].

One reason there is so much fearmongering about supplements is because few experts can agree on accurate sources for statistical information about their safety. But even when trusted sources, such as the Food and Drug Administration or the American Association of Poison Control Centers, do issue
statistics on adverse reactions connected with supplements, they are usually
dismissed as being unrealistically low.

In 2001, the FDA received 1,214 reports of adverse events regarding dietary
supplements. That same year, it received more than 300,000 adverse
reports about drugs. So, supplements represent less than half-of-one
percent of drug adverse events using current FDA data.

Is the higher safety profile for dietary supplements unique to the FDA's data? No. According to reports from poison control centers throughout the United
States, adverse reactions to drugs are more than 800 percent higher than
those to dietary supplements [American Association of Poison Control
Centers].

Wolfe M. M., Lichtenstein D. R., Singh G., "Medical Progress: Gastrointestinal
Toxicity of Nonsteroidal Antiinflammatory Drugs," New England Journal of

Lazarou, Jason, Pomeranz, Bruce H., Corey, Paul N., "Incidence of Adverse
Drug Reactions in Hospitalized Patients: A Meta-analysis of Prospective

Paul S. Mead, et al, "Food-Related Illness and Death in the United States,"

U.S. Food and Drug Administration, "FDA Proposes Manufacturing and Labeling
version available here.

U.S. Food and Drug Administration, Center for Drug Evaluation and Research,
version available here.

Toby L. Litovitz, at al, "2001 Annual Report of the American Association of
Poison Control Centers Toxic Exposure Surveillance System," American Journal
of Emergency Medicine, 20, no. 5 (2002). Electronic version available here.

WHAT'S THE HARM?

The “What's The Harm?” website is devoted to promoting the vital need for critical thinking skills by accruing and sharing accounts of harm done people who purportedly did not possess them or did but did not exercise them (Whether when it came to their own person or someone in their orbit). This includes accounts of folks harmed not just various CAM practices and dietary
supplements but also a whole host of other things such as the “supernatural and paranormal” and more. In the site’s own words:

“This site is designed to make a point about the danger of not thinking critically. Namely that you can easily be injured or killed by neglecting this important skill. We have collected the stories of over 670,000 people who have been injured or killed as a result of someone not thinking critically.

What follows below was gleaned from their website:

**Acupuncture** - 1,184 people harmed. 1 death (AIDS), 3 other deaths including one with untreated breast cancer, 3 useless or ineffective treatment, 1 bruised back, 1144 infections, 30 Hepatitis B infections in London

**Alternative Dentistry** - 9 people harmed.

**Applied Kinesiology** - 5 people harmed. 1 death untreated epilepsy, 1 death untreated cancer, 2 near deaths, 1 improper treatment & subsequent infection

**Ayurvedic Medicine** - 20 people harmed. 1 death, 12 lead poisoning cases, 7 Delayed treatment in breast cancer, worsening disease

**Chelation Therapy** - 12 people harmed. 6 deaths, 1 kidney failure, 1 heart attack, 1 useless treatment

**Chiropractic** - 312 people were harmed. Worst of the lot: 2 paralyzed, 4 injured, 17 died, 18 strokes.

**Colloidal Silver** - 6 people were harmed. All 6 developed Argyria (permanent skin condition).

**Colon Cleansing** - 44 people were harmed. Worst: 7 deaths, 1 kidney failure.

**Detoxification** - 17 people were harmed. Worst: 10 deaths, 1 brain damaged.

**Energy Medicine** - 100,018 people were harmed. Worst of the lot: 14 deaths.

**Escharotics** - 5 people were harmed. 4 people disfigured, 1 death.

**Herbal Remedies** - 100,508 people were harmed. Worst of the lot: At least 47 deaths many related to treating serious illness like AIDS or cancer with herbs or herbal products. Some arsenic and other poisoning.

**Holistic Medicine** - 4 people were harmed. 1 kidney failure, some deaths due to delayed treatment.

**Home childbirth** - 14 people were harmed. Worst: 8 deaths.
**Homeopathy** - 437 people were harmed. **Worst:** At least 29 deaths most due to delayed treatment.

[http://whatstheharm.net/iridology.html](http://whatstheharm.net/iridology.html) - 204 people were harmed. **Worst of the lot:** 3 deaths.

**Naturopathy** - 200 people were harmed. **Worst of the lot:** At least 18 deaths many due to delayed or inappropriate treatments.

