# HEALTH AND STRESS

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# IS MEDICINE NOW MORE ABOUT $$$ THAN HEALTH?


KEYWORDS: Medical Nemesis, evidence based medicine, direct-to-consumer advertising, medicalization (turning healthy people into patients), Dr. Robert Jarvik, Dr. Barbara Starfield, iatrogenic disease, primary health care, illegal immigrants, Dr. Oliver Wendell Holmes, Vioxx, Avandia, Dr. Thomas Wakley, Dr. Richard Smith, Dr. Marcia Angell, Dr. Jerome Kassirer, Dr. Arnold Relman, Ghostwriting, Dr. Catherine DeAngelis


Four decades ago, an iconoclast named Ivan Illich asserted that it was the nature of most institutions and organizations to eventually end up performing in a manner directly opposite to their original purpose due to corruption and greed. In preparing for the priesthood, he had studied theology and philosophy, and his Ph.D. thesis was an exploration of the institution of charity in the 13th century Roman Catholic Church.

## Also Included In This Issue



He showed how this led to dishonesty that soon spread to other church activities that were also dedicated more to making money than providing a service. If corruption was discovered it was often ignored, and even if corrected, usually resurfaced in a different form. Similarly, schools had become repressive institutions in which pupils had no control over what they learned or how they learned it. They were simply instructed by an authoritarian regime. To be successful, one must conform to its rules, which smothered creativity and imagination, and stultified students into following the interests of those in power.

While these were radical, if not heretical, ideas at the time, Illich's prediction has proven to be alarmingly accurate. In recent years, the Catholic Church has been rocked by numerous scandals involving priests, concealed crimes, corruption and cover-ups by higher authorities. Respected charities like the Red Cross have been accused of misappropriating or withholding hundreds of millions of dollars donated to help 9/ll, Katrina and tsunami victims.

There are numerous other examples to vividly demonstrate that corruption and greed inevitably result when institutions and organizations become more powerful, especially if they are governed by a self-perpetuating autonomous hierarchy that is not subject to any significant external regulation or control. Illich believed that the medical care system best exemplified how a noble and respected profession had ended up achieving the opposite of its stated purpose. In his 1975 book *Medical Nemesis: the expropriation of health*, he warned that, "Within the last decade **medical professional practice has become a major threat to health.** Depression, infection, disability, dysfunction, and other specific **iatrogenic diseases now cause more suffering than all accidents from traffic or industry**. . . . By transforming pain, illness, and death from a personal challenge into a technical problem, medical practice expropriates the potential of people to deal with their human condition in an autonomous way and becomes the source of **a new kind of unhealth."**

He was referring to the destruction of traditional ways that people coped and adapted to death, illness, pain and other stresses of daily life that are unavoidable. What had formerly been the responsibility of individuals, their families and friends, had been increasingly co-opted by the medical profession — not because of philanthropic or humanitarian aims dedicated to promoting health, but for financial gain. It is important to emphasize that Illich was not trying to discredit doctors *per se*, since the vast majority made the patient's welfare their top priority. He also recognized the life-saving benefits of antibiotics and other gains made by technological advances. His admonition that **"the major threat to health in the world is modern medicine"** was based on his conviction that it had exceeded its limits in a sacrosanct crusade to eradicate all diseases and prolong life. This was the result of the institutional domination of all illness related issues that were now motivated primarily by increasing profits.

One illustration he cited was hospice end of life care for cancer patients that was given under the guise of prolonging life and improving its quality. While adequate pain relief medications and nursing care were given, many of these terminal patients also routinely received needless expensive but reimbursable chemotherapy. This gave the impression that everything possible was being done for the patient and could be justified by explaining that it was based on official recommendations for that particular malignancy. Unless the patient or an authorized representative refused this, to deny chemotherapy might be considered tantamount to malpractice. This, despite the fact that there was no possibility that any life saving treatment was available. More importantly, it was equally clear that chemotherapy would likely only worsen the quality of their few remaining weeks because of toxic

side effects. Illich likened this to the plight of Prometheus in Greek mythology.

