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Patient Cost Sharing –
Reforms without Evidence

Theoretical Considerations and Empirical Findings from Industrialised Countries

English version of

Kostenbeteiligungen für Patienten –

Reformansatz ohne Evidenz!

Theoretische Betrachtungen und empirische Befunde
aus Industrieländern

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Abstract

International health service research reveals a uniform tendency in practically all industrialised countries: an increasing shift of costs from solidarity-based financing to private households. Legislators and advisors usually justify this policy through the need to encourage cost-consciousness and especially “individual responsibility”. Economists consider cost sharing in health care to be necessary to prevent abuse of the welfare state. They expect user charges and co-payments to motivate a more “rational” utilisation of health care and, thus, the financial stabilisation of health systems.

Many politicians and economists base their assumptions about the “health market” on the theorem of demand-side moral hazard. This model transforms patients into rational “utility maximisers” consuming services beyond their needs thereby causing welfare losses to society as a whole. Moral hazard in health insurance belongs to the standard repertoires of economic textbooks.

The present study analyses the extensive theoretical and empirical literature on patient cost sharing published during the last forty years. The results show that persuasive evidence for demand-side moral hazard is still lacking. Furthermore, the claimed empiricism turns out to be inappropriate for providing evidence. Science health service research and clinical studies instead suggest that health insurance beneficiaries are not aiming to abuse the health system. In fact, introducing patient cost sharing seems to endanger proper health care since it deters the sick from claiming benefits. The idea of “rational” use transpires to be out of touch with reality.

After a systematic in-depth review of current research on the topic, the author concludes that moral hazard in health insurance is a bogey of academic economic theory. Adequate reality-based evidence for implementing patient user fees and co-payments is lacking. In view of the detrimental effects on health service utilisation, he advises cancelling existing co-payment arrangements and abandoning cost-sharing policies.

Zusammenfassung

Die internationale Gesundheitssystemforschung zeigt in praktisch allen Industrieländern einen einheitlichen Trend auf: die zunehmende Verlagerung der Kosten von der solidarischen Finanzierung auf die privaten Haushalte. Gesetzgeber wie Berater begründen dies üblicherweise mit der Stärkung von Kostenbewusstsein und vor allem der „Eigenverantwortung“. Wirtschaftswissenschaftler betrachten Selbstbeteiligungen in der Gesundheitsversorgung als notwendig, um dem Missbrauch der Solidargemeinschaft entgegenzuwirken. Von Gebühren und Zuzahlungen erwarten sie eine „vernünftigere“ Inanspruchnahme der Gesundheitsleistungen und eine finanzielle Stabilisierung der Systeme.

Die Sicht vieler Politiker und Wirtschaftsexperten auf den „Gesundheitsmarkt“ ist durch das Theorem des versichertenseitigen Moral Hazard geprägt. Dieses Modell macht Krankenversicherte zu rationalen „Nutzenmaximierern“, die zum eigenen Vorteil über den Bedarf hinaus Leistungen in Anspruch nähmen und dadurch gesamtgesellschaftliche Wohlfahrtsverluste verursachten. Moral Hazard in der Krankenversicherung gehört zum Standard-Repertoire ökonomischer Lehrbücher.

Die vorliegende Arbeit wertet die umfangreiche Literatur über Ansätze und Versuche der Kostenbeteiligung von Patienten aus, die in den letzten vier Jahrzehnten erschienen ist. Dabei stellt sich heraus, dass belastbare Belege für das Moral-Hazard-Verhalten von Versicherten bzw. Patienten bisher fehlen und die üblicherweise angeführte Empirie für den Nachweis ungeeignet ist. Gesundheitswissenschaftliche, versorgungsbezogene und klinische Studien legen vielmehr nahe, dass die Versicherten das System nicht ausnutzen wollen oder können. Die Einführung von Kostenbeteiligungen für Patienten scheint eher die bedarfsgerechte Versorgung zu gefährden, weil sie Kranke von der Inanspruchnahme abhalten. Die Vorstellung von der „rationalen“ Nutzung des Gesundheitswesens entpuppt sich als realitätsfremd.

Nach gründlicher Auswertung des Forschungsstandes kommt der Autor zum Schluss, dass Moral Hazard in der Krankenversicherung ein Popanz der akademischen Wirtschaftstheorie geblieben ist. Für die Einführung von Kostenbeteiligungen für Patienten fehlt es an hinreichender realitätsbasierter Evidenz. In Anbetracht der schädlichen versorgungspolitischen Effekte erscheinen die Rücknahme aller Patientenzuzahlungen und der Verzicht auf Selbstbeteiligungen geboten.

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1. Introduction

This study examines attempts to introduce pecuniary control of health service demand through direct payments by patients. Making patients contribute to the costs of their medical treatment is one of the oldest health policy ideas, almost as old as Germany's socialised health insurance system itself. During the hyperinflation of 1923 the statutory health insurance fund introduced a 10-percent co-payment for prescription medications.[1] At the end of the 1920s the physician Gustav Hartz complained: "Don't people go to the doctor a dozen times without a thought, when once would be enough – just because the fund is paying? … They go to the doctor for a cold or a minor injury where previously they would have been ashamed to call themselves sick and take the doctor's time at all."[2] In line with this view, the next steps to increase cost sharing came with Brüning's emergency decrees of 1930/31, which introduced a voucher fee and increased prescription charges.[3]

By the end of the 1950s Christian democratic politicians in West Germany – in particular Theodor Blank (labour minister 1957–65) – had put the issue of direct patient cost sharing back on the agenda.[4] Since then the question has played a central role in the Federal Republic's social policy debate and health sector reforms. The Health Modernisation Act of 2004 introduced a "practice fee" (comparable with the voucher fee) and increased drug co-payments.[5] Although the Statutory Health Insurance Competition Strengthening Act of 2006 refrained from further increasing cost sharing, it did break another taboo by raising the idea of excluding "self-inflicted" conditions. A clause abolishing coverage of "self-inflicted" illnesses (and thus further increasing out-of-pocket payments) was discussed, but not ultimately

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[1] Schulenburg 1984a: 253; Frerich/Frey 1996: 208.

[2] Hartz, Gustav (1928). Irrwege der deutschen Sozialpolitik und der Weg zur sozialen Freiheit. Berlin; quoted after Höhn 1996: 23.

[3] Deppe 1987: 94.

[4] Schulenburg 1984a: 254.

[5] The innovation implemented by the Health Modernisation Act (Gesundheitsmodernisierungsgesetzes - GMG) of 2004 was to introduce 10 percent cost sharing for all health benefits up to a ceiling of €10 per service item or per hospital day for inpatient care (§ 61 SGB V). The so called "practice fee" derives from this general regulation and corresponds to the maximum co-payment of €10 per visit.

included.[6] The declared goal of all the reforms, and especially of shifting costs to patients, is to slow the steady general increase in health care costs.

The application of out-of-pocket payments for health care is closely tied to the concept of "responsible" behaviour by free independent citizens acting as economic subjects. Whereas cost sharing in developing countries is supposed to encourage people to value medical care and demand better quality of the services they pay for, in the world's rich countries the focus is much more on controlling the behaviour of the "consumer in the health market".

Across the world, social policy reforms pursue greater efficiency and fairness. In the European welfare states, and in many other countries too, these two goals are explicitly linked. This raises the question whether and to what extent out-of-pocket payments increase the efficiency and/or enhance the fairness of a health service.[7]

To answer these important academic and policy questions, the present study examines the following questions:

- Does direct patient cost sharing improve the efficiency of use of resources in health care?

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[6] The coalition working group on the Statutory Health Insurance Competition Strengthening Act (Gesetzliche Krankenversicherung - Wettbewerbsstärkungsgesetz - GKV-WSG) had seriously discussed the exclusion of benefits due to "self-inflicted" health problems. However, this would have prompted a flood of lawsuits paralysing the Social Courts because the relationship between causes and effects with regard to accidents and diseases is often a chicken and egg dilemma. But the idea of reducing the financial burden from 2 to 1 percent of household income, if patients can prove regular utilisation of preventive diagnostic services, found its way into the first draft law (§ 62 SGB V); this approach follows the idea of rewarding people's "good conduct" with lower co-payments.

[7] Efficiency means the economical utilisation of available resources and refers in principle to achieving a given objective with minimal effort. However, the social and health policy debate is dominated by a micro-economic approach where efficiency is used with a more restricted meaning, due to the combination of scarce goods with needs alleged to be infinite. The neo-classical efficiency concept assumes rationally acting individuals willing to maximise their utility in a market of perfect competition. In any case, the currently predominant concept of economic efficiency, so-called allocative efficiency, differs essentially from the intuitive, generally accepted meaning of the word and especially from the clinical understanding of what is supposed to be efficient (cf. Schlander 2005: 38).

Economically determined "efficiency" has become an unquestioned catchword, perceived as a good and effective criterion per se but about as meaningless as the comparable terms "modern" and "up to date". Particularly with the current concept of efficiency, there is a high risk of abusive application because it largely fails to take into account ecological factors and an array of social aspects which are not so easily reflected in formulaic and mathematical terms. But when distributional equity and social justice are taken into account, the omnipresent claim of "greater efficiency" can easily become an oxymoron, as the health economist Uwe Reinhardt (1989: 340f) wryly points out.

- What effects does it have on social inequality of health opportunities in the population, and the political goal of reducing this?[8]
- What do the existing studies on this subject have to say, and how relevant are they to the realities of healthcare?
- What conclusions can be drawn concerning the commonplace ideas of health economics?

Many of this overview study's significant findings contradict the accepted ideas of health economics and call into question widespread assumptions. Many social policy recommendations and decisions are based much more on subjective perceptions than on hard evidence. So in the interests of evidence-based health policy it would appear a matter of urgency to collect precise information about the complex and often underestimated social repercussions of direct cost sharing.

2. The Neo-classical Reinterpretation of Healthcare

Private health spending by European Union citizens has increased steadily over the past twenty-five years, largely on account of increasing co-payments.[9] Although patient cost sharing is nothing new in the western European welfare state tradition, its extent has increased conspicuously in recent years. This general tendency not only begs the question why legislators in various countries have increasingly resorted to out-of-pocket payment for health care. It is also necessary to examine the legitimising models on which this systemic trend is based.

Driving the restructuring of health services is an increased focus on the financial side, and on international and national competitiveness, stemming not only from globalisation, but also from society's prioritisation of profit and return on capital. This has been closely connected to the idea that the patient must conform to the *homo oeconomicus* model, the "new man" created by neo-classical economics, which could be said to be the most successful ideological model of man ever created. In Christian communities the frail and the sick were still regarded shown charity in keeping with the precept of "love thy neighbour". In medieval guilds and working mens' associations colleagues and workmates insured one another against incapacity and old age; these were the precursors of the statutory health insurance system in Germany

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[8] Cf. Ottawa-Charter - WHO 2004b

and other European countries. After the Industrial Revolution welfare states acquired health insurance bodies that brought together the population in more or less fragmented "caring communities". The system was set up initially to compensate for income lost through illness, and only later took on the funding of medical treatment. Both in the Bismarck-style social insurance systems and in the national health services created after the Second World War, patients always remained part of a community that shared social risks through a sense of solidarity.

Ideas about the place of the patient and perceptions of health care have changed fundamentally over the past two decades. Today the health policy debate – like the health economics literature – is dominated largely by fundamental tenets from the world of economics and by business priorities:

- Health is no longer a public good distinguished from other goods by a series of special features. As neo-liberal concepts and ideas spread there was a fundamental reassessment of social values and structures. In the course of this, health not only lost its character as a human and social right, but also increasingly gained the status of a commodity that is subject to market mechanisms just like any other. If the character of a public good and the social implications of health are ignored, one can even find good arguments for cost sharing in the service of redistribution (and even ultimately of fairness): "… with health being a normal good, having positive income and negative price elasticities, those in the upper half of the income distribution consume much more than the poor."[10]
- Conventional economic theories generally assume that the almost insatiable demand of citizens or fund members for (para-)medical services is largely responsible for the steady growth in health spending (alongside general cost increases for health services).[11] The primary thrust of this line of thought, which also stresses the general scarcity of resources and potential problems of unfairness associated with otherwise supposedly unavoidable rationing, is to deter the "consumer" from making use of unnecessary and superfluous treatments,[12] but beyond that also to stem supplier-induced expansion of services,[13] and

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9 Jemiai et al. 2004: 1; Council of the European Union 2007: 7.

[10] Baker/van der Gaag 1993: 393.

[11] Shapiro 2003; Henke/Schreyögg 2004: 64.

[12] Criel 1998a: 28.

[13] Kraft/Schulenburg 1985: 137.

> avoid having the health insurance funds pay for "useless" services.[14] Out-of-pocket payments promise to be effective in reducing take-up when the marginal opportunity costs of the service exceed the subjective marginal utility of treatment.[15] Because price increases usually lead to reduced consumption (even of important goods), user charges appear to be the generally recognised solution to the supposed "cost explosion". And because overuse of health services is paraded as the central problem of modern social systems, co-payments enjoy broad acceptance as a suitable measure in the struggle against "rampant" health spending.[16]

Redefining health services as consumer goods and patients as rational consumers opens the way to apply regulatory goals and instruments from the consumer goods markets to the field of health care. As the central yardstick for the health service we now find an inflated and very arbitrary concept of "efficiency", which at the societal level leads to a market-driven reformulation of political goals. Cost containment at the macro-level and control of health service use at the micro-level become the central concerns.[17] It is especially conspicuous that efforts to control spending are directed largely at consumers and rarely or never towards providers. Despite the availability of many effective approaches acting primarily on the supply side – limiting the number of services or service-providers (e.g. by restricting the number of practices or introducing positive drug lists), budgeting or price regulation, more effective control of the pharmaceuticals industry and medical equipment manufacturers, deeper structural reforms (GP system, managed care, etc.) and explicit rationing – direct patient cost sharing is widely regarded as the most important tool for reducing spending in the health service.[18]

3. Patients as Consumers

If economic thinking and principles are to be applied meaningfully to the health care system, the underlying theory must be sound, or at least able to explain reality in a convincing man-

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[14] Schulenburg 1984b: 1280.

[15] Dixon et al. 2002a: 6.

[16] Newhouse et al. 1981: 1504f; Schulenburg 1984a: 258; Shapiro 2003; cf. Barer et al. 1998: 21.

[17] Carrin/Hanvoravongchai 2003: 2, 6; Prada et al. 2004: 38; Jemiai et al. 2004: 2; Zuvekas/Cohen 2007: 256.

[18] Cf. Schulenburg 1984a-d and 2007: 14f; Schulenburg/ Frommknecht 1984; Kraft/Schulenburg 1985; Schulenburg/Wieland 1987: 126f; Henke/Schreyögg 2004: 22.

ner. However, health economics touches on a series of mostly implicit assumptions that run through the debate as quasi-axioms but are much too rarely tested against other theories, and above all practice. When modelling the "new" patient, economists also resort – generally pretty simplistically – to assumptions from the textbooks of supply and demand theory:[19]

1. Consumers have sufficient information to make good choices.
2. Individuals are rational.
3. Consumers know with certainty the results of their decisions.
4. Individuals reveal their preferences through their actions.
5. A person is the best judge of his or her welfare.
6. Social welfare is based solely on individual utility, which in turn is based solely on the goods and services consumed.

Abstract concepts of the market assume that all actors possess sufficient information to make a rational decision to the benefit of all involved. Here the individual consumer is treated as the sole expert when it comes to his or her own behaviour as a consumer. One of the forefathers of modern free-market economic theory, Friedrich August von Hayek, formulated the underlying idea as follows: "It is with respect to this that practically every individual has some advantage over all others in that he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation."[20] The astonishing thing about this quote is how vague the statements are. Hayek's supporters seem not to have realised that they are designed to evade the possibility of direct contradiction. What is meant by "practically every individual" and who are the exceptions? The formulation "some advantage" implies possibly some absolutely decisive restriction, and the scope of the individual's "active cooperation" remains extremely vague and open to interpretation (in the sense of much broader restrictions of consumer freedom of choice than the market radicals are talking about).

US economist Thomas Rice wonders about his colleagues: "in a world such as ours, where high-paid consultants abound and access to more information seems to be the key to success, it is noteworthy that economists often consider an individual consumer to be the world's

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[19] Compilation according to Rice 1998: 5.

