

# Cognitive biases and the predictable perils of the patient-centric free-market model of medicine

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**Abstract**

This paper addresses the recent rise of the use of alternative medicine in Western countries, and it offers a novel explanation of that phenomenon in terms of cognitive and economic factors related to the free-market and patient-centric approach to medicine that is currently in place in those countries, in contrast to some alternative explanations of this phenomenon. Moreover, the paper addresses this troubling trend in terms of the serious harms associated with the use of alternative medical modalities. The explanatory theory defended here is then predicated on the idea that serious and avoidable harms predictably result from an extreme patient-centric model of medical practice that treats largely ignorant patients as consumers of medical products and services, when they are endowed with an essentially unrestricted power of freedom to choose treatments. Some important moral and epistemological consequences of this model are then articulated, and corrective measures are suggested.

**KEYWORDS**

alternative medicine, cognitive bias, cognitive psychology, economics, explanation, medical choice, medical ethics

## 1 | INTRODUCTION

There has been a relatively precipitous and recent rise in belief in the efficacy and employment of alternative medical treatments in developed Western societies. Reliable statistics show that 42 percent of Americans use at least one alternative therapy, and similar levels of use have been found in Australia and Great Britain.<sup>1</sup> This has happened *despite* the astonishing advances in orthodox Western medicine in the twentieth century and despite the general affluence and high standards of living associated with these countries (see Le Fanu 2012 and Coulter and Willis 2004). As a result, the rise in the use of alternative medical modalities in advanced Western societies cries out for explanation, and this is important because, at the very least, it may suggest what sorts of interventions might successfully reverse this decidedly dangerous trend. Of course, this problem is even more important in light of the COVID-19 pandemic, and we have seen graphically in the United States that our political leaders are, at least in some notable cases, part of this problem. When we have a former president of the United States publicly suggesting while in office that we should consider injecting household disinfectants into our bodies to treat COVID-19 and suggesting other similarly naïve and dangerous interventions, we should be clear that there is a serious problem here. The methodological approach taken in this paper begins with the recognition that this is a complex problem involving economics, cognitive science, epistemology, and ethics. So, the stance adopted here is that this is a decidedly tricky explanatory problem that is interdisciplinary in nature, and it is one that is deeply important and concerning.

The more specific contention made here is that the combination of the (infamous) Dunning-Kruger effect, the belief perseverance phenomenon, and the adoption of an extreme patient-centric free-market model of medicine in the countries in question has fueled this trend and given rise to a system of medical practice that is dangerously immoral in a very specific respect. The combination of these particularly prevalent forms of irrationality and a consumer-driven model of medical practice has (predictably and regrettably) led to the creation of a situation in which many patients and policy makers believe that they know more about biology and medicine than do the relevant medical experts, and in which those same patients believe that they are entitled to get whatever treatment they want. This model of medicine then effectively places the preference satisfaction of largely ignorant but epistemically confident customers/patients ahead of deference to actual experts whose knowledge and skills are crucial to restoring and preserving the objective well-being of those patients. Ultimately, coming to terms with this complex explanatory problem brings to the fore the special obligation that medical professionals have with respect to patients who desire alternative treatments and suggests certain kinds of corrective measures to reverse this dangerous medical trend. Importantly, the explanation developed here also allows for an explanation of why such trends have not been observed recently in most non-Western countries. Moreover, it is superior both to attempts to explain this trend on the basis of the contention that such treatments are cheaper and the contention that this trend is solely the result of ignorance. Thus, it is suggested that the model developed here is the best explanation of this phenomenon.

## 2 | THE DUNNING-KRUGER EFFECT AND FALSE EXPERTISE

There has been considerable and important discussion of the Dunning-Kruger effect and its impact on rational belief and decision-making, especially in the context of science and medicine (see Howard 2019). First articulated in 1999 by David Dunning and Justin Kruger

<sup>1</sup>Concerning the Dunning-Kruger effect, see Kruger and Dunning 1999; Dunning et al. 2003; and Dunning 2005. See Howard 2019 for discussion of the Dunning-Kruger effect and other cognitive biases in the context of medicine. Concerning the patient-centric model of medicine and the consumer model of medicine, see Silagy 1999; Bastian 1998; and Hope 1997. Concerning the rates of use of alternative modalities, see Coulter and Ellis 2004; Eisenberg et al. 1998; and Murray and Shepard 1993.

