

## Virtual Mentor

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### ETHICS CASE

#### Lifestyle is Medicine

Commentary by David L. Katz, MD, MPH

Dr. McDaniel is a cardiologist who is preparing to see a new patient, Mrs. Huber. As she looks through Mrs. Huber's paperwork prior to her visit, she sees that the patient is 42 years old and has a family history of diabetes, hypercholesterolemia, and heart disease. Her pre-visit blood work reveals mildly elevated LDL cholesterol and borderline low HDL cholesterol.

Dr. McDaniel sits down to speak with Mrs. Huber. She introduces herself and begins to review Mrs. Huber's medical history. While Mrs. Huber says that she currently has none of the symptoms that would suggest cardiac problems to Dr. McDaniel, no past hospitalizations or surgeries, and no history of personal medical issues, she is very concerned about her family history of cardiac disease. She keeps stating her worry that she will die of a heart attack like her father did when he was 67 years old.

Dr. McDaniel acknowledges her concerns, completes a physical exam, and discusses the laboratory findings. "While we did find mildly elevated cholesterol values on your blood work, Mrs. Huber, I am reassured by your personal medical history, lack of current or past health problems, and normal physical exam. I find that many of my patients are able to successfully improve their risk factors like elevated 'bad' cholesterol or low 'good' cholesterol by making some different choices in how they live their daily lives and incorporating healthy nutrition and physical activity. Often patients can improve their risk factors through such behavioral changes and avoid the development of further disease without having to take drugs."

Mrs. Huber appears anxious and expresses some concerns to Dr. McDaniel that her health risks must be dealt with immediately. "Doctor, I don't think I can afford to try some fruit and vegetables for the next 6 months. I don't know if I can wait any longer when my arteries are clogging up as we speak! Isn't there something you can give me to take care of this now so I don't have to keep worrying so much about dying of a heart attack?"

Dr. McDaniel appreciates Mrs. Huber's concerns and understands her anxiety, but she has seen that, in many cases, lifestyle interventions including dietary changes are very effective for improving patients' cholesterol levels and other cardiac risk factors. She also believes that teaching Mrs. Huber about dietary changes would have fewer potential adverse side effects than a medication at this time, and that, unlike a pill, educating her about nutrition and lifestyle behaviors will have benefits

on many aspects of her life, building skills she can use to make positive behavioral choices for a long time to come.

### **Commentary**

This case presents us with the ostensible dilemma of a doctor and patient divided over what constitutes appropriate “medicine.” Before confronting the challenge to “ethical” and constructive practice implicit in this case, let’s acknowledge the rather important gaps in the story. There is much Dr. McDaniel does not know about her new patient; in fact, she knows very little. She doesn’t know why Mrs. Huber is acutely preoccupied with her father’s death from cardiovascular disease. It might have been recent, both because of the timing of the encounter and because the 25-year gap in age between Mrs. Huber now and her father at the time of his death would be plausible.

So, first, Dr. McDaniel must find out whether Mrs. Huber is seeing her in the immediate or nearly immediate aftermath of her father’s death. Is she in an acute stage of grief? Are the natural tendencies of mourning affecting her perceptions and priorities? Does she need, and if so has she received, suitable mental health counseling?

A sanguine interpretation of Mrs. Huber’s concern is that it constitutes a “teachable moment” [1], that is, a period of receptivity to behavior change often precipitated by a change of circumstance. All too often, that circumstance is adverse, such as a personal medical crisis or the death of a friend or relative. It can, however, be a much happier one, such as pregnancy. Perhaps in the aftermath of her father’s death, Mrs. Huber is inspired—by fear, presumably—to change her ways and thus avoid the fate implied by her family history.

But there are reasons in this case to be a bit less hopeful. Mrs. Huber’s father died prematurely at 67, but that is still a far cry—indeed, the span of a generation—from her current age of 42. She has neither symptoms nor a very overt set of cardiac risk factors. Why, then, is the patient here now? Why is she seeing a cardiologist rather than a generalist? Why is her acute worry seemingly so discordant with the 25-year gap between her age and her father’s age at death? Are there other reasons for the patient’s sense of urgency and, if so, what are they, and how should they be addressed? If Mrs. Huber is not in a state of acute grief, the acuity of her worry suggests the possibility of an anxiety disorder. This, too, must be explored before issues of cardiac risk management may be reasonably confronted.

The answers to these questions have relevance to the concept of ethics, which is all about distinguishing right from wrong. How much emphasis to place on lifestyle in medicine is a matter of judgment, alternatives, preferences, opportunities, and aptitudes and is rarely likely to be right or wrong. In contrast, it would be wrong to ignore or neglect a grief response and equally wrong to overlook depression or anxiety lingering after such a response normally abates. The notion of culturally sensitive care is well established, but ultimately clinical care is about an individual

and the required sensitivity is at the n-of-1 level. Our care is ethical when it conforms to the specific needs of a given patient at a given time—and, arguably, unethical when it does otherwise.

Now to the conflict between Mrs. Huber and Dr. McDaniel: Mrs. Huber wants “medicine” to modify her cardiac risk factors, while Dr. McDaniel—apparently, and encouragingly, at odds with the prevailing tendencies in modern medicine—prefers an application of therapeutic lifestyle changes. Is there a right answer?