> In hubris or measureless presumption, he brought fire from heaven, and thereby brought Nemesis on himself. He was put into irons on a Caucasian rock. A vulture preys at his innards, and heartlessly healing gods [medicine] keep him alive by regrafting his liver each night.

Nemesis comes from the Greek *nemein* (to give what is due) and Nemesis was the goddess of divine punishment, who dispensed appropriate retribution for offensive or arrogant acts. Illich's book was entitled *Medical Nemesis*, because he believed that medical institutions would eventually receive the punishment they deserved for acting in a manner diametrically opposed to the principles they were founded on. That judgment day seems a long way off for corrupt and greedy pharmaceutical companies and medical organizations whose major goal now seems to be amassing more wealth and gain even greater power.

## How Deceptive Advertising Can Quickly Convert Healthy People Into Patients

Illich insisted that the treatment of any patient should be dictated by whatever could be supported by the most scientifically validated medical literature, or what we today call "evidence-based" medicine. Physicians and patients tend to believe that there are reliable standard therapies for certain diseases that are indisputable, since everyone uses them and they have withstood the test of time. Anyone who fails to respond is "the exception that proves the rule." But records of this or adverse effects are rarely available, and many illnesses resolve spontaneously regardless of what has been administered, including placebos. An analysis of over 1,000 systematic reviews containing this type of comprehensive information concluded that the intervention was "likely to be beneficial" in only 44%, "likely to be harmful" in 7%, and in 49%, the evidence "did not support either benefit or harm." TV drug promotions usually hype the benefits and minimize any disadvantages, and these ads are repeated so frequently that they are accepted as scientific proof, especially since they usually end with "Ask your doctor", implying that there is universal approval by the medical profession.

Most people are unaware that, except for New Zealand, **the United States is the only country that allows direct-to-consumer advertising.** It is permitted here because pharmaceutical companies convinced the FDA that it would help to educate the public on the availability of medications that might be appropriate for their complaints. Drug advertising to consumers is banned in all other countries since it's real purpose is to increase sales as much as possible by whatever strategy proves to be the most effective, even it means creating a new disease for a product that is not selling well. In that regard, *Medical Nemesis* also introduced the concept of "medicalization", which refers to turning healthy people into patients by marketing forces that

determine not only what constitutes a disease but also how it should be treated. This growing trend is facilitated by deceptive direct advertising to consumers, especially on TV.

In a remarkably revealing and candid 1976 *Fortune* article, Merck CEO Henry Gadsen complained that his only customers were people who were sick. He said he wanted his company to make drugs for healthy people so that he could "sell to everyone"; much like Wrigley sold their chewing gums. His dream has now come true, but for many, it is more like a dangerous (and expensive) nightmare. We have discussed several examples of this in prior Newsletters, a good illustration being Lamisil (terbinafine) for the treatment of onychomycosis. While this sounds like a horrible disease, it is merely a fungus infection that can turn toenails yellow and thick, but it is neither painful nor hazardous to health. Lamisil TV ads lure viewers with Digger the Dermatophye, an ugly short devilish-like cartoon character, who lifts up a thick and ugly toenail as if it were the hood of a car. As he snuggles under the nail, he announces in a raspy Brooklyn accent, "I'm not leavin" and then invites all his little yellow friends to also make their homes there. What you are not told is that Lamisil only cures the condition in 38% of patients, and the warnings that the FDA had linked Lamisil to 16 cases of liver failure and 11 deaths, that there can be serious reactions with other medications, and that is necessary to avoid any alcohol, are minimized or glossed over. Nor are viewers told that the average time for a cure is ten months, at a cost of $850 for three months, so that the total price tag is several thousand dollars, or that almost two out of three patients will have spent this with little or no benefit. Yet, well over 10 million Americans have taken Lamisil, because insurance pays for most of the cost. To give you some idea of the profit margin, a three months supply of Lamisil in Canada costs $180.

