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A sick healthcare system

bergsicht

CHAPTER 1

A three-way relationship

Once every few moons, *Weeping Eye*, chief of the Appalachian Indians, would make his way to visit a very special member of his tribe. *Healing Drop*, as he was known, was an oddball who kept himself to himself, but he knew much about the healing powers of certain plants, and was able to brew up all manner of elixirs and potions. The Appalachian Indians – and their chief in particular – had to have eyes like lynxes, as their primary source of nutrition was the well-camouflaged turkeys that scratched around in the undergrowth of the forests of North America; long before the White Man came with his iron traps, these had to be hunted down and killed with a bow and arrow. A successful hunt meant food for survival and great renown, and on more than one occasion, Weeping Eye had been obliged to dip into the birds bagged by *Thick Tongue*, his deaf-mute half-brother, in order to return in triumph to the village, laden with booty. He suffered from bad eyes, you see.

Medicine man Healing Drop took payment from Weeping Eye for his skills in healing eye conditions – in the shape of, what else, a plump turkey for each treatment. A tincture of polar eyebright *(Euphrasia disjuncta)* and marsh speedwell *(Veronica scutellata)* invariably achieved the relief required before a hunt, and both chief and medicine man regarded the going rate as reasonable. One day, however, Healing Drop raised a hand as Weeping Eye was about to leave and he, usually silent, began a long conversation with the Appalachian chief. "I know you to be a man who looks to the future, Weeping Eye. Your eyes will grow yet dimmer. The young braves of the tribe will laugh at you then, and you will not be their chief for much longer." "But your elixir will help, won't it?!" "I would need more time to observe nature and to collect plants. Prairie evening-primrose *(Oenothera albicaulis)*, blueberry *(Vaccinium corymbosum)*, orange coneflower *(Rudbeckia fulgida)* – all these may help you." "So what's stopping you?" "The turkey." "How come?" "One is not enough. You must give me more." Weeping Eye responded that it was out of the question – spending more than a fifth of his livelihood on health was just too painful.

You can probably guess the rest of the story. Chief Weeping Eye, who was no fool, went back to his village and convinced the rest of the tribe that it would be a good idea if everyone were to chip in with some food for the medicine man so that he and his wife could collect plants and cook up lotions and potions. As the chief went on to explain, the evil Eye Spirit of the forest could come for any one of them, and so it was in the best interests of all that the medicine man was primed and ready to treat each and every one of the tribe. That he himself would only have to hand over a turkey thigh a month instead of a whole bird from then on – and would be able to call on Healing Drop for eye treatment that much more often, too – was a welcome bonus. Interestingly, plenty of the village dwellers were suddenly convinced that the evil Eye Spirit already had them in his clutches, and so promptly went off to seek help from the medicine man.

Weeping Eye and Healing Drop, who had become fast friends, began to turn their thoughts to the future. The next generation would have to come along some time, they reasoned – two, or better three, bright-eyed young braves would have to be tutored in the ways of righteousness. There'd be enough for them to be getting on with, they concluded, especially now poppies *(Eschscholzia californica)* had been added to the pharmacopeia. "Poisonous, but it does the trick; just the thing for a bad mood...," mused Healing Drop, "We're hoping to plant it out in front of the wigwam." "Then we'll just send you a few more turkeys per month. It's not a problem – I've taken on a turkey wrangler, *Little Eager Hamster*, I'm sure you know the fellow – short-sighted, terrible hunter." "Yes, couldn't hit a totem pole with a tomahawk."