(although clearly anticipated as early as the fourth century B.C.E. by Socrates and Plato), the Dunning-Kruger effect is the idea that the more ignorant people are, the more confident they are about their beliefs (Kruger and Dunning 1999). This is supposed to be the case because such thinkers are *so* ignorant that they are (in a deeply important sense) totally unaware of the depth of their ignorance. In other words, the subjects of the Dunning-Kruger effect are so cognitively deficient with respect to some epistemic domain that they cannot even properly understand that they are essentially ignorant about that body of information. Based on this ignorance, such irrational thinkers perversely develop unwarrantedly high degrees of confidence with respect to false beliefs about the epistemic domain in question. So while victims of the Dunning-Kruger effect are objectively ignorant, they effectively believe that they possess a great degree of expertise. This effect is widespread and afflicts people in virtually all epistemic domains that involve expertise.

Of course, we are all potentially subject to the Dunning-Kruger effect, and it is an effect that is decidedly selective. Thus, otherwise rational and knowledgeable people may exhibit the Dunning-Kruger effect with respect only to one or more specific epistemic domains. This phenomenon is yet more problematic when we recognize that the Dunning-Kruger effect often engenders distrust in legitimate experts (see Nichols 2017). Victims of the Dunning-Kruger effect wrongly believe *they* are the experts with respect to a particular body of beliefs. In having irrationally high confidence in such of false beliefs, victims of the Dunning-Kruger effect then predictably distrust those with real expertise concerning those same beliefs. This is the case because their false and strongly held beliefs are taken to be true, and when they conflict with the beliefs of the actual experts, the victim of the Dunning-Kruger effect denies that the real expert is in fact an expert. This sort of ignorance-driven epistemic conflict then undermines deference to the real experts. So, victims of the Dunning-Kruger effect are so ignorant that they do not properly understand that they are ignorant, *and* they do not understand that they should defer to the actual experts about the implicated beliefs. I discuss these matters here as they pertain to biological and medical ignorance and its application to cases involving dangerous beliefs about health and medicine. Most crucially, this issue is addressed in the context of the patient-centric model of medicine.

### 3 | PATIENT-CENTRIC MEDICINE AND THE FREE MARKET

The current medical paradigm for doctor/patient relationships is heavily invested in the idea of patient-centric medicine. This movement arose in virtue of the seemingly sensible idea that patients should have an important role in making decisions about what treatment options to pursue. This was supposed to be the case because health outcomes will be better when patients participate in decisions about their own treatment. This is undoubtedly a good idea, and this mild form of patient-centrism is clearly beneficial. If patients participate in their own care, then compliance with treatments and concern for the prevention of serious illnesses is likely to be greater. This is also simply a recognition and observance of patient autonomy. Listening to patients and taking their concerns seriously is surely an important component of the doctor/patient relationship.

But despite the fundamental plausibility of mild patient-centrism, extreme patient-centrism is something very different. This alternate conception of patient-centrism is essentially based on the libertarian free-market model of medicine, and the core idea behind extreme patient-centrism is that despite their lack of medical expertise, patients are entitled to whatever treatment options they desire. Extreme patient-centric models of medicine are, however, fundamentally problematic in light of the failure of many nonexpert patients to understand the crucial idea that experts are more knowledgeable, and the failure to understand that freedom

of choice is not an absolute right. In effect, when extreme patient-centrism is coupled with the capitalistically motivated consumerization and commoditization of medicine (that is, the idea that patients are consumers and medical treatments are commodities) and the woeful ignorance of many patients, we can expect a predictable and incredibly dangerous outcome. Specifically, many deluded nonexpert patients will deny the advice of expert medical professionals concerning medical treatments and employ bogus alternative treatments because that is what they most want to do. Ultimately, the contention made here is that the roots of the problem about the rise of alternative medicine are false expertise and consumer entitlement. As we shall see, this complex phenomenon can be explained by appeal to cognitive science, neoclassical free-market economics, and behavioral economics.

The foundation of capitalistic free-market models of any economic exchange are fundamentally based on the decision-theoretic idea of maximizing expected utility (see Gaus 2008 and Sen 1987). That is to say, an economically rational agent should do what is maximal with respect to expected utilities. What is crucial to note, then, is that orthodox decision theory in the free-market mold treats utilities as measures of subjective preferences, not of objective well-being (see Resnik 1987 and Levi 1986). Thus, maximizing utility in the context of these sorts of preference models really means that economically rational agents should always do what they most prefer, whether or not what they most prefer is actually good for them. Expected utilities are then the products of the probability of an outcome and its utility. Not surprisingly, the probabilities involved in the concept of expected utilities are typically understood to be subjective probabilities. That is to say, the probabilities of the outcomes are just what the agents believe them to be, and agents are rational in this regard provided their credences satisfy the axioms of the probability calculus. So, this is compatible with an agent having consistent subjective credences that do not reflect the objective probabilities of the relevant outcomes. In short, on this model one can be probabilistically rational and assign a high subjective probability to an objectively improbable outcome.