Irritable bowel syndrome (IBS) is another disorder that was blown out of proportion to promote sales of Zelnorm. Originally rejected by the FDA, Zelnorm got approval in 2002 for short-term treatment of diarrhea in women under the age of 65. Like many other drugs that are heavily advertised, it was recalled in 2007 because of an alarmingly increased incidence of heart attacks and strokes. Over 2 million Zelnorm prescriptions were written in 2005. Lotronex, another IBS medication, had previously been withdrawn in 2000 because of serious life-threatening side effects. Other diseases that have apparently been recently discovered or invented, include "social anxiety disorder", "premenstrual dysphoric dysfunction"(PMDD), "female sexual dysfunction" and "restless leg syndrome". Lately there has been a backlash about these tactics, and regulatory authorities have increasingly demanded that all drug disadvantages be clearly stated in all promotion efforts. As a result, TV ads for some drugs that provide lengthy lists of associated side effects or complications have become so scary, that one

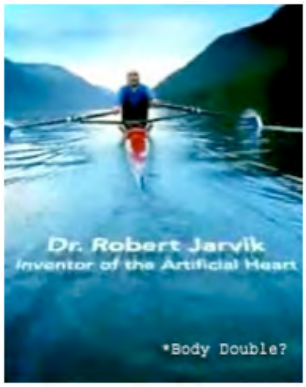
wonders why anyone would choose to be exposed to such potential dangers.

**How Lipitor Became The World's Best Selling And Most Profitable Drug**

Some drug promotions are not only deceptive, but also fraudulent. Pfizer's TV Lipitor ads featured Dr. Robert Jarvik, a "distinguished cardiologist". After being introduced as the "inventor of the artificial heart', he turns to the camera and says, "Just because I'm a doctor doesn't mean I don't worry about my cholesterol." He not only takes Lipitor himself, but also prescribes it to family and friends, and recommends it for everyone because it reduces heart attack risk by 36%. To demonstrate his "healthy heart, a close up shows him rowing vigorously, and then skillfully sculling away across a pristine lake. Some representative clips are shown below.

Explaining the artificial heart


Lipitor Reduces Heart attacks by 36%




Sculling like a champion racer

Others show him jogging effortlessly with his son. Dr. Jarvik is portrayed not only as a trustworthy authority, but also a caring cardiologist who is in superb physical shape. The audience doesn't know that he is not a cardiologist, has never been licensed as a physician, nor could he legally prescribe any drug. It was doubtful that he or his family ever took Lipitor until he was hired for this publicity blitz. He did not invent the artificial heart, and the Jarvik 7 model artificial heart he is shown with never worked and was created by someone else. Dr. Jarvik has no sculling experience. The shots showing how he turned the blades perfectly to achieve minimum drag between strokes were of an athletic, late middle-aged accomplished rower (Dennis Williams), who was selected because he was Jarvik's size and had a similar receding hairline. The close up frames that actually showed Dr. Jarvik were taken while he was in a rowing apparatus on an elevated platform to conceal that it was on dry land, with the lake in the background.

Nevertheless, wearing a white coat with a stethoscope draped around it, Jarvik tells viewers that Lipitor can lower "bad" cholesterol by up to 60% to achieve a "36% reduction in heart attacks*". "I'm glad I take Lipitor, as a doctor and as a dad," he says, before a final shot shows his double rowing

with vigorous, muscular strokes in the distance. Few paid any attention to the asterisk after the claim that Lipitor resulted in a "36% reduction in heart attacks*". It pointed to a statement in mice type at the bottom of the screen explaining that there were 2 heart attacks out of 100 patients on Lipitor, compared to 3 heart attacks for controls taking a placebo. However, this 1% difference was only for those with "multiple risk factors for heart disease" who took Lipitor daily for over a decade. **How many people would take Lipitor if they knew that its likelihood of preventing a heart attack was one in 100 if they took it for over ten years? And this only for those at high risk!**