[20] Hayek 1954: 522.

greatest expert in one particular area. This area, of course, is what he or she wants."[21] But just a glance at real economic life raises great doubts about the significance of sufficient information for consumer decision-making. At the very least, the huge importance of advertising for consumer behaviour must cast great doubt on the idea of the informed customer decision. And – to cite just one example familiar to every citizen – how can this theory hold up in the incomprehensible complexity of today's telecommunications market?[22]

Finally, in the "health market" the idea of free consumer choice comes apart completely.[23] The information asymmetry between medical expert and patient (who one can define in reference to the word's roots as the "suffering layman") is self-evident, sufficiently discussed, and unavoidable (unless and until the whole population is able to enjoy medical training). Furthermore, the process of economisation of the health care system has increased the relevance of information asymmetries between funders (e.g. insurance funds, health ministry) and service-providers (physicians, hospitals, other therapists) and the inequality of knowledge between insurers and their members.[24] In the latter field there are comprehensive analyses of information advantages of fund members resulting for example in adverse selection or moral hazard,[25] but relatively few studies of the effects of an information advantage of insurers over their customers or also over the service-providers they contract and pay.

Various studies of consumer behaviour in the health market also raise fundamental questions regarding patient autonomy as assumed or wished for in free-market ideology. A certain proportion of fund members and patients regularly contradict the assumptions about individual responsibility, preferring to leave decisions about diagnosis and treatment to the doctors.[26] This tendency is stronger in tumour patients than among healthy citizens, and is largely found

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[21] Rice 1998: 65.

[22] Behavioural patterns in health care and in the case of illness were often more adequately described in the spirit of the Austrian-British philosopher Karl Popper: "The actors always act in a way that is most adequate to the situation which they find themselves in" (see Pütz 2003: 28, footnote 23). Finally it is easily comprehensible that a given acute situation can determine and shift people's priority-setting, sometimes in very short order. Popper's statement, however, gets to the core of the matter only in a slightly modified way: people always act in a way that seems to be the most adequate to the situation in which they find themselves. Especially with regard to health services, external effects and ignorance of the individual consequences of treatment alternatives or non-treatment accumulate in an additive way.

[23] Hibbard/Weeks 1988: 234.

[24] Cf. on this point Hibbard/Weeks 1988: 236.

[25] Cf. Hoffman 2003: 669; Wagstaff/Pradhan 2005: 1.

[26] Deber et al. 2000: 1417ff.

among older people, with more than half of the over-70s (54 percent) expressing this view.[27] Although female, younger, healthier and better-educated patients tend to want to have a say and make their own decisions more than their male, older, sicker and less educated counterparts,[28] there are minorities with opposing expectations on both sides of this rough divide.[29] Just as it skims over the issue of information asymmetry (elsewhere heavily criticised as market-distorting), health economics also all too often ignores the complexity of rational customer decision-making when analysing the health sector. It also owes an answer to the problem that specific expert knowledge can often stand in contradiction to subjectively prioritised personal health needs.[30] This is confirmed, too, by the observation that plainly the mere circumstance of "being a patient" negatively influences people's confidence to make decisions, and that they need not only expert advice but also encouragement to take responsibility.[31]

Effective control of demand for medical services through patient cost sharing presupposes individuals who are in a position to make the right decision for their health after taking into account the given financial incentives.[32] There is no doubt that properly informed "consumers" in the health market (otherwise known as patients) would be an absolutely desirable institution – not just for economists but for physicians too. But they belong more to the realm of myth than to social reality. Of course medical laypeople can decide on the basis of their mo-

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[27] Steinbach et al. 2004: 2f. In addition, attention should be paid to the fact that in various studies a certain share of health-care-seeking individuals tend to disprove the individual-utilitarian theory by preferring to hand over therapeutic decisions to medical professionals (Deber et al. 2000: 1417ff). This behaviour is more pronounced in tumour patients than in healthy people and can be observed mainly in the elderly (54 percent among those over 70 years) (Steinbach et al. 2004: 2f). Obviously the diagnosis of "cancer" has a polarising effect and an impact on behaviour that confirms Karl Popper's assumption. Certainly there are additional factors in place that are independent of the patient, and the consideration of which would require a significant broadening of prevalent economic theoretical approaches. That means there is obviously an inverse correlation between patients' trust in their attending physicians and the desire for autonomy with regard to treatment decisions: the lower the patients' trust in medical professionals, the more they want to assume decision-making responsibility, while people with moderate or higher confidence in their physician prefer shared decision-making (Entwistle 2004: 271).

[28] Levinson et al. 2005: 532f; Garfield et al. 2007: 365f.

[29] McKintry 2000: 868ff.

[30] In view of the massive intrusion of "economic experts" and economic theoreticians in the social policy debate, one might be tempted to recommend the citizens of a good many countries to consider another pearl of wisdom from Karl Popper: "The most important thing is to mistrust all those great prophets who have a nostrum in their pockets and tell you: if you just give me full power, then I will guide you to heaven" (Süddeutsche Zeitung, 27.7.2002: III; translation by the author)).

[31] Stiggelbout/Kiebert 1997: 388f.

[32] Hibbard/Weeks 1988: 236, 245.

mentary condition whether or not they are willing to come up with a particular sum for medical treatment, but this is based only on belief, hope or intuition, not on information.[33]

If we go beyond the level of cost sharing for regulating access to treatment and examine the control effects on take-up of medical services, Hayek's formulation of the individual's "active cooperation" becomes especially relevant. In view of the enormous information asymmetry between physician and patient, "practically every individual" should be able to derive "some advantage" from involving experts with appropriate knowledge in their own decision-making before making a (secondary) informed consumer decision. However this certainly realistic situation depends on another very different assumption, which has to do directly with the information required for a correct consumer decision. This assumption is that there are always clear rational criteria that allow a firm distinction to be made between indicated "sensible" and non-indicated "superfluous" treatments. But this is simply not the case in medical reality. Medical treatments to which there is no alternative tend to be the exception, and even that only becomes clear – if at all – after a minimum number of examinations have been carried out. So information relevant to decision-making can generally only arise when it is no longer of any use for financially motivated decision-making.

The second fundamental implicit assumption on which health service cost sharing is based is that people's actions are fundamentally and in all situations rational or rationally guided; that under particular given circumstances consumers will make decisions based on "rational" utility criteria (i.e. comprehensible in terms of their subjective logic and preferences). This thesis also reflects an understanding of human thinking that is very individualistically constructed and above all reduced to a given moment, according to which individuals exist in an imaginary space without any social or historical context and make absolutely uninfluenced decisions.

Ultimately the theory of the economically rational individual cannot be disproved, because within the specified logic countless reasons and justifications can be found that allow particular behaviour to appear "rational" as long as one ignores or marginalises all the factors that suggest extreme irrationality. The carelessness with which the supporters of belief in rationality treat their own theory is demonstrated not least by studies of the "rationality" of addicts in dealing with their addiction.[34] Nobody can deny that a forty-year-old with a perforated peptic

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[33] Cf. e.g. Steffen et al. 2007, Bachmann et al. 2007 and Grudzen/Brook 2007: 1127.

[34] Cf. Rice 2004: 114f.

ulcer is following his own rationality if he, for example, rejects any medical treatment on the grounds of his phobia of white coats. But such a theory contradicts not only many findings of other social sciences, but also common sense and the biological instinct for self-preservation. Unlike other academic disciplines, which generally start from the question of how people actually behave under particular circumstances, economists tend to pursue the question of how people should behave in order to maximise individual gain or social wellbeing.[35]

Another fundamental assumption behind free-market incentives and management in the health market is that patients are always able to overview and assess the consequences of their respective demand decision with sufficient confidence. That would mean that even in phases of subjective suffering, every person would be able to properly assess the consequences of accepting or refusing medical treatment. In other words, every patient decides whether or not to "consume" a treatment on the basis of a reliable assessment of the consequences.

As well as raising doubts about the practical relevance of this assumption in real life, just taking a glance at "normal" markets also indicates a serious shortcoming in the theory on which it is based. Who has not had the experience that a purchase decision – for example new software or the introduction of a new technology – inevitably ended in the purchase of a complete new computer system, of which there was not the slightest indication at the beginning? And when buying a car, who can really estimate the risk of causing an accident leading to life-long indebtedness or a prison sentence and ensuing loss of income? These few examples suffice to show how short-sighted, unimaginative and limited the understanding of "awareness" is in connection with the consequences of consumer decisions.

Departing from the exclusively individual utilitarian level, the theory that people are fully aware of the consequences of consumer decisions turns out to be completely divorced from reality. Current political debates lead to branches of the economy where there is every reason to doubt that consumers include external effects to any relevant extent in their purchasing decisions. For example no-one can seriously claim that a car buyer choosing a louder or less fuel-economical model will also consider the number of additional heart attacks,[36] or respiratory illnesses,[37] it causes or the resulting loss of life expectancy of those affected.[38] And the proportion of tourists who are dissuaded from flying for ecological reasons – or at least buy

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[35] Rice 1997: 393.
[36] Hoffmann et al. 2007.
[37] Chauhan et al. 2005; Holgate 2005; Laurent et al. 2007.

carbon offsets – is so small that in this field too there is next to no empirical evidence of an adequate inclusion of essential (external) criteria in purchasing decisions. For lack of reliable data anyone attempting to operationalise the "sagacity" of consumers is forced to work with largely fictitious constants and accept correspondingly unrealistic results. Failure to even include the aforementioned and other consequences in the ideas and theories runs the automaticc risk of simply overlooking fundamental differences between theoretical hypotheses and real existing (economic) life.[39]

An intrinsic characteristic of the health sector is that the "consumers" themselves have inadequate knowledge even about supposedly known illnesses.[40] Consequently laypeople are generally unable to assess the consequences of accepting or rejecting medical treatment; indeed experts do not always succeed in doing this, and generally only following particular tests. To some extent this is in the nature of things, for the human organism has a great capacity for adaptation and self-healing. Not to put too fine a point on it, even in our "modern" medical system it is often unclear whether a healing success was achieved because of or despite a particular therapy. It is similarly unclear to a layperson whether a deterioration was inevitable or caused by a lack of treatment. Although compliance or adherence to recommended therapies represents a complex problem, it also touches without doubt on the level of awareness behind health-related consumer decisions.[41] The broad range of experience with existing compliance problems and their consequences does nothing to support the idea of making informed decisions about using medical treatment.[42]

So if consumers do not know what they are getting, do they at least know what they want? For economists the answer appears simple. Economic models generally assume that people know their personal preferences and choose consciously from the range on offer.[43] There is also an assumption that the wish to acquire more applies only up to a certain quantity of consumed goods or services, and that the additional benefit per unit decreases after a certain point (decreasing marginal utility). The decision how much to consume also depends on the price, which appears to increase in relative terms as marginal utility decreases – as it also does of course where available income is less.

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38 M. Finkelstein et al. 2003; Schreyer et al. 2007
39 Cf. Reinhardt 2001: 978f.
40 Bachmann et al 2007.
41 Cf. Silverman 2004: 26.
42 Petermann 2004, Holst 2007.
43 Cf. Rice 2004: 117f.

In consumer theory, under the premise that marginal utility will decrease after a certain level has been reached, we have to conclude that people will make their consumer decisions so as to maximise utility according to their personal preferences and market prices. If the expected equilibrium between consumer behaviour and demand has been achieved after enjoyment of the acquired goods and services, people cease their market-related activities.[44] According to this theory patient cost sharing and especially its "optimal level" depend decisively on individual risk of sickness and above all on patients' preferences, which differ from person to person.[45]

In practice it is almost impossible to measure consumer preferences empirically and forecast purchasing decisions. Ultimately, market researchers always need a finished product and a group of test purchasers to simulate the market. In order to overcome this dilemma economists use announced preferences, which measure demand for preferred consumer goods exclusively in terms of actual past purchasing behaviour to the complete exclusion of human psychology and other factors.[46] Using the theoretical assumption that consumers select their particular preferred basket of goods in the service of maximising their own utility, researchers derive individuals' preferences from observed consumer decisions made under particular price and income conditions. The question whether it is permissible at all to draw retrospective conclusions about consumers' preferences on the basis of purchases made in the past (given that purchasing decisions are subject to a wide range of influencing factors and are made individually and situatively in the moment of the consumer decision) is simply not addressed at all.

The fundamental assumption for all forms of demand-led management – that every consumer is interested first and foremost in maximising individual utility understood in pecuniary terms – turns out on closer examination to be simply intrinsic to the theory and all conclusions derived from it are nothing but self-fulfilling prophecies. Only as long as it is assumed that utility maximisation under particular conditions is the sole or at least primary motivation for consumer behaviour can preferences be derived from past consumer decisions. But if we admit other factors such as taste, inclination, emotion and altruism as motives for particular purchasing behaviour, and acknowledge the extensive findings of other disciplines, we find that purchasing behaviour does not (exclusively) express announced preferences and we come to

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[44] Cf. Rice 2004: 36, 92.

[45] Cf. Breyer et al. 2005: 267.

the logical opposite conclusion that individual utility maximisation is actually not the decisive driving force. Only if we make every consumer – albeit retroactively – into a utility maximiser is the *homo oeconomicus* model coherent and ultimately impossible to disprove.

Economics thus creates a theoretical system that allows human behaviour to be considered in complete isolation from the action that would be expected or recommended in relation to the situation. Worse still, it analyses human behaviour through mono-dimensional interpretation of an isolated outcome and makes no effort even to consider the complexity of human nature starting at the intra-individual level. Economic consumer theory ignores the fact that human activity is not always exclusively motivated by egotism and self-centred utility maximisation, but that other factors such as status, group membership and identity, taste, commitment, sympathy and other psycho-emotional motives are significant.[47] It excludes any social dimension of human existence, where there is unavoidable interaction between the utility functions of different market participants or consumers.[48] If people's consumer decisions are led not exclusively by their own, but also by others' motives, consumer behaviour will only partially reflect personal preferences.

Radical free-marketeers regard social wellbeing as the mere sum of individual utility maximisation, which in turn can only result from consumption of goods and services. They are always trying to show that welfare state institutions such as social health insurance or tax-funded health services lead to a "welfare loss" because the unavoidable occurrence of moral hazard leads people with such security to express excessive demand for health services[49] that are not "actually" medically necessary.[50] Empirical studies have indeed shown changes in use of medical treatment when the costs involved are to be covered from the patient's own pocket, and this has been interpreted as an expression of "cost awareness".[51] It is not surprising that this idea is especially widespread among economists,[52] but it is also found among physicians, politicians and other professions.

The question of what exactly "medically unnecessary" means and what criteria should be applied to determine the necessity of treatment remains completely unanswered – and often un-

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[46] Sugden 1993: 1949.
[47] Cf. Sen 1982: 92ff; Rice 1997: 389f.
[48] Sen 1982: 99; Rice 2004: 119f.
[49] Pauly 1968: 535; Feldstein 1973: 252ff, 275ff.
[50] Henke et al. 2002: 12.
[51] Feldstein 1973: 268, 270f, 274.
[52] Cf. Feldman/Morrisey 1990.

asked. There is also no sensible suggestion as to who can and should make such a decision at all, when it is to be made and how the inevitable uncertainties should be dealt with. It is in the nature of healthcare that the necessity of demand can only be judged retrospectively.[53] Despite the term's imprecision and impracticality, the concept of the "actual" necessity of medical treatment serves as an argument against comprehensive welfare coverage, especially among the fraternity of economists.[54] In view of the conceptual arbitrariness and the complete separation from clinical criteria it is obvious that this must be largely a matter of belief and subjective perception. But above all such concepts and theories not only operate under the usual assumption that human behaviour fully obeys the *homo oeconomicus* model, they also follow the idea that illness is an equally distributed random event.[55] However, even in the discussion of social protection and welfare effects economic researchers come to diametrically opposing conclusions. Whereas some authors believe they can calculate a "welfare loss" through comprehensive health cover,[56] others restrict themselves to estimates.[57] Others still conclude that general coverage of the whole population for financial risks of illness could certainly have a welfare-enhancing effect.[58]

4. The Model Platonism of Actuarial Mathematics

The introduction of patient cost sharing in countries with existing social security systems generally follows the goal of counteracting the phenomenon of insurance-based moral hazard.[59] Until recently most empirical health insurance research was dedicated to this question,[60]

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[53] Incidentally, this holds true not only for the moral hazard issue of excessive "frivolous" utilisation of health care in case of minor health problems or "self-inflicted" illness; equally, in a situation of sudden unconsciousness, a relevant and generally accepted indication for emergency care, it is only after completing the resuscitation efforts that it is possible to validate whether they were meaningful or needless. This case, which is certainly extreme but not at all rare and by all means cost relevant, makes explicitly clear the absurdity of constructs such as "necessary" or "frivolous" health benefits.

[54] Pauly 1968: 534f.