Ultimately, in terms of this model of decision-theoretical economic rationality, rational agents should do what is maximal with respect to their entirely subjective credences about subjective preferences. This is the foundation of free-market economics, and in this framework maximizing expected utility simply amounts to the exhortation to always do what one believes will bring about what one most wants. This model of economic exchanges is typically rationalized by appeal to two lines of thought. First, this approach is typically based on an entirely naïve and dangerous subscription to the libertarian view that economic freedom of choice is an absolute value that should almost never be restricted (see DesJardins and McCall 2005, chap. 3). But it is also typically supported by appeal to the utterly unrealistic idea of Pareto optimality and the “invisible hand.” This is the idea that markets involving consistently economically rational agents will inevitably settle into equilibria where the agents involved will all have their subjective preferences collectively maximally satisfied. That is just the idea that there are no better distributions of goods that would better satisfy the subjective preferences of all the agents involved (see Gaus 2008, chaps. 1–3, and DesJardins and McCall 2005, chap. 2).

This, then, is where the free-market model importantly intersects with the patient-centric model of medicine. In neoclassical models of economics, the commoditization of a potential set of goods and the treatment of decision-makers as consumers entails approaching markets in terms of the orthodox model of economic rationality (that is, *homo economicus*) and removing most (if not all) government regulation of that market. As a result, in a free market consumers are allowed to do (that is, to purchase) whatever they prefer, whether it is harmful or not, and so we get the familiar invocation of the pure classical economics warning: *caveat emptor*. The core idea behind somewhat more contemporary but related approaches to economic markets of the kind advocated by Milton Friedman and those who follow the Chicago school of economics (for example, the ideologues who run the Goldwater Institute) is that individual freedom is the most basic and virtually absolute value (see Friedman 1970). That is

to say, governments should not interfere with personal choices unless it is absolutely necessary to do so. In their most aggressive moments, advocates of this sort of model have suggested the free-market commoditization of water, air, and so on in addition to more familiar consumer products like television sets, couches, and clothes.

Furthermore, the model of correction that these advocates typically subscribe to in terms of product safety is a reactive litigation and redress model known as the strict liability model. In endorsing this approach to product liability, the advocates of such free-market economics grudgingly allow that harms caused by defective products sold to consumers can be addressed and righted by post facto financial compensation when a producer's product or a vendor's service led to that harm (see DesJardins and McCall 2005, chap. 8). Thus, in terms of this model, consumers are largely free to choose to do whatever they want to when it comes to such commoditized goods, and if they are harmed by their choices, that wrong is to be redressed by legal tort action in civil court, not typically by market regulation (unless such impositions on freedom are absolutely necessary). Of course, many defenders of neoclassical free-market economics would seemingly prefer a return to the pure caveat emptor model, and they acquiesce to the strict liability model only in order to ensure that consumers are likely to continue to participate in market exchanges protected by the most minimal safety net. But this critical aspect of the commoditization of medicine then often entrenches consumers' sense of entitlement in the form of the assignation of blame to producers and vendors for harmful products, the expectation that consumers should get what they want in the way of outcomes, and the compensation model of redress.

It might not be immediately clear how deeply this model of economic exchanges affects the practice of medicine, but it is crucial to understanding the sorts of problems we currently face concerning such things as opting out of vaccination regimens and choosing unvalidated or invalidated alternative medical treatments, rather than more orthodox options that are known to be efficacious. Recall that the patient-centric model of medicine holds that patients should have a substantive role in decisions about their medical treatments. In fact, they are taken to be the ultimate deciders about such matters. This approach to medicine is a rather recent development, introduced in light of the perception that medicine was previously practiced in a manner that was excessively paternalistic and so deprived patients of their freedom to choose in medical contexts (see Silagy 1999). In other words, extreme patient-centric medicine is simply a negative reaction to the regulation of treatment options based on the perception that patient freedoms were being wrongly restricted and treatments were being imposed on patients.

