

with reasonable certainty what will happen to a patient, there is a single “correct” approach to treatment. Under these circumstances, it would seem to make sense for the clinician to recommend a course of action without requiring an intensive process of shared decision making.

The problem is that the benefit–risk assessments in these clinical scenarios are based on calculations that may not take into account all the patient’s concerns and values. In the case of nonvalvular atrial fibrillation, for example, anticoagulation with warfarin or a new oral anticoagulant is recommended when the reduction in stroke risk exceeds the increase in bleeding risk. This calculation does not include consideration of the inconvenience of warfarin treatment or of the possibility of using aspirin, which

reduces stroke risk less than anticoagulants do but carries a lower risk of bleeding as compared with warfarin — both considerations that have been shown to influence patients’ treatment preferences.³

In the case of statins for primary prevention, the recommendation is based on net absolute benefits exceeding net harms. But this calculation yields the “cor-

rect” answer only if individual patients assign the same values to the benefits and harms that the guideline authors do, and we know that patients place varying weight on both benefits and harms.⁴

Rather than reducing the need to involve the patient in decision making, I would argue that the availability of outcomes data makes the elicitation of patients’ preferences even more important — indeed, when such data are available, it may make sense for physicians to be the most cautious about making a recommendation. When they can be given clear information about their treatment options, many patients will be able to express their priorities, and clinicians’ recommendations can cause them to make choices contrary to what they would otherwise prefer.⁵

Thus, I believe that finding the sweet spot for shared decision making will require clinicians to work against their natural impulses to tell the patient what to do when they’re certain of what’s best and to leave the patient to decide when they’re not. “I’m not sure what the right answer is, so why don’t you decide” can be replaced with “This is a really hard decision because we aren’t sure what will happen if you choose

option x; let me show you how I think about this, and you can tell me whether it fits with what’s important to you.” And, equally important, “I’m recommending option x because it provides better outcomes than option y” can become “Let me tell you about the pros and cons of options x and y so that you can decide which one matches your priorities.”


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 An audio interview with Dr. Fried is available at NEJM.org

Medical Taylorism

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Frederick Taylor, a son of Philadelphia aristocrats who lived at the turn of the last century, became known as the “father of scientific management” — the

original “efficiency expert.” He believed that the components of every job could and should be scientifically studied, measured, timed, and standardized to maxi-

mize efficiency and profit. Central to Taylor’s system is the notion that there is one best way to do every task and that it is the manager’s responsibility to ensure

that no worker deviates from it. “In the past, the man has been first; in the future, the system must be first,” Taylor asserted.¹

Toyota, inspired by these principles of “Taylorism,” successfully applied them to the manufacture of cars, thereby improving quality, eliminating waste, and cutting costs. As health care comes under increasing economic pressure to achieve these same goals, Taylorism has begun permeating the culture of medicine.

Advocates lecture clinicians about Toyota’s “Lean” practices, arguing that patient care should follow standardized systems like those deployed in manufacturing automobiles. Colleagues have told us, for example, that managers with stopwatches have been placed in their clinics and emergency departments to measure the duration of patient visits. Their aim is to determine the optimal time for patient–doctor interactions so that they can be standardized.

Meanwhile, the electronic health record (EHR) — introduced with the laudable goals of making patient information readily available and improving safety by identifying dangerous drug–drug interactions — has become a key instrument for measuring the duration and standardizing the content of patient–doctor interactions in pursuit of “the one best way.” Encounters have been restructured around the demands of the EHR: specific questions must be asked, and answer boxes filled in, to demonstrate to payers the “value” of care. Open-ended interviews, vital for obtaining accurate clinical information and understanding patients’ mindsets, have become almost impossible, given the limited time al-

lotted for visits — often only 15 to 20 minutes. Instead, patients are frequently given checklists in an effort to streamline the interaction and save precious minutes. The EHR was supposed to save time, but surveys of nurses and doctors show that it has increased the clinical workload and, more important, taken time and attention away from patients.

Physicians sense that the clock is always ticking, and patients are feeling the effect. One of our

in different languages and express individual preferences regarding when, how, and even whether they wanted to be fixed. The inescapable truth of medicine is that patients are genetically, physiologically, psychologically, and culturally diverse. It’s no wonder that experts disagree about the best ways to diagnose and treat many medical conditions, including hypertension, hyperlipidemia, and cancer, among others.