[55] So Mark Pauly (1968: 531) states clearly: "It is assumed that all individuals are expected utility maximizers and are risk-averters, and that the incidence of illness is a random event." Likewise, Breyer and Haufler (2000, p. 450) base their argumentation on the assumption that health risks were equally distributed: "Importantly, we assume that all individuals face the same probability of being sick". This approach banishes from consideration a series of relevant criteria such as social determinants of illness, environmental factors and others.

[56] Feldstein 1973; q.v. Schulenburg 1984d: 15; Han 2007.

[57] Feldman/Dowd 1991: 299f.; Manning/Marquis 1996: 627ff.

[58] Nyman 1999a: 145ff; Nyman 1999b: 819f; Nyman 2004: 196f; Nyman 2006: 20, 22f.

[59] The debate on direct cost sharing for health care is mostly dominated by the *ex-post moral hazard* assumption, i.e. the presumed unlimited utilisation and production of health care services when pay-

and here the econometric literature offers an absolutely boundless wealth of models, sophisticated formulae and other apparently objective predictors of consumer behaviour.[61] A central role in these theories is played by price elasticity, even if this seems to play out very differently for different medical treatments,[62] social strata, age groups[63] and degrees of severity of illness.[64] Here the patient as a rational consumer reappears, taking into account the costs involved in his "purchasing decision".[65] But the pure cost of medical treatment is always also accompanied by additional opportunity costs for travel, accommodation, food and income loss that are sometimes quite considerable for the patient and (especially but not exclusively in developing countries) can represent many times the actual health spending and thus can make a mockery of any discussion of price elasticity and its effects on demand.[66]

Of course basing the theory on price elasticity and calculating "optimal" co-payments raises the suspicion that this could be a self-fulfilling prophecy, because the underlying elasticity estimates normally result from changes in take-up under particular predefined co-payment conditions, often on the basis of individual experimental or quasi-experimental observations.[67] These are all based on a wide range of hypotheses, conjecture and primarily economic theories,[68] whose relation to reality rarely withstands critical examination.[69] Especially in the

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ment relies on a third party; in contrast, *ex-ante moral hazard* is of rather more theoretical relevance when it comes to concluding a (health insurance) contract (cf. Drèze 2001: 1f).

[60] Wagstaff/Pradhan 2005: 1.

[61] Arrow 1963: 969ff; Zeckhauser 1970: 12ff; Feldstein 1973: 267ff; Schulenburg 1987, 157ff; Dow et al. 2000: 6ff; Geoffard 2000: 126ff; Breyer/Haufler 2000: 450ff; Cutler 2001: 38ff; Drèze 2001; Remler/Atherly 2003: 271f; Parente et al. 2004; Osterkamp 2003a: 8ff; Nyman 2003: 4ff; French/Jones 2004: 707f; Hoel 2004; Winkelmann 2004: 1084f; Breyer et al. 2005: 244ff; Shang 2005: 17ff; Smith 2005: 1020ff; Atella et al. 2006; Levaggi/Levaggi 2007: 5ff.

[62] For example Ramsay 1998: 21, van Vliet 2002: 299.

[63] Ahlamaa-Tuompo et al. 1998 a and b, Ahlamaa-Tuompo 1999.

[64] Wedig 1988: 158ff; Newhouse 1993; Remler/Atherly 2003: 277f; Gertler/Hammer 1997: 8f

[65] For example Contoyannis et al. 2005: 910. It is surprising, however, that economists obviously have little faith in the capability of such a rationally acting subject is capable to preselect health insurance contracts or modalities according to his/her own preferences or needs, because many a decision that appears to be moral-hazard-driven could perfectly well be the result of purposeful pre-selection (cf. Geoffard 2000: 128, 132).

[66] Gertler/Hammer 19967: 9f; Geoffard 2000: 132.

[67] Manning et al. 1987b: 267f; Winkelmann 2004: 1084f; Stein 2003: 44; Buntin et al. 2006: W518.

[68] Markus et al. 1998: 17; Pauly/Ramsay 1999: 445f; Osterkamp 2003b: 80f; Hilitris 2004: 19; Contoyannis et al. 2005: 917.

[69] A noticeable feature, and one worthy of systematic quantitative-semantic analysis, is the frequent use of verbs such as "suggest", "believe", "assume" or "possibly" in the international literature on moral hazard and demand-side policy approaches in health financing. In the description of methods and results, these terms build an obvious contrast to the mostly very concrete quantitative appraisals and calculations.

In some cases the authors mention at least elementary limitations of their model quotations, though

United States, where much of the research about price elasticity of pharmaceuticals and other health services comes from, measuring utilisation turns out to be tricky because in real life – unlike under experimental conditions – it is subject to selection effects, overestimates caused by skewed distribution of spending across different patient collectives[70] and effects of the "moral risk" which they in turn seem to demonstrate.[71]

A health expert who thinks in broader terms than the purely econometric is left speechless by calculations where some economists draw conclusions about demand for hospital treatment under particular conditions of insurance and cost sharing on the basis of very specific findings[72] from a small sample.[73] There is no way of getting round the question of whether hospital treatment can really adequately be classified as a consumer good whose use is primarily determined by whim and current ability to pay and in no way depends on individual or collective health or social factors. And such a perspective completely ignores the possibility that a decision (influenced by patient cost sharing) not to seek medical treatment for a condition could lead to a real or subjective deterioration in health status and this in turn to reduced work productivity[74] – and to slower economic growth.[75] Conversely, free health coverage might lead not to the generally presupposed moral hazard and resulting welfare losses but instead to welfare gains through income security, maintenance of productivity and alleviation of suffering.

Many economic models of price elasticity do not even rudimentarily include such effects and the associated complexity,[76] and only in isolated cases happens a critical and restricting examination of the theory-based statements addressing for example the inadequate recording the unequal distributions of health status[77] and the lack of consideration of different populations or insurance conditions. Possible or even probable changes in various other parameters through or at least parallel to the measured variables and effects regularly drop out of the

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without taking them adequately into consideration for the interpretation of their findings (e.g. Manning/Marquis 1996: 632f).

[70] Remler/Atherly 2003: 270, 278f.

[71] Cf. Shea et al. 2007: 936.

[72] Finkelstein 2004: 20f.

[73] This applies, for example, to the universally quoted RAND experiment, on which basic assumptions regarding co-payment effects are founded to this day. This paper will address this natural experiment in more depth in Chapter 9.

[74] Jinnett et al. 2007: 7ff.

[75] Dow et al. 2000: 9f, 24; cf. also SVR 2003b.

[76] Cf. Russell 1996: 221; cf. Also Remler/Atherly 2003: 277f.

[77] For example Remler/Atherly 2003: 278f.

frame on the basis of the ceteris paribus hypothesis. There can be no doubting the following assessment of cost sharing: “The impact of this instrument is especially evident within the model world of economics.”[78] For the sake of completeness we must add that this study shows that the evidence remains restricted exclusively to the world of economic modelling.

5. The Dogma of “Individual Responsibility”

The demand for more “individual responsibility” permeates the health policy discussion in most welfare states.[79] In the (West) German reform debate individual responsibility for their own health has played an increasingly important role over the past three decades.[80] The ideology of individual responsibility receives support especially from the employers’ organisations and allied experts, from physicians’ representatives, and from the Christian democratic and liberal parties, but also from social democratic leaders and parts of the Green Party.

The ideological superstructure of the reform agenda is held up by a combination of social and economic liberalism, in the sense of an understanding of freedom based on civil liberties. Individual self-determination and self-realisation of “responsible citizens” represent broadly accepted values of democratic societies. At the same time – in political synergy – the free-market economy has established itself more or less as the economic counterpart to democracy, where the state is primarily responsible for “ensuring an economic order that guarantees freedom” and personal liberty is inseparably linked to the free-market system.[81] From this perspective public interventions in the free play of market forces and the placing of any form of obligation on the members of a polity – for example in the scope of the social insurance systems of developed countries – represent coercive measures with the potential to distort the market.

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[78] “Die Wirkung dieses Instruments wird besonders evident unter Zuhilfenahme der Modellwelt der Volkswirtschaftslehre”: Schulenburg/Wieland 1984: 631.

[79] Cf. Bodenheimer 2005a: 851.

[80] The starting point was the Health Insurance Cost Containment Act of 1977, passed under the first coalition government of Social Democrats and Liberals in Germany.

[81] Pütz 2003: 34. Cf. also Breyer et al. 2005: 190. In this context it is worth mentioning that, specifically in health care systems, being characterised by pronounced external effects and heavy information asymmetry to the detriment of the patients who are the perceived clients, the general postulate of economic liberalism that individuals ought to be responsible for the consequences of their actions is subject to inherent practical restrictions.

The Ottawa Charter of 1986 established the right to self-determination as a fundamental and global principle of health and in particular of health promotion: "Health promotion is the process of enabling people to increase control over, and to improve, their health."[82] Behind this there is an unmistakable emancipatory approach, where social justice and equality of opportunity play a central role in efforts to improve health alongside environmental, labour and other living conditions: "Health promotion action aims at reducing differences in current health status and ensuring equal opportunities and resources to enable all people to achieve their fullest health potential."[82]

Behind the smokescreen of a social policy debate dominated by supposed financial constraints, the question of individual responsibility has come to define the social policy discourse in a quite different sense in recent years.[83] The idea of "self-inflicted illnesses" has successfully found its way into popular and scientific publications. Proposals to exclude the consequences of accidents and high-risk sport injuries from statutory health insurance coverage and the latest decision on side-effects of tattooing and piercing[84] jostle with ideas on how to cap publicly shared insurance protection for lung-cancer in smokers and other "self-inflicted" health problems. The confirmed finding that many patho- and salutogenetic factors are in fact determined not exclusively individually but to a great degree by social and environmental influences gets sidelined in the mainstream debate.[85] An individual's health status depends to an important extent on his or her socioeconomic living situation, and there is growing evidence for a genetic etiology of many supposedly "self-inflicted" pathologies.[86]

Initiative Neue Soziale Marktwirtschaft (ISNM) in Cologne is one of the most prominent groups lobbying for a restructuring of the German welfare state, working closely with the pro-business Institut der Deutschen Wirtschaft (IW) to fan the widespread myths of a cost explosion in the health system, dramatic demographic problems and social insurance contributions

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[82] WHO 1986: 1.

[83] For example Fink 2002.

[84] The 2006 health sector reform in Germany called "Statutory Health Insurance Competition Strengthening Act" of 2006 (GKV-WSG) implemented, for the first time in history, exclusions from public health insurance coverage for all treatments which are attributable to self-inflicted procedures, namely tattooing and piercing.

[85] For example Brauer et al. 2002: 1094f; M. Finkelstein et al. 2003: 399f; Mielck 2005: 26ff; Wheeler/Ben-Shlomo 2005: 952ff; Gehring et al. 2006: 548f; Laurent et al. 2007; Dockery/Stone 2007: 511f; Elliot et al. 2007 (3rd page).

[86] In this strongly ideological debate, it is enlightening to observe that many advocates of more "self-responsibility" can be found among the very same neoliberal "modernisers" who agitate in favour of

destroying jobs.[87] Deutsche Bank Research (which presents itself in all modesty as one of the world's leading think tanks for economic, social and financial affairs) not only reproduces all the usual myths of the health debate, but explicitly calls for "tangible cost sharing" to solve imminent funding problems.[88] Calls to expand and increase patient cost sharing are among the standard demands of employers organisations and the conservative and liberal parties.[89] The Kronberger Kreis[90] also says that to solve the existing problems "the regulatory insurance business idea of the health system" needs to be "placed on a new footing"[91] and recommends a series of measures to increase patients' participation in financing their health.[92]

Even the economic textbooks seem to be largely unimpressed by empirical research and discussion, and inculcate each new generation of students with platitudes that have little to do with reality and much with belief.[93] The pharmaceuticals industry, too, is especially interested in strengthening consumer autonomy by abolishing irritating "coercive measures" such as the ban on drug advertising and the prescription requirement for most effective medications. The industry cites how supposedly well informed the population is to make autonomous lay decisions.[94] "These days 41 percent of all medicines sold in Germany and 68 percent of all non-prescription medicines are acquired by patients **on their own initiative** as self-medication."[95]

The call for greater patient participation in health care,[96] which has found its way into the international reform debate in industrialised countries as "patient empowerment", basically pulls in the same direction.[97] Superficially in line with the Ottawa Charter,[98] "patient empow-

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intensifying genetic research, arguing that is has the potential to improve future treatment options for diseases with genetic aetiology that cannot yet be adequately treated.

[87] INSM (undated); Gerken/Raddatz 2002: 10f.

[88] Deutsche Bank Research (undated): 7.

[89] Ruf 1982: 21f; Deppe 1987: 82, 161f; Spiegel online 2006 a, b.

[90] The Kronberger Kreis, created by Wolfram Engels in 1982, is a pool of German economic and political scientists who are mainly engaged in regulatory issues.

[91] Donges et al. 2002: 4.

[92] Donges et al. 2002: 84ff.

[93] Cited in evidence are Schulenburg 1987 (175) and the "standard work" on health economics by Breyer et al. (2005), which unscrupulously uses terms such as "cost explosion" (190) and "increased drug cost sharing of the insured" as an "alternative to public drug price regulation" (471, footnote 7); cf. also Rothman 1992: 443, 452.

[94] BAH 1999a.

[95] BAH 1999b, author'e emphasis; cf. also Zok 2006.

[96] O'Brien et al. 2000: 12.

[97] Cf. also Cornwell/Gaventa 2001: 11f. As explained more in detail in Chapter 3, a not-insubstantial number of patients are willing and quite glad to leave the responsibility for resolving upcoming health problems to medical professionals, though most want to participate in decision-making (Deber et al. 2000: 1417ff; Steinbach et al. 2004: 2f).

[98] WHO 2004b.

erment" focuses on improving the position of the "customer" in the health care market and systematically overlooks the problems of social exclusion and inequality of opportunity. Furthermore, this approach neglects the fact that a not insignificant number of patients are only too pleased to hand responsibility for solving their medical problems to their doctors and are only willing to participate in decision-making processes after specific encouragement and guidance.[99] Nonetheless, market-oriented ideas of participation and decision-sharing have found their way, for example, into the US healthcare system under the innocuous-sounding term "consumer-driven" or "consumer-directed health care".[100] Under this banner the insurance business pushes policies with high deductibles and individual health saving accounts,[101] which they hope will strengthen the demand side.[102]

German economists, too, hope that such measures will increase "consumer sovereignty" in the health market,[103] believing that sufficiently high financial incentives on the patient side will not only stem moral hazard behaviour but also put an effective brake on provider-driven demand increases.[104] However, even such supposedly emancipatory approaches cannot hide the fact that the ultimate outcome will be an increasing redistribution of health costs to the detriment of citizens in general and in particular the less healthy members of society.[105]

There are anyway good grounds to doubt whether this approach to enhancing the customer's wishes and individual responsibility actually improves the efficiency of health care. Providing incentives to cut costs through cost sharing and co-payments aggravates the danger of underuse of medical care.[106] In particular with regard to early treatment and health expenditure there is evidence that "consumer-oriented" contracts tend to lead to risk selection[107] and are more attractive to better-educated sections of society.[108] Also, initial observations indicating a decrease in the use of medical services as a whole but an apparently more frequent need for hospital treatment than before could be a consequence of failure to consult a practitioner in

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[99] Deber et al. 2000: 1417ff; Steinbach et al. 2004: 2f.

[100] Gabel et al. 2002a: W395f; Garber 2004: 293; Buntin et al. 2006: w516f.

[101] Parente 2002: 1192; Fronstin 2004: 1, 5; Buntin et al. 2006: 517f; Goodman 2006: w541; Miller 2006: w550.

[102] Gabel et al. 2004: W399.

[103] For example Pütz 2003: 42f.

[104] Fraser-Institute 1999; Kephardt et al. 2003; Goodman 2006: w541.

[105] Gabel 2002b: W401; Davis 2004: 1219ff.

[106] Rosenthal/Milstein 2004: 1068ff.; cf. also Lohr et al. 1986b: 540ff.

[107] Parente et al. 2004a: 1106f; Davis 2004: 1224f.