**Osteopathy** (Osteopathic Manipulation)- 13 people were harmed. **Worst of the lot:** 6 deaths, 4 paralyzed.

**Ozone Therapy** - 13 people who were harmed. **Worst of the lot:** 4 deaths.

**Vaccine denial** - 4,403 people were harmed. **Worst of the lot:** 11 deaths.

**Vitamin Megadoses** - 100,174 people were harmed. **Worst of the lot:** 18 deaths.

The websites tally of harm from all causes is: **368,379 people killed, 306,096 injured and over $2,815,931,000 in economic damages**

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**AMERICAN POISON CONTROL CENTERS 2010 REPORT**


**Table 6A. Reason for Human Exposure Cases – Page 924**

<table>
<thead>
<tr>
<th>Reason</th>
<th>N</th>
<th>%Human exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintentional - General</td>
<td>1,367,682</td>
<td>57.3</td>
</tr>
<tr>
<td>Unintentional - Therapeutic error</td>
<td>269,889</td>
<td>11.3</td>
</tr>
<tr>
<td>Unintentional - Misuse</td>
<td>128,923</td>
<td>5.4</td>
</tr>
<tr>
<td>Unintentional - Bite/sting</td>
<td>61,584</td>
<td>2.6</td>
</tr>
<tr>
<td>Unintentional - Environmental</td>
<td>57,384</td>
<td>2.4</td>
</tr>
<tr>
<td>Unintentional - Food poisoning</td>
<td>26,221</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Unintentional - Occupational 24,546 1.0
Unintentional - Unknown 4,619 0.2
**Subtotal** 1,940,848 81.4

Adverse Reaction

Adverse reaction - Drug 42,201 1.8
Adverse reaction - Other 13,612 0.6
Adverse reaction - Food 5,775 0.2

**Subtotal** 61,588 2.6

On page 934 a table appears titled **“Table 17A. Substance Categories Most Frequently Involved in Human Exposures (Top 25)”** in which the entry for vitamins breaks down as:

<table>
<thead>
<tr>
<th>Substance (Major Generic Category)</th>
<th>All substances % a</th>
<th>Single substance exposures % b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamins</td>
<td>71,545</td>
<td>2.57</td>
</tr>
<tr>
<td></td>
<td>62,743</td>
<td>2.92</td>
</tr>
</tbody>
</table>

a. Percentages are based on the total number of substances reported in all exposures (N = 2,784,907).
b. Percentages are based on the total number of single substance exposures (N = 2,147,248).

And on page 935 there is a table titled **“Table 17B. Substance Categories with the Greatest Rate of Exposure Increase (Top 25)”**

**Increase in exposures per year a**

<table>
<thead>
<tr>
<th>Substance (Major Generic Category)</th>
<th>Mean 95% CIa</th>
<th>All substances in 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamins</td>
<td>2,337 [2005, 2668]</td>
<td>71,545</td>
</tr>
<tr>
<td>Dietary Supplements/Herbals/Homeopathic</td>
<td>900 [448, 1351]</td>
<td>32,052</td>
</tr>
</tbody>
</table>

a Increase and confidence intervals are based on least squares linear regression of the number of calls per year for 2000 – 2010.

On the same page there is a table titled **“Table 17C. Substance Categories Most Frequently Involved in Pediatric (< 5 years) Exposures (Top 25)”**

<table>
<thead>
<tr>
<th>Substance (Major Generic Category)</th>
<th>All substances % b</th>
<th>Single substance</th>
<th>exposures % c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamins</td>
<td>52,254 4.16</td>
<td>47,758</td>
<td>4.07</td>
</tr>
<tr>
<td>Dietary Supplements/Herbals/Homeopathic</td>
<td>22,017 1.75</td>
<td>20,240</td>
<td>1.73</td>
</tr>
</tbody>
</table>
a Includes all children with actual or estimated ages < 5 years old. Results do not include “Unknown Child” or “Unknown Age”.

b Percentages are based on the total number of substances reported in pediatric exposures (N = 1,257,025).

c Percentages are based on the total number of single substance pediatric exposures (N = 1,173,168).

The Summary section on page 940 includes these statements:

“Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time, always current status of NPDS represents a national public health resource to collect and monitor US exposure cases and information calls.

Changes in encounters in 2010 compared to 2009 shown in Figure 4 include:

- Total encounters (all exposure and information calls) decreased by 7.7%;
- All information calls decreased 12.6%, Drug ID calls decreased 10.9%, and human exposures decreased 3.8%;
- Health care facility (HCF) information calls decreased 13.6% while HCF exposures increased 2.7%;
- Human exposures with less serious outcomes decreased 5.9% while those with more serious outcomes (minor, moderate, major, or death) increased 4.5%;

These data support the continued value of poison center expertise and need for specialized medical toxicology information to manage the more severe exposures, despite a decrease in calls involving less severe exposures.”

NEWSPAPER AND OTHER PUBLIC SOURCES

In an essay titled “Diet Supplements and Safety: Some Disquieting Data” By Dan Hurley that appeared in the Health section of the New York Times dated January 16, 2007, many facts and figures on harm done by dietary supplements are shared including:

“All diet supplements: 125,595 exposures, 5,334 adverse reactions, 17,843 health care visits, 12,314 medical outcomes.”

Certain dietary supplements associated with increased risk of death in older women (October 2011) http://www.eurekalert.org/pub_releases/2011-10/jaaj-cds100611.php

On a University of Minnesota information webpage titled “Taking Charge of Your Health” under “Are Botanical Medicines Safe?” this question appears and is addressed:
How big a risk are adverse reactions?

