The Quirky Economics of Healthcare

By Donald Low

Let me begin with a thought experiment that was proposed by the moral philosopher Peter Singer. Imagine you have advanced kidney cancer. It will kill you, probably in the next year or two. A new drug slows the spread of the cancer and may give you an extra six months, but at a cost of $80,000. Would you pay for it? If you could afford it, you probably would pay that much, possibly more, to live longer, even if your quality of life isn't going to be good. But suppose that it's not you with the cancer but a stranger covered by your health insurance fund. If the insurer provides this man – and everyone else like him – with the new drug, your premiums will increase. Do you still think the drug is of good value? Suppose the treatment costs a million dollars. Would it be worth it then? Is there any limit to how much you would want your insurer to pay for a drug that adds six months to someone's life?

In the thought experiment, we are asked to put a monetary value on human life. Some of you may find the exercise offensive, and putting a dollar value on human lives strikes you as cold-hearted. But the fact is we do that all the time. You put an implicit value on human life each time you come to work and take the risk that you might meet with a fatal accident while you travel to your workplace.

The thought experiment suggests that there is a limit to how much we are prepared to pay for healthcare, even if it's to save our lives. If there is a point at which you say, "No, an extra six months isn't worth that much," then you think that healthcare should be rationed.

Healthcare is a scarce resource, and all scarce resources are rationed in one way or another. In a market system, resources are rationed by prices, in other words, by people's ability to pay. That's how we ration the demand for oranges, for shoes, for clothes, for cars, for DVDs, or any of the millions of things that we rely on markets to allocate resources and to determine who gets what.

Why Markets Usually Work Well

The market is a remarkably efficient way of rationing scarce resources. It doesn't require a central intelligence to determine how much of an item we should produce, in what varieties, quality, and price. Neither does it require someone to decide who gets how much of the item after it is produced. The system is entirely self-organising – what Adam Smith referred to as the "invisible hand". When demand for any item outstrips its supply, prices rise, providing signals for producers to allocate more resources into producing more of that item. The rise in prices also acts as a rationing instrument: some consumers who previously could afford that item are now unable to afford it.

In a market system therefore, prices perform two important functions: a signalling function and a rationing function. This is perhaps the central insight of economics. Order can emerge from the unordered interactions between buyers and sellers to produce an outcome that is more efficient than what central planners can possibly achieve. Markets, operating through prices, work better than governments operating through diktats, quotas, commands and price controls.

Now if the market is such an efficient and powerful mechanism for allocating resources, why don't we simply rely on it to allocate resources in healthcare? After all, if markets generally work well, then we need a high burden of proof to show that government intervention is necessary.

Many of us think that the answer to the question why governments should intervene is that healthcare isn't a normal good like oranges, or DVDs, or shoes, but that it is a basic human right that all should enjoy regardless of their ability to pay. I call this the human rights or social equity argument.

Let me offer an economist's perspective to why this is not an entirely correct argument. Most economists argue that the main rationale for government intervention in healthcare is not to advance social equity or distributional objectives but to correct for the informational failures that are pervasive in unfettered healthcare markets.

When Markets Fail

Monopoly Power

Markets work well when there aren't significant market failures. Economists group such failures into three broad categories. The first is monopoly power. Markets don't work well when instead of having many suppliers competing for consumers, there is only one supplier, or a few suppliers who collude to drive up prices to the detriment of consumers. Monopolies are more likely to emerge in industries where there are high sunk costs or significant barriers to entry – technological or otherwise. Examples of such an industry include the utilities – electricity, telecoms, and public transport.

Is healthcare such an industry? Perhaps: it is quite plausible that left to its own devices, the healthcare industry would be dominated by a few players. But even if it were the case that the healthcare market is inherently monopolistic, the solution would appear to be some combination of regulation – of prices and the conduct of healthcare firms – and measures to promote competition. This is our approach to the telecoms, public transport and electricity industries. The state doesn't need to get involved in the provision or financing of healthcare. So monopoly power is an incomplete economic explanation for why we intervene in healthcare the way most governments do.

Externalities

The second major category of market failure for economists is externalities, which is the idea that my actions bring benefits (or costs) to the rest of society but because I don't take account of such effects, I tend to under-consume those things which are beneficial to the rest of society (like vaccinations or education) and over-consume those things that hurt the rest of society (like pollution). If there are significant externalities present – if there is a large divergence between private costs (or benefits) and social costs (or benefits) – government intervention is often justified so as to get producers to internalise the costs they impose on society (or the social benefits they bring, as the case may be). Governments would want to curb the production of negative externalities through taxation or encourage the production of positive ones through subsidies.

Is healthcare an example of an externality-producing good? To some extent, it is. Vaccinations, for instance, benefit society rather than the individual. If we left it entirely to markets, many will not get vaccinated and the outcome is a less desirable one than if the government had subsidised vaccination. More generally, public health measures generate positive externalities that private individuals or

corporations won't invest in sufficiently without some form of government subsidy.