[108] Parente et al. 2004a: 1108f.

good time.[109] Finally, the insurance funds demonstrate a conspicuous lack of creativity and innovation in providing graduated cost sharing and charges to accommodate low-income groups.[110]

6. The Political Economy of Direct Cost sharing

Introducing or increasing patient cost sharing means shifting costs to patients,[111] and hence placing an ever-increasing burden of health spending on the weakest actors in health policy. This development is the outcome of a manifestly unequal distribution of political power in health policy. One example of this is employer-funded health insurance as practised in the United States, where it is easier offload costs onto members than onto employers.[112] This is noteworthy to the extent that this realisation is a recent phenomenon, and in fact experts originally expected stiff and widespread resistance to increased co-payments.[113]

It has not escaped insurees' notice that they are bearing the brunt of the privatisation of costs. Opinion polls suggest that the restructuring of the insurance systems to more "customer orientation" and freedom of choice do not increase acceptance of the system at all.[114] Surveys from the United States, where the co-payment ratio is very high, show relatively low approval for the system and the quality of care tends to be regarded as unsatisfactory.[115] Overall satisfaction with the health system there is lower than in countries with broad or universal social protection and significantly lower co-payments.[116] Surveys from Chile, where health insurance clients also have to pay a considerable share of their health costs out of pocket, incidentally show similar results.[117] In Croatia, too, surveys show that women and low-income groups are

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[109] Parente et al. 2004b: 1198f; Davis 2004: 1224.

[110] Tu/Ginsburg 2007: 4f.

[111] Schulenburg 1984b: 1278.

[112] Fronstin 2004: 14; Prada et al. 2004: 41; Trude/Grossman 2004: 1f; Weinick et al. 2005: 504; Blumenthal 2006a: 85; Ross 2006: w553; McDevitt et al. 2007: 213f.

[113] Freiman 1984: 90; Hibbard/Weeks 1988: 244.

[114] More than a few theoreticians try to make people believe that health care systems are undergoing a crisis of acceptance because many insured people feel exploited by collective social protection. Here again, rational utility-maximisers are assumed to prefer systems that attach high importance to self-responsibility and prevent "parasitism".

[115] Schoen et al. 2005: W5-512ff; Davis et al. 2006: 4ff, 16ff; Lee/Zapert 2005: 1203.

[116] Blendon et al. 1990: 188f; Blendon et al. 2002: 182f.

[117] Holst 2004: 276ff.

especially dissatisfied with the health care system because of rising out-of-pocket payments and inequitable distribution of the financial burden.[118]

Finally, introducing cost sharing also serves to make up lost income for service providers who generally also feel the effects of cost-containing measures on their own revenues. The political influence of the various providers in the health care system is generally much greater than that of fund members and patients. Finally, in many countries the health system is one of the largest and often fastest-growing sectors of the economy, and represents an important growth factor even in the poorest states.[119]

7. Forms of Direct Cost sharing

Various forms of material and immaterial incentive are available for demand-side management in health care and for implementing the widespread demand for “more individual responsibility”.[120] This study concentrates on patients’ direct pecuniary share of treatment costs. Unlike insurance contributions paid in advance and independent of actual use of health services, out-of-pocket payments for health care are designed to increase patients’ consumer awareness and the transparency of take-up behaviour for health services.

Most social security and health insurance systems include out-of-pocket payments. They are relatively widespread for medicines[121] and other treatments, but there is nothing to prevent service-providers also charging for surgery visits, hospital stays, itemised diagnostic and therapeutic services, episodes of sickness[122] or globally for any use during a particular period. Cost sharing encompasses all the costs that households are required to cover in direct temporal connection with the utilisation of health care services.[123] Health insurance contributions,

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[118] Mastilica/Babić-Bosanac 2002: 421; Mastilica/Kušec 2005: 224f.

[119] In China, for instance, the health budget increased yearly by 13 percent between 1996 and 2002, even faster than the impressive pace of growth in China’s national economy (Meessen et al. 2003: 582).

[120] Cf. e.g. Stuart/Stockton 1973: 346 and 348. Explicitly, these comprise not only the different forms of co-payment and co-insurance but also bonus-malus systems which have garnered general approval despite the lack of any empirical foundation. In the German context, for instance, the latest paper on the effects of merit rating systems in dental prevention and maintenance based only on model estimations dates from the 1980s (Schneider 1988). There is a lack of more recent validations of the positive assumptions regarding boni and mali, at least in Germany.

[121] Willison et al. 2001: 24f.

[122] Stierle 1998: 1.

[123] Cf. Galbraith et al. 2005: 2.

on the other hand, are not out-of-pocket payments because they are made in advance and are not related to use of services.

Table 1: Forms of out-of-pocket payment

Form	**Definition**
Direct payment (selective exclusion)	Payments for goods or services that are not covered by any form of prepayment or insurance.
Cost sharing	A provision of most health funding systems that requires the individual who is covered to pay part of the cost of health care received; often referred to as user charges.
Informal payment	Unofficial payments for goods or services that should be fully funded from pooled revenue; sometimes referred to as envelope or under-the-table payments.

Table 2: Forms of direct cost sharing

Form	**Definition**
Co-payment	The user pays a fixed (small) fee per item or service (flat rate).
Co-insurance	The user pays a fixed or variable proportion of the total cost, with the insurer paying the remaining proportion.
Deductible/ extra billing	The user bears a fixed amount of the costs, with any excess borne by the insurer; deductibles can apply to specific cases or a period of time

Source: European Observatory on Health Systems and Policies.[124]

From the perspective of the insurance business there are four basic types of patient co-payment: flat fees; charge per service or package, co-insurance; deductibles and balance billing or extra billing.[125] Of course, combinations of these basic types are also possible.[126] International research generally distinguishes between user fees, which are charged by public and

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[124] Jemiai et al. 2004: 1; with supplementary material from Schachenhofer 1997 (pp. 161ff), Rosian et al. 2002 (pp. 20ff) and Bodenheimer 2005 (p. 851).

[125] Cf. Rubin/Mendelson 1995: 2-15f, 2-159ff; Schachenhofer 1997: 161ff; Halton 2000: 1f; Robinson 2002: 162f; Skinner 2002: 14; Rosian et al. 2002: 20ff; Irvine/Green 2003: 33; Knappe 2003: 238f.

[126] For example Parente et al. 2004.

other institutions where treatment should theoretically be free, and co-payments or co-insurance made in addition to an insured person's normal health insurance contributions.

Actuaries advise insurers to use deductibles (extra billing) primarily where there is a tendency for excessive use of the insured services with the possible consequence of economic losses. "Deductibles" represent a particular amount, generally defined in the contract, that the insured person has to contribute themselves, even for minor claims. Deductibles face policy-holders with an "all-or-nothing" decision,[127] because they have to pay all medical (and hospital) bills up to a particular limit defined in the policy out of their own pocket, before the insurance will cover the further costs.[128] Deductibles can apply both to individual services or service packages (franchise deductible) or for all medical and para-medical care during a particular period (absolute franchise).[129] In these systems there is an upper limit on a household's healthcare burden, although this does not obviate the regressive nature of this form of cost sharing, because the same absolute contribution will represent very different proportions of different households' incomes.

The main purpose of deductibles is to reduce utilisation and accounting work for minor treatments. Deductibles can reduce an insurance fund's spending in two different ways, by reducing spending on services and by cutting the administrative costs of processing minor claims.[130] The inversely proportional actuarial relationship between deductibles and insurance contribution allows the level of contributions to be varied according to the level of deductible, assuming other conditions remain unchanged. This approach is common in private-sector insurance,[131] but is also found in Switzerland's quasi-public insurance market.[132] Graduated deductibles also function as an economic incentive for patients to prioritise cheaper service-providers and medicines.[133]

According to commonplace actuarial theory, if patient-side moral hazard leads to increased demand for health services, funds should introduce flat-rate or proportional co-payments for particular medical, para-medical and dental or orthodontic treatments.[134] In order to neutralise

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[127] Shea et al. 2007: 935.

[128] Katz/Rosen 1994: 596; Bodenheimer 2005a: 851.

[129] Schachenhofer 1997: 161f.

[130] Katz/Rosen 1994: 596; Markus 1998: 8.

[131] Gabel et al. 2002a: W398ff; Huskamp et al. 2003a+b; Greß et al. 2005: 42.

[132] Gerlinger 2003: 10f.

[133] Gabel 2002b: W399; Chapters 7 and 9 will address in more detail the increasing relevance of tiered co-payments mainly for drugs.

[134] Criel 1998a: 65; Parente 2004: 1194; Berlemann/Karmann 1998: 586ff.

the insured person's supposed information advantage regarding his or her own health status the contribution should correlate with the actual cost. So either the frequency of use or the complexity or price of the treatment should influence the level of contribution, in order to create an incentive for the health insurance customer to keep their own losses – and thus the fund's costs – as small as possible.[135]

Here proportional co-payments are assumed to have a stronger influence than flat-rate co-payments on the cost-efficiency of decisions by fund members claiming for healthcare services. Proportional patient cost sharing reduces insurance fund spending per treatment, but discourages the consumer from searching the market for cheaper service-providers.[136] Actuarial expositions of this ilk generally fail to mention that proportional co-payments (where the insured person pays a certain percentage of the bill) are especially financially threatening for lower-income groups because expensive, urgent or long-term treatments can place an excessive financial burden on individual households.[137]

Less attention is given to maximum service limits, although Medicare and many insurers in the United States use them for medicines.[138] In contrast to the extra billing system, the service limit relates not to individual treatments or medicines but to a group of services for particular conditions or to particular periods. Risk limits of this kind also exist in developing countries and countries in transition, where they apply to all services and sometimes even occur in combination with percentage coverage. Maximum service limits represent a kind of absolute risk limitation or deductible for the insurer. Patients pay all costs exceeding the maximum permitted volume of treatment themselves.[139]

Private health insurers typically apply a very wide variety of combinations of the various forms of cost sharing, which are defined in the individual contracts. Where insurance is non-compulsory (for example in the United States or Australia) people who currently have a low

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[135] Cf. Hunterlink 2003.

[136] Markus et al. 1998: 8f.

[137] Knappe 2003: 245; Holst 2004: 166.

[138] Breyer et al. 2005: 226; Cox et al. 2001: 297.

[139] Mainly in the US, many private or employer-based health insurance polices establish a maximum ceiling for indemnification payments during the whole contract period or lifetime, which amount in most cases to between US$250,000 and 1 million (Breyer et al. 2005: 226). Private health insurers in Chile (ISAPREs) also apply yearly coverage ceilings for certain benefits or benefit groups, though first of all for outpatient or day patient care. This leads to extremely narrow insurance coverage, particularly for long-term chronic and, especially, psychiatric diseases, even though more recent statutory regulations have considerably improved the financial protection of beneficiaries (Holst 2001: 98f).

health risk tend to choose products with less comprehensive coverage while the chronically sick and other risk groups prefer to restrict the financial burden of co-payments.[140]

8. Promising “Optimal Co-Payments”

In order to protect lower-income groups better from unwanted effects of cost sharing, neo-classical economists increasingly recommend “optimal co-payments”.[141] Using sophisticated mathematical models, Norwegian researcher Hoel, for example, investigated the possible effects of different scenarios on welfare gains in societies with public social security systems. Working from the assumption that health spending is primarily a function of the insured person’s individual preferences, and that willingness to pay is a decisive variable for use of medical treatment Hoel concludes that differentiated co-payments promote equality and can increase the welfare gains of all citizens. And the Italians Laura and Rosella Levaggi calculate “optimal co-payments” not just as a source of additional resources but even as elements of income redistribution.[142]

However, it must be said that these models are based on a breathtaking volume of interconnected assumptions and simplifications of the kind outlined earlier. The authors rashly presume that the risk of becoming ill is evenly distributed across the whole population,[143] contradicting accepted research on social determinants and inequalities in health.[144] What is more, the theoretical assumptions plainly apply only to illnesses that can be completely cured for a price that can be determined in advance. That is not the case with chronic pathologies, and consequently what is now the largest group of illnesses is not adequately accounted for in these models. Less serious in comparison with such fundamental limitations is the criticism that it remains completely unclear why and how people who decide to do without medical treatment because of the level of existing co-payments are supposed to benefit from increas-

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[140] Colombo/Taray 2001: 29.

[141] Pauly/Ramsay 1999: 445ff; Chernew et al. 2000: 599ff; Osterkamp 2003 a+b; Hoel 2004; Pauly/Blavin 2007: 3ff; Levaggi/Levaggi 2007: 7f.

[142] Levaggi/Levaggi 2007: 17.

[143] Hoel 2004: 2, 14; Levaggi/Levaggi 2005: 12.

[144] For example nMarmot 2001, 2003, 2005; Wilkinson/Marmot 2004; Marmot 2006: 2083ff; cf. on this point also Remler/Atherly 2003: 278f.

ing cost sharing.[145] Nor does the hypothetical assumption of an “optimally progressive tax system” do anything for the practical relevance of these ideas.[146]

For Germany’s statutory health insurance system individual authors also propose a sliding scale of co-payments linked to income **and** illness.[147] Differentiating the co-payment rates by income and cost of treatment would ultimately mean that every person covered by statutory health insurance in Germany would be better off than before after the introduction of such co-payments – even people with a low income and simultaneously high treatment costs. Under certain preconditions, in combination with an as yet undetermined “socially accepted maximum co-payment rate”, it could be possible to reduce the rate of insurance contributions as a percentage of income by between 1.9 and 2.6 percentage points.[148]

This line of argument assumes that the utilisation of services by people with health insurance is both excessive and an expression of moral hazard, rather than of comprehensible medical needs; that only the healthy would reduce their demand for medical treatment; and that the increased revenue would make it possible to reduce contribution rates (premiums) for everyone.[149] Following the logic of Pareto efficiency “positive” co-payments not otherwise defined in any detail are here supposed to lead to improved allocation in the health system from which all insured persons would ultimately benefit.[150] This approach thus stands in the unbroken tradition of a worrying detachment from reality that has characterised conventional economic ideas and proposals.[151] All too often they are based on a multitude of assumptions that flow into the models without critical examination and lead to overblown conclusions.[152] There is also no sign that the authors adequately factored in the impact of the intended and expected fall in treatment take-up when they estimated the additional revenues through co-payments; often the estimate of additional income appears to be based simply on the level of current demand. And the models regularly neglect the administrative costs,[153] even though following the imposition of co-payments and especially the introduction of exemptions they are bound to

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[145] Hoel 2004: 5.
[146] Hoel 2004: 13.
[147] Breyer 1984; Osterkamp 2003a+b; cf. also de Wolf et al. 2005: 369.
[148] Osterkamp 2003a: 15.
[149] For example Pauly/Blavin 2007: 17.
[150] Osterkamp 2003b: 84.
[151] Pauly 1968; Breyer 1984; Schulenburg 1987; Breyer et al. 2005; Pauly/Blavin 2007.
[152] Reinhardt 2001: 990, Rice 1997: 386f.
[153] For example Rothman 1992: 447.

have an impact on the level of contributions and will hence probably consume part of the gains forecast from increased revenue and spending cuts.[154]

Above all, however, the distinction posited by the moral hazard theorem between sensible and unjustified treatment belongs in the realm of fiction.[155] Not only do the demand for medical care and patients' behaviour fail to obey the theoretical expectations, but the assumptions concerning the seriousness of illnesses do not match up to reality either.[156] Thus economic approaches normally follow the simplistic assumption that unused services produce savings fully equivalent to their cost, and hence completely ignore the issue of the possible consequential and additional costs resulting from non-treatment. At least one or two authors appear to guess that savings and efficiency in the health sector could be associated with welfare losses as a consequence of reduced treatment rates.[157]

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[154] Ibid.: 451f.

[155] One of the statements which is difficult to understand from a clinical point of view indicates that "the severity of sickness of the good risks is **always** lower than that of the bad risks" (Osterkamp 2003: 80 – author's emphasis).

[156] A common example from clinical practice will clarify this: a statutory health insurance beneficiary who has so far been considered as healthy is affected by an intense and severe headache. To simplify to the issue of provider selection, let this happen on a Saturday afternoon so that the person has practically no choice but to seek care in the emergency room of the closest hospital. From a clinical point of view, one of the following four causes of headache is most likely to turn out to be the reason: brain tumour, cerebral bleeding, (first manifestation of) migraine and attendant symptoms of a viral infection (with harmless transitory involvement of the meninges). With regard to the advocated policy of differential co-payment depending on the severity of the underlying illness, what form would this take in practice? Does the patient have to pay, for instance, 50 percent of the emergency room costs out-of-pocket if it is "only" a flu, while the due amount is fixed e.g. at 25 percent in case of migraine, 10 percent for cerebral bleeding and 5 percent if doctors detect a brain tumour? Acting on the assumption that a definite diagnosis requires a computer tomography or even a more expensive magnetic resonance tomography, it thus appears that this type of co-payment design would imply considerable out-of-pocket expenditure on health care. As a medical layperson is generally unable to estimate in advance the severity of immediate medical conditions, (s)he is bound to perceive such a procedure as a subsequent punishment, which would increase barriers to access, including for necessary and highly indicated care.