The 2006 Dietary Supplement and Non-prescription Drug Consumer Protection Act added more rigorous oversight of dietary supplements and mandated reporting of serious adverse events associated with dietary supplements and over-the-counter products.

But this is not to say that there have been large problems with botanical safety. While serious adverse reactions to botanicals have been reported from time to time, botanicals typically possess an inherently wide margin of safety (Farnsworth, 1993). Most adverse reactions are produced by a small number of botanicals.

Data from the American Association of Poison Control Centers Toxic Event Surveillance Database supports this. A study compared the adverse events due to one botanical, ephedra, to that for all other botanical medicines. Ephedra products were responsible for 64 percent of adverse reactions but accounted for only 0.82 percent of total sales (Bent, 2003). In April 2004, the FDA issued a ban on all dietary supplements containing ephedra.

Since the ephedra ban in 2004, numerous alternative products, such as bitter orange extracts containing synephrine, have been introduced to fill the void. While information on the safety and efficacy of these alternative products is generally lacking, there has not been a dramatic upturn in reported adverse reactions that can be attributed to the marketing of these ephedra alternatives (Seamon & Clauson, 2005).

Compare adverse reactions in pharmaceuticals and botanicals

<table>
<thead>
<tr>
<th>Pharmaceuticals</th>
<th>Botanicals (Dietary Supplements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse drug reactions to pharmaceutical medications were responsible for more than 100,000 fatalities per year, while non-fatal adverse reactions serious enough to warrant hospitalization were reported for approximately 2.2 million cases (Lazarou, 1998). These statistics apply only to adverse drug reactions in which the medication was appropriately used.</td>
<td>Reported fatalities from adverse reactions to botanical supplements range from less than 12 to 24 (at most). Admittedly, adverse reactions to dietary supplements are not as well monitored as for pharmaceuticals. Even allowing for under-reporting, however, the documented number of serious or life-threatening adverse reactions to botanical medicines remains extremely low. For current information on adverse events reported to the FDA, visit the FDA Center for Food Safety and Applied Nutrition.</td>
</tr>
</tbody>
</table>
And from a paper titled “Herbal Products and Dietary Supplements: A Survey of Use, Attitudes, and Knowledge Among Older Adults” that appeared in the Journal of the American Osteopathic Association (January 1, 2007 vol. 107 no. 1 13-23) which can be accessed in its entirety at http://www.jaoa.org/content/107/1/13.full.pdf+html:

“Anecdotally, it is thought that herbal products and dietary supplements are popular as a result of a widespread belief that the preparations are natural and, therefore, safe. However, in conjunction with this increasing popularity, the number of adverse events, drug interactions, and deaths involving these products has been on the rise.13,15,17,19,20 The World Health Organization reported in 1995 that it had received thousands of reports of suspected adverse reactions to herbal products.21

From 1994 to 1998, the FDA received more than 800 reports of adverse events associated with dietary products containing ephedrine alkaloids, specifically Ephedra or ma huang.22 In 2004, after a meta-analysis commissioned by the National Institutes of Health reported more than 16,000 adverse events associated with Ephedra,23,24 the FDA banned dietary supplements containing this plant-based alkaloid.25 Adverse events associated with Ephedra sinica include cardiac arrest, heart palpitation, insomnia, stroke, and tremor.23-25 Drug interactions involving a number of other herbal products are also becoming increasingly well documented.15,18-20"
RESOURCES & ADDITIONAL READING

NIH’s Office of Dietary Supplements: http://ods.od.nih.gov/

FDA’s Dietary Supplement Alerts and Safety Information webpage: http://www.fda.gov/Food/DietarySupplements/Alerts/default.htm

National Health Information: http://www.health.gov/nhic/

The Cochrane Collaborative – Useful source for evaluating evidence

PIER (American College of Physicians) - Provides information on specific diseases and includes interpretations of the extant evidence

DrugWatch Keeping an eye on pharmaceuticals - recent drug alerts included.


Selected Herb-Drug Interactions (University of Michigan): http://www-personal.umich.edu/~mshlafer/Lectures/herbdrug.pdf


Walgreen’s offers a way to check drug interactions on-line: https://www.walgreens.com/pharmacy/library/checkdrug/selectfirstdrug.jsp

Mayo Clinic searchable Drugs and Supplements database: http://www.mayoclinic.com/health/drug-information/DrugHerbIndex

SafeMedication (Easy to read and reliable information on prescription drugs from the American Society of Health-System Pharmacists (ASHP)) http://www.safemedication.com/

PDRhealth (Consumer health information on drugs and medications provided by publishers of Physicians’ Desk Reference) http://www.pdrhealth.com/

DrugDigest (Evidence-based drug information site helping consumers make informed choices about medications and treatment options) http://www.drugdigest.org/wps/portal/ddigest

University of Maryland Medical Center Alternative Medicine Index (Extensive information on alternative medicines, herbs and supplements, in areas such as treatment approaches, conditions, side effects, and interactions with prescription drugs) http://bit.ly/1pRPlJ
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