COMMUNICATIONS

BUY HEALTH, NOT HEALTH CARE

Robin Hanson

U.S. per-capita spending on health care is at an unprecedented high. Fear that something is terribly wrong with our health care system is widespread, and proposals to nationalize the industry are even taken seriously.

Perhaps some simple change will do the trick, like relying less on insurance and employers as middlemen. But if we are willing to consider radical change, let me offer a different suggestion. We are buying the wrong thing. What we want is health, i.e., a long healthy life, but when we sit down and draw up a contract, what we buy is health *care*, i.e., a certain degree of attention from health care specialists.

Of course there is some relation between the two—a concerned health specialist can help us improve our health. But there is also a difference—when we reward our advisers just for giving advice, do they try hard enough to give the best advice they can find for a low price? Or are they satisfied to give costly mediocre advice that is also comforting, authoritative, and requires their further services?

In theory we have a variety of institutional mechanisms to deal with this so-called "agency" problem. Strong legally backed professions raise prices, but supposedly avoid "quacks." Malpractice law and internal professional review punish advisers from drifting too far from local standard practice. However, current legal practice is biased toward advising more expensive care, and all this may do too little to encourage the evolution of a better standard practice.

For patients with long-term contracts, Health Maintenance Organizations (HMOs) have an incentive to invest now to prevent future symptoms, at least when standard practice requires attending to those

Cato Journal, Vol. 14, No. 1 (Spring/Summer 1994).

The author is a graduate student in social sciences at California Institute of Technology.

symptoms. But HMOs also have an incentive to minimize standard practice and comply only in form. In principle, published track records could help people choose their health advisers. But such records are not currently published, and arguably require expertise to interpret.

To avoid these doubts, perhaps we should try to contract more directly for "health," rather than "health care." Let us give our health advisers a strong and direct financial interest in our having a long and healthy life. If this interest is strong and direct enough, perhaps we can dispense with most health regulations and trust a competitive market to make the right choices. Contingency fees can provide such direct incentives for lawyers. Can we find something similar for doctors? Something more like the way Chinese doctors were supposedly once paid only during months their patients were well? I think we can.

How to Buy Health

Consider for the moment my desire to live through the next year. Imagine that I agree to follow the health advice of my life insurance company. That is, instead of having a single organization handle both my health care and my health insurance, as in a HMO, a single organization now handles both my health care and my life insurance. This Life Maintenance Organization (LMO) agrees to pay for all the health care they advise, and I agree to buy life insurance only from them. The result is that my LMO acquires a clear interest in making sure I get effective health care. The higher my chance of dying, the more it will cost them on average to pay off on the life insurance. Thus, the more insurance I buy, the better care they want to give me, and the lower my chance of dying. How much insurance I want to buy depends on how much I value lowering my risk of dying by another notch, i.e., on how much my life is worth to me. To promote other health goals, I can buy other kinds of insurance from my LMO. To increase my chance of remaining able-bodied, and not just alive, I should buy disability insurance. To avoid being disfigured, I should insure against that. To avoid pain, I should buy pain insurance, though pain might be hard to measure objectively.

Since LMOs are being paid directly for improved health, rather than the appearance of care, they should have better incentives to reduce waste and find more cost-effective procedures. As critics have suggested, this may result in more preventive care, more attention to lifestyle, less reliance on doctors for routine work, fewer yearly check-ups, and more non-traditional care. Or it might mean the opposite, if the critics are wrong. The point here is: either way, I win.

There are, however, two big problems with this approach. The first is that even though my life may be worth $10 million to me, most of

the (huge) insurance premium to pay for this insurance would be wasted from my point of view—there probably is not one person to whom I would want to give this much money when I die. The other problem is moral hazard—heavy insurance may reduce my incentive to keep myself healthy, and may even create incentives for my relatives to try and hurt me. It might be a problem if I could only give my doctor a 50 percent interest in my life by taking away 50 percent of my own interest, or by giving a minus 50 percent interest to my relatives.

How to Buy Health, and Pay Less

To avoid the problems mentioned above I could join or contract with a "medical defense club" (MDC) to buy life insurance on me from the LMO. The MDC would pay the insurance premiums and it would be the beneficiary should I die. I would pay the MDC a copayment for their trouble, a payment which should be little more than the cost of the health care that the LMO provides for me. Extra costs over actual health care costs stem mainly from fluctuations in the number of clients who die each year, and difficulties in estimating each client's risk. For large enough organizations, these costs can be small.