Jarvik was paid $1.35 million for his endorsement, and family members also received generous compensation. The eventual cost of the campaign, which was likely close to $300 million, was well worth it. When *Consumer Reports* showed the Jarvik ad to almost 1,000 patients who had been told by their physicians to lower their cholesterol, they received the following reactions:

- Sixty-five percent said the ad conveyed that leading doctors prefer Lipitor.
- Forty-eight percent said Dr. Jarvik's endorsement made them more confident about Lipitor.
- Twenty-nine percent had the definite impression from the ad that Dr. Jarvik sees patients regularly.
- Thirty-three percent of those taking another prescription statin said they were likely to speak to their physician about switching to Lipitor.
- Forty-one percent said the ad conveyed that Lipitor is better than generic alternatives. (In fact, the vast majority of people taking statins can get the same results from a generic for less than half the cost.)
- Over 90 percent believed that the ad was credible and accurate.

The message for most was that Lipitor could reduce heart attacks in more than one out of three healthy people, regardless of their cholesterol. Few paid any attention to the asterisk after the claim that Lipitor resulted in a "36% reduction in heart attacks*". **There is no evidence that Lipitor should be prescribed for healthy people over 65 or women of any age, except for patients with heart disease and possibly diabetes**. The largest clinical trial of statin efficacy in females, found that women at increased risk for heart disease who received Lipitor suffered 10 percent more heart attacks than placebo controls. As John Abramson, author of *Overdosed America* noted, "Millions of women and seniors are spending huge sums to take Lipitor every day despite a lack of proof that it's doing anything beneficial for them, and may actually be harming the elderly." For years, Lipitor was the second most prescribed Medicare drug, and it is still in the top five. The reason it has been so successful is that we tend to believe something when it is repeated more than three or four times, especially by

different sources. As William James noted, "There's nothing so absurd that if you repeat it often enough, people will believe it." Pfizer flooded popular TV programs and magazines with Dr. Jarvik ads, until a Congressional probe, into whether he was dispensing medical advice without a license, and other problems related to false claims, forced Pfizer to discontinue them.

## The Growing Problems Of Greed, Fraud, Corruption and Iatrogenesis

The reason pharmaceuticals are so expensive is usually attributed to the high costs of research and development, but the fact is that drug companies spend twice as much on advertising and marketing. And, as Illich predicted, greed and corruption are now rampant. Several states are suing drug companies for inflating Medicaid and Medicare prices by hiding true drug prices via secret rebates, discounts, free products and other means. The U.S. Department of Justice found that **one company had set its average wholesale price for one drug at $926.00, when the actual cost was $1.71!** Soaring drug prices pose a particular problem for senior citizens on fixed incomes, who must often choose between medications they must have, and other necessities like food and housing. Many Americans resorted to sending their prescriptions to Canada where the identical product could be obtained at a much lower price. Due to pressure from drug store chains and manufacturers, who claimed the products could be counterfeit, Congress tried to ban such sales, but quickly abandoned it because of public outrage.

Many, if not most of Americans believe that we have the best health care system in the world. After all, royalty, celebrities and others from foreign countries who can afford it, tend to come here for treatment. The vast majority of Nobel Laureates in Medicine over the past few decades have been from the U.S. Probably nobody has done more to dispel this myth about our superiority than Barbara Starfield, MD, MPH, who headed the Department of Health Policy and Management at Johns Hopkins. In a scathing *JAMA* Commentary published in 2000, she pointed out that **of 13 countries, the United States ranked an average of 12th (second from the bottom) for 16 available health indicators**. These included:

- 13th (last) for low-birth-weight percentages
- 13th (last) for neonatal mortality and infant mortality overall
- 13th (last) for years of potential life lost (excluding external causes)
- 11th for postneonatal mortality
- 11th for life expectancy at 1 year for females, 12th for males
- 10th for life expectancy at 15 years for females, 12th for males
- 10th for life expectancy at 40 years for females, 9th for males
- 10th for age-adjusted mortality
- 7th for life expectancy at 65 years for females, 7th for males
- 3rd for life expectancy at 80 years for females, 3rd for males