An allegory sometimes reveals more than a thousand words. The story of the Appalachian Indians is one such allegory, and it serves as a useful framework to elucidate the healthcare system and its various problems and challenges. Unlike the arrangements habitual in the rest of society and the economy, which generally feature two parties working reciprocally, mutually, with a range of processes and authorities racked up on either side, the healthcare system inherently – and presumably necessarily – involves a *three-way relationship*. This is a fundamental insight. The customer (patient) does not simply deal with the provider (doctor) directly; this is not a straightforward exchange of service and consideration. Instead, for reasons that we shall be exploring in detail, an additional function is involved: that of the entity actually paying for the service. Service providers are not required to collect payment themselves, and customers are prepared – indeed, prefer – to pay a regular flat fee (instead of a direct purchase price) to a third party to secure "free" access to healthcare services. Essential conditions for the *market principle*, which is based on mutuality, are thus *a priori* excluded; the *concept of insurance* has entered the game – as has the notion of *solidarity* between the healthy and the sick. Like it or not, the healthcare system subsumes a certain *collective responsibility*. There is a trend towards volume increases, and every expansion of capacity is another step along the road towards *overcapacity*. Furthermore, there is a *transparency problem*: medicine often works only indirectly; as soon as you are dealing with anything more than a weepy eye, causalities are difficult to establish (self-healing, for instance, often goes unremarked); and *quality* is extremely hard to define. It is difficult to put an exact figure on the success of a treatment, so performance-related remuneration is correspondingly problematic. The Sword of Damocles – getting sick and becoming dependent yourself – hangs over everyone and everything; we are all *scared* of falling into the clutches of the evil Forest Spirit, and this is why Little Eager Hamster gets on in life, although we aren't especially fond of him...

With healthcare costs on the rise (we shall return to the conceptual aspects in due course), this edition of *bergsicht* aims to elucidate some of the systemic and economic aspects of this dilemma for society as a whole. For once, we shall not be putting forward any specific solutions or nostrums, instead contenting ourselves in the normative section of this edition with a few recommendations as to what might be considered and what avoided in the future; that is already pretty strong medicine.

CHAPTER 2

Facts and figures*

The word "healthcare" is becoming increasingly freighted with negative connotations. Not a newspaper article on the topic goes by without a jeremiad on its supposedly horrendous expense. Such costs are but a sub-aspect of a sideshow, however, and run the risk of distracting attention from the bigger picture. We shall thus begin our enquiry by deliberately placing the individual, the ***customer***, the ***patient*** at the centre of our deliberations – ultimately, it is he that matters, and not the numerous stakeholders who feed off the system in one way or another. It is a fact that the customer is better off today than at any other time in world history. From a purely quantitative point of view, this is apparent from the enormous rise in average life expectancy; while people lived to 45 at most until well into the modern era, in our neck of the woods, a newborn baby girl can now look forward to a lifespan of 85 years, and an infant boy should make it to around 80. Statistically, residents of Switzerland celebrating their 65th birthday in good health have every chance of living on for another 22 years (20 years for men) – and not as frail geriatrics, either, but as sprightly senior citizens, of the kind that famously clog Swiss railway carriages and cruise ships the world over.

Now, life expectancy is not monocausally dependent on the healthcare system in its narrower sense, of course. It is also linked to other factors in life such as nutrition, living conditions, circumstances at the workplace, being spared the depredations of warfare, general hygiene (water supply!), and so on. We can barely imagine today how our forebears worked their fingers to the bone simply to scrape by: child labour, dirty jobs and hard graft until you keeled over were the order of the day until well into the 20th century. Only a tiny elite managed to live in slightly better conditions. Man has been unchained as a beast of toil by machines and has managed to emancipate himself. The simple fact is that *things were so much worse in the old days*. Anyone claiming otherwise is indulging in a nostalgic prettification of history as a cross between the Waltons and Little House on the Prairie.

A recent visit to Basel University's Pharmacy Museum (the guided tour comes highly recommended) brought home to us that real progress in medical science in the narrower sense has been achieved only

* We are grateful to Professor Simon Wieser of Zurich University of Applied Sciences (ZHAW) for supplying us with data on the Swiss healthcare system.

relatively recently. While hygienic conditions in operating theatres (and delivery rooms in particular) had considerably improved survival rates in this crucial area of the healthcare system at the beginning of the 20th century, the second big milestone in advancing life expectancy was undoubtedly the comprehensive vaccination programmes introduced in the 1920s. However, it was the widespread use of antibiotics after World War II that enabled the greatest quantum leap of all and heralded the beginning of Mankind's triumphant campaign against infectious disease. Anyone looking back over their own life and their encounters with such diseases should be able to appreciate just how unlikely their survival would have been in the absence of sulphonamides. Indeed, those rushing to judgement about the risks of antibiotics and vaccinations would do well to remember that, without such wonder drugs, they might very well not be among us today...