One might be tempted to argue that the problem being alluded to here is not substantive, for one might note, first, that there are standards of care and, second, that doctors will only treat patients with treatment options that they deem to be real, efficacious options. But this is something of an illusion, for patients can seek out other doctors and practitioners of, often very radical, alternative treatment options that are not considered real options by more orthodox medical professionals. So, the marketplace for treatments is large, and diligent consumers can find what they want in the way of treatment options no matter how bizarre they might seem. Similarly, one might again be tempted to argue that things are not as radically plastic as suggested here, on the grounds that the government does regulate medical treatments and the practice of medicine in order to weed out alternative medical practices. But again, this is a naïve assumption. In point of fact, the practice of and research into alternative medicine and its extensive menus of specious treatments is safely ensconced and perpetuated via the National Center for Complementary and Integrative Health, which has its own federal funding stream for research that is independent of the more evidence-based policies of the National Institutes of Health. In addition, at the state level many state governments permit medical pseudo-professionals like naturopaths, chiropractors, and the like to deceptively use the title "doctor." Finally, one might again be tempted to argue that things are not so bad, on the basis that professional medical organizations like the American Medical Association

and reputable medical schools frown on and do not support alternative medical practices. But that is far from the truth. The AMA has, at least to date, systematically avoided directly confronting this issue, and even the most prestigious medical schools have with seeming glee instituted degree programs in alternative medicine, thus injecting alternative medicine into mainstream medical training. All of this together puts a false patina of legitimacy on the whole domain of alternative medical treatments, which, in turn, props up the consumer model and the multibillion-dollar alternative medical industry. The only real source of regulation is found in the increasingly whittled down offices of the Food and Drug Administration, and it really responds to only the most egregious cases of harmful and/or ineffective products.

The providers of alternative treatments are also often resourceful in making sure that they do not make substantive efficacy claims about their products, and thus they avoid being held accountable by the FDA. In any case, they often do not even *need* to make claims about the efficacy of their treatments in order to secure a sizable share of the medical market, for anecdotal reports willingly provided by throngs of ignorant patients on the internet do all the work needed to get a gullible and entitled public to make those efficacy claims on behalf of the producers of questionable products and therapies. So, effectively, there is little or no restriction on or regulation of the domain of alternative medicine and its concomitant practices by the government and external agencies. This is because the marketplace is largely free and open in order to explicitly provide patients with the widest range of options to select from, on the basis of their own preferences and in light of the expectation that they are entitled to get what they want. Notice that this is not a particularly partisan issue, as lawmakers on both the right and the left are happy to support almost unregulated patient access to whatever *patients* deem necessary for their medical treatment.

#### **4 | MEDICAL IGNORANCE, COGNITIVE BIAS, AND ENTITLEMENT: A VERY BAD MIX**

Let us turn to the aspect of the problem that more directly involves two important cognitive biases and ignorance about human biology. Now, it is likely that at one time or another most people have had at least some instruction in human biology. Often, however, this may be no more than what has been standardly taught in public school through high school (or the equivalent) via a general human biology text appropriate for that level. Accordingly, the average consumer likely knows next to nothing about, for example, the digestive system or the immune system. These functional elements of the human body are without doubt extraordinarily complex, and many consumers of products and treatments that are supposed to impact them and human health in general may never, in fact, have read a single book about either system (and certainly not read anything like serious research papers or texts about even the most elementary aspects of the systems). Yet, in the patient-centric model of medicine and as it is reinforced by the free-market commoditization of medicine, patients are given the power to choose which treatments to employ. Given their ignorance, however, they cannot possibly know the consequences of these treatments and cannot possibly know the probabilities of success associated with them. They may have some information this to effect, but it is typically no more than what their doctor may try to tell them in a few cursory meetings, coupled with what they might find on the internet.

This might not be entirely disastrous if there were significant respect for experts on medical treatments, but the consumer free-market and patient-centric model coupled with the Dunning-Kruger effect has made many patients into slavish preference satisfiers who aim only to do what they most want, despite what the experts might have to say. Such consumers exhibit reinforced false attitudes that the experts are wrong, and as a result there is little in the way of educational intervention that one would expect to alter their false but deeply entrenched attitudes.

In fact, studies about the belief perseverance phenomenon and more recent studies concerning the backfire effect suggest that corrective attempts to reeducate such ignorant believers perversely entrench and even strengthen their conviction in their false beliefs.<sup>2</sup> I return to this point shortly, as it is an important component of the explanatory model introduced here. In any case, it is clear that the solution to this problem cannot be reeducation alone. Patients often believe that they know more about medicine than medical professionals do, and they have at the same time been led to believe that they are entitled to get the treatment that they believe is best for them.