Japan, Sweden, Canada, France, Australia, Spain, Finland, the Netherlands, the United Kingdom, Denmark, and Belgium, all had higher rankings in that order, and we were only slightly better than Germany. It was proposed that our poor performance was due to the fact that we "behaved badly" in regard to smoking, drinking, and perpetrating violence, but when compared to the others, the data did not support this. With respect to the leading cause of U.S deaths, heart disease, the usual dogma about elevated cholesterol due to a high fat diet was blamed. But middle-aged American men had the third lowest mean cholesterol concentrations and the fifth lowest consumption of animal fat in 20 industrialized nations. So why were we so low on this ranking list? The two factors that Starfield believed contributed most to this were the inadequacy, inefficiency and excessive costs of our current health care system, and our very high rates of iatrogenic disease and deaths.

She emphasized that 5 of the 7 countries with the best health rankings had strong primary health care programs, defined as "essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain." At the time, some 40 million had no such coverage, but today is now closer to 60 million. **More than 1 in 4 U.S. citizens have no health insurance,** in contrast to 15 other countries in North and South America, 30 in Asia, and every European nation. All of these have publicly sponsored health care for their subjects. One factor contributing to this disparity not mentioned in her report are the 12 million illegal immigrants with no health insurance that now must be treated in ERs, hospitalized or air lifted to trauma centers, at no charge under Federal law. In some states, pregnant women can get free prenatal care and supplies (formula, diapers, bottles, car seats) at taxpayer expense. Babies born here automatically become U.S. citizens and it is not unusual for Mexican men to marry 16-year-old girls, get them pregnant and bring them here to deliver.

It is not surprising that the Mexican border states of California, Arizona, New Mexico and Texas have the highest numbers of uninsured patients that caused 84 California hospitals to go bankrupt and close, as did dozens of hospitals in these other states. Illegal immigrants are also responsible for the sudden appearance of leprosy in the U.S., the emergence of tapeworm cysticercosis and dysentery in border states, as well as the rise in tuberculosis, which is ten times higher in foreign-born residents. As they migrate to other states to find work, they also pose health problems. River blindness, malaria, and guinea worm, have all been brought to northern Virginia by immigrants. A typhoid fever outbreak in Silver Spring, MD was eventually traced to an immigrant food handler who had been working at a local McDonald's for several years.

*Iatros* means healer in Greek, and iatrogenic disease originally referred to unintentional illness caused by a physician. However, it now encompasses accidental errors made by anyone engaged in health care. A good illustration is puerperal fever, which Ignaz Semmelweis proved in the 1840's was caused by the failure of doctors to wash their hands before delivering babies or examining maternity ward patients. He was viciously persecuted by his colleagues for suggesting this and committed to an insane asylum where he was beaten and died at the age of 47. Oliver Wendell Holmes Sr. had previously proposed that "childbed" fever was frequently carried from patient to patient by physicians and nurses. Despite his stature as a prominent physician and serving as the first Dean of Harvard Medical School, Holmes was also ridiculed by his contemporaries. In addition, long before Illich, he had also suggested that physicians and the medications they prescribed might be doing more harm than good as noted in the following quotation taken from his 1860 *Currents and Countercurrents in Medical Science*.

> The truth is that medicine, professedly founded on observation, is as sensitive to outside influences, political, religious, philosophical, imaginative, as the barometer to the changes of atmospheric density. . . . **If the whole *material medica*, as now used, could be sunk to the bottom of the sea, it would be all the better for man and all the worse for the fishes.**

If he were alive today, drug companies would be at the top of his list.