In the period since the introduction of antibiotics, we have witnessed an *explosion of supply* as far as the possibilities offered by medical science are concerned. There is an economic logic to this, as elimination of the original primary causes of death made it expedient to open fronts against the remaining vectors of mortality, whose relative importance had grown. These forces of diversification will not be stopped overnight; the next great leap forward in technology will be "data mining" – a modern, highly efficient practice of examining large databases in order to generate new information. The importance of previously marginal health problems is growing in lockstep with the ongoing resolution of previously intractable problems. The diversification of the range of possibilities available to customers (patients) is also being augmented by enhanced mobility. Where people were once more or less reliant on the treatment provided by their local GP or regional hospital, they can now obtain cutting-edge medical care anywhere in the country, or indeed the world.

But does the customer/patient, who has objectively derived such benefit over the last few years, actually feel any better? The occasional incorrigible misanthrope or Cassandra notwithstanding, there is likely to be a generally positive correlation between life expectancy and a sense of contentment. One survey has found that the average Swiss citizen has a positive view of the healthcare system, despite the high costs involved (*Gesundheitsmonitor* report, 2016). But a Sword of Damocles is hanging over this happiness, and this appears to be getting us down. The near elimination of infectious diseases as a cause of death means that the prospect of a *long and miserable demise* has risen markedly: of a cohort of 100 people, 26 will die of cancer nowadays (in 1900 it was 7%), 34 of cardiovascular disease (1900: 16.8%) and about 10 of dementia (1900: no figures available); only 1.2 will now succumb to an infectious disease, however (in 1900, it was 20%). This is a dramatic shift within a relatively brief period of time. While a good proportion of us will escape such a fate, the idea of wasting away in a care home or oncology ward nonetheless haunts many of us. In other words, the evolution of the healthcare sector over the last 100 years or so, which has been an *unparalleled success story*, is being marred by people's subjective sense that chronic disease is proliferating. Death and destruction, hunger and pestilence, have had dominion over Man since time immemorial, and he has developed psychological mechanisms for coming to terms with the risk of an abrupt end. Dealing with the prospect of protracted lingering, possibly in a semi-vegetative state, is an altogether new experience for our species, and it will take time for individuals and society to get used to it.

Let's take a look at ***costs*** for a moment. Switzerland and the USA operate by far the most expensive healthcare systems in the world, with *per capita* spending approaching CHF/USD 10,000 *per annum*. In absolute terms, this amounts to some CHF 80 billion for Switzerland, or a good 12% of GDP – and this share has been rising steadily as healthcare spending has been increasing at more than twice the rate of real economic growth (barely 2% p.a.). Is this cause for alarm *per se*? No, as it is only logical that the proportion of old people within the population (which has risen sharply thanks to spectacularly higher life expectancy) are having to spend more on healthcare: you expect fewer outdoor activities, more physiotherapy. And twice no, when you compare the Swiss healthcare system with its American counterpart, whose effectiveness for society as a whole is in many respects questionable, even though the USA undeniably leads the world in the field of high-end medicine and research. But who can afford to access it?

The Netherlands, Austria, Germany and France spend roughly a third less on their healthcare systems. This corresponds almost exactly to the wage differential between those countries and Switzerland, and viewed in that light, this fact is likewise no cause for alarm. We seriously doubt that the quality of the health services in these countries lags Switzerland's by a third, however, or to put it another way: there may well be something rotten in the state of Switzerland as far as productivity and/or quality is concerned – something along the lines of the 80/20 rule, for example, whereby the last 20% of any added value costs as much as (or more than) the first 80%; a first-world problem in the truest sense, in other words. Or it may also be the case that too many (and too few cost-efficient) service providers are scrabbling over the same old pool of patients without adding any real value. We shall return to this point.