If I could trust the MDC not to try to kill me or make side deals with the LMO, I should get quality health care from the LMO at a fraction of the cost of buying life insurance from the LMO directly. But can the MDCs be trusted? Probably, if some simple precautions are taken. MDCs might be simple open institutions—perhaps even "clubs" with open meetings and rotating amateur leaders—unable to effectively conspire. Alternatively, cryptographic anonymity might ensure they do not know who exactly I am. Or MDCs might be distant organizations, whose members promise never to set foot on my continent. Or I might split up the MDC role among many independent organizations, so no one of them had a strong negative interest in me. Or I might combine all of these precautions. Thus I might keep my 100 percent interest in my life, and give my LMO a 100 percent interest in my life, by also giving an MDC a minus 100 percent interest in my life. Institutional constraints would allow the LMO to act on their interest, but hopefully prevent the MDC from doing so.

This is what I envision: I would shop around for a solid (reinsured) LMO who offered a low premium for the amount I felt my life (and disability) was worth, who credibly estimated a high chance of my living, and who seemed convenient and pleasant to deal with. I would also need to trust them not to conspire with an MDC, and to act in

good faith regarding details difficult to contract over. Given detailed information about my health and history (which losing bidders promise to forget), bidding LMOs would declare their estimate of my chance of death, an estimate backed up by statistics evaluating the accuracy and bias of their previous estimates. (Losing bidders should forfeit large bonds if caught not forgetting, or perhaps crypto-credentials could hide my identity from bidders.) Various MDCs would then bid (preferably to my cryptographic pseudoname) on the copayment they would each require, given this LMO, insurance amount, premium, and estimated probability of death. I would then pick one with a low price that I trusted to stay honest. With a reliable death estimate from the LMO, the competitive copayment is trivial to compute, and since picking this price is almost the only decision an MDC must make, simple open MDCs could be up to the task.

What would happen if I had different values for dying or becoming disabled at different future dates, or for dying in different ways? Then I could pick different insurance amounts to be paid if I died or became disabled on different future dates and in different ways. What would happen if I wanted to give my LMO an incentive to help me live past 70, yet wanted the freedom to switch LMOs in one year? Then I could give my current LMO a 100 percent interest in my whole future life, but constrain them so that they could not act to improve my health after this year (unless I renewed with them). If I then switched, the new LMO would get a 100 percent interest in me, the old LMO might still retain a 100 percent interest, and my MDC might then acquire a minus 200 percent interest in me (or I might get a new MDC also). I might allow any new LMO to instead buy their 100 percent interest from any old LMO instead of from an MDC, if they could agree on a price. But if not, each old LMO would have to hold onto their interest until expiration. The same would hold for MDCs.

Would there be a problem of adverse selection? While I should have little interest in deceiving an LMO about the kinds of care to give me, I might want to deceive them (before they offer their bids) about the total amount of care that they will find it in their interest to provide. If those better able to deceive (and unthreatened by possible resulting reputation loses) buy more health this way, average premiums will rise. Current health insurance deals with this problem in part through employer-based coverage, since people are reluctant to switch to an employer with better health coverage simply because of raised expectations about the amount of health care they will need. Similar approaches can work here. Group coverage or any other way to credibly commit to future levels of health coverage can reduce adverse selection when buying health from LMOs. Remaining distrust

can be reduced by extra spending on obtaining health records, genetic tests, physicals, etc. Thus adverse selection need be no worse a problem here than in traditional approaches.

Getting There from Here

Is this too big a change to be considered any time soon? Perhaps, but we might move in this direction one step at a time. As HMOs become more common, standard practice levels of care may erode, raising concerns about HMO incentives. So a first step could be for some individuals to buy their life and disability insurance from their HMOs, instead of from other insurance companies. HMOs would then begin to internally adjust their employee incentive plans to reflect their new incentives. A next step could be to legalize MDCs, allowing individuals to cheaply buy more insurance than they need, and thereby strengthen the incentives of their health-care provider. Finally, various localities could experiment with relaxing medical regulations, such as doctor licensing, drug approval, or required benefits packages, hopefully verifying that direct incentives have substantially reduced the need for these costly indirect approaches.