But the bulk of government intervention in healthcare does not take place in the public health domain. The most significant interventions are in acute care. So externalities are also an inadequate justification for government interventions in healthcare.

Informational asymmetries

The third category of market failure is that of asymmetric information, the idea that one party in a transaction has significant informational advantage over the other party in a way that prevents the party who is information-disadvantaged from making decisions that are in his best interests. Economists believe that the government should intervene in healthcare mainly because of pervasive informational failures in unfettered and unregulated healthcare markets.

Markets work well when producers and consumers have (more or less) equal access to information. In healthcare, consumers generally do not know enough about medicine and rely on the advice of their doctors (the agents). Principal-agent problems arise when the agent seeks to maximise his own interests rather than those of the patient (the principal). Because of such problems, healthcare is prone to supplier-induced demand such that increasing the supply of healthcare professionals may not lead to a fall in prices. So even if they are competitive, healthcare markets may not be self-correcting.

Informational failures are also common in the relationship between the payer and the patient. Individuals know more about their health status and conditions than do payers (say insurance companies). The payer also cannot perfectly monitor the behaviours of the individuals they cover. This asymmetry – this time between the patient and payer – means that private health insurance markets are likely to be incomplete. Health insurance companies will want to avoid adverse selection (where they end up with only the bad risks) by engaging in cherry picking, or restricting their coverage to the good risks, such as the young and those with no pre-existing medical conditions.

The failure of private health insurance markets to deliver adequate coverage suggests that health financing should be socialised and at least partly subsidised by the state through general taxation. While this solves the cherry picking problem, it does not eliminate the problem of moral hazard. When consumers are provided free or heavily subsidised healthcare, they will have far less incentive to be prudent in their healthcare consumption decisions. The outcome is over-consumption and a less than optimal allocation of resources to healthcare.

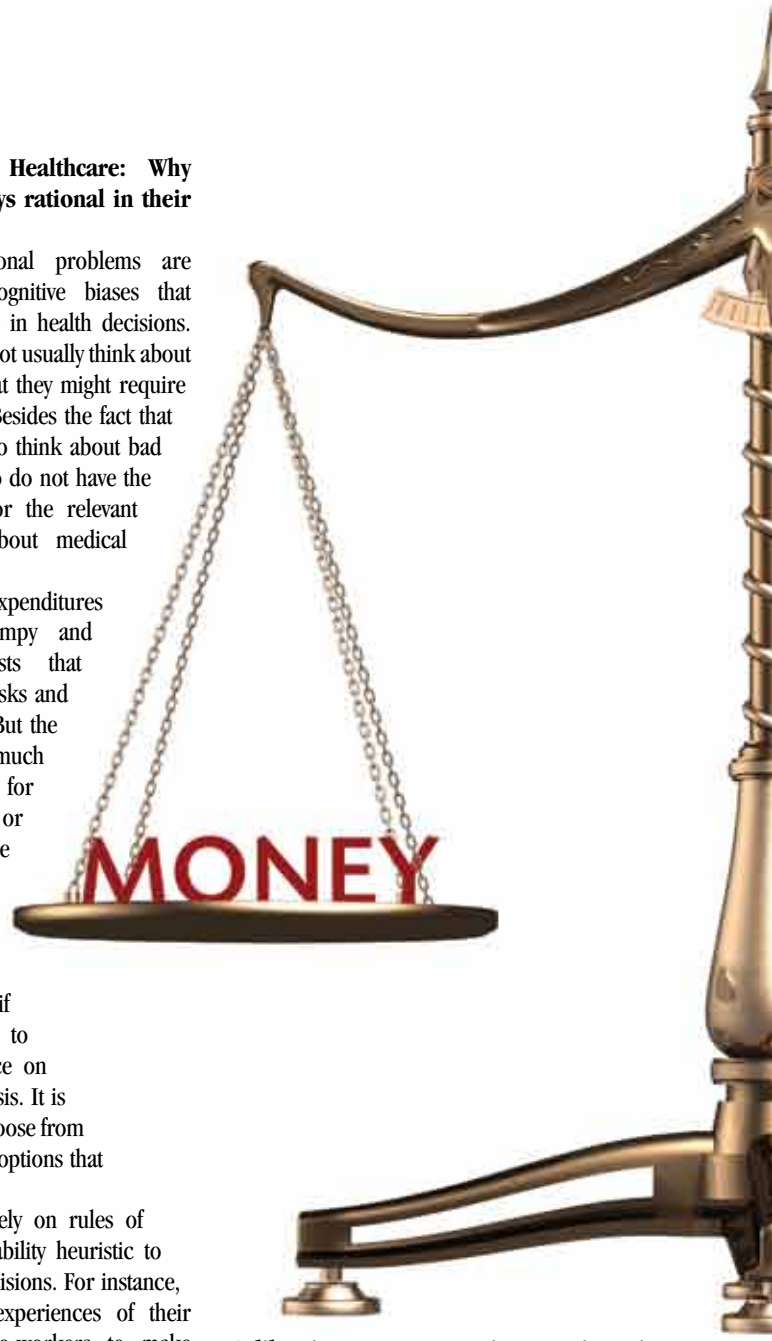
Cognitive Biases in Healthcare: Why consumers aren't always rational in their health choices