[157] Osterkamp 2003a: 4. Even Mark Pauly, the great proponent of the moral hazard theorem in health insurance contexts, has apparently come to suspect that reality is somewhat more complicated than the mere individual-utilitarian approach might conceive: "We believe we know very little about how the shape of demand curves varies across people, if it does vary." (Pauly/Blavin 2007: 17). Two things, however, remain fascinating, namely the static nature of the approach and, particularly, the fact that demand curves and "optimal co-payments" can be calculated completely independently from the disease patterns covered or to be covered. Moreover, the apologists for the neo-classical market ideology refuse to give up the attempt to steer people towards their rightful positions in the edifice of economic theory: "If consumers could be convinced that their own marginal benefit curves are wrong, they might go along with this paternalism – but they might not be easy to convince or, if convinced, might then change their demand curves back closer to the true ones with a higher optimal coinsurance rate" (ibid: 16).

In practice the reach of the "optimisation approaches" has remained weak and is always restricted to a small proportion of insured persons who benefit from exemptions and hardship clauses. Often exemptions are given to particular groups rather than applying a differentiated sliding scale. Thus in Germany in 2003 almost half of all prescriptions (48 percent) were exempt from co-payments. As well as children and pregnant women, anyone who has spent 2 percent of their annual income on health care (for the chronically sick 1 percent) is entitled to benefit from the hardship clause. The number of insured persons exempt from co-payments rose steeply from 326,921 in 1997 to 2,188,699 in 2003.[158]

Despite these measures the chronically sick bear a disproportionate financial burden. Because the frequency of prescriptions increases with age,[159] the financial burden of cost sharing also rises continuously, reaching its peak among men aged over 90 (annual mean €83.46) and women aged between 85 and 89 (annual mean €70.92). The gender-specific pattern of frequency of exemption from charges confirms, incidentally, that older women in particular are exposed to an increased risk of poverty.[160] Overall the volume of co-payments in the statutory health insurance system rose from approx. €6.6 billion in 1992 to €8.6 billion in 1996 and 9.8 billion in 2000.[161]

The effectiveness of such exemption rules is fundamentally restricted by the high administrative costs, difficulties in implementation and the ensuing costs.[162] Targeted social subsidies present great difficulties even for highly developed countries.[163] Even in well-organised countries like Switzerland, exemptions and subsidies generate new difficulties and inequalities, as seen for example in the allocative problems associated with public health insurance subsidies for low-income groups.[164]

Only the private health insurance market in the United States has any significant experience with tiered cost sharing. Income-related cost sharing, which causes comparatively little ad-

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[158] Nink/Schröder 2004a: 167.

[159] Nink/Schröder 2004b: 1105.

[160] Nink/Schröder 2004a: 168.

[161] Müller et al. 2003: 6.

[162] O'Brien et al.: 11; Robinson 2002: 177.

[163] Garber 2004: 292.

[164] The poverty- and needs-assessment is not regulated countrywide but falls to the responsibility of each canton (Gerlinger 2003: 8f). This leads to very diverse interpretations and, particularly, to large financing gaps in practice. Not less than one out of every 30 Swiss households becomes impoverished due to health expenditure, and Switzerland is ranked third from last in Europe, above Greece and Portugal; and about one-sixth of affected households become impoverished because of the cost-sharing arrangements (Murray/Evans 2003: 525f).

ministrative expense at least for larger insurers, is certainly not a new idea,[165] but for a long time it was applied only by a few employer-based private-sector insurers.[166] By 2002 no more than 5 percent of US American employees had HMO or PPO contracts with tiered deductibles for hierarchising choice of non-drug medical services within a provider network.[167] In the field of medicines the proportion of policies with supplier-dependent and product-dependent co-payments has risen more quickly. The proportion of employer-funded policies with incentive formularies rose from 46 to 69 percent between 2000 and 2002. Almost three out of every five of these contracts include three or more different classes of drugs and co-payment. Today comparatively comprehensive medication coverage with tiered co-payments has become the norm for US health insurers.[168]

Particularly in a health system without universal coverage, where the individual's insurance protection is sometimes patchy, a tiered co-payment system raises considerable ethical problems.[169] All these increasingly sophisticated attempts to contain growing health sector expenditure build on the assumption that patient demand is insatiable. Economic theory claims that if medicines are completely or largely free for insured patients, everyone will take as many as they can. Leaving aside the problems actually observed with antibiotics and Ritalin in certain countries, this interpretation ignores the regulating effect of obligatory prescription by medical experts, whose behaviour is unlikely to be influenced either by flat-rate or tiered co-payments. But above all, there is not a scrap of evidence for patient-driven overuse of the medicine supply in industrialised countries. Closer analysis of insurance data collected for the RAND experiment brought to light widespread underdiagnosis and consequentially inadequate treatment of chronic conditions.[170] A systematic MEDLINE search also failed to produce any evidence for the widely posited overuse of medicines, and instead pointed to a situation of underprovision.[171]

Following this introductory review of the theory and concepts, the following chapters will revisit some of the assumptions on which neo-classical economists base their models. As well as a dearth of scientific evidence, we find above all effects that are both unforeseen and unde-

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[165] Stuart/Stockton 1973: 380.

[166] Rice/Thorpe 1993: 24f, 35.

[167] Gabel et al. 2002: W399f; Gabel et al. 2003b: 146.

[168] Provost 2004: 16.

[169] Krohmal/ Emmanuel 2007: 434.

[170] Lohr et al. 1986b: 542ff.

[171] Kleinke 2004b: 39.

sirable. Ultimately the current recommendations to make patients contribute to the costs of their treatment would appear to actually be counterproductive for the proper functioning of health systems. Recent data suggests that such financial barriers impair access to medical services in sometimes unplanned ways and harm the population's health status.

9. The "Health Insurance Experiment" and Its Evidence

To this day the controlled, randomised Health Insurance Experiment in California[172] (the RAND study) is regarded as the major investigation of moral hazard in health insurance.[173] Although it was conducted back in the mid-1970s, many of the hypotheses and recommendations concerning cost sharing and user charges in the health sector are still based on the RAND Corporation's findings.[174] The study investigated the service utilisation behaviour of a population of 5,809 US citizens and their dependants under different co-payment modalities,[175] focusing on the relationship between cost sharing and use of medical facilities, health spending and health outcomes.[176] The researchers allocated the participants, most of whom were relatively young and all under 65, randomly to one of fourteen different health insurance policies and observed their behaviour for three to five years.

All the contracts paid service-providers on a fee-for-service basis and implemented an upper limit for cost sharing. The co-payment modalities varied: one contract offered treatment free of any out-of-pocket payment; three offered a 50 percent co-payment with upper limits of 5, 10 and 15 percent of household income up to a maximum of $1,000; three others had 95 percent co-payments with the same upper limits; three contracts had 50 percent cost sharing for psychiatric and dental treatment and 25 percent for all other services, also with the same upper limits; while one policy covered all the costs of hospital treatment in full combined with 95 percent co-payments for all outpatient services up to a limit of $150 per person and $450 per family.[177]

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[172] Newhouse et al. 1982; Lohr et al. 1986a; Manning et al. 1987.

[173] Ramsay 1998: 20; Buntin et al. 2006: W518.

[174] Private organisation predominantly financed by public resources.

[175] Ramsay 2002: 19.

[176] Manning et al. 1987: 253f. As dependent variables, the study captures the likelihood of health care utilisation, yearly number of physician visits, hospital admission rates and health expenditure for all benefits except dental and outpatient psychiatric care (Fraser-Institute 1999).

[177] Ramsay 1998: 20.

If visits to the dentist were excluded, there was an inverse correlation between the level of co-payment and the frequency of medical treatment. Whereas the latter was 86.7 percent among insured persons with full cost coverage it fell to 68.0 percent as the level of out-of-pocket payment rose. At the same time, a fall of up to one third was observed in average health spending per person.[178] Because of the use of upper limits, the actual average co-payments were considerably lower than the nominal rates in all groups, namely: 16 percent for the group with 25 percent cost sharing, 24 percent for those with 50 percent cost sharing and 31 percent for those who in theory had 95 percent cost sharing.[179]

It was also found that the effect of co-payments occurred almost exclusively at first contact with health institutions and had only a negligible influence on subsequent use of health services in any given episode of sickness.[180] Differences in dependency on co-payment conditions were found among different types of services. For example, the frequency of admission to hospital paediatric wards varied considerably less than outpatient psychiatric treatment.[181] The RAND experts explain this phenomenon partly as an effect of different degrees of price elasticity in the health market, which like every commodity depends both on the "customer's" ability to pay and the complexity of the medical service involved. Another important influencing factor is the level of out-of-pocket payment to be borne by the patient, because as co-payment rose so did the price elasticity of the various health services.[182]

Those who had policies with cost sharing used medical facilities about one third less than those whose insurance covered the full costs of their treatment. Setting aside the epidemiologically significant findings of poorer blood pressure control, less frequent eye tests and poorer dental care (caries and gum disease), the initial investigation found that those with cost sharing were actually slightly healthier than those who had no co-payments.[183] The authors of the RAND study initially concluded that greater use of medical facilities by persons with full cost coverage by their health insurer had no or negligible influence on health status and that

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[178] Newhouse et al. 1982: 13ff; Newhouse et al. 1993: 44; q.v. Gruber 2006: 1f. Compared to beneficiaries exempted from any co-payment, a 50 percent cost-sharing policy reduced health insurance expenditure on average by 25 percent, and 95 percent co-payment policies by as much as 33 percent (Newhouse 1993: 44).

[179] Newhouse et al. 1993: 358f; Richardson 1991: 19.

[180] Richardson 1991: 21.

[181] Ramsay 1998: 21; q.v. Ahlamaa-Tuompo et al. 1998a: 266f; 1998b: 328f and 1999: 135ff.

[182] Manning et al. 1987: 267f; cf. also Markus et al. 1998: 17. After an increase in co-payment from 0-25 to 25-95 percent, the price elasticity for all kinds of medical care rose from 0.10 to 0.14 and for outpatient care from 0.13 to 0.21 (Manning et al. 1987: 268).

[183] Manning 1987a: 226.

no significant differences between the different insurance groups could be found in relation to mortality risk or health problems.[184] The considerably lower take-up of cancer screening programmes had no influence on outcomes during the albeit relatively short period of observation.[185]

However, the dental sector illustrates very clearly the problems involved in assessing the effectiveness of co-payments merely by recording visits. The RAND study produced consistent evidence that higher co-payments for dental treatment lead to poorer dental health among adults. If out-of-pocket payments are required, children less often receive orthodontic treatment, and among those from poorer and less educated families dental care as a whole is poorer.[186] Spending on dental treatment rose by 46 percent following the abolition of 95 percent co-payments, with demand rising especially during the first year after the introduction of free dental treatment.[187]

Over the course of time closer scrutiny of the RAND study by independent experts brought to light many questionable and downright dubious assumptions and conclusions. Closer examination of patient behaviour in the study also revealed the noteworthy finding that co-payments reduced not only the number of “unjustified” visits to the practitioner, but also the number of necessary consultations and preventive measures, leading to worse vision[188] and blood pressure control[189] especially among the chronically sick. Cost sharing also had negative effects on the indicators for the population groups with the worst health and the lowest income, and noticeably shortened the life expectancy of high-risk patients: free medical treatment reduced the mortality risk of this group by 10 percent.[190] Overall in the RAND study the co-payments affected the lowest-income and unhealthiest two fifths of the population especially harshly.[191] Low-income hypertension sufferers were cared for better in the full-coverage

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[184] Newhouse et al. 1993.

[185] Keeler et al. 1987: 290ff.

[186] Gembrowski et al. 1985: 770ff; Ku 2003: 2, 9

[187] Manning et al. 1985: 898ff.

[188] Lurie et al. 1989.

[189] Keeler et al. 1985: 1930; cf. also Dow et al. 2000: 10.

[190] Brook et al. 1983; Davis 2004: 1221.

[191] For the evaluation of these results, bear in mind that for members of lower socio-economic groups this selective effect adds to the existing deprivation of this section of the population. So the RAND experiment had shown, among other findings, a significantly lower utilisation of outpatient paediatric services by low class children. Under the conditions of an insurance policy without cost sharing, the likelihood of utilising relatively effective paediatrician visits is 85 percent for better-off children, but only 56 percent for children living under poorer socio-economic conditions (Lohr 1986: 35). How-

model than under insurance conditions with cost sharing.[192] The prevalence of symptoms such as angina pectoris, respiratory distress, haemorrhage or weight loss was 26 percent higher in this group compared to the better-off and considerably lower in the group without co-payments as a whole.[193]

Many experts concluded from the RAND study that the cost-containing effects of cost sharing would be achieved at the expense of the consumers of health services. But a study with a relatively small cohort of not even six thousand families and random allocation to the different insurance modalities does not really allow conclusions to be drawn about the system as a whole. In this design each physician dealt with only a small group of participating patients, which precludes drawing any conclusions about global cost developments.[194] Co-payments must apply to all patients equally if they are to have any cost-reducing effect at all.[195] Apart from changes in insured persons or patients, the behaviour of service-providers also has the potential to counteract any cost-saving reduction in real or presumed moral hazard behaviour by the members of a health insurance fund. This reinforces the doubts that the introduction of user charges can act as a brake on rising costs in the health system as a whole.[196]

Plainly the concentration on patient co-payments for a long time distracted attention from another finding of the RAND study: that the method of payment to service providers is more effective than patient cost sharing for containing costs. Health expenditure on insured persons in co-payment-free HMO contracts was namely 38 percent lower than for persons whose health insurance provided for fee-for-service payment.[197] Furthermore, the RAND study also indicates how difficult it is to measure the effect of insurance protection on health status. It is unlikely that the experiment and survey themselves will have had no influence on the participants' perception of their own health, and measuring an "objective" health status is a very complex matter which is unlikely to be adequately covered by measuring a couple of parameters.[198]

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ever, the situation turns out to be different for paediatric emergency care services (Ahlamaa-Tuompo et al. 1998a: 266f; 1998b: 328f and 1999: 135ff).

[192] Ramsay 2002: 19; Davis 2004: 1221.

[193] Rasell 1997: 1166.

[194] CHRSF 2001: 2.

[195] Rasell 1995: 1167.

[196] Barer et al. 1993b: 6; Evans et al. 1993b: 5; Evans et al. 1993d: 13, 16, 33; Holst/Laaser: 3361.

[197] Bodenheimer 2005a: 851.

[198] Dow et al. 2000: 9; Richardson 1991: 32f.

This fundamental problem is further exacerbated in studies based on rather subjective health indicators, because the simple fact of contact with the health system produces systematic measuring errors that depend – alongside social class – especially on the utilisation of services and thus on their price. When the prices of medical services rise, subjective variables such as self-assessed general health status improve, at the same time as more objective indicators such as coping with the tasks of daily life deteriorate.[199] Accordingly, when objective parameters are used a better health status is observed with free treatment than where co-payments are obligatory. But if we draw exclusively on subjective, self-assessed survey data, we tend to find that free health care encourages greater utilisation but produces a poorer health status.[200]

Altogether the position in the international debate on co-payments in health occupied to this day – despite its relatively small sample and very specific setting – by the massively influential RAND study is absolutely questionable. Its uncritical extrapolation to the system as a whole from specific, often experimentally gained findings in small samples that only inadequately record the health outcomes[201] – which one could call the "RAND error" – is unjustified and misleading.[202] Especially given that this experiment actually showed that demand for necessary treatment fell and take-up of medical services shifted from lower-income to higher-income groups.[203] Despite all the contradictions and open questions, oversimplified conclusions from the RAND experiment to this day define the health policy and partly even the health science debate. "The RAND analysis continues the tradition of hope and hype," write the US health economists Himmelstein and Woolhandler. "Unfortunately, behind their impressive predictions of savings lie a disturbing array of unproven assumptions, wishful thinking, and special effects."[204]

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[199] Dow et al. 2000: 20. Because people with higher co-payments tend to utilise less medical care, they expose themselves less to the risk of detecting slight deteriorations in their health status and feel subjectively healthier than people who maintain more regular contact with their physician. This does not mean that doctors make patients sick, but they do communicate information which leads those who visit the doctor more regularly to perceive their health status as lower (Dow et al. 2000: 17f).

[200] Dow et al. 2000: 9f.

[201] Wells et al. 1987: 15; Dow et al. 2000: 10.

[202] Deber et al. 2004: 54f.