## 5 | I WILL DO WHAT I WANT!

One of the most important aspects of this complex problem about rationality and its social and economic dimensions that has gone largely unnoticed is this. In societies that are heavily oriented toward free-market treatments of large classes of goods, it is utterly predictable that consumers will develop reinforced senses of entitlement derived from the frequent engagement in exchanges where they are led to believe that their personal decisions—grounded in their personal credences and preferences—are absolutely to be respected. That is to say, it is easy to see that economic agents who are allowed to do basically whatever they want will develop an expectation that they are entitled both to do whatever they want and to ultimately get what they want (see Worth, Franland, and Bernoff 2018; Boyd and Helms 2005). This is what consumers in such markets have been taught again and again in virtually every context of life framed in the mold of free-market structures. Essentially, the commoditization and consumerization of virtually every good, and the push to make virtually all markets free, trains consumers to expect to be allowed to make their own choices that they believe will most likely assure the outcomes they want.<sup>3</sup>

Recent work in behavioral economics focuses on just this sort of consumer entitlement (see, e.g., Worth, Franland, and Bernoff 2018). But, of course, the free-market patient-centric model of medicine has nothing to do with whether the health outcomes that result from the satisfaction of patient preferences really are good for the agent or whether the desired results really are likely to obtain. Again, subjective preferences do not necessarily reflect objective well-being, and subjective probabilities do not necessarily reflect objective probabilities. But, as we have seen, this approach to markets is supposed to be justified on the basis of treating personal freedom as an almost absolute value. The only exceptions to this radical fundamentalism about personal freedom typically have to do with gross negligence involving direct threats to the lives of significant numbers of people. Thus, government interventions (or other regulatory mechanisms) are to be engaged only when there is a clear and major threat to the lives or well-being of significant numbers of people. Of course, this is itself a matter of judgment, and such interventions are selectively made, often for what are only thinly veiled political reasons. As we have also seen, many complaints about the efficacy or harms caused by treatments are deemed to be matters to be addressed in civil courts via financial compensation for damages suffered. So, there is little or no room in this model for deference to expertise or for protecting consumers from their own bad choices prior to making such choices. In other words, all of this is perfectly, if not intentionally, designed to perpetuate the use of alternative medicine and to allow patients to opt out of orthodox treatments, whatever the consequences might be.

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<sup>2</sup>Concerning belief perseverance see Manktelow 2012; Anderson, Lepper, and Ross 1980; Lord, Ross, and Lepper 1979; and Ross, Lepper, and Hubbard 1975. On cognitive resistance to belief change and the backfire effect see Druckman 2012; Nyham and Reifler 2010; Rich and Zaragosa 2016; Rich et al. 2017; and Shaffer 2019.

<sup>3</sup>For a revealing history of the rise of consumerism, see Trentmann 2017.

Thus, for example, anti-vaxxers are zealously driven by their own false biological expertise concerning such things as immune function, the connection between vaccination and autism, vaccine injury, and so forth, and they assert that, as autonomous patients, they should be allowed to have their children opt out of expert-recommended vaccine regimens even if doing so causes great harm to the general public. Likewise, biologically ignorant patients who want alternative treatments like reiki, acupuncture, ionic foot detox baths, homeopathy, and the like, rather than orthodox treatment modalities, assert that they should be allowed to choose such treatments, despite the fact that the treatments have been shown to do nothing to advance the well-being of anyone. In extreme cases, this includes things like people drinking industrial bleach and turpentine to cure virtually every disease known to man (Ballogg 2020). Finally, and tragically, people like Steve Jobs who have treatable but potentially terminal conditions are allowed to select alternative and ineffective treatment options based on their own ignorance-based preferences, sometimes to their ultimate demise. In the extreme patient-centric environment, though, patient freedom, often steeped in utter ignorance, is not to be impinged upon. There are virtually limitless examples like these one could list, and when people have considerable economic resources at their disposal (as many people do in advanced Western societies with high standards of living), we should expect that they will employ those resources in the effort to satisfy their subjective preferences.