All these informational problems are compounded by the cognitive biases that typically afflict individuals in health decisions. To begin with, people do not usually think about the risk or probability that they might require expensive medical care. Besides the fact that many of us do not want to think about bad outcomes, most of us also do not have the computational capacity or the relevant information to think about medical contingencies.

Second, medical expenditures tend to be highly lumpy and uncertain. This suggests that individuals should pool risks and obtain health insurance. But the insurance decision is much more complicated than, for example, homeowners' or life insurance because there are so many possible "loss events," including many that are unfamiliar to the consumer. Consequently, it is extremely difficult – if not impossible – for us to purchase health insurance on a rational, cost-benefit basis. It is more likely that people choose from among a limited range of options that are put before them.

Third, people may rely on rules of thumb such as the availability heuristic to make their healthcare decisions. For instance, they may observe the experiences of their friends, relatives and co-workers to make their own healthcare decisions, or they may draw conclusions about the risks of particular illnesses based on their experiences, or the experiences of well-known personalities or celebrities.

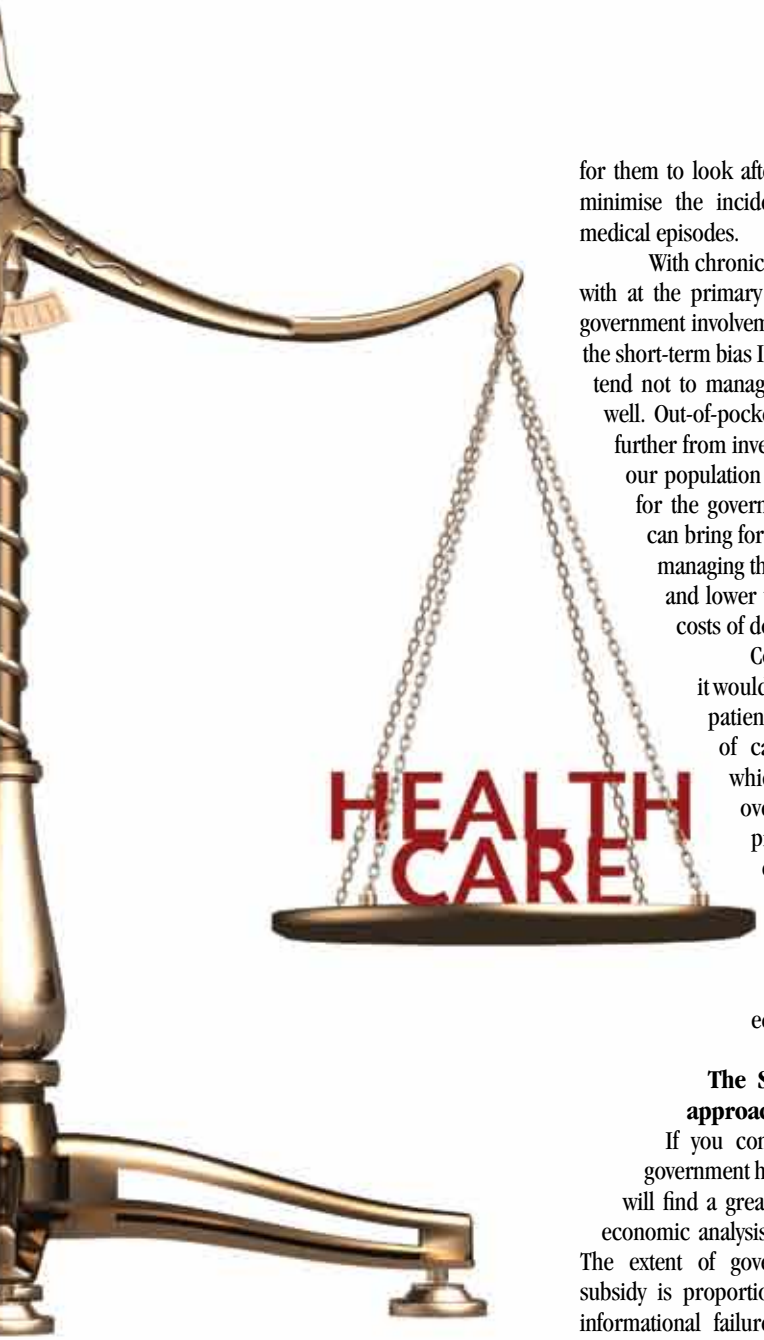
Fourth, many healthcare decisions require individuals to forgo some short-term benefit for a longer-term gain. Health insurance and savings require some short-term loss to deal with a future contingency. But so do many other decisions in healthcare: the decision to start on a healthier diet, to cease smoking, to exercise regularly, to invest now in preventive care, or to manage a chronic disease. One of the main insights from behavioural economics is that when faced with such decisions, individuals tend to place excessive weight on current costs and under-weigh future benefits. This leads to procrastination and inertia – the habit of putting something unpleasant off for another day. This has implications for health policy.



