Taking Our Medicine — Improving Adherence in the Accountability Era

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A new patient with an abnormal electrocardiogram comes to your office. He is 53, smokes, and has hypertension and hyperlipidemia. Though he comes for preoperative risk evaluation, he needs more than "medical clearance" — he needs a primary doctor. Given his risk factors and hesitance to change his lifestyle, you recommend aspirin, a statin, and an antihypertensive. When he doesn't show up for his stress test, you call him, and he says he doesn't understand what the fuss is all about — he feels fine. "Why don't you wait until something is wrong with me to give me these medications?" he asks, launching into a litany of justifications for not taking them: cost, nuisance, potential side effects, not wanting to put anything "unnatural" in his body, and lack of perceived benefit. You attempt to educate him about his risk, but he says, "No disrespect to you, Doctor, but I've just never been a pill person. But," he adds, "if something were to happen, you would still take care of me, right?"

Of course you would. Our willingness to care for patients has never depended on their willingness to do what we say. But an estimated one third to one half of U.S. patients do not adhere to prescribed medication regimens.[1] Because nonadherence leads to increased complications and hospitalizations, it costs the United States an estimated $100 billion to $290 billion annually.[2] In a health care delivery system where physician payment will increasingly be tied to patient outcomes, nonadherence poses both new challenges and opportunities.

Recognizing that such behavior costs money and lives, researchers have begun testing interventions to improve adherence. Although the multifactorial nature of nonadherence means there will never be a one-size-fits-all solution, interventions ranging from education to elimination of selected copayments[3] to telephone-based counseling have achieved modest improvements in clinical trials.[2] But even if we had more robust interventions, we'd lack simple, cost-effective ways of targeting the right intervention to the right patient.

Now, however, there's a business case for investing in improving adherence. The Affordable Care Act aims to shift reimbursement from fee for service toward rewarding of improved quality, outcomes, and efficiency. Payment and delivery-system models such as patient-centered medical homes (PCMHs), accountable care organizations (ACOs), and bundled payments encourage greater care coordination by holding providers accountable for total costs and outcomes in their patient populations. Rather than maximizing billing for each patient seen, these models promote efforts to improve population health at the lowest possible cost. But will reforms designed to achieve more for less money motivate the development of innovative solutions to nonadherence — or harm the highest-risk patients?

On one level, new payment models will pressure physicians to help patients to adhere to chronic-disease treatments. But even perfectly coordinated care will fall short for a patient with heart failure who goes home and stops taking her finely tuned regimen. ACO physicians will be held accountable not only for their own adherence to guideline-driven care but for their patients' adherence as well. With their salaries indirectly tied to patients' behavior, physicians in ACOs and PCMHs will theoretically be more motivated to educate patients about medication therapy and to address barriers to its use.

Those barriers, however, range from the practical to the deeply psychological and vary widely among patients and diseases. To address the practical barriers, such as cost or forgetfulness, physicians can prescribe generics or suggest organizational strategies such as weekly pillboxes. ACOs won't be in a position to eliminate copayments, but a recent trial involving patients who have had myocardial infarction showed that doing so improves adherence.[3] Side effects are harder to predict and address, and there's always the risk of overemphasizing them so that they become a self-fulfilling prophecy. But for some patients, simply having a "game plan" for contacting a physician in the event of intolerance may mitigate lapses in adherence between appointments.

Though patients may be forthcoming about the more practical challenges, the psychological barriers are tougher to identify and articulate. Patients don't generally tell their physicians, "Every time I look at that pill bottle, it reminds me that I'm ill" or "I tend to discount future benefits as long as I feel well today." Such underlying psychological mecha-

nisms probably contribute to nonadherence far more than we realize and help explain why existing interventions have brought only modest improvements.

But it's precisely the multifactorial nature of nonadherence that makes solutions at the individual and practice levels most promising. Indeed, though clinical trials are ideal for establishing the efficacy of certain interventions, when it comes to fostering adherence, local delivery-system environments may be better suited to creating and testing interventions reflecting a population's needs.

Our hope is that providers, hospitals, and health systems participating in new payment models will find economies of scale in working together to improve adherence. Groups that previously functioned independently, such as pharmacists, pharmacy benefit managers, and doctors, will share a business interest in fostering population health and have added incentives to communicate and collaborate. Already, new marketplace solutions are emerging for using data and predictive analytics more effectively to support targeted interventions. As integrated health systems spread, providers may well invest in studying lower-cost ways to help patients be healthier.

For example, a practice could easily provide its physicians with monthly data on their patients' pharmacy claims. This approach has shown promise among early adopters of new care-coordination efforts. For instance, Community Care of North Carolina, a group of 14 physician networks serving Medicaid patients, paid physicians a monthly fee for care coordination; collected data on patients' prescription-filling rates; and had clinical pharmacists reach out to patients, explain the need for the medications, and often reduce a regimen's complexity. This approach led to a 5-to-7% improvement in adherence.[4]

As new delivery systems foster similar efforts, we'll learn about qualitative and contextual details that can help others adapt such approaches to their own environments. Electronic prescribing will result in better data sources and opportunities for real-time monitoring. We should gain insight into the best ways to provide counseling to patients, target messaging, use patients' social networks to promote healthier behavior, and deploy health information technology to promote appropriate medication use.

Of course, many intuitively sensible quality-improvement initiatives have had unintended consequences. For instance, when New York implemented public reporting of cardiac surgery outcomes in the 1980s, mortality initially decreased, but subsequent analysis revealed that high-risk patients were often turned away and that black and Hispanic patients were disproportionately denied surgery.[5] Analysts hypothesized that surgeons perceived these minority groups as higher risk and therefore as threats to their performance ratings. If outcomes of chronic disease depend on medication adherence, what's to stop us from similarly gaming the system by denying care to high-risk patients?

One way to guard against this tendency to "cherry pick" or "lemon drop" is to alter our risk-adjustment methods to account for coexisting conditions and patients' propensity to follow physicians' recommendations. Alternatively, we could give physicians a quota of patients whose outcomes are excluded from their performance-trend analyses — a strategy resembling the outlier approach to reimbursing hospitals used by the Centers for Medicare and Medicaid Services. But what quota is big enough? How does one gauge patients' likelihood of taking medications? And how would we shield physicians who care for the highest-risk patients?

At the heart of this problem lie essential questions about human motivation and physicianhood. Whether patients take their medications is ultimately up to them, but physicians' professional responsibility entails both a willingness to help people in need and a constant effort to do better. When it comes to medication adherence, what we're doing now isn't cutting it. Though as individuals we may feel ill-equipped to transform patients into "pill people," as a community we face an opportunity to develop better ways of caring for patients even when they're out of our sight.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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DOI: 10.1056/NEJMp1307084