

Geller said, and orthopedic surgeons estimate there may be a need for more than 2 million per year by 2025, potentially outpacing the supply of knee surgeons. Most of the increase will come from the growing aging population, according to Geller, but some may be related to other factors, such as obesity or physical activity levels.

Geller advises joint-friendly exercises. "Things like a stationary bike or an elliptical ... are probably the best form of exercise because the impact on a joint is minimal," he said.

Lieberman's team is now looking at prevalence of knee OA in living populations from different parts of the world who have different lifestyles and levels of physical activity. Because physical activity and overweight influence each other, the researchers will try to control for both variables independently in these studies to parse their individual contributions to knee OA. The researchers are also focusing on the effects of physical activity on joints in general and cartilage in particular using animal models in the laboratory.

In the end, having a happy medium of physical activity may turn out to be a reasonable approach to warding off knee OA, along with maintaining a healthful diet and weight to reduce joint-damaging inflammation and abnormal load bearing.

"To me, what's important about the paper is that it suggests that OA is much more preventable than we often assume," Lieberman said. ■

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The JAMA Forum

Five Ethical Values to Guide Health System Reform

Lawrence O. Gostin, JD

The US health system is so mired in politics, with positions hardened by rigid ideologies, that we can't even seem to talk with one another civilly about difficult tradeoffs. If the polity could agree on core ethical values to guide discourse, we would make hard health system choices based on *which* values we prefer and *why*. Herein, I offer 5 critical values for health system reform—universal access, equitable access, affordable access (cost), quality, and choice—explain the tradeoffs, and provide reasons why certain values should take priority. There will be disagreement across the political spectrum, but alternative visions should be justified by reasoned argument.

Universal Access

Health is foundational to life's joys and opportunities—reproduction, family, work, play, and creativity, to name a few. If a person is ill, injured, or in pain, having access to health care that is affordable, accessible, culturally and linguistically appropriate, and of good quality is of high value. There is no "right to health" in the United States. Even absent a domestic legal entitlement, however, universal access should represent a core ethical value precisely because every individual would choose health care as a personal priority and for family members.

Equitable Access

Vast inequalities exist across multiple spheres, which animates compelling political debates. Fairness is a strong value in the

United States but so are economic freedom, individual striving, and entrepreneurship. It is unlikely that quality health care services will be distributed equally across all populations. Yet fairness requires a reasonable allocation of quality services according to need, irrespective of ability to pay.



Popular support for Affordable Care Act guarantees—no exclusions for preexisting conditions or lifetime caps on coverage—is testament to the value of equity. Equity requires that the lived experiences of individuals in access and quality of health services are not inordinately different based on wealth, geography, race, or religion. Tolerating some differences may be acceptable to many, but widely disparate treatment—marked tiers in access and quality—appears unjust.

Cost: Affordable Access

In theory, everyone understands that cost is important in any societal decision. Re-

sources are limited, and the polity will accept only so much taxation. The line between public services and revenue raising, and the public's tolerance for increased public debt, are quintessentially political questions. But somehow in health care, attempts to constrain costs are shrouded in partisan accusations of rationing. Many US consumers are suspicious of national, single-payer health systems, such as the United Kingdom's [National Health Service](#) and [Canada's single payer system](#), and associate them with rationing of care—yet think highly of Medicare, even though it, too, is a single-payer system. Private health insurance, of course, also rations care but on a different basis, based on the cost of premiums, co-payments, and deductibles. It is widely known that the United States spends [nearly double per capita](#) on health care than other countries. Yet US health indicators (eg, life expectancy and child and maternal mortality) [rank low](#) compared with those of Organisation for Economic Co-operation and Development nations.

Given scarce resources, the World Health Organization (WHO) [recommends the following priorities](#): maximizing population health, prioritizing the worse off, and shielding people from health-related financial risks. Allocation of health care resources should give marked [preference to clinical evidence of cost-effectiveness](#). The WHO, and many countries, have evidence-based medicines lists, indicating what will and will not be paid for. The [National Institute](#)

for Health and Care Excellence, or NICE, evaluates the evidence base for health services, paying for cost-effective services. Many countries also reduce costs through bulk purchase of pharmaceuticals, but Medicare is legally [prohibited from negotiating drug prices](#). US consumers often [pay far more for the same medicines](#) than peer nations.

Quality

Individuals do not simply want affordable access to health care but also demand high quality. This requires systems approaches that [prevent medical errors](#) and institutionalize [rigorous infection control](#). Systems of training, monitoring, research, oversight, and accountability improve quality.

Quality is linked also to evidence of effectiveness. If health professionals and institutions had incentives to prioritize evidence-based treatment, and if systems were in place to better ensure that well-trained health professionals administered that treatment skillfully and consistently, quality would improve uniformly. When politicians rhetorically claim that “America has the best health care system in the world,” it should not be taken as a rational argument. Rather, it means there are pockets of world-class excellence, but that excellence is inequitably distributed and far from consistent. The poor and

uninsured in particular, rarely access the highest-quality care.

Choice

American traditions stress autonomy and the right to make personal choices. In health care, however, there is considerable ambiguity about what “choice” actually entails. Is it the right to choose a physician, a hospital, or a health insurance package? Politicians also claim that greater choice would improve quality and reduce cost. Why? Many people believe they have the acumen to choose the best doctor or hospital. There is little evidence that individuals can make such choices accurately. But, if they could, it would widen inequalities, because the better-educated and more affluent would likely make more informed choices—leaving the poor and less-educated behind.

Choice is also seen as a way to [drive down costs through competition](#). Physician offices, hospitals, and insurers would compete for patients, thus incentivizing quality improvement and cost reduction. Yet health care is not an ordinary commodity. It is highly specialized, knowledge dependent, and complex. At the point when many choices are made, moreover, patients are in pain, suffering, or highly dependent. There are marked asymmetries in information and market power. Much of the reform debate

focuses on choice—the one value that is deeply flawed.

The key insight is that the purpose of health insurance is to spread the risk among populations. Yes, it is a cross-subsidy from the young to old, healthy to sick, rich to poor. Yet no one knows if and when he or she may become ill or injured. In the world’s richest nation, is it too much to ask that everyone takes a fair share of the financial burden so that everyone receives care at the time they need it most? Health care is a universal value, embedded in what individuals yearn for themselves and their families, and what nations require for decent and productive societies. ■

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