Calibrating government interventions in healthcare

In light of all the failures discussed above – the informational failures in the market for healthcare, as well as the cognitive biases faced by the consumers of healthcare – it is hardly surprising that healthcare is an area where a significant degree of government regulation, subvention and provision is widely considered necessary. But the extent of government involvement and intervention should be proportionate to the extent of market failure. Some segments of the healthcare sector are more prone to informational failures than others. For instance, it is easier for consumers to obtain reliable information on common ailments that can be treated at the primary care setting than it is for medical conditions requiring specialist treatment.

The extent to which government finances or subsidises healthcare should also vary according to the extent in which it is



equitable for individuals to bear part of the financial risks of falling ill. This is where social equity considerations are relevant. For instance, it is not unreasonable to expect patients to bear a large share of the cost of primary care. This is not only because the costs are relatively low, but also because requiring patients to pay a large share of the costs produces the right incentives for them to look after their own health and to minimise the incidence of these low-impact medical episodes.

With chronic illnesses that are best dealt with at the primary care setting, the case for government involvement is stronger. Because of the short-term bias I referred to earlier, patients tend not to manage their chronic conditions well. Out-of-pocket charges may deter them further from investing in preventive care. As our population ages, the challenge will be for the government to consider how we can bring forward the benefits of people managing their chronic conditions well and lower the (perceived) short-term costs of doing so.

Compared to primary care, it would be unreasonable to expect patients to pay for the treatment of catastrophic illnesses over which they have little control over. To deal with such low-probability, high-impact episodes, some form of risk-pooling – whether through private or social insurance – is both more efficient and more equitable.

The Singapore government's approach to health financing

If you consider how the Singapore government has financed healthcare, you will find a great deal of adherence to the economic analysis that I have just provided. The extent of government involvement and subsidy is proportionate to the extent of the informational failure. Primary care – where problems of asymmetric information are much less severe – has less government involvement than say specialist care or acute care. Government subvention and social insurance are also more extensive in the acute care setting and in dealing with catastrophic illnesses than in outpatient care.

Another way of thinking about our interventions in healthcare is to think of them as ways of addressing specific informational failures. So Medisave and co-payment are intended to reduce the moral hazard that would arise if patients were fully insured or subsidised for their healthcare. The national medical insurance scheme – MediShield – corrects for the adverse selection and cherry picking problems of a primarily private health insurance system. Meanwhile, the fact that the government is both provider and a major payer of healthcare in Singapore helps to deal with the agency and monitoring problems that are common in systems where the provider is paid on a fee-for-service basis by third-party payers.

To sum up, the economic rationale for government intervention, regulation and financing of healthcare is founded not on arguments of social equity or human rights, but on the informational failures in healthcare. The fact that we are cognitively ill-equipped to manage the complexities and uncertainties in healthcare provides another reason for government involvement, even if it has to do so paternalistically (like making medical savings compulsory). The informational failures in healthcare make us rightfully sceptical of an unfettered market approach. But even as the government intervenes to correct for these failures, it will do well to pay attention to the things economists care about: ensuring the right incentives, using prices to signal scarcity and ration demand, and applying cost-benefit analysis to weigh alternatives. The economics of healthcare is not just about why governments should intervene; it's also about how governments should intervene. SMA

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ECONOMICUS MEDICUS?

By Dr Jeremy Lim, Editorial Board Member

Despite our best efforts at burying our heads in the sand, we cannot run away from the stark reality that medicine and economics are really two kindred disciplines. Let me explain. We like to think medicine is all about saving lives and helping people; on one level it is. But on another level that will increasingly come to the forefront, medicine is, like economics, about making choices. Tomorrow's medicine will not be paternalistic. Tomorrow's medicine will be about joint decision-making with the patient and her family, with the physician as a trusted advocate and source of information. What is economics? Contrary to popular perception, it is not about money. It is about how consumers individually and collectively make decisions about "scarce resources", about things that matter.

Health matters. Healthcare is the quintessential scarce resource. Economics should be routine in the curricula of medical schools and residency programmes. All of us need to know economics if we want to be good doctors.