[203] Barer et al. 1998: 31.

[204] Himmelstein/Woolhandler 2005: 1121.

10. Impact on Provision of Pharmaceuticals

In most European countries cost sharing primarily affects medicines and medical aids,[205] dental treatment and prosthetics,[206] and extra services associated with comfort and accommodation.[207] In the welfare states cost sharing for such services and privileges is widely accepted.[208] In the public health systems of the industrialised countries attempts to manage demand through co-payment arrangements concentrate especially on pharmaceuticals.[209] Different routes are used to increase patients' contribution to the cost of drugs – prescription charges (flat-rate co-payments per prescription or medicine), absolute, tiered[210] or proportional cost sharing,[211] coverage limits, and excluding particular drugs from reimbursement.[212]

Medicines are generally regarded as health services with relatively high price elasticity, whose consumption correlates closely with the level of co-payments.[213] This is confirmed by the observation that between 1998 and 2000, when drug prices in the United States rose considerably more steeply than the consumer price index, the proportion of drug prescriptions not filled rose from 9.5 to 13.1 percent.[214] The combination of price rises and simultaneous co-payment increases had a particularly dramatic effect on Medicare members. People on low incomes plainly have a limited capacity to compensate for price rises for medical services through savings or by doing without other consumer goods.[215]

A large retrospective study from the United States confirms that doubling even small drug co-payments causes measurable changes in medicine-taking behaviour. The effects vary quite widely depending on the class of substance: the biggest drop is observed in non-steroid an-

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[205] Saltman/Figueras 1996: 16; Creese 1997: 202; Robinson 2002: 161, 164.

[206] Jemiai et al. 12002, S.2; Ziniel 2004: 31.

[207] Böcken et al. 2000: 71.

[208] Hjertquist 2002: 2, Prada et al 2004: 41. At least in Germany, a perceptible paradigm shift can be observed because studies from the old Federal Republic during the 1970s found evidence of a generally sceptical attitude of the population regarding the claim for more self-responsibility and higher cost sharing for health care (Recke 1980: 80ff).

[209] Nink/Schröder 2004a: 166; Birkett et al. 2001: 104f; Greß et al. 2005: 7, 20ff, 34; cf. also Ramsay/Esmail 2004: 42.

[210] Tiered drug co-payments are usually arranged in such a way that out-of-pocket payment is lowest for generics, moderate for preferred brand drugs and highest for nonpreferred brand products (Frank 2001: 120f; Motheral/Fairman 2001: 1298ff; Huskamp et al. 2003a: 150; Garber 2004: 292).

[211] de Wolf et al. 2005: 369; Lee/Hoo 2006: w546.

[212] Lexchin/Grootendorst 2002: 6; Rosian et al. 2002: 21; Busse et al. 2005: 332, 342f.

[213] Harris et al. 1990: 912ff; Kaczmarek 1999: 228, 234; Kozyrskyj 2001: 901; Lexchin/Grootendorst 2002: 8; Chandra et al. 2007.

[214] Wilson et al. 2005.

[215] Wilson et al. 2005: 719f.

tiphlogistics (45 percent), followed by antihistamines (44 percent), lipid-lowering drugs (34 percent), H_2-receptor antagonists and proton pump inhibitors (33 percent), bronchodilators (32 percent),[216] antihypertensives (26 percent),[217] antidepressants (26 percent),[218] and oral antidiabetic drugs (25 percent).[219] In patients with chronic conditions and receiving constant treatment the effect of changes in co-payments was smaller: people with depression reduced their dose of prescribed psychotropic drugs by only 8 percent, and among people with arterial hypertension the consumption of antihypertensives fell by 10 percent. Larger falls were recorded for consumption of antiphlogistics by patients with chronic arthritis, of antihistamines by allergics (31 percent) and of oral hypoglycemics by diabetics (23 percent).[220]

Other calculations from the United States suggest that increasing the price of antihypertensives by one dollar leads annual purchases to fall by 114 tablets per person.[221] Perceptible drug co-payments lead older and poorer citizens in particular to turn down prescriptions or fail to fill them, while others reduce the prescribed dose by taking them less often.[222] Current studies demonstrate very clearly that older people respond especially sensitively to cost sharing. It was found that cost considerations led nearly one in five older US citizens (18.3 percent) and one in four of the chronically sick to decide not fill their prescriptions. 15.8 percent of older people and 21.8 percent of the chronically ill regularly skipped doses in order to make a prescribed medicine last longer, and 12.4 and 18.5 percent took smaller doses for the same reason.[223] A study from California shows that increasing drug co-payments by an average of $5, which corresponded roughly to a doubling, reduced prescription fill rates by 7–19

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[216] Anti-cholinergics, anti-inflammatory asthma agents, leucotriene modulators, oral steroids and steroid inhalers, sympathomimetics and xanthines.

[217] This group comprises angiotensin-converting enzyme (ACE) inhibitors, calcium channel blockers, diuretics, β-blockers and angiotensin II receptor blockers.

[218] Selective serotonin reuptake inhibitors and tricyclic antidepressants.

[219] Sulfonylureas, metformin, glitazones and other oral antidiabetic drugs.

[220] Goldman et al. 2004: 2347f. A more recent study that also measures the impact of disability costs and lost productivity corroborates the otherwise rarely captured effect on adherence mpliance for people with chronic arthritis (Jinnett et al. 2007).

[221] Blustein 2000: 226.

[222] Dustan et al. 1992: 852; Cox et al. 2001: 298f; Steinmann et al. 2001: 795f; Fairman et al. 2001: 10, 19; Schneeweiss et al. 2002: 524f; Schafheutle et al. 2002: 190ff; Gibson et al. 2005b: 736f. A representative survey among US citizens underpins the finding that more than one in every five adults has not filled at least one prescription during the last year for financial reasons; 14 percent declared that during the last year they had taken a prescription drug in smaller doses than prescribed because of the cost. And 16 percent said they had taken a medication less frequently than prescribed to save money (Talyor/Leitman 2001).

[223] Wilson et al. 2007: 9.

percent.[224] Overall, cost-induced non-adherence to medical recommendations is observed more often among people who need treatment than among healthy citizens.[225]

Numerous US studies show that co-payments as a rule deter a particular proportion of patients from acquiring and taking prescribed medicines.[226] One important cause – that is largely disregarded in the economic literature – is that especially with conditions such as hypertension or lipid metabolic disorders the diagnosis is best made at a point where a layperson can derive only abstract benefit from taking a drug and has only theoretical considerations on which to base their consumer decision. So it is (incidentally in agreement with the theory of rational consumer choice) no surprise that medicine-taking behaviour is very sensitive to patient co-payments.[227] Those affected do not realise that – statistically speaking – they are running a 55 or 41 percent higher risk, respectively, of hospital admission or emergency treatment at an emergency department, especially if they belong to a socio-economic or epidemiological risk group.[228] The phenomenon that the US citizens who are poorest and have the greatest health problems consume the fewest medicines[229] has worsened still further during recent years.[230]

The US experience corresponds with that of other differently organised health systems, as illustrated by the Quebec Universal Drug Program in the Canadian province of Quebec, which

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[224] Chandra et al. 2007.

[225] Bluestein 2000: 219; Steinmann et al. 2001: 796; Taylor/Leitman 2002; Soumerai et al. 2006: 1831ff; Taira et al. 2006: 681. During a telephone survey of 1010 adult US-citizens in November 2002, 18 percent had not asked for prescriptions because of the cost, and this proportion rose to 33 percent of those in only fair or poor health, and to as much as 41 percent of those with monthly out-of-pocket payments of US$150 or more. Likewise, 15 and 18 percent of all adults were using a lower dose or taking their drug less often, respectively, in order to make prescriptions last longer; for the group with high co-payment burdens, 48 and 46 percent respectively admitted to applying the strategies mentioned above (Taylor/Leitman 2002: 1f).

[226] Federmann et al. 2001: 1735; White et al. 2002: 189f; Jackevicius et al. 2002: 466; Schultz et al. 2005: 309; Soumerai et al. 2006: 1831f.

[227] White et al. 2002: 189f; Jackevicius et al. 2002: 466; Schultz et al. 2005: 309; Soumerai et al. 2006: 1831f

[228] Tamblyn et al. 2001: 426f; Appleton 2002: 496; Goldman et al. 2006a: 27; Atella et al. 2006: 888ff. Patients with diabetes mellitus, coronary or ischaemic heart disease (esp. after myocardial infarction), arteriosclerosis or other vascular diseases.

[229] Medicare beneficiaries with three or more chronic health conditions lacking drug coverage purchased almost 25 percent fewer prescriptions than did those with coverage; however, the uncovered paid on average US$375 more out of pocket (Poisal/Murray 2001: 82f). A gender gap was also observed, because uncovered males used about 40 percent fewer prescriptions than males with drug coverage, while usage was only 27 percent lower for uncovered than for covered females. With regard to the burden of out-of-pocket payments, this means that males without coverage spend only around 47 percent in total on their medications compared with covered males, while non-covered females were spending a total of 60 percent of the drug expenditure of their counterparts with drug coverage (ibid.: 79).

[230] Poisal/Chulis 2000: 251f, 254f; Poisal/Murray 2001: 79f; Steinmann et al. 2001: 797.

introduced proportional cost sharing for medicines in two steps beginning in 1996.[231] A retrospective study impressively demonstrates the impact of this measure on the medicine-taking behaviour of older and poorer citizens and the resulting overall effects. Following a "small" increase in drug co-payments consumption of essential medications fell by 9.12 percent among older people and by even more, 14.42 percent, among welfare benefit recipients. For medicines not felt to be essential, consumption in the two groups fell by 15.14 and 22.39 percent. During the period of observation the frequency of incidents connected with reduced medicine consumption rose among older people from 5.8 per 10,000 person-months before introduction of the co-payments to 12.6, and among welfare benefit recipients from 14.2 to 27.6 per 10,000 person-months. The number of acute medical emergencies caused by inadequate medication rose from 8.5 to 19.9 per 10,000 person-months among older people and from 69.6 to 123.8 among welfare benefit recipients.[232]

Another study conducted in Quebec about the prescription of essential heart medicines (beta-blockers, ACE inhibitors and lipid-lowering drugs) after acute myocardial infarction showed that co-payment terms had no effect on medicine-taking behaviour and complication rates in the first thirty days after discharge from hospital.[233] But over time drug co-payments plainly do have negative effects, as demonstrated by a study of privately insured employees in the United States. Increasing the drug co-payment by one dollar led to a $9.71 fall in drug spending, a $6.46 fall in outpatient treatment costs, a $3.39 fall in hospital costs and a $20.39 fall in total health spending. However, in the second year after the increase in co-payments the costs for inpatient and outpatient treatment rose by $10.71 and $13.03 respectively and overall spending by $22.85, while drug spending fell by $8.35.[234] Increasing drug co-payments achieved smaller effects in employer-funded health insurance plans in the United States, which is probably at least partly because people with a regular income will regard an increase in the out-of-pocket payment from $5 to $10 or $8 to $15 as less dramatic than poorer citizens

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[231] Currie/Nielson 1999: 48, 51.

[232] Tamblyn et al. 2001: 425f. One should also mention in this context further research and calculations from the Franco-Canadian province showing that the price elasticity usually presumed as underlying health policy decisions is often overestimated (Contoyannis 2005: 919f).

[233] Pilote et al. 2002: 249f.

[234] Gaynor et al. 2005a: 23ff and 2005b: 29ff. Sometimes comparative calculations are carried out, including the potentially achievable prolongation of life expectancy as a consequence of secondary and tertiary care. In this context, the focus is on insurance expenditures, which increase in line with the longer lifetimes and consequently longer treatment periods for all beneficiaries whose expenditures exceed the contributions collected (Shang 2005: 69). In these matters, however, strict economic ra-

or pensioners. In any case, with this group the insurers' spending on drugs fell by only approximately 4 percent.[235]

From 1970 to 1998 the absolute volume of direct co-payments in the United States rose from $24.9 billion to $199.5 billion, while their share of overall spending certainly halved, from 34.02 to 17.36 percent, largely as a consequence of the extension of public insurance programmes.[236] By the end of the 1990s US citizens were paying 15.6 percent of medical expenses out of their own pockets.[237] Since the beginning of the twenty-first century out-of-pocket payments for health care have grown much more quickly, especially with vertical integration insurance plans. Thus in Preferred Provider Organisations (PPO) between 2000 and 2003 the deductibles rose by 57 percent for in-network providers and 65 percent for out-of-network providers, while drug co-payments increased by 46 percent for preferred products and 71 percent for other medicines.[238] It is nothing new for US employers to attempt to include increasing out-of-pocket payments in their private insurance policies, whether by means of flat-rate or tiered co-payments, co-insurance or deductibles.[239] While the average premium of an American employee rose 175 percent between 1999 and 2005 from $129 to $226, deductibles increased by 467 percent during the same period from $49 to $229, and some firms began offering insurance policies with annual deductibles of $1,000 to $5,000.[240]

The uncontested aim of this policy is for companies to reduce or at least stabilise the burden of contributions to health insurance plans acquired for their employees.[241] The shift from paying in advance to point-of-use affects lower-income groups more than the better-off and especially burdens the chronically ill with high and sometimes unaffordable health costs.[242] At the

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tionality clashes with basic ethical considerations and the core function of health care and health care financing.

[235] Joyce et al. 2002: 1738.

[236] Levit et al. 1999: 131.

[237] Ibid.: 129.

[238] Garber 2004: 292f

[239] Freiman 1984: 90; Claxton et al. 2004: 88f; Claxton et al. 2005: 76f, 91ff; Weinick et al. 2005: 504; Lee/Hoo 2006: w546; McDevitt et al. 2007: 213f.

[240] Blumenthal 2006b: 196; Buntin et al. 2006: w517

[241] Colombo/Taray 2001: 38; Katz 2001; P. Ginsburg 2002: 7; Trude et al. 2002: 66, 74; Fuchs 2002: 1822; J. Finkelstein 2004; Prada et al. 2004: 41; Crawford et al. 2004: 3.

[242] P. Ginsburg 2002: 7; Trude et al. 2002: 66, 70f, 74; Trude 2003; Goodman 2006: w541; McDevitt et al. 2007: 215f.

Between 1977 and 1987, the number of employer-financed health insurance policies with cost sharing had increased from 85 percent to 95 percent; a similar increase was observed for policies with a minimum 20 percent co-payment (Rice/Thorpe 1993: 23). Interestingly, some surveys reveal a significantly higher share of persons with chronic diseases having insurance policies with high absolute co-payments compared to those with relatively low out-of-pocket payments (Lee/Zapert 2005: 1204);

system level it is should be noted that employers' efforts to stabilise contributions leads them to neglect the supplier side and focus on patient behaviour.[243] In the United States a debate is now beginning about a possible deterioration in the quality of care, especially for the chronically ill, through the implementation of consumer-directed health care with high deductibles.[244] Recent studies also provide evidence that the cost savings intended by employers through shifting medicine costs to employees with chronic conditions do not pay off at all. It was found that reduced medication adherence related to co-payments had direct effects on the frequency and duration of incapacity to work among employees with rheumatoid arthritis.[245]

In Israel too there are financial barriers to access to health care. In a survey by the Myers-JDC-Brookdale Institute, 5 percent of respondents said in 2001 that they had done without prescribed treatments during the previous year, and two years later the figure was 6 percent. People on low incomes waived medical treatment most frequently: 10 percent stopped taking medicines, while half that number did without recommended appointments with specialists. Ignorance of co-payment limits plainly exacerbated the situation, because poorer citizens were more likely to be unaware of them (81 percent compared with the average of 73 percent) and spent more than one percent of their income on cost sharing.[246]

In the industrialised countries of Western Europe user charges come largely in the form of co-payments for health care, and largely affect medicines and selected other health services.[247] Additionally, cost sharing is required for hospital treatment for example in Germany and France, while inpatient treatment in the Netherlands is free of co-payments.[248]

A meta-analysis of three studies from Australia, Canada and the United States found that out-of-pocket payments amounting to 25–30 percent of treatment costs reduced demand for medical services by 25–28 percent.[249] But such conclusions must always be treated with caution and are certainly difficult to transfer from one country or health system to another. Also, that kind of global analysis does not allow distinctions to be made between different age, risk and

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this might suggest a problem of adverse selection (Buntin et al. 2006: W 517f), but at the same time it shows the potential relevance of the risk of patients discontinuing or reducing medical treatment because of the costs.

[243] J. Finkelstein 2004; cf. also Ross 2006: w552f.

[244] Lee/Zapert 2005: 1203f; Buntin et al. 2006: W519f; Yegian 2006: W 534f.