## 6 | SOMETIMES YOU MIGHT JUST GET WHAT YOU NEED . . .

As previously mentioned, what we need to understand is that there is likely very little that can be done in the short term to cure this societal ill via reeducation alone, given what we know about the psychology of people as it pertains to the inability to *alter* treasured but false opinions. The danger associated with the Dunning-Kruger effect is massively amplified when we also understand that people are subject to the phenomenon of belief perseverance. Cognitive psychologists empirically studied this phenomenon beginning in the latter part of the 1970s, and the experiments concerning this cognitive problem showed that people's beliefs are not easily changed, even in light of refutation. In other words, even when made aware of counterevidence refuting their treasured beliefs, people do not readily change their beliefs. These troubling but well-known facts about human psychology/epistemology are then problematically compounded and massively reinforced by a pernicious and ubiquitous economic model that entrenches preferences and entitlements to satisfy preferences above all else. The corrective suggestion made here is that, since a purely reeducation-based approach seems unlikely to succeed in the near term, we ought to reconsider the patient-centric model of medicine and its free-market foundation as a basis for medical practice. Educating our population about biology and medicine is no doubt crucial, as consideration of the Dunning-Kruger effect suggests, but this is unlikely to have much immediate traction against irrationality in this domain without reformation of the economic basis of medicine. This is just a straightforward consequence of the belief perseverance phenomenon. Thus, in order to effectively combat this problem, we need to replace the extreme patient-centric model of medicine with the *mild* patient-centric model of medicine and, importantly, restrict access to alternative medical modalities that have been shown to be inefficacious and/or dangerous. Patients should not be confused with customers, and customer satisfaction should not be the end goal of medicine.

The proper goal of medicine in the Hippocratic tradition is just the promotion and maintenance of objective well-being, and satisfaction of the ignorance-based preferences of patients should not be the *sine qua non* of medical practice. Acting as if this were the primary aim of medicine is simply a widespread commission of what is known as the patient satisfaction error. But this is just another cognitive bias, and it is the problem of placing patient

satisfaction ahead of patient well-being (see Howard 2019, chap. 22). The Rolling Stones famously told us “You can't always get what you want.” Perhaps we should take this sentiment to heart in understanding the role of the patient in medical decision-making. Of course, there is certainly nothing wrong with *mild* patient-centrism. Patients should have a voice in their treatment, and they should have a degree of freedom in choosing treatments. They do need to be involved in their own health care, and doctors need to listen to their concerns. But *extreme* patient-centrism in the context of a free-market model of medicine is part of a recipe for a disaster of epic proportions. Decision-making based on nonexpert entrenched opinions about medical treatments is not what will guide us to collectively better health; it is not fully informed decision-making. So, patients' freedom to choose their treatment must be restricted to *validated treatments*, and this means that we need strong government regulation of alternative medicine. Such regulations are, however, not difficult to justify. They are simply based on the need to protect patients and to ensure that we are maximizing the chances of successful treatment.

In light of all of this, it is especially important to note that doctors, nurses, and other medical staff have a special moral obligation not to engender or reinforce false beliefs about the efficacy of alternative treatments with respect to patients and policy makers. But, given what we know about the Dunning-Kruger effect and the phenomenon of belief perseverance, medical professionals should not intentionally give support to the nonexpert's advocacy of and desire to employ unproven or disproven alternative treatments, and they also should not simply remain silent in the face of nonexperts' advocacy of such modalities. This is a direct consequence of the principle of non-maleficence. This principle is the virtually undisputed ethical claim that one ought not to subject others to unnecessary and avoidable harm, importantly including the risk of harm. This principle is equally well at home in deontological and consequentialist ethical theories, and it is best understood as a principle of risk reduction that is intended to cover cases of malicious active harm and of harm that derives from negligence by act or omission. Subjecting others to unnecessary and avoidable harm or risk of harm via one's intentional actions, by one's intentional omission of an action, and by subjecting others to foreseeable harm that is avoidable and unnecessary due to unintended negligence are all serious moral wrongs. But this is just what happens when doctors, nurses, and other medical professionals acquiesce to patient desires for alternative treatments, either by supporting such desires outright or by failing to inform patients about the problems that such unproven treatments entail.<sup>4</sup>

## 7 | ALTERNATE EXPLANATIONS

We can turn now to the main methodological point I wish to address in this paper. That is the contention that the free-market and extreme patient-centric model is the *best* explanation of the rise of alternative medicine. The obvious main alternative explanations of the rise of alternative medicine seem to be the following ones. First, it is tempting to suggest that the rise of alternative medicine is due to the lower cost of most alternative modalities. That is to say, patients and policy makers employ and endorse alternative medical modalities because those treatments are less expensive than orthodox alternatives. Second, it is also tempting to suggest that the rise of alternative medicine is due solely to the epistemic ignorance of patients, policy makers, and other nonexperts. That is to say that these laypersons employ and endorse alternative medical modalities because they (wrongly) believe them to be effective. But despite the seeming plausibility of these suggested explanations, they are inferior to the more nuanced

