

not, larger American employers that, before the Affordable Care Act was implemented in 2014, were not required to offer insurance may not, in fact, have offered it if they had many low-wage employees; the reason is that, if they had offered insurance, the cash wage they could afford to pay would have been below the minimum wage. (For the same reason, these employers typically do not offer a pension benefit.) Many low-wage employers, however, are small businesses that might not be viable if they had to subsidize health insurance. As a result, the Affordable Care Act exempted firms with fewer than 50 employees from any penalties if their employees received a public subsidy and purchased insurance in the exchange. Some self-employed individuals or those who work at small firms may belong to a trade association or a professional society through which they can purchase insurance, but because that purchase is voluntary, it is subject to selection.

How does this situation affect the practice of medicine? Prior to the Affordable Care Act, individual and small-group insurance policies typically had preexisting condition clauses to protect the insurer against selection—that is, to protect the insurer against a person's purchasing insurance (or more complete insurance) after that person had been diagnosed with a disease that is expensive to treat. Even though there is now a penalty for remaining uninsured, some individuals still choose to do so, and others purchase insurance with substantial amounts of cost sharing that they may not be able to pay if they become sick. Caring for such patients may give the physician a choice between making do with less than clinically optimal treatment and proceeding in a clinically optimal way but leaving the patient with a large bill and possible bankruptcy—and potentially leaving the physician with bill collection issues or unpaid bills.

Selection can arise in a different guise when physicians are reimbursed a fixed amount per patient (i.e., *capitation*) rather than receiving fee-for-service payments. Depending on the adequacy of any adjustments in the capitated amount for the resources that a specific patient will require ("risk adjustment"), physicians who receive a fixed amount have a financial incentive to avoid caring for sicker patients. Similarly, physicians who receive a capitated amount for their own services but are not financially responsible for hospital care or the services of other physicians may make an excessive number of referrals, just as physicians reimbursed in a fee-for-service arrangement may make too few.

### MORAL HAZARD

The term *moral hazard* comes from the actuarial literature; it originally referred to the weaker incentives of an insured individual to prevent the loss against which he or she is insured. A classic example is failure of homeowners in areas prone to brush fires to cut the brush around their houses or possibly install fire-resistant shingles on their roofs because of their expectation that insurance will compensate them if their houses burn down. In some lines of insurance, however, moral hazard is not a substantive issue. Persons who buy life insurance on their own lives are not likely to commit suicide so that their heirs can receive the proceeds. Moreover, despite the brush fire example, homeowner's insurance probably has little moral hazard associated with it because individuals often cannot replace some valued personal items when a house burns down. In short, if moral hazard is negligible, insured persons take appropriate precautions against the potential loss.

In the context of health insurance, this classic form of moral hazard refers to potentially reduced incentives to prevent illness, but that is probably not a major issue. Sickness and disease generally imply some pain and suffering, not to mention possibly shortened life expectancy. Because there is no insurance for pain and suffering, individuals have strong incentives to try to remain healthy regardless of how much health insurance they have. Put another way, having better health insurance probably does not alter those incentives much.

Instead of weakened incentives to prevent illness, *moral hazard* in the health insurance context typically refers to the incentives for better-insured individuals to use more medical services. For instance, a patient with back pain or shoulder pain might seek an MRI if it costs him or her little or nothing, even if the physician feels the clinical value of the MRI is negligible. Conversely, the physician may be more

cautious in ordering a test that seems likely to produce little information if there are severe financial consequences for the patient.

Some of the strongest evidence on this point comes from the randomized RAND Health Insurance Experiment conducted in the late 1970s and early 1980s. Families whose members were under 65 years of age were randomized to insurance plans in which the amount they had to pay when using services ("cost sharing") varied from nothing (fully insured care) to a large deductible (catastrophic insurance). All the plans capped families' annual out-of-pocket payments, with a reduced cap for low-income families. Families with complete insurance used ~40% more services in a year than did families with catastrophic insurance, a figure that did not vary much across the six geographically dispersed sites in which the experiment was run. Although these data come from the era before managed care in the United States, subsequent observational studies in this country and elsewhere have largely confirmed the experiment's findings with respect to the relationship between variations in care use and variations in patient payment at the point of service. The difference among the plans was almost entirely related to the likelihood that a patient would seek care. Once care was sought, there appeared to be little difference in how physicians treated their patients in different plans.

One might assume that the additional care provided to fully insured patients would have resulted in improved outcomes, but by and large it did not. In fact, there was little or no difference in average health outcomes among the different health plans, with the important exception that hypertension, especially in patients with low incomes, was better controlled when care was free.

A possible explanation for the paucity of beneficial effects attributable to the additional medical services used by fully insured patients lies in the observations that (1) the additional care targeted both problems for which care can be efficacious and those for which it is not and (2) the population in the experiment, which consisted of non-elderly community-dwelling individuals, was mostly healthy. Perhaps the additional two visits and the greater number of hospitalizations when care was free were as likely to lead to poor outcomes as to good outcomes in that population. Certainly, the subsequent literature on quality of care and medical error rates has implied that a good deal of inappropriate care was—and is—provided to patients. For example, more than half of the antibiotics prescribed to the experiment's participants were prescribed for viral conditions. Moreover, about one-quarter of patients who were hospitalized (in all plans) were admitted for procedures that could have been performed equally well outside the hospital, in line with the substantial decrease in hospital use over the last three decades. In short, the additional inappropriate care provided when care was free was not necessarily innocuous; if a mainly healthy person saw a physician, he or she could have been made worse off. The literature on inappropriate care is mostly American in origin, but the finding probably holds elsewhere as well.

Finally, patients' health habits did not change in response to insurance status. This finding is consistent with the intuition that moral hazard does not much affect incentives to prevent illness.

Recently, another randomized experiment was conducted in Oregon among low-income, childless adults who were uninsured. Many people who gained insurance coverage in 2014 when the United States implemented the Affordable Care Act are from this group. Some of the uninsured childless adults won a lottery that made them eligible for Medicaid; those who did not win became the comparison group. After ~2 years, the results suggested that the use of services by persons on Medicaid had increased by ~25–35%. Medicaid served its purpose of providing protection against large medical bills; there was an 81% reduction in the proportion of families who spent >30% of their income on medical care, and there were large reductions in both medical debt and borrowing to pay for medical care. Turning to health outcomes, there was a 30% reduction in depression among the uninsured who received Medicaid relative to the comparison group as well as an increase in the numbers of diagnosed diabetics and of diabetics taking medication. Although there were no statistically significant changes in measures of blood pressure, lipids, or glycosylated