Now here's a surprise: on average, *prices* for individual healthcare products, whether they be medicines or diagnostic procedures or therapy modules, are *not rising*; indeed, they have been falling slightly for a good while now. This means that the rise in healthcare spending we are seeing must be down to *volume increases*. In other words, more healthcare products are being consumed per patient than previously, for exactly the same health condition. As there is a doctor lurking behind every such increase in volume, people regularly float the bright idea of capping the number of doctors, thereby turning a core

principle of economics (more providers = lower prices) on its head. But things are not black and white in health economics; the world looks a very different place when fixed rates are being paid by a party whose involvement is relatively indirect and remote.

Who are the ***service providers***? About 35% of them are public and private hospitals, 20% are doctors' surgeries and outpatient clinics, some 16% socio-medical institutions (including care homes) and the balance is made up of miscellaneous providers. These shares have remained relatively constant over the last 20 years, even though consolidation has occurred within the various segments: group practices are increasingly replacing traditional GP surgeries, for example; and competition between hospitals and clinics can be brutal.

How is treatment administered? About 15% are admitted for acute inpatient care (e.g. a short stay in hospital). About the same percentage of patients undergoes long-term care, and individual services provided by physicians and outpatient treatment account for a further 10% or so (5% respectively). The bulk of the remainder is made up of a fairly disparate array of services and service providers: rehabilitation, managed care under medical supervision, radiology, psychology and psychiatry, long-term care in the home, etc. There has been an ongoing steep increase in outpatient treatment in preference to inpatient care and thus a corresponding rise in support services.

Is dying an expensive business? If we are talking about the actual act of shuffling off this mortal coil and joining the choir invisible, not at all; in 2012, the dying accounted for barely 5% of one large insurance company's total costs. The expensive part is the period prior to this, i.e. inpatient treatment in hospitals and care homes. And here, women hit society far harder in the pocket than men, as there are far more females aged between 80 and 95 populating our care homes (a figure inversely proportional to the number of women in senior management positions in business and politics; perhaps there is such a thing as poetic justice after all...).

Who ***pays*** for these healthcare costs? The simple answer, inevitably correct, is: the people. The question is rather, how they pay – and here too, let's start with a surprise: of the total outlay of approximately CHF 80 billion, almost a third comes directly out of the pockets of the citizenry! That's a lot. This sum is used to settle dentists' bills, health insurance deductibles, care home fees (where these are not covered by insurance) – and pay for self-prescribed medicine in chemists' and pharmacies. Just over a third of healthcare costs is financed via the compulsory basic insurance system, which in turn passes on its costs to policyholders in the form of a *per capita* premium (less "premium reductions" financed from cantonal tax revenues). The remaining share (just under a third) comes from the state in the form of investments in hospitals and associated operating subsidies, and is taken from social insurance schemes (including disability insurance) and supplementary AHV benefits. What do private health insurers pay? Relatively little (a touch over 6% or CHF 612 million in 2015) – which is not to say that this particular pot of gold is not hotly contested.

CHAPTER 3

Dentistry: a case apart

There is one sector of the Swiss healthcare system where the three-way patient/customer > service provider > service payer constellation does not apply, or applies only to a very limited extent: dentistry. Let's start with a few facts here as well. In 2015, some CHF 4.5 billion was spent on dental treatment, or 5.7% of all healthcare spending. Although the number of dental practices has risen by 10% over the last five years, expenditure on dental services as a percentage of total healthcare expenditure has dropped.

In Switzerland, there is no compulsory insurance cover for "normal" dental work (i.e. regular, preventative care) and very few go down the insurance route voluntarily. This means that domestic dental patients generally have to reach into their own pockets and, in some cases, the sums in play are substantial. Compulsory health insurance cover kicks in only once a certain degree of complexity has been reached and the health insurers are more than capable of putting up a fight. Seeking dental treatment abroad is certainly an option, although the numbers involved are relatively insignificant; Germany and Hungary are the destinations of choice for the Swiss. A similar state of affairs prevails in the aesthetic medicine sector, where health insurance provides only intermittent cover.

