Medical Nihilism—an idea whose time has come?

"Nihilism" is defined as "a viewpoint that traditional values and beliefs are unfounded". When applied to modern medicine, it means imposing extreme skepticism on the medical practices that have come to comprise our disease-fighting armamentarium.

After having read ***Medical Nihilism*** over the holidays, I'm convinced it should be mandatory reading for every medical student, practicing physician, pharmaceutical researcher, FDA regulator, health policy wonk, legislator, insurance company executive, and ancillary healthcare worker in the country; moreover, it would open the eyes of discerning medical consumers who take the time to wade through its arguments.

Dr. Jacob Stegenga is no wild-eyed firebrand; he is a respected lecturer at the University of Cambridge, England. His area of research is the philosophy of science, including methodological problems of medical research.

Nor is he an advocate of the holistic and alternative movement, or a stalwart "anti-vaxxer". "I do not align myself with these views," he writes in ***Medical Nihilism***.

His central thesis highlights what he terms "Medicine's Dark Secret: For some of our most widely used medical interventions, the best evidence available today suggests that they are barely effective, if at all."

To those who would label him "anti-science" he replies, on the contrary: "Medical nihilism is not the audacious view that there are no effective medical interventions."

Stegenga contends that contemporary medical science is inherently unscientific, rife with departures from true scientific rigor, which he staunchly upholds.

He points out that modern medicine's paradigm enshrines "magic bullets", a term invented by 1900 Nobel Prize Winner Paul Ehrlich. These are precision treatments that decisively target disease with minimal "collateral damage".

Emboldened by successes like penicillin, insulin, and general anesthesia, medical researchers, doctors, and the public became infatuated with the idea that drugs can target receptors with laser-like accuracy.

But, Stegenga claims, true "magic bullets" are few and far between. Diseases are complex and multifactorial. And few modern drugs are "clean" when it comes to side effects.

Yet, convinced of the safety and efficacy of new breakthroughs, Stegenga writes:

“Our society has become a voracious consumer of medicine.”

One of the problems, he points out, is the unreliability of our vaunted system of medical research, which exalts the “randomized controlled trial (RCT)”; the trouble, Stegenga contends, is that RCTs are prone to innumerable forms of bias and statistical manipulation.

Trials are designed more to detect benefits rather than harms (“The hunt for harms is shrouded in secrecy”). Unsuccessful trials are often buried (“publication bias”). Medical whistle blowers are ostracized, “controversialized”, lose their research grants, and even threatened with lawsuits.

Trial conditions differ from real-world conditions. Prescribing based on study results is an unwarranted extrapolation. The treated disease might differ; the patient’s characteristics might vary; there might be variability in compliance.

The short duration of many studies may overestimate the effects of an intervention—or conceal its long-term harms.

Studies often address “indirect instruments” to measure “surrogate” outcomes, e.g. cholesterol as a proxy for actual heart disease, or what really counts—whether you’ll live longer. “Surrogates are stand ins for patient-level outcomes that matter,” writes Stegenga.

Inclusion and exclusion criteria in studies are quite rigorous. Subjects in clinical trials might therefore be much healthier than people in the community-at-large who will end up candidates for the drug in question.

For example, a drug might cause robust benefits in men, but no benefits and minor harms in women and thus, on the basis of average positive outcomes, gain approval for use in both sexes. Or a drug successfully tested on middle-aged healthy patients might be dangerously extrapolated for use in the frail elderly.

Then there’s statistical manipulation. To illustrate, the osteoporosis drug Fosamax was found, in a four-year trial, to reduce the incidence of hip fractures by a whopping 50%. Sounds great! But only 2% of women had fractures without, 1% with Fosamax. The probability of having a hip fracture was reduced by just 1%!

Using a revealing metric called number needed to treat (NNT), the NNT for Fosamax would be 100; 99 women would need to take it unnecessarily for five years for one woman to avoid a hip fracture.

For statins, used for prevention in people with merely high cholesterol, but without documented heart disease, the NNT is even worse: 104. 103 individuals would need to take a statin drug for 5 years—with all its attendant side effects—to avert one heart attack.

Then there are meta-analyses, which are considered the most authoritative of all study methods. These are studies of studies, in which multiple RCTs are combined for statistical power.

But crafting meta-analyses is a little like making sausage; sometimes premium ingredients are combined with poor quality fillers disguised by flavoring agents. Meta-analyses inevitably invite “cherry-picking” of study results that favor promotion of a drug or therapy and minimize harms.

Stegenga points out that there’s a strong correlation between conclusions of a meta-

analysis and analysts' relationship to industry.

For example, meta-analyses by analysts who received support by the tobacco industry were 88 times more likely to conclude that passive smoking had no health impacts.

And meta-analyses of anti-hypertensive drugs were five times more likely to reach positive conclusions if researchers had financial ties to the drug industry; 1/3 of meta-analyses have authors with ties, and they are 20 times less likely to report negative conclusions about a drug.

What about our watchdog agencies, like the Food and Drug Adminstration? Surely they protect consumers—right? Stegenga references a survey that showed that 39% of people agree with the statement that "the FDA only approves drugs that are extremely effective."

But, he writes: "A senior epidemiologist in the FDA claimed that 'the FDA consistently overrated the benefits of the drugs it approved and rejected, downplayed, or ignored the safety problems . . . when FDA approves a drug, it usually has no evidence that the drug will provide a meaningful benefit to patients."

For example, in reviewing an application for use of antidepressants to treat pediatric depression, 12 of 15 studies were negative. Nevertheless, the FDA approved use of these drugs, stating in their opinion that "absence of evidence of effectiveness does not constitute evidence of absence of effectiveness." As long as there are two positive RCTs, the skimpy threshold for acceptance is met.

Even the former editor of the prestigious *New England Journal of Medicine*, Marcia Angel, has written: "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."

The list of drugs approved by the FDA, only to be found harmful and subsequently withdrawn from the marketplace, is long: Bextra, Vioxx, Fen-Phen, Zelnorm, and Avandia (in the EU) to name but a few recent examples.

Given his high degree of skepticism about vaunted medical advances, what does Stegenga propose we do?

First, he calls for more rigorous standards for scientific research. We also need full public disclosure of all investigative results—not just those that support the approval and marketing of new drugs and therapies.

Finally—and this is the part that resonates with me—Stegenga argues for a return to what he terms "Gentle Medicine", a therapeutic approach that relies less on heroic, high-tech interventions, and more on lifestyle modification with diet, exercise, and social measures that improve personal well-being. He invokes a popular aphorism of Sir William Osler, considered the father of modern medicine: "One of the first duties of the physician is to educate the masses not to take medicine."

Indeed, Stegenga reports, "deprescribing" has tangible benefits: *"Researchers applied a drug discontinuation program to a cohort of elderly patients who were taking an average of 7.7 medications. By applying standard treatment protocols and getting the consent of the patients and their physicians, the researchers discontinued 4.2 medications/patient for a total of 256 drugs. Of these, only six drugs (2 percent) were readministered because of a recurrence of symptoms. No harmful effects were attributed to the drug discontinuations, and 88 percent of the*

patients reported an improvement in health. Making medicine gentler would make us healthier.”