There are, at least, salient considerations to inform a right answer. Perhaps foremost among them is the fact that, to the extent possible in clinical practice, the patient is the boss. That is what the notion of “patient-centered” [2] care is all about. And, of course, it simply stands to reason. Health care is for the health of the patient. It’s about the patient, always. This is uniformly true in medicine—but even more so in the realm of lifestyle as medicine [3]. We practitioners have substantial control over the prescriptions we dole out and nearly complete control over the procedures we conduct. But lifestyle plays out between office visits, not during them. It intersects with our purview, but does not reside within it. We can advise a change in lifestyle practices; only the patient can implement it. The patient is, *ipso facto*, the boss; the arrangement is not negotiable.

But that does not invite us, as clinicians, to get bossed around. We are obligated by our professional vows to provide the information on which a patient’s good decisions can be based. We are committed to best and most substantiated practices. We are duty-bound to decline requests for futile action. And we are obligated, first, to “do no harm” [4]. This was never quite an accurate assertion, in the Hippocratic Oath or elsewhere, but we are, indeed, obligated to avoid actions more likely to confer harm than benefit. That, then, becomes our second salient consideration: our need to encourage the “treatment” we consider right.

This leads in turn to the third key element of the right answer in this case: what is the proper treatment?

Honestly, we don’t quite know. We are told Mrs. Huber has a mild dyslipidemia. The pattern—a slight elevation of LDL and low HDL—makes for a very incomplete picture. What are her triglycerides? The low HDL in a premenopausal woman (at 42, Mrs. Huber is almost certainly premenopausal barring oophorectomy, and no prior surgery was uncovered during her medical history taking) is most likely to occur in the context of insulin resistance [5]. If Mrs. Huber is insulin-resistant, we would expect elevated triglycerides. We might also expect other signs of insulin resistance, including central adiposity (an elevated waist circumference), and at least a borderline elevation of her blood pressure. But the physical exam was “normal.” Perhaps Mrs. Huber’s weight, BMI, and waist circumference are truly in the optimal range [6], or perhaps Dr. McDaniel neglected these measures. Such neglect is, alas, still more the norm than the exception.

Thus, Mrs. Huber either has some semblance of insulin resistance, or a mild type IIa dyslipidemia. In either case, first-line therapy is, unequivocally, lifestyle change [7].

The power of lifestyle as medicine, Mrs. Huber's seemingly dismissive attitude toward it notwithstanding, is, in fact, unmatched. The evidence is decisive that a lifestyle intervention can cause regression of atherosclerotic plaque [8]. The evidence is decisive that lifestyle intervention can slash the risk of myocardial infarction in even high-risk patients [9, 10]. The evidence is incontrovertible that lifestyle as medicine outperforms pharmacotherapy in the prevention of diabetes in high-risk adults [11].

An aggregation of evidence over a span of decades [12, 13] has established as a bedrock fact of modern epidemiology that tobacco, poor diet, and lack of physical activity constitute the leading causes of chronic disease, including cardiovascular disease, and premature death. Conversely, salutary use of feet, fork, and fingers represent the potential to slash the risk of all chronic disease by 80 percent [14-16]. A complementary and aggregating body of evidence attests to the epigenetic potency of lifestyle interventions [17], demonstrating the capacity to alter gene expression with diet, physical activity, tobacco avoidance, stress management, social connections, and adequate sleep [18].

The final nail in the coffin of Mrs. Huber's dismissal of lifestyle as medicine pertains to temporality. This patient is operating under the misapprehension that pharmacotherapy works fast and lifestyle only slowly. However, numerous studies show that salutary or adverse effects on the vasculature play out acutely in the post-prandial period. Any given meal, or cigarette smoked or avoided, can influence cardiovascular risk all but immediately [19-21].

As an aside, I note that, in my experience, Mrs. Huber's attitude is unusual. Far more often, I see the converse: patients are reluctant to take medications. They've heard the ads on TV and know all about that long list of intimidating side effects. They have no symptoms from their dyslipidemia and wonder why there is any need for medication at all. More often than not, patients are hoping we will consider lifestyle ahead of drugs.

In any given case, the power of lifestyle as medicine relates to the magnitude of plausible change. Does Mrs. Huber smoke? If she does, quitting would exert an immediate, and almost certainly greater, effect than any medication. Does she eat well or poorly? Does she exercise?

If our patient does not smoke, eats optimally, and exercises routinely, then her dyslipidemia exists in spite of the application of lifestyle as medicine. We can't fix what isn't broken! In this case, pharmacotherapy becomes a far more reasonable consideration. If she smokes, eats poorly, is sedentary, or any combination thereof, there is a compelling basis to direct our efforts there.

Where does all of this leave us? Assuming the patient's lifestyle is other than optimal, the best evidence-based guidelines argue for lifestyle change as first-line therapy of her mild dyslipidemia. We are thus duty-bound to make that case. If we are persuasive, but Mrs. Huber remains ambivalent, the appropriate response derives from motivational interviewing [22]. If Mrs. Huber is both convinced and ready for lifestyle change, our job is to help direct and support her initiative [23].

If despite our best efforts, Mrs. Huber remains emphatic about the use of pharmacotherapy—and assuming there is no mental health condition needing treatment first—her preference becomes a factor in our risk-benefit assessment. After all, in the absence of therapeutic alliance, our potential to facilitate lifestyle change over time disappears entirely. It might be that even temporary risk mitigation with relatively safe pharmacotherapy, such as a statin and perhaps aspirin in this case, would help establish that therapeutic alliance and provide us the traction we need to make the case for lifestyle as medicine longitudinally.

In this case, and often, lifestyle truly is the best and most potent medicine we have. But medicine can only be of utility if it actually goes down. The patient is, ultimately, the boss; the decision to swallow or spit resides with him or her. When our practice patterns are inattentive to this constant imperative, our best efforts devolve to dogma—and futility.

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