There are historical reasons for the lack of an insurance-based option in dentistry, but we believe that it is principally medical and economic circumstances that militate against it. As far as teeth and their ailments are concerned, there is a good deal of transparency from a medical perspective; it is obvious how damage comes about. The customer/patient puts in a preventative effort and the results are clear-cut: people who clean their teeth have fewer cavities, and going for regular check-ups lowers the risk of serious, long-term damage going unnoticed. Treatments range from the merely unpleasant to the extremely painful, with the result that hypochondriacs rarely settle on toothache as a complaint. Because of the high degree of transparency outlined above, dentists have few opportunities to recommend expensive follow-up treatment. Dental procedures are undergone on a regular basis and are fairly evenly spread across society; their costs are also relatively easy to predict. There is thus not much sense in seeking to promote solidarity between various risk classes and carriers unless there happened to be political appetite for extending redistribution to this sector as well. Interestingly, any such overtures to introduce compulsory dental insurance via petitions for referendums or other political initiatives have consistently been rejected, most recently in the canton of Vaud at the beginning of March 2018.

The example of dentistry is interesting in as much as it demonstrates that expense can be spared through arrangements that bring the payment process closer to patients/service providers. As mentioned, in the case of dentistry, this is contingent on the sector's relatively high transparency and the lack of incentives for risk-sharing solidarity, especially as – should disaster occur – very expensive procedures are in any case covered by health insurance. Is this an exemplary model, or just an outlier? We shall return to this point.

CHAPTER 4

So where does it seem to hurt?

While laying no claims to completeness, we flag up several topics in this section as areas where we feel it would be helpful to take our thinking a little further than the usual political pub chatter – especially in light of the panic attacks that routinely grip the public when the health insurers send out their latest round of premium notices. We present a modest casebook of the symptoms of a systemic disease.

- *Operational frenzy at the highest levels*: While legislative zeal in the period between the introduction of Switzerland's Federal Act on Health and Accident Insurance (KUVG) in 1912 and the passing of the Health Insurance Act (KVG) in 1996 was noticeable by its absence – there has been but one substantial reform in more than 80 years, in 1964 – amendments and proposed amendments in healthcare legislation have been nose to tail ever since. By our calculations, the Swiss people have voted on healthcare issues in referendums no less than 12 times over the last 20 years, and we reckon something like 50% of the items on the parliamentary agenda are directly or indirectly related to healthcare. Staffing levels at Switzerland's Federal Office of Public Health have risen by 40%, to 565 employees, over the last ten years.

- *Running hot and cold on key questions*: Whether a profession is encouraged or held back makes all the difference in the world to those concerned – in this case, whole cohorts of trainee doctors who at one point chose to pursue this line of work in good faith and with great enthusiasm. The signals sent out over recent years by the system as a whole have been mixed in the extreme; from the tapered granting of new medical licenses to the moratorium on new doctors' surgeries and the attempt to eliminate solo practices, to subsidy programmes for GPs and the wholesale importing of foreign specialist staff, it has been a free-for-all over the last couple of decades. The situation bears all the hallmarks of a strategic vacuum, and it should be obvious to all that incoherence of this kind results in efficiency losses and the misallocation of resources (investments).

- *Pseudo-privatisation and pseudo-"economisation"*: The hasty rebadging as public limited companies (with all the attendant steering bodies and levels of governance) of hospitals that had previously been run by cantonal or even local/municipal authorities has prompted some bemusement in the wake of the KVG's passage into law; the term "hospital management" has now given way to "executive management" and supposedly independent and fully accountable directors have been appointed, although ultimate responsibility – not to mention budgetary authority, with all its concomitant dependencies – still rests with the relevant health departments and cantonal (or municipal) government. This politically driven budgetary authority sits ill with the inherently profit-driven business model of the private insurers. It is obvious to any economist that the conflicting priorities in play here (top line/turnover vs. bottom line/profitability) are highly problematic.

- *Tying up the caring professions in red tape*: If we were to compare the amount of time nursing staff – and in many cases, doctors as well – spend attending to their sick patients with the amount of time they spend filling out case notes (previously by hand, nowadays via computer), the results would be shocking. Rather than making work easier ("Man has been unchained as a beast of toil", cf. p.2), technology has achieved the opposite effect: everything has to be triple-checked and documented every step of the way – quality assurance has been confused with end-to-end ass-covering. Integrated information systems? Patchy at best. Day-to-day hospital life is awash with redundant processes.

