A PIECE OF MY MIND

The $50 000 Physical

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Recently, I was discussing the physical examination with some of our house staff after a conference on evidence-based medicine. I asked whether there was evidence to support performing an annual physical examination on a healthy patient. They did not know. "It couldn't hurt," one resident offered. I countered that it might, and then challenged them to come up with an example. Blank looks. Embracing the power of anecdote, I related the following story:

About ten years ago, when my father was 85 years old, he and my mother sold their house and relocated to an assisted-living facility in Pittsburgh. Shortly after their arrival, my father visited his new primary care physician for a "checkup." He had a longstanding history of hypertension, glaucoma, and some mild mitral regurgitation, but was otherwise in good health. As part of his evaluation, the internist performed a complete and thorough physical examination. He palpated my father's abdomen and thought that the aorta was too prominent; he suspected an aortic aneurysm. My father had never smoked, and there were no recommendations for aortic aneurysm screening at the time. Nevertheless, his physician ordered an abdominal ultrasound. The test revealed a normal aorta, but the ultrasonographer noticed something suspicious in the head of the pancreas. It was recommended that he have a CT scan. The CT revealed a normal pancreas, but there was now a solitary lesion in the liver, strongly suggestive of hepatocellular carcinoma. My father, who had worked in the chemical industry his entire life, had extensive exposure to numerous solvents, including benzene, and after consulting the *Merck Manual*, he concluded that it was, in fact, liver cancer. Based on his reading, he understood that the treatments were not very effective and that he was going to die; he would not pursue the diagnosis further. He was philosophical about it—the chemical business had put his six children through college and graduate school. He had had a good life.

My sister, however, was not ready to give up. Being in Pittsburgh, the "liver capital," she convinced him to see a specialist, who managed to overcome my father's hesitancy. He had a single lesion, his health was good, and his α-fetoprotein level was low. With a resection he might live for several more years. But first he would need a biopsy.

My father entered the hospital with his usual optimism. The good news is that he did not end up having liver cancer. The bad news: the lesion was a hemangioma, and he almost bled to death. He required 10 units of blood. He was in a lot of pain. He was given morphine and developed urinary retention. After a week he went home with a urinary catheter, which he removed himself a few days later. No permanent physical harm done. The total bill for the hospitalization was $50 000.

The frustrating thing about this story is that following the initial examination, every step in the pathway was appropriate. Once the primary care physician felt an enlarged aorta, he was correct to order the ultrasound, the abnormal pancreas on the ultrasound warranted a CT scan, and the CT finding required a biopsy. The only way to have prevented this outcome would have been to dispense with the initial physical examination. The US Preventive Services Task Force[1] recommends one-time ultrasound screening for aortic aneurysms in men aged 65 to 74 years who have ever smoked, but does not recommend palpation for aneurysms, because it is generally inaccurate, as was the case with my father. It also recommends against palpating the abdomen in search of pancreatic cancer. Similarly, one should not assess the liver or spleen. Apparently, unless the patient has a concern or complaint, the well-intentioned physician should avoid the abdomen altogether.

In fact, almost nothing in the complete annual physical examination is based on evidence. For a generally healthy 85-year-old, the physical exam could reasonably be limited to blood pressure measurement and assessment of the body mass index.[2] Some exam elements, such as testicular or thyroid exams to detect cancer, actually have evidence to recommend against them, but most simply have insufficient evidence to recommend for or against.[2]

Why, then, do we continue to examine healthy patients? First of all, we get paid to do it. For an annual wellness visit for an 85-year-old, Medicare pays approximately $111. More important, all the tests and treatments my father received, including his hospitalization, generated substantial "downstream revenue" for the health system. Second, patients expect it. We have educated them about the importance of a thorough physical. Without it, patients may leave thinking, "The doctor didn't even examine me!" Finally, there is our own anxiety about missing something life-threatening. At each step of the process, my father's physicians' anxiety increased, in an unstoppable cascade[3] that almost killed him.

The solution requires that health professionals and payers address each of these root causes, beginning with the payment system. Medicare, which has traditionally refused to pay for routine physicals, now covers an annual wellness visit.[4] The physical exam component, however, is limited to measurement of blood pressure and body mass index. The rest of the visit includes updating the medical history, testing for cognitive impairment, assessment of risk factors, evidence-based screening (eg, for colorectal cancer or diabetes), and providing personalized health advice. To address the downstream costs of unnecessary testing, additional payment reform is needed. Comprehensive

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payment and shared savings models, such as accountable care organizations, help to remove incentives to perform tests that offer little or no value to patients. Until such reforms are in place, however, hospital administrators will be hesitant to embrace policies (eg, evidence-based guidelines) aimed at removing these costs from the system.

We also need to reeducate our patients. The Society of General Internal Medicine's recommendation against routine health checks[5]—their contribution to the Choosing Wisely campaign—is a bold step in the right direction. But physicians have to do their part. An annual physical examination is the most common reason for visiting a primary care physician. During these visits, patients, physicians, and private insurers all expect an examination.[6] To stop performing physicals requires embracing the evidence[7] and sharing it with our patients. Although an examination-free annual visit to a primary care physician may be worth preserving for other reasons,[8] we must admit that this is an untested intervention that may not add value.

Most important, we need to educate ourselves about the dangers of overdiagnosis[9] and to suppress our own anxieties. There will always remain a small possibility that our examination might detect some silent, potentially deadly cancer or aneurysm. Unfortunately for our patients, these serendipitous, life-saving events are much less common than the false-positive findings that lead to invasive and potentially life-threatening tests. This is the obvious answer to the question that I posed to my residents. The fact that it did not occur to any of them means that we still have a long way to go in educating the next generation of physicians to "do no harm."

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Note: This article originally appeared in an earlier issue. We are republishing it in a theme issue marking 40 years of the A Piece of My Mind series in *JAMA*.

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