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<sup>4</sup>It is deeply troubling that Barnes et al. (2004) determined that in fact 26 percent of those who used an alternative therapy had that modality suggested by a conventional medical professional.

explanation introduced here. The cost-effectiveness explanation is inferior because it fails to explain why the rise of alternative medicine has occurred in relatively wealthy Western countries like the United States, the United Kingdom, Canada, and Australia, all of which have relatively high levels of affluence and high standards of living. Moreover, a recent Centers for Disease Control and Prevention (CDC) study found that only 13 percent of users of alternative medical modalities employed alternative treatments because of the lower cost (see Barnes et al. 2004, 5).

The epistemic ignorance explanation is also inferior to the explanation offered here, though it does in part explain the rise of alternative medicine (that is, it is a factor included in the better explanation offered here). We know that people are subject to the sort of cognitive biases exemplified by the Dunning-Kruger effect and the backfire effect. Both involve epistemic ignorance, and they make laypersons particularly cognitively resistant to evidentially driven belief change. This recognition allows for the explanation of *some* aspects of the rise of and, more important, the entrenchment of alternative medicine. There simply is no doubt that ignorance plays a factor in explaining the persistent use of alternative medicine, *but this is not the whole story* (see Shaffer 2019). First, the CDC study just referred to found that the use of alternative medicine *increased* with education level (Barnes et al. 2004, 4). Accordingly, less ignorant people are generally more likely to use alternative medicine. Second, and more important, the CDC determined that only 54.9 percent of those in the study who used alternative therapies believed that such interventions were effective in conjunction with orthodox medicine, and that only 28 percent of those who used alternative medicine believed that orthodox medicine could not help them.<sup>5</sup> So, we see that it is not the case that the use of alternative modalities is fueled solely by ignorance, for nearly half of all the people surveyed did not believe that the alternative modalities were effective, and most people (72 percent of those surveyed) believed that orthodox medicine could help them. Finally, the CDC study crucially determined that 50.1 percent of people tried the alternative therapy that they employed “because they thought it would be interesting to try” (Barnes et al. 2004, 5). This last fact is especially telling in showing that the free-market patient-centric explanation offered here is superior, because this motivation expressed by half of those who have employed alternative modalities is clearly driven by the sort of preference satisfaction and entitlement that is at the core of the free-market patient-centric explanatory model.

## 8 | CONCLUSION: THE LIMITS OF MEDICAL FREEDOM

What should we conclude from all of this? The answer is simple. If we want to avoid the predictable and harmful consequences that have arisen in virtue of extreme patient-centrism, medical ignorance, and the free-market approach to medicine that currently dominate medical practice, we need to look to regulatory and educational solutions that, on the one hand, restrict patient choice on the basis of objective, evidence-based medical science and, on the other hand, reduce the ignorance of the general public about matters associated with human health. Morally, patients are entitled to a significant degree of freedom of medical choice, but that does not extend to choices that are harmful to themselves or to others. So, at least in medicine, you shouldn't always get what you want, but you should be allowed free choice with respect to what you need.

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<sup>5</sup>See Kruger and Dunning 1999; Dunning et al. 2003; Dunning 2005; Howard 2019; Manktelow 2012; Anderson, Lepper, and Ross 1980; Lord, Ross, and Lepper 1979; Ross, Lepper, and Hubbard 1975; Druckman 2012; Nyham and Reifler 2010; Rich and Zaragosa 2016; Rich et al. 2017; Nichols 2017; and Shaffer 2019.

