hemoglobin, confidence intervals were sufficiently large that clinically meaningful effects could not be ruled out.

In sum, insurance is certainly desirable to protect families against the financial risk of large medical expenses and in some instances to address underuse of valuable medical services (e.g., by a patient with cardiovascular disease who fails to take medications for financial reasons). Thus, the remedy for moral hazard is not to abolish insurance but instead to strike the right balance between financial protection and incentives to seek care. Moreover, it is probably useful to vary the amounts that patients pay out of pocket, depending on the specific service and the patient's clinical condition. Health outcomes after myocardial infarction, for example, were better among patients who were randomized to have no copayments for statins, beta blockers, angiotensin-converting enzyme inhibitors, and angiotensin receptor blockers than among those who had to pay for these drugs.

ADMINISTERED PRICES

Because insurers, whether public or private, cannot pay any price that a physician sets, prices in medical markets with widespread insurance are either set administratively or negotiated. In the simple textbook model of a competitive market, prices approximate the cost of production, but this is not necessarily the case when prices are administered. In the traditional American Medicare program, for example, the government sets a take-it-or-leave-it price. Because of the market share represented by the program, the great majority of physicians choose to take the government's price rather than leave the program. In some countries (e.g., Canada and Germany), medical societies negotiate fees for all physicians in the nation or in a subnational area. In the United States, commercial insurers negotiate fees with individual physicians or groups of physicians.

The principal problem with administered prices arises because someone must set them and that person has an imperfect knowledge of cost. If the price that is set departs markedly from incremental cost, distortions inevitably result. Because the price-setter typically has little information about incremental cost, the set price could be, and often is, far from the actual cost. If the regulator sets the price below cost, the service may not be available or, if it is, will have to be cross-subsidized from a profitable service. If the price is set above cost, there may well be excess entry and too many services being offered on too small a scale. A beneficent regulator in theory could approximate a competitive price by trial and error if technology did not change, but that condition clearly does not hold in medical care. Not only do new goods and services appear continually, but physicians often become more skilled at delivering a service that is already available or at developing new tools to deliver that service at a different (and frequently lower) cost. For example, cataract surgery, which took upward of 8 h when first introduced, can now be completed in <30 min.

The distortions between price and cost when prices are administered have consequences for the way medical care is produced. There may well be too much capacity in "profitable" areas of medicine, such as cardiac services and sports medicine, and too little in less profitable areas, such as primary care. A fee above incremental cost for a procedure encourages more procedures.

Conversely, payment methods that attempt to cover many services with one fixed payment, such as capitation and a per-admission payment, pay nothing for doing more and therefore may result in too few services and in choices by providers to reduce the number of unprofitable patients under their care, much as a hospital may shutter an emergency room if it becomes a magnet for the uninsured. These phenomena also reflect the asymmetry of information between patients and physicians and, in the case of fee-for-service payment, the incentive for insured patients to go along with a recommendation for additional services ("I am pretty sure I know what the problem is, but let's just carry out this additional test to be sure").

There is good evidence that physicians respond to prices that are set. For example, if there is a general reduction in fees that, other things being equal, would lower practice income, some physicians order more services, whereas the opposite pertains if all fees increase. This behavior is sufficiently well established empirically that the U.S. Medicare program's actuaries account for it in their estimates of what various changes in fees will cost or save. The outcome is different if the fee for one procedure or service changes and that procedure accounts for a modest proportion of income. In that case, another service can be substituted. For example, if the fee for a mastectomy increases relative to that for breast-conserving surgery, there will be a higher proportion of mastectomies. A particularly striking example of this type of behavior occurred when Medicare sharply reduced the fees it paid oncologists for chemotherapy in 2005. The proportion of lung cancer patients who received chemotherapy rose by 10%. Margins for some chemotherapeutic agents, however, were cut more than those for other agents, and thereafter oncologists made less use of the agents whose margins had fallen more.

Negotiated prices may get closer to cost than administered prices that are set, but they are not a panacea. First, negotiated prices may well exceed cost when there is no effective competition among similar physicians in a particular market. Because medical care markets are typically local, there may only be one group or a few groups in any particular specialty in a smaller market, in which case physicians will have considerable market power to obtain more favorable reimbursement. Further increasing physicians' market power is the fact that many, and probably most, patients are reluctant to change physicians because their current physician knows their medical history, because they are uncertain whether a new physician would be an improvement, and because insurance may shield them from most of the cost differences among physicians. Finally, in the United States, commercial insurers often negotiate fees as a multiple of the Medicare fee schedule; thus, any distortion in administratively determined relative fees is carried over into negotiated fees. For example, in the Medicare fee schedule, procedures generally are more profitable than cognitive services known as "evaluation and management," and this difference probably plays a role in the numerical insufficiency of primary care physicians in the United States.

CONCLUSION

One branch of economics—*positive economics*—seeks to explain actual phenomena without making a judgment about the desirability of those phenomena. Another branch—*normative economics*—seeks to prescribe what should happen and, in particular, what public policy should be developed to ensure that it happens. The main result of the application of normative economics is that, under certain very special assumptions, competitive markets result in a system in which no one can be made better off without another person's being made worse off. These assumptions do not hold in medical care, in part because of selection and moral hazard; economists term the result a *market failure*. By contrast, as the discussion of administered prices in this chapter indicates, even a beneficent regulator will introduce distortions from lack of sufficient information; moreover, there is no guarantee that a regulator will be beneficent, as periodic corruption scandals show. Economists term this phenomenon *regulatory* or *government failure*. Economists see decisions about the proper form and amount of public intervention and regulation in medical care as a matter of finding the right balance between various types of market failures and various types of regulatory failures—a balance that different societies may choose to strike differently.