Starfield found iatrogenesis to be the third leading cause of death, based on:

- 12,000 deaths/year from unnecessary surgery
- 7,000 deaths/year from medication errors in hospitals
- 20,000 deaths/year from other errors in hospitals
- 80,000 deaths/year from nosocomial infections in hospitals
- 106,000 deaths/year from nonerror, adverse effects of medications

But it was quite obvious to her that these 225,000 were the tip of the iceberg, since they were based on hospital statistics. Most estimates are several times higher because iatrogenic deaths are not recognized or recorded as such on death certificates to avoid lawsuits. **Iatrogenic errors are now the leading cause of death.** Moreover, mortality figures are only a fraction of the patients who survive iatrogenic death, but may be permanently injured or disabled. In many, if not most instances, such deadly or harmful results happen despite the fact that physicians are adhering to recommended practices that are later found to be the cause of the problem.

Several studies have shown that when physicians go on strike, deaths and hospital admissions promptly decrease. One explanation for this may be that patients are being over medicated or treated inappropriately due to deceptive drug promotions. Just in the last few weeks, Merck agreed to pay $950 million for illegal marketing of its painkiller Vioxx, which was

withdrawn because of the high incidence of heart attacks that they were aware of but suppressed. According to one book, "scientists at the FDA estimate that Vioxx caused between 88,000 and 139,000 heart attacks, probably 30%-40% of them fatal." GlaxoSmithKline is paying a $3 billion fine for off-label marketing, fraudulent pricing to cheat Medicaid programs, entertaining physicians and paying them "advisory fees" to encourage prescribing, and suppressing critical data about Avandia, its diabetes drug, which also causes heart attacks. It has set aside another $3.5 billion to cover lawsuits from the estimated 100,000 heart attacks Avandia has been linked to.

Very few, if any of these death certificates would indicate that a drug was involved. As noted in a prior Newsletter, one study estimated that **there are over 800,000 iatrogenic deaths annually. That's the same as more than 7 jumbo jets, each carrying 300 passengers, crashing every day of the year, with no survivors.** While such a catastrophe would surely make national headlines, we rarely read or hear about iatrogenic deaths since they occur throughout the U.S., and drug related deaths are now so common, that they are no longer news. Last year, a dozen drug companies paid $760 million to practicing physicians for "consulting, speaking and expenses", and one pain specialist received $270,825 from four of these to publicize their products. **This year, prescription drug overdoses replaced car accidents as the No. 1 reason for accidental deaths in the U.S., with painkillers topping the list.** Drug advertising is so successful, that **Americans consume almost 40% of all pharmaceuticals sold in the world.** We expend over 20% ($743 billion/year) of our national budget on health care. That's more than we devote to defense and security, and does not include 10% of the U.S. military budget, which also goes to health care. A study published this month revealed that **one in four American women are on antidepressants** that are seldom more effective than placebos, have serious side and withdrawal effects, and are banned in the U.K. and elsewhere for those 18 and under because of increased risk of suicide.

## Whom Or What Should You Trust, And *Quis Custodiet Ipsos Custodes*?

Most people depend on their physicians to provide reliable advice and treatment based on their training, experience and ability to keep up to date on new drugs and procedures that are pertinent to their problem. With respect to the latter, many are apt to inquire about a new drug they have seen advertised that urges them to "Ask your doctor". One study found that "only 6 percent of TV drug advertising material is supported by scientific evidence", so how do physicians keep up with the latest advances? There is Google and the Internet to retrieve tons of information but it is difficult to determine its authenticity. Information about pharmaceuticals often comes

from drug company representatives who provide samples and biased reprints of company sponsored research from prestigious publications. The most highly regarded of these by practitioners are: *The New England Journal of Medicine* (NEJM)*, Journal of the American Medical Association* (JAMA)*, British Medical Journal* (BMJ) and *The Lancet.* For some, there may be journals in their particular specialty. Of these, *NEJM* is the Holy Grail, possibly because of its policy of considering a manuscript for publication only if its substance has not been submitted or reported elsewhere. This is often called the Ingelfinger rule, since it was established in 1969 by Franz Ingelfinger, its editor-in chief, but has now been widely adopted by others.