## REFERENCES

- Anderson, C., M. Lepper, and L. Ross. 1980. "Perseverance of Social Theories: The Role of Explanation in the Persistence of Discredited Information." *Journal of Personality and Social Psychology* 39: 1037–49.
- Ballog, R. 2020. "Bradenton 'Church' Promotes Drinking Bleach to Cure COVID-19. They Recommended It to Trump." *Bradenton Herald*, April 27: <https://www.bradenton.com/news/coronavirus/article242304736.html>.
- Barnes, P., E. Powell-Griner, K. McFann, and R. Nahin. 2004. "Complementary and Alternative Medicine Use Among Adults: United States, 2002." *Advance Data from Vital and Health Statistics* 343: 1–20.
- Bastian, H. 1998. "Speaking Up for Ourselves: The Evolution of Consumer Advocacy." *International Journal of Technological Assessment in Health Care* 14: 3–23.
- Boyd, H., and J. Helms. 2005. "Consumer Entitlement Theory and Measurement." *Psychology and Marketing* 22: 271–86.
- Coulter, I., and E. Willis. 2004. "The Rise of Complementary and Alternative Medicine: A Sociological Perspective." *Medical Journal of Australia* 180: 587–89.
- DesJardins, J., and J. McCall. 2005. *Contemporary Issues in Business Ethics*. 5th ed. Belmont: Wadsworth.
- Druckman, J. 2012. "The Politics of Motivation." *Critical Review* 24: 199–216.
- Dunning, D. 2005. *Self-Insight: Roadblocks and Detours on the Path to Knowing Thyself*. New York: Psychology Press.
- Dunning, D., K. Johnson, J. Ehrlinger, and J. Kruger. 2003. "Why People Fail to Recognize Their Own Incompetence." *Current Directions in Psychological Science* 12: 83–87.
- Eisenberg, D., R. Davis, S. Ettner, et al. 1998. "Trends in Alternative Medicine Use in the United States, 1990–1997." *Journal of the American Medical Association* 280: 1569–75.
- Friedman, M. 1970. "The Social Responsibility of Business is to Increase Its Profits." *New York Times Magazine*, Sept. 13.
- Gaus, G. 2008. *On Philosophy, Politics and Economics*. Belmont: Wadsworth.
- Hope, T. 1997. "Evidence-Based Patient Choice and the Doctor-Patient Relationship." In Michael Dunning, *But Will It Work Doctor?* 20–24. London: Kings Fund.
- Howard, J. 2019. *Cognitive Errors and Diagnostic Mistakes*. New York: Springer.
- Kruger, J., and D. Dunning. 1999. "Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments." *Journal of Personality and Social Psychology* 77: 1121–34.
- Le Fanu, J. 2012. *The Rise and Fall of Modern Medicine*. New York: Basic Books.
- Levi, I. 1986. *Hard Choices*. New York: Cambridge University Press.
- Lord, C., L. Ross, and M. Lepper. 1979. "Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence." *Journal of Personality and Social Psychology* 37: 2098–2109.
- Manktelow, K. 2012. *Thinking and Reasoning: An Introduction to the Psychology of Reason, Judgment, and Decision Making*. New York: Psychology Press.
- Murray, J., and S. Shepherd. 1993. "Alternative or Additional Medicine? An Exploratory Study in General Practice." *Social Science and Medicine* 37: 983–88.
- Nichols, T. 2017. "How America Lost Faith in Expertise." *Foreign Affairs* (March/April): 60–73.
- Nyham, B., and R. Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions." *Political Behavior* 32: 303–30.
- Resnik, M. 1987. *Choices*. Minneapolis: University of Minneapolis Press.
- Rich, P., M. Van Loon, J. Dunlosky, and M. Zaragosa. 2017. "Belief in Corrective Feedback for Commonsense Misperceptions: Implications for Knowledge Revision." *Journal of Experimental Psychology: Learning, Memory and Cognition* 43: 492–501.
- Rich, P., and M. Zaragosa. 2016. "The Continued Influence of Implied and Explicitly Stated Misinformation in News Reports." *Journal of Experimental Psychology: Learning, Memory and Cognition* 42: 62–74.
- Ross, L., M. Lepper, and M. Hubbard. 1975. "Perseverance in Self-Perception and Social Perception: Biased Attributional Processes in the Debriefing Paradigm." *Journal of Personality and Social Psychology* 32: 880–92.
- Sen, A. 1987. *On Ethics and Economics*. London: Blackwell.
- Shaffer, M. 2019. "Evidence Denial as Motivated Pragmatically Rational Epistemic Irrationality." *Metaphilosophy* 50, no. 4: 563–79.
- Silagy, C. 1999. "Introduction to the New Edition: The Post-Cochrane Agenda: Consumers and Evidence." In A. L. Cochrane, *Effectiveness and Efficiency: Random Reflections on Health Services*. London: Royal Society of Medicine Press.
- Trentmann, F. 2017. *Empire of Things*. New York: Harper.
- Worth, N., D. Franland, and J. Bernoff. 2018. *Marketing to the Entitled Consumer*. Hendon: Mascot Books.

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