To be sure, certain aspects of

The aim of finding the one best way cannot be generalized to all of medicine, least of all to many key cognitive tasks. Good thinking takes time, and the time pressure of Taylorism creates a fertile field for cognitive errors that can result in medical mistakes.

patients recently told us that when she came in for a yearly “wellness visit,” she had jotted down a few questions so she wouldn’t forget to ask them. She was upset and frustrated when she didn’t get the chance: her physician told her there was no time for her questions because a standardized list had to be addressed — she’d need to schedule a separate visit to discuss her concerns.

We believe that the standardization integral to Taylorism and the Toyota manufacturing process cannot be applied to many vital aspects of medicine. If patients were cars, we would all be used cars of different years and models, with different and often multiple problems, many of which had previously been repaired by various mechanics. Moreover, those cars would all communicate

medicine have benefited from Taylor’s principles. Strict adherence to standardized protocols has reduced hospital-acquired infections, and timely care of patients with stroke or myocardial infarction has saved lives. It may be possible to find one best way in such areas. But this aim cannot be generalized to all of medicine, least of all to such cognitive tasks as eliciting an accurate history, synthesizing clinical and laboratory data to make a diagnosis, and weighing the risks and benefits of a given treatment for an individual patient. Good thinking takes time, and the time pressure of Taylorism creates a fertile field for the sorts of cognitive errors that result in medical mistakes. Moreover, rushed clinicians are likely to take actions that ignore patients’ preferences.

Part of the original promise of scientific management was that increased efficiency and standardization would not only result in a better product at lower cost, but would also give workers more free time to enjoy life. Lillian Gilbreth, who with her husband Frank championed motion studies of workers to boost their efficiency, called this outcome saving time for “happiness minutes”² (see the Perspective article by Gainty, pages 109–111). Similarly, some prominent policymakers have claimed that implementing scientific management in medicine would free doctors, nurses, and other members of the clinical team to spend more time with their patients.³ In fact, the opposite seems to be happening. Yet some of the greatest rewards of working in medicine come from spending unstructured time with our patients, sharing their joys and sorrows.

Instead of gaining happiness minutes, clinicians are increasingly experiencing dissatisfaction and burnout as they're subjected to the time pressures of Taylorism and scientific management in the name of efficiency. We have watched colleagues fleeing to concierge practices, where they have control over their schedules. Others have taken early retirement, unwilling to compromise on what they believe is the time needed to deliver compassionate care. Some have moved into management or consulting positions, where they tell others how to practice while unburdening themselves of their clinical load. Just as Taylor enriched himself by consulting for companies, a growing and lucrative industry has emerged to generate and en-

force metrics in medicine. By 2014, the Centers for Medicare and Medicaid Services alone had mandated the use of more than 1000 performance measures. As the Institute of Medicine recently reported, such metrics have proliferated, though many of them have little proven value.⁴

There is a certain hypocrisy among some of the most impassioned advocates for efficiency and standardization in health care, as Boston neurologist Martin Samuels recently pointed out. “They come from many different backgrounds: conservatives, liberals, academics, business people, doctors, politicians, and more often all the time various combinations of these. But they all have one characteristic in common. They all want a different kind of health care for themselves and their families than they profess for everyone else.”⁵ What they want is what every patient wants: unpressured time from their doctor or nurse and individualized care rather than generic protocols for testing and treatment.

Yet students are now taught the principles of Taylorism and Toyota Lean as early as their first year of medical school. They enter clinical rotations believing that there must be one best way to diagnose and treat every medical condition. In residency training and beyond, they discover that's not the case, and they face a steep learning curve as they take on primary responsibility for patient care. We learn how to modify and individualize care in the real world, recognizing the variety of clinical presentations, the reality of multiple coexisting conditions, the variability of hu-

man biology, the effects of social and cultural contexts, and the diversity of patients' preferences regarding risk and benefit, all of which defy rigid protocols.

Medical Taylorism began with good intentions — to improve patient safety and care. But it has gone too far. To continue to train excellent physicians and give patients the care they want and deserve, we must reject its blanket application. That we're beginning to do so is shown, for example, by a bipartisan bill introduced in Congress last September to delay implementation of the Meaningful Use Stage 3 criteria for information-technology use in health care. We need to recognize where efficiency and standardization efforts are appropriate and where they are not. Good medical care takes time, and there is no one best way to treat many disorders. When it comes to medicine, Taylor was wrong: “man” must be first, not the system.

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