[245] Jinnett et al. 2007: 6f.

[246] Gross et al. 2005: 8.

[247] Carrin/Hanvoravongchai 2003: 6; Barry et al. 2004: 191.

[248] Henke/Schreyögg 2004: 64, 67f.

[249] Richardson 1991: 9ff.

social groups. Theoretical economic calculations from Australia assume that doubling co-payments from \$A2.50 to \$A5 would cause a 20 percent fall in the medicine consumption of pensioners, while an increase to \$A6 would cause a 34 percent fall.[250] Despite the relatively large percentage increase, under Australian income conditions such prices certainly fall into the category of "minor co-payments" that politicians are willing to impose in other countries too, yet the impact is enormous.[251]

Since co-payments have the strongest and longest-lasting effect on medicines for treating cardiovascular conditions and hypertension and on psychotropic drugs, which patients usually have to take long-term,[252] we can assume that even cost sharing on a relatively small scale will have relevant consequences for the health of a population and cause negative repercussions on overall health spending.[253] One piece of evidence for this is the observation that among low-income Medicaid members suffering from schizophrenia, limiting reimbursable psychotropic drugs to three prescriptions per month led to a 15 to 49 percent reduction in the consumption of all relevant kinds of antipsychotic, antidepressant and anxiolytic medication. In the subsequent period a clear increase in the use of psychiatric emergency facilities and daycare institutions was observed, which as well as plainly reflecting more suffering of the affected persons also increased overall spending for this group of patients.[254] Per capita expenditure on psychiatric outpatient treatment following the introduction of the restriction on pre-

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[250] Richardson 1991: 49.

[251] For publicly registered drugs meeting well-defined efficacy, safety, and quality standards, patients in Australia have to pay fixed co-payments of approximately US\$11.80 per item; so called concession patients (aged, disabled, unemployed, or students, for example) pay a fixed amount of US\$1.90 per drug item (Birkett et al. 2004: 105f).

[252] Reeder/Nelson 1985: 399f; cf. on this point Chapters 9 and 10.

[253] This suggests indirectly that Medicaid beneficiaries with additional insurance coverage for dialysis, the so-called Medicaid end-stage-renal-disease (ESRD) program paying even for immunosuppressant drugs and erythropoietin, also more frequently use antihypertensives, cardiovascular and other drugs prescribed by treating physicians and covered by the public health insurance scheme (Shih 1999: 52f). Cf. also Gaynor et al. 2005a: 23).

[254] It is relatively difficult to evaluate the consequences and follow-up costs of the reduced utilisation of medications for children with attention deficit and hyperactivity syndrome. Certainly, increased drug co-payments are not without impacts for the group of affected children, despite the undeniable psychological stress of the latter and their social environment. In employer-based managed care polices contracting large managed-care organisations, the implementation of three-tiered and generally rising levels of cost sharing (US\$0 per prescription for generics, US\$15 for preferred brand products and US\$30 for other than preferred brand drugs), the predicted monthly probability of using ADHD medication showed a 17 percent decrease compared to the control group and induced a substantial shift of ADHD treatment costs onto households (Huskamp et al. 2005: 438f).

scriptions exceeded the savings achieved by a factor of more than seventeen, even given that many indirect costs were not even included in this calculation.[255]

In Europe there are generally monthly or yearly upper limits for drug co-payments, andsometimes tiered out-of-pocket spending,[256] which have two main aims.[257] On the one hand they potentially strengthen the negotiating position of the state or insurers vis-à-vis the pharmaceuticals manufacturers, promote price competition especially among brand products but also with and among generics,[258] and can lead to a reduction in overall drug spending. On the other, they might tend to shift consumption towards cheaper products and thus tend to reduce drug prices.[259]

However, tiered drug co-payments bring with them a series of implementation problems[260] and their effects are not uniform[261] so it ultimately remains uncertain whether they actually lead to changes in patients' health-related behaviour. Although there is evidence that they could represent an effective regulating instrument for especially expensive medicines whose marginal utility is questionable,[262] the findings and conclusions from North America concern-

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[255] Soumerai et al. 1994: 652ff.

[256] Huskamp et al. 2000: 12f, 17f; Jemiai et al 2002: 2; Barry et al. 2004: 191; Mossialos/Oliver 2005: 295; cf. also Böcken et al. 2000: 126.

[257] Huskamp et al. 2003a: 150.

[258] Frank 2001: 117f, 121, 126; Huskamp et al. 2003a: 150f; Greß et al. 2005: 10f.

[259] Hong/Shepherd 1999: 528f; Huskamp et al. 2000: 20; Motheral/Fairman 2001: 1301f; Lexchin/Grootendorst 2002: 22f; Joyce et al. 2002: 1737f; Esposito 2002: 13; Rector et al. 2003: 401f; Busse/Schlette 2004: 59f; Briesacher et al. 2004: 1681f; Provost 2004: 14; Newhouse 2004a: 90; de Wolf et al. 2005: 369. Estimates for Germany also assume potential savings of approximately €1.5 billion through the systematic utilisation of generics (Ratiopharm 2005). However, the cutback of the market segment suitable for generics and the decline of the price differences compared to branded products suggest that the potential efficiency gains will stay below the expected level (Nink/Schröder 2004, S 156).

[260] Huskamp et al. 2000: 15ff.

[261] Cf. e.g. Thomas/Mann 1998, S, 1830; Schneeweiss et al. 1998: 258f; Schneeweiss et al. 2002a: 826ff; Schneeweiss et al. 2002b: 523ff.

[262] Cf. Joyce et al. 2002: 1737f; Fairman et al. 2003: 3157f; de Wolf et al. 2005: 371; Lee/Hoo 2006: w545. For preventing economically induced discrimination against worse-off patients with regard to medical therapy and secondary prevention in times of "consumer-driven" health care in private health insurance markets like the US, experts are increasingly demanding that patient cost sharing – mainly for pharmaceutical therapies – should be defined according to their expected clinical as well as economic effectiveness (Goldman et al. 2006a: 27; Sipkoff 2004: 22; Lee/Hoo 2006: W545; Taira et al-2006: 681f). Private health insurance companies in the US control beneficiaries' drug utilisation applying different forms of so called formulary lists or formularies (Frank 2001: 120f). These lists vary substantially from one scheme to the other. In principle, three different types can be distinguished (Motheral/Fairman 2001: 1293f; Huskamp et al. 2003a: 150f; Gabel et al. 2002: 151; cf. also Greß et al. 2005: 42): Open formularies list all medications defined as preferred drugs by the particular health insurance providers, whereas this does not imply any obligation for providers to restrict prescriptions exclusively to these products. Closed formularies are positive lists in the strict sense of the meaning because they specifically define the prescription drugs covered. One or several specific medicines are

ing the overall effect on the health status of the population are still quite inconsistent.[263] Depending on the structure of the health system and the available data, it can be exceptionally difficult to isolate the effects of price controls for medicines, as we have seen in the case of drug price controls in Germany.[264] Nor is switching between supposedly equivalent preparations always unproblematic;[265] this leads to increasing adherence problems among patients[266] and at least in the transition phase to increased use of other medical services.[267]

There are fundamental differences between health policy interests – especially where they are strongly influenced by economic targets – and clinical considerations. Political decisions are usually based on the expected net impact of governance effects, which allows no detailed assessment of the impact on subgroups. Primarily clinical considerations are potentially subject to the problem of distortion through selection, losses through mortality and unexpected selec-

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assigned to each therapeutic area of application, and within these drug classes medicines are registered differently as generics and branded products. Incentive formularies, also referred to as three-tier formularies, include closed lists as well, but for certain indications they permit a choice between comparable medicines, namely a brand name product, a non-preferred brand and a generic. Beneficiaries have to pay different amounts or different percentages of the cost out of pocket. Co-payment is highest for those branded products that are sold under their brand name and me-too drugs are available for. Out-of-pocket charges are second highest for branded medicines without a less expensive generic, and lowest cost sharing is due for generics (Gabel et al. 2002b: 147; cf. Greß et al. 2005: 42). As completely closed formularies create competition-related problems especially for private health insurance companies, mix formularies with partly open and partly closed areas are increasingly prevailing. These areas refer to dug classes and have been defined mainly for high utilisation medicines with empirical evidence of therapeutic effectiveness, e.g. ACE inhibitors, ß and α blockers, statin type lipid lowering agents (HMG CoA reductase-inhibitors), H_2-blockers, and proton pump inhibitors. For prescriptions of drugs included in these and other classes patients have to pay three-tiered amounts or shares out of pocket (Schneeweiss et al. 2002a: 824ff; Huskamp et al. 2003a: 151; Huskamp et al. 2003b: 2225, 2227f; cf. Greß et al. 2005: 42). In the last years mainly incentive pricing has been established requiring lower co-payments for generics or cheap branded products, but significantly higher out-of-pocket payments for expensive and patented brand drugs (Provost 2004: 16). Since formularies are linked to co-payments, these lists itemise the drugs belonging to a substance group in principal according to cost-effectiveness criteria. Patients requiring off-formulary medicines, that means other products of a therapeutic class unregistered in the insurer's drug list, (s)he has to pay the full price out of pocket (Huskamp et al. 2000: 13ff; Greß et al. 2005: 42f). As a consequence of these increasingly established health insurance conditions in the US, the average co-payment for brand-name drugs belonging to therapeutic classes that include a generic equivalent rose only between 2001 and 2002 from US$16 to US$26. At the same time, average cost sharing for me-too products increased just from US$8 to US$9. Altogether, during this period, out-of-pocket payment rose by 11 percent in smaller companies and by as much as 60 percent in larger enterprises (Gabel et al. 2002b: 146f). This is because in smaller companies three-tiered co-payments are relatively more expensive in terms of bureaucratic and, thus, financial costs; hence enterprises with fewer employees are easily overburdened by the necessary bureaucratic tasks (Trude/Grossman 2004: 3).

[263] Gibson et al. 2005b: 738f.

[264] Schneeweiss et al. 1998: 256ff.

[265] Thomas/Mann 1998: 1830.

[266] Schneeweiss et al. 2002a: 824, 826.

tion mechanisms.[268] Regardless of such difficulties, the debate on the application of co-payments for hierarchically desired steering of the service provider utilisation is currently gaining in importance in Europe. Thus patients in Denmark, France and – since the Health Modernisation Act – in Germany too are required to pay higher or additional co-payments when they visit specialists' practices on their own initiative without a referral.[269] This all occurs without any reliable proof that patients' demand for medicines is at all as insatiable as the economic theory assumes for (almost) free goods.[270]

11. Effects on Care of High-risk Patients

In all the industrialised countries – and elsewhere – the number of chronic diseases and their importance is rising steadily, transforming healthcare requirements and the challenges faced by the health system. Unlike acute illnesses, chronic conditions require long-term, often lifelong medication. Here long-term medication is crucial for the course of the illness, and adequate pharmacological therapy is in the long term decisive both for the individual's health status and for the individually incurred costs.[271] Inadequate treatment with essential medications such as beta-blockers and or lipid-lowering drugs after myocardial infarction or for other vascular problems leads to measurable undesired outcomes, and causes high avoidable costs, especially compared with relatively inexpensive drug therapy.[272] Conspicuous in this connection is the finding of an Australian study on the burden of co-payments for rheumatism patients, which found that female patients had higher out-of-pocket payments than male patients, and that these increased above all with the length of illness.[273]

A meta-analysis of fifty-nine studies on the effects of drug co-payments on medicine-taking, health status and medical and hospital costs came to the conclusion that drug co-payments affected low-income patients most, while they had only minor effects on economically active

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267 Ibid. as well as Soumerai et al. 1991: 1975; Soumerai et al. 1991, 1994 and 1997; Tamblyn et al. 2001; OECD 2004b: 18; Goldman et al. 2004, 2006; Anis et al. 2005: 1337ff; Chandra et al. 2007.

[268] Schneeweiss et al. 2001: 101ff.

[269] Cf. Ettelt et al. 2006: 6.

[270] Kleinke 2004b: 39f.

[271] Gaynor et al. 2005a: 23f.

[272] Soumerai et al. 1997: 118; Soumerai et al. 2006: 1831f; at least for ß-blockers this effect seems to depend on the price because it is less pronounced for lower-cost medicines (Schneeweiss et al. 2007).

[273] Lapsley et al. 2002: 820.

younger and better-off citizens.[274] The most vulnerable groups, precisely, restricted their consumption of essential and non-essential medicines.[275] This seems to become especially relevant when patients reach possible coverage ceilings, which occurs especially in the case of capped drug coverage. Because of their incomplete health insurance coverage, older Americans insured through Medicare have to raise relatively high co-payments and especially to pay for outpatient medications out of their own pocket.[276] When they have used up their annual prescription cap they switch to various cost-cutting strategies, through which they sometimes expose themselves to increased risk of illness and death.[277] This effect is plainly dependent on the total annual burden of drug co-payments and is less strong in insurance contracts with relatively high coverage.[278]

Even patients whose dramatic experiences could lead one to assume greater insight into the necessity of therapy economise on their medications. A new multi-centred study from the United States found that 12 percent of heart attack patients completely ceased the standard drug therapy (ASS, beta-blocker plus statin-type lipid-lowering drug) in the very first month after discharge from acute hospital treatment, and another almost 18 percent stopped taking at least one of the drugs. Poorer, less educated and older patients were especially affected.[279] One-year mortality among those who stopped all their drugs was five times higher than among those patients who were still taking their triple therapy after one month (survival rate 85.5 percent compared with 97.7 percent).[280]

Health insurance data from the United States show that diabetics, like patients with coronary heart disease, tend to take their medication incompletely or not at all even though there has been a noticeable improvement in care and treatment options for patients with diabetes mellitus in industrialised countries over the past twenty-five years, and this has been reflected in

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[274] Lexchin/Grootendorst 2002.

[275] Newhouse 1993: 162; Fairman et al. 2001: 10f, cf. also Chapter 10.

[276] Neuman/Rice 2003: 1f. However, low-income pensioners in the USA have the option for supplemental coverage by the social Medicaid programme covering, in many cases, a range of benefits excluded from Medicare (Neuman/Rice 2003: 2).

[277] Chubon et al. 1994, S, 413f; Cox et al. 2001: 299f. The most commonly reported strategies are obtaining samples from physicians (38.2 percent), taking less than the prescribed amounts (23.6 percent), stopping to take prescribed drugs (16.3 percent), going without other necessities (15 percent) and borrowing money to buy drugs (12 percent) (Cox et al. 2001: 298).

[278] Huskamp et al. 2007: 11ff; q.v. Shea et al. 2007: 946.

[279] Applegate 2002: 496; Benner et al. 2002: 457f; Lee et al. 2006: 2568; Gibson et al. 2006a: 512ff and 2006b: SP14ff; cf. also Ye et al. 2007: 2751; Alevizos et al. 2007: e2; as well as Pedan et al. 2007: 491f.

[280] Ho et al. 2006a: 1845f.

the values for example for HbA_{1c}, blood pressure and lipid levels.[281] Incomplete or absent antidiabetic therapy leads not only to a worsening of these indicators, but also significantly increases the risk of hospital admission and mortality.[282] Co-payments for blood glucose test strips and comparable means for type 2 diabetics to test their own blood sugar may reduce – as intended – the overuse of such diagnostic services, but they also reduce the application of indicated measures,[283] whereby this effect is again stronger among lower-income patients than in higher-income groups.[284]

Another recent US study also finds comparable results for other forms of therapy and groups of medicines. Increasing the co-payment for statin-type lipid-lowering drugs[285] from $10 to $20 depending on the patient's risk profile led to a reduction of 6 to 10 percentage points in full compliance. Taking lipid-lowering drugs as prescribed not only significantly reduces the hospitalisation rate of high-risk patients[286] in comparison with those who stop therapy (357 fewer hospital admissions per 1,000), but also considerably in comparison with incomplete compliance (168 fewer hospital admissions per 1,000). On the other hand, among lower-risk patients the reduction in hospital admissions was only marginal (with higher compliance by 42 and with moderate adherance by 21 per 1,000). It would be obvious to apply differentiated cost sharing depending on the patient's risk profile, so that only those with a small health risk or a marginal indication for lipid-lowering drugs would have to pay anything out of their own pocket for medicines. Co-payment-free access to cholesterol-lowering medications for high-risk patients would reduce the annual number of emergency treatments by 31,411 and the number of hospital admissions by 79,837, resulting in overall savings in health spending of more than one billion dollars.[287]

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[281] Saaddine et al. 2006: 469ff.

[282] Ho et al. 2006b: 1838f.