While looming U.S. health care reforms are clearly not moving in the direction of this proposal, such reforms need not preclude this approach if local experimentation with health care contracts is allowed. For example, required benefits packages may restrict care-giver options, but improved care-giver incentives should help as long as some discretion remains.

If, however, centralized "health care alliances" allow only a few possible contracts for each geographic area, experimental bundlings of health insurance and life insurance are unlikely to be tried. In that case some other country would have to take the lead in health care contract innovation. In any case there are open issues left to explore, like how to measure disability and pain, how LMOs and MDCs can be organized internally, current and future legal restrictions, and how to get things started. But the basic idea, buying health instead of health care, seems worth a closer look.

Appendix: A Simple Model

The following simple model suggests that the above institution might give you the same sort of health care that you would give yourself if you were your own doctor.

Let x_i be the various efforts you might make, and w_j be the efforts your doctor might make to help prevent early death or disability. For

example, you might exercise and avoid fatty foods, and your doctor might administer drugs, remove a wart, or just give advice.

Let q_k be the probability of and H_k be the resulting harm to you from different ways and times k of early death or disability. The probabilities q_k are functions of all x_i and w_j, but we can neglect the dependence of H_k on these efforts if total effort $\sum_i x_i + \sum_j w_j$ is small relative to your wealth.

Let us express x_i, w_j, H_k as cash equivalents. Then if you were your own doctor, your net loss would be

$$L = \sum_k q_k H_k + \sum_i x_i + \sum_j w_j. \tag{1}$$

If each q_k were strictly convex in all efforts x_i, w_j, then to minimize this loss you would want to pick the unique optimal set of x_i, w_j, that would satisfy conditions

$$\sum_k \frac{\partial q_k}{\partial x_i} H_k = \sum_k \frac{\partial q_k}{\partial w_j} H_k = -1 \tag{2}$$

if it were an interior optimum. (This strict convexity requires, among other things, a clear division of labor between which kind of actions are yours versus the doctor's responsibility.)

Instead of being your own doctor, assume you are a patient hiring a LMO (doctor) via an MDC as above, each with losses

$$L_{\text{YOU}} = \sum_k q_k H_k + \sum_i x_i + c \tag{3}$$

$$L_{\text{LMO}} = \sum_k q_k I_k + \sum_j w_j - f \tag{4}$$

$$L_{\text{MDC}} = -\sum_k q_k I_k - c + f \tag{5}$$

where c is the copayment you pay your MDC, f is the insurance premium your doctor charges, and I_k is the insurance amount due if you die or become disabled in way k.

Assume further that these parameters are chosen in the following manner. First you announce all I_k. Then, knowing I_k, two or more LMOs simultanously bid $f \in [0, F]$, with the lowest bidder becoming your LMO. Then, knowing I_k and f, two or more MDCs simultanously bid $c \in [0, C]$, with the lowest bidder becoming your MDC. Finally and simultanously, you privately choose efforts x_i, and your LMO privately chooses efforts w_j.

If the q_k functions are common knowledge, and common to all LMOs, then the unique subgame perfect equilibrium of this game is for you to pick $I_k = H_k$, for you and your doctor to pick efforts x_i, w_j

to again satisfy the same optimality conditions in equation 2, and for the doctor and the MDC to have zero profits, so that $L_{LMO} = L_{MDC} = 0$. This implies $c = \sum_j w_j$.

I have not worked out a full incomplete information version of this game. But the following speculation seems quite plausible. First, if q_k varies across the LMOs, then the lowest-cost LMO should become your LMO. Second, MDCs actually do not need to know the q_k functions, just the value of $\sum_k q_k I_k$, given the optimum efforts x_i, w_j, and LMO track records could be good enough to allow MDCs to estimate this.

Finally, even if the q_k functions are not common knowledge between you and your MDC, the same outcome could be plausibly arise from an iterative process of adjustment. Each side (patients or doctors) really needs only to learn how death and disability rates depend on the parameters they control, given the current parameter choices of the other side. And if you did not know enough about the x_i-dependence of q_k to set x_i well, your LMO would have incentives to educate you, and you would have incentives to listen.