"Publish or perish" has long been the mantra for medical researchers and physicians on the faculty of medical schools – and with good reason. Frequent publications can play a crucial role in obtaining grants, a top position in industry, or academic advancement and tenure. Because of increasing competition in all these areas, the pressure to publish, particularly in very prestigious journals, is greater today than ever. But how is the relative stature or reputation of a journal determined? The short answer is it can't, because like other facets of modern medicine, it is controlled by the pharmaceutical industry, and medical publications are a prime example of Illich's prediction that institutions wind up doing the opposite of what they started out to accomplish because of greed and corruption.

As noted in a prior Newsletter, early medical journals had no commercial ties and accepted no advertisements, save for medical texts that might be of interest to their readers. They were published by various city or state medical societies to provide useful information for their memberships. The first medical journal not affiliated with any medical society or group was *The Lancet*, founded in 1823 by Thomas Wakley, a London surgeon. As he explained, "A lancet can be an arched window to let in the light or it can be a sharp surgical instrument to cut out the dross and I intend to use it in both senses". The purpose of this weekly publication was to instruct, entertain and reform and it was more like a newspaper. At the time, medical education came largely from paying to listen to lectures by prominent physicians. Wakley would attend these, write down the essence of the presentation, and publish it the following week. Instruction also came from the publication of interesting case histories provided they were well documented. Entertainment was provided by theatrical reviews, biographies of non-medical celebrities, piquant political commentary, news and material from other publications and even a weekly chess column, since crossword puzzles did not appear until the 20th century. But it was reform that *The Lancet* became famous for, particularly with respect to launching campaigns that exposed corruption, quackery and nepotism.

Like his successors and other early editors, Wakley was a physician who was well versed in literature and the arts; insisted that journal contents were accurate; and exercised the power and authority to insure this. Contrast this with today's 20,000 print medical journals, and hundreds that are Internet only, whose editors often have little or no editorial experience. As Richard Smith, former editor of the *British Journal of Medicine* noted, most medical journal editors have received no training. "One day you're a professor of cardiology; the next you're editing a journal.... For an editor with no training in cardiology to become a cardiologist overnight would be unthinkable, but it's routine the other way round." Unfortunately, the prime purpose of many journals now is to make more money, and there is little doubt that their profits can be astronomical. **Reed Elsevier has an annual income over $7 billion just from the reprints sold by its 2,000 medical and scientific journals**. While it is generally believed that journals derive most of their profits from advertising and subscriptions, more than half the income for *JAMA* and *The Lancet* comes from reprint sales to the pharmaceutical industry. *NEJM* does not release financial statements but its total revenues are estimated to be as high as $100 million/year. A drug company might pay over $1 million for reprints of just one study it funded, since distributing an article to a physician from *NEJM* or *JAMA* has the semblance of being educational rather than promotional. As it is unlikely to be read in its entirely, drug representatives can put a spin on it or emphasize favorable portions. Such a presentation is much more credible compared to discussing a company's biased literature simply because it has the journal's seal of approval. Unlike advertisements, which most doctors discount as being self-serving, a large clinical trial published in a major journal that is distributed worldwide can attract global media coverage.

This is usually facilitated by simultaneous press releases from a PR firm and the journal itself, which is eager to increase its importance and influence. These are determined by their impact factor (IF) which few physicians are aware of, and as previously explained, is a flawed process that can easily be manipulated. In regard to peer review, Richard Horton, former *Lancet* editor described it as **"biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong."** Having served as editor-in-chief of *Stress Medicine,* a peer reviewed journal published by John Wiley in the U.K. and as associate editor of several peer reviewed journals, I can testify to the accuracy of this assessment. Others who are much more experienced agree, and place the blame squarely on the pharmaceutical industry as the major cause of our current problems, including the following former *NEJM* chief editors.