- *Jockeying for position rather than true competition*: Many hoped that the KVG would result in greater competition and hence cost reductions; competition would mean that the best or the cheapest would carry the day. This is emphatically not the case in two key aspects of the healthcare industry, however: the first concerns the question of who is (and is not) allowed to offer hospital services, i.e. which service provider makes it onto the list of institutions approved by the cantons, whether as a hospital, acute care clinic, care home or rehabilitation centre. The problem is that the decision-making body is simultaneously the most important provider, i.e. the canton; everything revolves around the major cantonal hospitals, and private providers have to adapt accordingly. We have dubbed this "jockeying

for position" – and believe this is a fairly accurate description of what goes on. There is a similar tale to be told of the notional competition that exists between the health insurers: it is decidedly lacklustre. True competition would only be possible if the health insurers were free to choose which service providers they would work with; but they are not. The obligation to contract weighing upon them is the flip side to granting consumers/patients the freedom to choose their doctor. And yet, any move to give this up in favour of an overly cost-centric system could end up being an own goal with grave quality implications.

- *Extreme investment plans, including every last brownfield site, mostly state*: We have on our desk a list of all the investments planned, projected or in pre-project planning in the healthcare sector ("Medinside", 2016). Hospital buildings costing well in excess of CHF 10 billion (indeed closer to CHF 20 billion) are likely to be completed by 2030, the majority of these with public funding, thereby cementing the state's pre-eminent role as a service provider. Everything points towards a further round of volume increases and overcapacity. Private providers will continue to have to live with the danger of being arbitrarily pushed to the margins, but one thing is striking: "greenfield" projects are almost entirely absent from the list; the huge majority are large-scale renovation projects and, as such, invasive surgery on the fabric of the hospitals. This kind of approach would never in a million years be adopted in the private sector, especially considering hospitals' hygiene and safety requirements.

Thus concludes our case history. Now for the diagnosis.

CHAPTER 5

Conflicting goals and a lack of scarcity

"Things can't go on like this," "What we're facing is intolerable and irresponsible," "How can a hospital-building boom in Switzerland be healthy?" We've all heard the rumblings and are all concerned, if for rather different reasons. However, there seems to be no clear notion of how "it" should be done, and – surprise, surprise – the worst failure here is once again in the political arena. There has been a "premium initiative", demanding that no Swiss household should spend more than 10% of its disposable income on health insurance premiums, while another initiative has proposed that household premium costs should be no more than 10% higher than nominal wage growth; others still take aim at the governance of health insurance schemes or the organisational autonomy of the cantons. Alain Berset, the Home Affairs minister responsible for the healthcare sector (who is currently also President of the Confederation), has been throwing around terms like *Dignität* ("dignity of the office", a technical term for the professional competence required of a doctor in order to issue a bill for a certain service) and mooting targeted tariff interventions with a view to strengthening or weakening the position of certain stakeholder groups. He also has the dubious honour of making the final choice of which medical methods/resources qualify for reimbursement and thus feature on the "TARMED" list.

Meanwhile, the various groups of service providers and service payers (health insurers and cantons) have each been fighting their own corners in their own particular battles. The worst organisation is to be found amongst consumers. While there are assorted patient groups demanding an ever broader, better and cheaper range of services (often sensationally and episodically), an "alliance of premium payers" has yet to emerge, to the best of our knowledge (or has yet to attract our attention, which would also fit the picture). Equally, there is no league for the soon-to-be cash-strapped taxpayers in the cantons. After all, the aforementioned investments in new (and/or new-old) hospitals will be one thing, but the ongoing operating costs will be quite another...

In the end, what is missing is a mechanism for managing the tripartite premium payer/taxpayer/customer/patient > service provider > service payer relationship in its entirety, or indeed for ensuring that the increasingly unwieldy system we see today does not spin out of control for endogenous reasons and ultimately come to grief. We are no stranger to the challenges of endogenous systemic risk from our days in finance, and are also well aware that endogenous risk and/or internally generated crises are far more dangerous than any exogenous shock or influence. We are also confident that the only truly effective remedies are long-term remedies.

