OUT OF HOURS **Christopher Martyn**

Why medicine is overweight

Is it really admirable that doctors investigate more rather than less, and intervene with treatment early rather than late?

Browsing in a second hand bookshop, you might not think that a volume with the title *Structures* would be worth pulling down from the shelf—unless your eye had been caught by the strap line "Or Why Things Don't Fall Down," which hints at both humour and an offbeat approach. In fact, J E Gordon's book (Pelican Books, 1978) is a riveting introduction to the principles of engineering that, among other things, explains how medieval masons got gothic cathedrals to stay standing and why blackbirds find it as much of a struggle to pull short worms out of a lawn as long ones.

Among the book's quirky insights, there's an account of why most fabricated things turn out heavier than the designer intended. The main reason is psychological: everyone involved in construction has a tendency to play it safe by making each part just a tad thicker and heavier than required. On the face of it, this seems admirable—a sign of honesty and integrity. Surely it's better that things should be over-engineered than err on the side of flimsiness?

Being overweight is a bad thing if you're a human, but it's worse, indeed sometimes catastrophically worse, if you're a structure. Aeroplanes that are too heavy are not only less energy efficient but unless the extra weight is evenly distributed, which is unlikely, they become nose or tail heavy and acquire dangerous flying characteristics. The same, more or less, is true for ships. With extra weight, their centre of gravity rises and their stability decreases. These problems are far from theoretical. Quite a number of ships have capsized on launching and in 1870 HMS *Captain*, a British warship, turned turtle in the Bay of Biscay with the loss of hundreds of lives because its superstructure weighed too much.

Aeronautical engineers and naval architects learnt how to lick this problem long ago but we're still groping for a solution to a parallel difficulty in the way that medicine is practised. Doctors, like engineers, are generally conscientious people and they too prefer to play it safe. They investigate more rather than less, and intervene with treatment early rather than late. Again, this seems admirable—a sign of caring and commitment. Surely it's better that illness should be over-investigated and over-treated than neglected?

Well, possibly not. Investigations are too likely to throw up incidental findings irrelevant to the symptoms the patient is actually complaining about. At best, this is a waste of time. More often, it leads to yet more investigations, further clinic appointments, and avoidable anxiety. Although doctors know this, it doesn't act as a deterrent. They remember the few occasions when a test paid off and forget the hundreds of times when it didn't.

Compounding the tendency to do too much is that, at least within the NHS, the costs are almost invisible. All doctors and most patients know that medical care is ultimately funded by taxpayers. But this rarely acts as a constraint. Doctors don't decide not to order tests or not to prescribe treatments because they're worried about the tax burden on people who aren't their patients. And patients don't turn them down because they're concerned that they're getting more than their fair share.

A third force contributing to medicine being overweight is the unwelcome realisation, which dawns on most doctors sooner or later, that what they offer falls way short of their patients' expectations. She may not say so in as many words, but a woman with diabetes wants a cure rather than a life sentence of dietary restriction and tablet taking. A patient with Parkinson's disease hopes that you will prescribe something better than a dopamine agonist to ameliorate his hypokinesia.

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When the therapeutic options prove such a disappointment, it's easy to be seduced by the argument that treatment might be more effective if given earlier in the course of a disease. The corollary is that a means must be found of identifying people with the disease before they even know they've got it, which leads inevitably to screening programmes, risk stratification, and the invention of conditions such as pre-diabetes and pre-hypertension. Now this may be altogether a good thing, but I wonder how many doctors involved in these enterprises have any understanding of how many people they need to screen and, of those who screen positive, how many they need to treat, to prevent one case of disease. When my own general practitioner measured my blood pressure recently, I gracelessly asked him about the number of middle age hypertensives that he would have to treat to avert one stroke or one acute myocardial infarction. He hadn't the faintest idea.

Everyone knew when the NHS started that universal medical care free at the point of delivery was going to be expensive. Optimists reckoned that costs would go down over time as the population's health improved. But the opposite happened: people's appetite for medicine was whetted and consumption of medical resources increased. We're now in the ludicrous position that it's electoral suicide, even in a country on the verge of bankruptcy, for a political leader to make an argument that we've been spending too much for too little gain and that, if the budget for health care were cut and doctors did less, most people would be better off.

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