> This industry uses its wealth and power to co-opt every institution that might stand in its way, including the U.S. Congress, the Food and Drug Administration, academic medical centers and the medical profession itself. **It is simply no**

> **longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines**. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of *The New England Journal of Medicine.* - Marcia Angell, M.D., *The Truth About Drug Companies*

> "The billion-dollar onslaught of industry money has deflected many physicians' moral compasses and directly impacted the everyday care we receive from the doctors and institutions we trust most." **"Drug companies spend over $30,000.00 per year on each U.S. physician to promote and market their products."** - Jerome Kassirer, M.D. *On the Take: How Medicine's Complicity with Big Business Can Endanger Your Health*

Arnold Relman, *NEJM* editor (1977 to 1991), and Professor Emeritus of Medicine and Social Medicine at Harvard, is one of America's most respected physicians. In *A Second Opinion: Rescuing America's Health Care*, he also sees the greatest threat to U.S. health care as the commercialization of medicine since the late 1960s, which, according to free-market ideology, should bring better care at lower cost but hasn't delivered, and he believes it never will. He notes that health care expenditures are rising at a rate of 7% a year, triple the rate of inflation, and that as the for profit imperative "increases costs; it may also jeopardize quality or aggravate the system's inequity."

Some 2,000 years ago, the Roman poet Juvenal asked, *Quis Custodiet Ipsos Custodes*? which literally means "Who will guard the guards themselves?" but is sometimes translated as "Who watches the watchmen?" We can safely put our trust in the above three distinguished editors, but they cannot monitor everything that is published, such as a 1996 editorial commenting on a weight loss drug that was associated with pulmonary hypertension written by associate editors who had financial ties to the manufacturer that were not disclosed, despite a policy dating back to 1990 that mandated this. There was such a public backlash that Drs. Angell and Kassirer co-authored a subsequent editorial explaining how this slipped through the cracks. In other instances, unlike Wakley, chief editors may not have the final say and can be overruled by the publisher or marketing division. In a talk earlier this month on conflicts of interest and the stress of being a medical editor, Dr. Catherine DeAngelis, editor in chief emerita of *JAMA*, recounted a situation in which a manufacturer insisted on placing a lucrative ad in a specific issue in which an article on this product was scheduled to appear. Although this is frowned on, there was considerable pressure to comply with this request, so she agreed, and simply published the article in another issue. In an August 2006 *JAMA* editorial entitled "The Influence of Money on Medicine", she emphasized the need as well as the problems of obtaining full disclosure to avoid conflicts of interest, and the difficulties in imposing sanctions on those

who fail to comply with this request. Dr. DeAngelis left her position as editor in chief at JAMA earlier this year to return to Johns Hopkins and establish a Center for Professionalism in Medicine and the Related Professions that will hopefully find some solutions to these problems.

Another problem that can also be difficult to detect are articles that are submitted by reputable physicians but have actually been ghostwritten by drug companies. A 2009 survey conducted by JAMA editors that reviewed 630 articles published in six top medical journals found that authors of 8% admitted using ghostwriters. Of the six medical journals, NEJM had the highest rate (11%) but even though the replies were anonymous, it is not unlikely that it was higher in those that did not respond. According to Dr. John Ioannidis, **ninety percent of the published medical information that doctors rely on is flawed.** Few have disputed the meticulous investigations that led him to this disappointing conclusion in his 2005 *PLoS Medicine* paper "Why Most Published Research Findings Are False". This was the most frequently downloaded article from this highly regarded peer reviewed open-access journal. People are understandably confused about peer reviewed studies that come to opposite conclusions about whether cell phones cause cancer, sleeping more than eight hours is dangerous or healthy, taking aspirin every day is more likely to save your life or cut it short, and if angioplasty works better than pills to unclog heart arteries.

Unfortunately, Dr. Barbara Starfield died a few months ago and one can only wonder what she might have said if she were asked to comment on the status of our present health care system compared to a decade ago. In my opinion, what we really have is a sickness cure system. And health insurance is a double misnomer, since it only pays for some expenses when we are sick, but little to keep us healthy. More on this to come — so stay tuned!

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