So, the malady afflicting the healthcare sector is manifestly one of *conflicting goals* (Tinbergen problem) and the partial or total absence of the *scarcity* that governs behaviour in every other area of society and the economy. Conflicting goals: cost efficiency, quality standards, solidarity and questions of distribution are anything but congruent. And as for scarcity: if you wish to purchase a loaf of bread, you have to pay the asking price, and the same is true if you are in the market for a car – the size of your wallet is a key determinant in every transaction. People sitting in a doctor's waiting room are not thinking about their purchasing power, however, or it will only cross their minds at the last moment. And why? Because their first priority is to get well again (i.e. the demand curve is highly inelastic) and because the health system is designed to enable deferred payment, to eliminate debtor risk vis-à-vis the service provider and, as the cherry on top, to heavily subsidise any costs. This may well be socially desirable

(and indeed, the system enjoys broad-based support among the electorate), but one thing is clear: unlike in a normal transaction, where the customer and/or the capacity of his wallet is the limiting factor, this is not the case for the healthcare system – the only thing stopping a customer/patient from visiting the doctor is the time and effort it takes up and any anticipated nuisances like injections, operations and the like.

So what explains the widespread resignation amongst consumers in the face of spiralling premium costs? We assume that, as alluded to in our introduction, the Damoclean sword of a health catastrophe that hangs over each and every one of us prompts the overwhelming majority of us to seek solidarity with the wider population, and the enormously high voluntary uptake (99%) of health insurance *before* basic compulsory insurance was introduced with the KVG is proof positive of the accuracy of this assumption. The limited ability of taxpayers to resist ever greater healthcare spending via the public purse is easily explained from a politico-economic perspective, given the highly asymmetrical relationships between the individual interest groups – not least as morality and public interest generally also help to tip the balance in matters relating to health, whereas taxpayers can offer only their own selfishness as an argument. There is thus no real case for scarcity here either.

It would be fairly absurd and illusory to expect service providers to act as gatekeepers for their own undertakings. There are of course – we would hope – moral considerations that prevent a physician from carrying out unnecessary procedures; but "necessary" and "unnecessary" are fuzzy categories, and in cases of doubt, economic interests will prevail (not necessarily the economic interests of the individual doctor, but those of the clinic that employs him, for example). Public hospitals have operated along exactly the same lines since their restructuring and pseudo-privatisation, by the way. Having service providers as gatekeepers only ever works in combat medicine; the rule on the battlefield is to allocate *under*capacity such that medical attention is directed towards the patients with the greatest chance of survival. This task, probably the most difficult of all, is known as "triage" and is the responsibility of the youngest medics... Where *over*capacity obtains as a matter of course and every incentive is skewed towards boosting turnover, as it were, triage cannot possibly work.

This leaves the service payers (i.e. health insurers and the state) as possible sources of scarcity. From an economic perspective, there are two basic options to choose from: a pricing model or rationing. To a certain extent, the existing system of deductibles functions as a pricing model in that, up to a set sum, customers/patients are encouraged either to make do without a given health care service altogether or to stump up for it themselves; the higher the deducible, the lower the premium. The notion of a flat-rate fee per case is more akin to rationing: services for particular disorders are fixed in advance in an effort to curb the enthusiasm of trigger-happy service providers. The UK boasts a sophisticated system of "Quality Adjusted Life Years" (QALYs), whereby the treatment to be administered is determined not only by customer/patient pathology but also by age; the younger you are, the more QALYs you can accumulate. Brutal, but not entirely without merit.

Wherever healthcare policy might be headed in the future, one thing seems evident to us: if we wish to check rising costs (and that would seem to be wise, given their relentless upward trajectory), somewhere along the line, someone will have to *take a hit*. Those seeking savings from greater competition among health insurers will have to scrap the obligation to contract, and thus also wave goodbye to patients' free choice of doctors. Those opting for higher deductibles and greater individual responsibility on the part of the customer/patient will probably have to abide additional socio-political equalisation payments outside the healthcare system. Disentangling socio-political considerations from the special circumstances of the healthcare system would certainly make sense as a way of obviating conflicting goals in the Tinbergen sense. Those wishing to cleave to the status quo (which borders on a fool's paradise of unlimited supply for the populace at large) will presumably have to make do with objectively justified rationing measures, as a fool's paradise is not a sustainable model.

