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Weaponizing hope: Sources of hope, unrealistic optimism, and denial

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Where do hope, unrealistic optimism, and denial in medical care come from? While the target article aptly addresses possible implications of patients' potentially inaccurate beliefs, it fails to discuss the external sources from which these beliefs may derive. The authors provide numerous clinical examples in which the information provided to patients is factual and delivered in an unbiased and value-free manner. In such cases, the source may make little difference, but in others—particularly in the case of diagnostics or interventions that are marketed by commercial entities—patients' beliefs and their consequences may be skewed significantly by profit motives whose primary beneficiary is neither the patient nor the larger health system. In such cases, the problematic line between realistic hope and unrealistic optimism needs more careful attention from medical providers, whose duties to facilitate informed decisions may include actively countering messaging from for-profit clinics, labs, and even physicians.

The most familiar source of unrealistic beliefs about commercial technologies is direct advertising, whether to patients or to providers. Advertisements for pharmaceuticals, genetic tests, and for-profit clinics flood the airwaves, target customers on the internet, and pepper industry publications and conferences. While the Federal Communications Commission may crack down on blatant offenses, savvy marketers typically combine hints of scientific integrity, vague yet hopeful promises, and visual appeal to produce feelings of optimism and desire. Direct-to-consumer marketing by commercial genetic labs, for example, often relies less on reliable evidence of clinical benefit and more on emotional appeals to the value of self-knowledge or parents' genetic responsibilities to their future children. Providers selling unapproved stem cell treatments often provide anecdotal or even completely fabricated

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evidence of benefit to patients desperate for hope. And whatever the message, decades of marketing research have shown that investing in repetitive advertising pays huge dividends in increasing potential consumers' recall of the product and positive attitude toward it (Schmidt and Eisend 2015).

Another challenge to forming and informing accurate beliefs about new clinical products comes from commercially funded clinical studies. Unlike advertising aimed directly at patients, clinical studies funded (and often conducted) by commercial interests are routinely used to influence providers and professional recommendations using selective evidence, carefully tailored research questions, and interpretive spin. Recent investigations have demonstrated, for instance, the lengths drug producers of opioids were willing to go to convince doctors that these drugs were safe and effective, including hiring scientists to publish positive 'findings' in the scientific literature (Meier 2018). While burying adverse events and side effects is unfortunately not unheard-of (Avorn 2006), less risky and perhaps even more effective strategies include carefully choosing primary outcomes of the trial and limiting the timeline to a range that shows the intervention's effect in the most positive light (Hrachovec and Mora 2001). In the case of unapproved stem cell treatments, clinical research more often consists of case reports published in less credible journals, with no validation or confirmation of data (Sipp et al. 2017). And even when independent scientists conduct the research and interpret it more objectively, companies can selectively promote particular favorable findings and spin conjectural interpretations into optimistic narratives, often pushed through free "educational materials" for clinical offices and "medical outreach" to providers. Nevertheless, these well-promoted conclusions, seemingly backed by solid science, may be seen by many more providers than the actual peer-reviewed research, and may convince and mislead many—particularly non-specialists who are unfamiliar with that particular technological or methodological niche. Those providers may then become an unwitting conduit for misleading and mixed messages that can alter patients' understanding and decisions.

And medical providers themselves may create unrealistic or overly optimistic information about clinical products. Even well-meaning providers can be influenced by industry relationships and conflicts of interest (COI) that subtly sway their assessment of a clinical product, its clinical utility, and/or its value to patients (Institute of Medicine 2009). Unfortunately, required training about COI may not always help the problem, as research has shown that our ability to believe that colleagues may be influenced by COI far outpaces our ability to believe the same of ourselves. Disclosure of COI is mandated for physicians in the US and most university faculty, but even this can backfire, as studies have suggested that patients may view industry relationships as simply evidence of a doctor's expertise. And other medical providers are not subject to the same disclosure requirements. Many genetic counselors, for example, are employed by commercial genetic laboratories to interact with ordering providers, patients receiving test results, or even patients considering testing (Stoll et al. 2017), and in some cases it may not be clear to patients that they are not receiving genetic counseling from an independent source. Even when laboratory employees clearly disclose their employment, the same subtle problems of COI and the limitations of disclosure may remain.

And for some other clinicians, the problems are far less subtle. When doctors turn into celebrities, hype (and lucrative endorsements) can outweigh careful consideration of evidence, as one study found for the two talk shows “The Dr. Oz Show” and “The Doctors.” Meanwhile, clinics touting unapproved stem cell treatments have proliferated in North America, despite a lack of evidence of benefit and documented cases of serious harm (Turner and Knoepfler 2016). Yet it is surprisingly difficult to discredit or shut down doctors and clinics that make false, misleading, or hyperbolic claims. Mehmet Oz, for instance, retains both his medical license and his faculty position at Columbia University--even after a Congressional hearing criticized him for circulating false claims and a group of physicians wrote an open letter to Columbia asking that he be removed from the faculty due to his “outrageous conflicts of interest or flawed judgments about what constitutes appropriate medical treatments, or both” (Goldschmidt 2015). And stem cell clinics offering unproven and potentially dangerous interventions continue to flourish in the US, despite recent crackdown attempts by the Food and Drug Administration. In the US and elsewhere, some patients have turned to civil lawsuits against stem cell clinics when regulations have failed to curb serious harms (Horner et al 2018).

What is the responsibility of medical providers in the face of such determined misinformation? Evidence-based medicine often proves less profitable than swaying the opinions of patients, providers, and the public by using marketing and tokens of legitimacy, such as persuasive provider and patient testimonials. Medical providers, meanwhile, often tread lightly in the informed decision-making process, hoping to facilitate patient autonomy through shared decision-making. But medical providers’ duties to patients demand something more than presenting an a la carte menu of clinical options, knowing full well that some of those options have been promoted with million-dollar marketing campaigns while others may appear unfamiliar and thus unappealing. Providers may need to rebalance the playing field by actively countering overly optimistic marketing messaging, misleading statements from conflicted clinical sources, and unproven claims by profit-motivated doctors and clinics. In many clinical areas, such as regenerative medicine—and increasingly in consumer areas, such as direct-to-consumer genetic testing—providers arguably have a responsibility to educate themselves on false and misleading claims in order to more effectively refute them. This more directive approach surely has its own pitfalls, but it cannot be ruled out simply in the name of avoiding paternalism.

While the authors rightly problematize sorting out realistic hope from unrealistic optimism, we contend that the sources from which patients and providers garner information and expectations add an additional layer of complexity, both practically and normatively. Given the potential harms posed by direct, persuasive marketing of these products and services to patients and the accompanying threats to scientific and professional legitimacy, we argue that there may be a moral imperative in these cases for medical providers to offer more directive counseling to their patients.

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