Our assumption is that, for reasons of political expediency, the end result will be a patchwork of all of the above. This may be too little to prevent systemic collapse over the long term, however.

CHAPTER 6

Solidarity viewed through the lens of technological progress

Looking to the future, there is a new challenge that we have yet to discuss.

Over time, word spread round the campfire in our Native American tribe that it was only the closest kin of Chief *Weeping Eye* that had any serious need to visit *Healing Drop*, the medicine man; the tear ducts of all the other families appeared to be in perfect working order. This realisation was followed by a wave of ill feeling towards *Little Eager Hamster*, who was permanently trailing around after the villagers in search of turkeys for the shaman. One night, a group of young braves lay in wait for him and tied him to the totem pole, whooping: "No turkey!" Chief Weeping Eye was able to calm the assembled mob for a brief period, but it was clear that his time was up and the era of unconditional solidarity between the villagers had come to an end.

We suspect that our health system may be veering in a similar direction. Inherent in genetic technology and big data is the possibility for every

individual to know much more about their health-related predispositions than previously. Constant tracking and logging of our activities – how many steps per day (and how many of these were up stairs), how many sips of alcohol, how much sugar, etc. – will put the finishing touches to the portrait of us painted by genetic analysis and diagnostic data. Medical institutions, i.e. doctors' surgeries, hospitals and health insurers, know precisely what illnesses we have had and how these may or may not be "progressing", and it is naive to assume that this enormous and economically valuable hoard of information will not be put to use sooner or later. A healthcare industry informed by such granular information could easily become much more targeted and efficient.

Indeed, we may already have reached this point. We recently discovered that the US companies Amazon, Berkshire Hathaway and JP Morgan Chase are planning to set up their own healthcare system for their employees. As there is no enforced solidarity through compulsory insurance in the States, we feel this decision can only mean one thing: the companies in question intend to positively discriminate for low health risks among their staff. It is still difficult to guess whether this repudiation of solidarity will translate into higher premiums for those with less promising predispositions, or even a P45; the reputational risks of such a scheme would certainly be considerable.

But when all's said and done, in today's world, pools of data are unlikely to be left idle for long. The concept of insurance only makes sense where there is no concrete knowledge of the future. Should the realities of genetic technology and big data render it so practicable to predict our fates that future healthcare costs can be calculated for each individual, those that have a winning lottery ticket of good genes will eventually start to insist on lower premiums, as they will either need no insurance at all or only very limited coverage. From a systemic perspective, we would then be *moving towards dentistry* as far as transparency is concerned. Against this backdrop, it might not be so wide of the mark to consider a healthcare model that, irrespective of predispositions, covered only the ever-present "catastrophe risks" (in the sense of financial disaster for patients and their families), leaving the customer/patient to cough up directly for all the rest and effecting socially unavoidable transfer payments *outside* the healthcare system. Successfully unbundling conflicting goals in this way may both lower costs and raise quality. As eternal optimists, we are hoping that modern technology harbours *potential for improvement* (precisely because of its capacity for greater differentiation) that is yet to be acknowledged in the healthcare debate.

Nonetheless, for all our optimism, we admit that the level of transparency on an individual's predispositions and behaviours that has already been achieved (and all that is yet to come) is also highly *alarming*. We are plagued by a nagging sense that the notion of the ideal, blond-haired, blue-eyed *Übermensch* could soon be dragged back out of history's dumpster and a eugenics born of healthcare policy could train its sights on "life unworthy of life" (abortion of foetuses with Down's Syndrome is already routine). We suspect that under the banner of "public health", we are inexorably being "nudged" towards approved health practices and, ultimately, compliant social behaviour (and, of course, because we stand to save a bit on premiums, we frequently play along). Indeed, we worry that, should we be found to be dawdling on our passage towards that "undiscovered country from whose bourn no traveller returns" – and our care costs be mounting unduly – an algorithmically programmed switch might make our quietus; not with a bare bodkin, but with a "death chip" prophylactically fitted to see us off into the Great Unknown. That would be the ultimate repudiation of solidarity.

Only by thinking such chilling scenarios through can we stop them in their tracks.

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