[283] Roblin et al. 2005: 955f.

[284] Karter et al. 2000: 482. It should not remain unmentioned here that the (cost-) effectiveness of ambulatory self testing of patients with type 2 diabetes ("adult onset diabetes") has recently been up for debate. There is a lack of convincing evidence for self monitoring of blood glucosis with and without instruction to improve glycaemic control of non-insulin treated patients with type 2 diabetes (Farmer et al. 2007). For validating this finding, however, a series of limiting factors have to be kept in mind (Heller 2007), which allow one main conclusion to be drawn: the most cost-effective clinical needs of different patients and patient groups cannot be lumped together; differentiated offers are required that can hardly be taken into account adequately by any demand-side cost-containment strategy.

[285] Regarding the importance of statins in relation to cost-sharing approaches and the debate on economic efficiency in health care systems, see Chapter 4.

[286] Patients with diabetes mellitus, coronary and ischaemic heart disease (after myocardial infarction), arteriosclerosis or other vascular diseases.

[287] Goldman et al. 2006a: 23ff; Goldman et al. 2006b.

In the field of psychiatry, which largely deals with long-term conditions, it has long been known that short-term savings through drug co-payments often have the opposite effect in the end.[288] A study from Berlin published more than forty years ago, in 1965, shows that 85 percent of the patients of the Zentralinstitut für Psychogene Störungen who had received psychoanalysis or psychoanalytical psychotherapy experienced a clinical improvement, while the frequency of hospital admission also fell during the five-year observation period.[289] A comprehensive meta-analysis of twenty-five studies on the effect of psychosomatic therapies on psychiatric patients and addicts found evidence of a reduction in the subsequent use of medical services by an average of 20 percent.[290] Interestingly, psychotherapeutic treatment seems to have a stronger effect on demand for hospital treatment than on outpatient services, with the effect incidentally being stronger among older patients.[291] In view of the considerably higher costs of hospital treatment this would suggest a relevant potential for savings through demand-driven access to psychiatric therapy services.[292]

In this connection it is interesting to consider an American study of the behaviour of older citizens suffering from schizophrenia, whose income is still above the limit for Medicaid and are therefore only insured under Medicare on grounds of age. This group was between 25 and 45 percent less likely to have used rehabilitation services, individual therapies with non-psychiatrist providers and case-management than the control group who were covered by both Medicare and Medicaid. Analysis of data from the Schizophrenia Care and Assessment Program (SCAP) showed no difference between the two groups in terms of access to second-generation antipsychotics or regular contact with a psychiatrist. This means that the higher out-of-pocket payments for those insured only with Medicare (or the lack of opportunity to obtain reimbursement of the required co-payments) represent a decisive cause for the differences in treatment.[293]

The direct effect on medication even of “minor co-payments” is also demonstrated by an Italian study published at the end of 2006, which examined the medicine-taking behaviour of patients with hypertension and the consequences for health in the context of two consecutive reforms. Health reforms introduced in quick succession at the beginning of this decade created a

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[288] Cf. also Schneeweiss et al. 2002: 525.

[289] Dührssen/Jorswiek 1965: 167f.

[290] Jones/Vischi 1979.

[291] Mumford et al. 1998: 78f.

[292] Schlesinger et al. 1983: 424ff; Mumford et al. 1998: 82.

[293] Slade et al. 2005: 963ff.

kind of "natural experiment" in Italy: after first temporarily abolishing drug co-payments of approximately €1.50 per prescription on 1 January 2001, the number of drugs per prescription was reduced from six to three on 30 September the same year; on 1 March 2002 the Italian government reintroduced drug co-payments at €1 per prescription. After the suspension of prescription charges an improvement in compliance among patients with hypertension was found within just three months. This effect was particularly strong among those individuals who had been taking reduced doses. Accordingly adherence worsened again during the same timeframe when the €1 prescription charge was reintroduced, although because the amount was smaller, the effect was smaller than fifteen months previously. Co-payments and compliance had measurable effects on hospitalisation rates and mortality. After the suspension of drug co-payments the number of hospital admissions of hypertensive patients with low compliance fell by 0.8 percentage points (from 7.9 to 7.0 percent) while the figure for those with good compliance remained unchanged. The effect on mortality was also weaker among low-compliants, falling by 0.2 percentage points (from 3,4 to 3,2 %). After reintroduction of the prescription charge both indicators rose again.[294]

Of course part of the responsibility lies with the practitioners, who fail to properly explain to their patients the newly prescribed medicines, how long they should be taken and what the potential undesired effects might be.[295] Again and again in health systems that should in principle guarantee universal coverage and a high degree of equity – whether social health insurance or tax-funded – we find evidence of inadequate prescription of evidence-based medication leading to general and socially inequitable underprovision.[296] The healthcare system undeniably bears a certain positive responsibility for the country's citizens and in particular for

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[294] Atella et al. 2006: 888ff.

[295] Tarn et al. 2006a: 1857ff; Wilson et a. 2007: 8f. Challenges of the physician-patient-relationship attributable to the high financial burden on patients has attracted too little interest so far (Gurwitz et al. 2003: 1114; Trude 2003; Alexander et al. 2003: 958; Lee et al. 2006: 2569; Schoen et al. 2007: 9f). Inexperience, time scarcity and concerns about displeasing their "clients" make it difficult for medical providers to address the issue of drug co-payments and to inform patients sufficiently and adequately about newly prescribed medicines, the period of utilisation and potential undesired effects (Gurwitz et al. 2003: 1112f; Tarn et al. 2006a: 1857ff). In addition, provider payment for patient information and education is normally insufficient (Goodman 2006: w541). Moreover, physicians are often unfamiliar with their patients' co-payment conditions and underestimate the financial burden, a perception that may well be combined with the impression that patients should not actually have to pay anything out of pocket (Kasje et al. 2002: 1573ff). Divergent experiences are available from the United Kingdom where general practitioners (GPs) apparently seem to address their patients' co-payment problems quite frequently and support them in identifying alternative therapy options in order to reduce the financial burden of health care (Schafheutle et al. 2002: 191f).

[296] ACCAHC 2003: 38, 85; Whincup et al. 2002: 27f; Ward et al. 2007: 5ff.

its patients.[297] But financial burdens also always play an important role in the often bemoaned poor compliance of the chronically sick.[298] This is clearly demonstrated by a recent study by the non-profit Integrated Benefit Institute (IBI) in San Francisco, which investigated the medicine-taking behaviour of employees with rheumatoid arthritis under different health insurance conditions. A clear substance-dependent relationship between co-payment and compliance was found: both purely pain-relieving and anti-rheumatic medicines demonstrated a clear price elasticity dependent on the level of co-payment, which was in fact stronger for symptom-relieving medicines. Increasing the co-payment by $20 led the acquisition of anti-rheumatic medicines to fall by 35 percent and pain-relieving medicines by 84 percent.[299]

In mid-2007 the *Journal of the American Medical Association* (JAMA) published a meta-analysis of studies on the effects of drug co-payments. The analysis covered 132 English-language PubMed articles examining the connection between cost-containing measures through drug prescription limits and/or co-payments and the outcome factors of medicine consumption, use of non-drug medical services, health spending and consequences for health. It was consistently found that making patients share drug costs leads to a reduction in medication rates, poorer adherence and more frequent cessation of therapy. Per 10 percent increase in cost sharing drug spending fell by 2 to 6 percent (depending on the type of medicine and the patient's circumstances), with the decrease being the same where reimbursement or number of prescriptions was capped as with direct patient cost sharing. With certain chronic conditions such as heart failure, lipid metabolic disorders, diabetes mellitus, schizophrenia and probably also for bronchial asthma an increase in drug co-payments leads to increased use of other medical services such as consulting practitioners and hospital admission. From the health service research perspective, the authors conclude, cost coverage for medicines is a decisive factor for improving treatment quality and adherence. Drug co-payments may lead to reduced compliance, but the medium- and long-term consequences for the health of those affected are to date unclear.[300]

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[297] Holst 2007
[298] Mojtabai/Olfson 2003: 224; Soumerai et al. 2006: 1831ff; Taira et al. 2006: 681.
[299] Jinnett et al. 2007: 5f
[300] Goldman et al. 2007: 64ff

12. Effects on Prevention and Health Promotion

Especially in the context of current health policy debates and initiatives to strengthen prevention and health promotion, the effects of cost sharing on the consumption of preventive and promotive services gain obviously in importance. As is the case with other medical and pharmaceutical services, co-payments act generally as a deterrent to use of preventive services, too.[301] This is confirmed by the observation that the use of check-ups and screening rises after they are exempted from co-payments[302] and that including such preventive services in the health insurance coverage package increases their use.[303]

Experts and decision-makers often underestimate the negative impact on health status when prevention is discouraged by co-payments. In the RAND study the period of observation was restricted to five years and participants over 65 were excluded.[304] But the effects of underprovision – especially of preventive measures – only reveal themselves after a latency period of many years and will thus probably have largely escaped the attention of the RAND researchers.[305] Even with pathological values, certain measured health parameters such as blood pressure have no subjectively discernible health repercussions for a long period of time, and the consequences only become apparent after many years.[306]

Of course the immediate impact of cost sharing on take-up of preventive measures is more easily and quickly measured than complex long-term effects. Alongside the direct effects of co-payments for preventive services, the prevention-related consequences of co-payments for other health services and possible overlap effects must be considered. Use of preventive services is reduced not only by the direct costs involved, but also by all forms of co-payment for contact with physicians in situations where preventive services are implicitly performed.[307] Matters become yet more complicated where preventive measures are basically free of co-payments, but practitioners demand patient payments for other services. Experience from Germany since the introduction of the practice fee reveals a considerable potential for misuse on the part of service providers, aided by general ignorance on the part of patients and further

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[301] Fischer et al. 1984: 1402f; Lurie et al. 1987: 803f; Manning et al. 1987b: 267; Solanki/Schauffler 1999: 131f; Hudman/O'Malley 2003: 1; Trude/Grossman 2003: 7; Crawford et al. 2004: 10.

[302] Brook et al. 1983: 1429ff; Bluestein 1995: 1139f; Rasell 1995: 1165.

[303] Weinick et al. 1997: 187ff.

[304] Rosian et al. 2002: III.

[305] Richardson 1991: 24.

[306] Bodenheimer 2005a: 851.

confused by the grey zone of "individual health services" for which patients are officially required to pay the full cost themselves.[308] Apparently just not knowing about whether there will be cost sharing, and uncertainty about the financial burden, plainly keeps at least marginal groups from using screening programmes such as mammograms or Pap smears.[309]

In this context the findings of a study thirty years ago in California are worth re-visiting. It was found that the introduction of a practice fee of one dollar per contact – generally regarded as "marginal" – noticeably reduced family physician visits by poorer patients receiving benefits under California's MediCal welfare programme. Some of the affected patients had to be admitted to hospital a few months later with conditions that would have been avoidable if they had consulted a practitioner in time.[310] In direct connection with prevention and screening services, a study of the utilisation of four preventive measure (mammograms, Pap smears, blood pressure screening and preventive consultations) among more than ten thousand employees in the western United States showed that cost sharing had significant negative indirect effects on the number of preventive consultations, Pap smears and mammograms, while the effect on blood pressure screening was inconsistent.[311]

Efforts to deal with the growing global problem of obesity have already brought forth proposals to encourage people to reduce their weight through direct cost sharing.[312] The idea of "self-inflicted" illnesses may be ideally suited for populist speechmaking and political rabble-rousing; and associated sanctioning mechanisms nearly made it into Germany's Statutory Health Insurance Competition Strengthening Act of 2006. But as long as social and environmental factors have considerably greater measurable impact on health (see note 86), a strategy of punishing individuals is absolutely lacking any serious basis.

One important field of prevention is dental care, where the loss of tooth substance as a consequence of caries and inflammation of the gums is the central concern. Caries is a condition that affects almost everyone – about 99 percent of the population – and one whose non-

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[307] Solanki et al. 2000: 44.

[308] See e.g. Zok 2005b; see also Tuff 2007.

[309] Somkin et al. 2004: 919ff.

[310] Roemer et al. 1975: 463f.

[311] Solanki et al. 2000: 48. A distinction according to the type of employer-based health insurance pointed out that the 5 to 9 percent and the 3 to 9 percent decrease of preventive consultations and Pap smears, respectively, occurred in Health Maintenance Organizations (HMO) and in Preferred Provider Organizations (PPO), while the 3 to 9 percent reduction in the utilisation of mammograms was only observed in PPOs (Solanki/Schauffer 1999: 129ff; Solanki et al. 2000: 1339, 1342).

[312] Bhattacharya/Sood 2005: 22.

treatment inevitably causes long-lasting and even progressing harm. Therapy cannot be carried out by a layperson, and the earliest possible professional treatment is the most effective means of avoiding considerable consequences and costs.[313] The introduction of the practice fee for dentists reduced visits in the first two quarters of 2004 by 13.1 and 8.2 percent. Thus, this co-payment arrangement must be regarded as potentially dangerous, because it makes early detection and treatment more difficult especially among the most vulnerable social groups.[314]

A reduction in use of services due to patient co-payments was also found in medium- and even long-term therapies in the field of tertiary prevention, whose cost-benefit ratio for the target group of chronically ill high-intensity users becomes relatively quickly positive in view of the costs that would otherwise be expected.[315] A study produced at the RAND Graduate College investigated the connection between the level of co-payments and outpatient addiction therapies following treatment for alcohol poisoning among privately insured Americans. The number, length and intensity of follow-on therapy services used by alcoholics was inversely proportional to the level of co-payments.[316] Incidentally, all the investigated insurance contracts required relatively small co-payments of up to $30.[317] So this study confirms that even relatively insignificant out-of-pocket payments can impact negatively on the take-up of clinically and epidemiologically worthwhile services.

13. Effects on Emergency Care

Even in the case of (objectively or subjectively) dramatic health problems, cost sharing influences use and brings with it demonstrably unclear or even undesirable consequences for both the affected and overall spending. Research from the 1980s demonstrates reduced utilisation of medical outpatient facilities including emergency departments following the introduction of cost sharing.[318] But of course the symptoms of conditions such as cardiac infarction are so grave that they usually lead to rapid presentation at a casualty department. A retrospective

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[313] Klingenberger 2005: 203.

[314] Ibid.: 201f.

[315] These issues have been discussed at length in Chapter 11, above.

[316] Stein 2003: 44.

[317] Simply lowering the highest cost-sharing payments would cut the dropout rate by almost 50 percent (Stein 2003: 44).

[318] Newhouse et al. 1982; Cherkin et al. 1989; Simon et al. 1994; O'Grady et al. 1985.

study from the state of Washington showed neither a relevant delay in treatment of privately insured patients with symptoms of acute myocardial infarction nor any correlation between the level of generally low co-payments and delay before treatment was started.[319] Similarly, a retrospective analysis of hospital admissions found no significant difference between patients with cost sharing and those with insurance plans covering full costs in the frequency of admissions classified as unnecessary.[320]

Especially in the United States "frivolous" admissions to casualty departments are regarded as a great waste of resources and there have been repeated attempts to limit their use by introducing charges.[321] A retrospective study of client insurance data at the largest HMO insurance company, Kaiser Permanente, showed that after co-payments for emergency treatment were raised from \$5–10 to \$25–35 the use of casualty departments fell by about 15 percent. A direct increase in undesired consequences of avoided emergency treatment could not be proven, but the overall numbers of deaths were too small to say anything about a possible effect on mortality rates.[322] A comparable result was found by an analysis of casualty admissions and clinical complications of more than 2,250,000 people with private health insurance and more than 260,000 with Medicare. Over the course of three years (1999–2001) emergency department visits fell as the level of co-payment increased. With out-of-pocket payments between \$20 and \$35, 12 percent fewer people attended an emergency department, while with co-payments of \$50–100 the figure was 23 percent fewer compared to cost-free access. The number of hospital admissions, intensive care treatments and deaths did not rise; instead the number of hospital admissions fell by 4 percent with lower co-payments and by 10 percent with higher out-of-pocket payments.[323]

Patients are often inadequately informed or even completely uninformed about the level of co-payments for emergency treatment. A survey of nearly seven hundred adult patients of a managed care system in the United States found that only one in three were aware of the level of co-payment for emergency care, whereas three quarters knew precisely the amounts involved for prescriptions or visiting a physician. More than half underestimated the out-of-pocket payment for emergency treatment by \$20 or more. Still, one in nine reported having

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[319] Magid et al. 1997: 1726f.
[320] Siu et al. 1986: 1263ff.
[321] O'Grady et al. 1987: 488f; Markus et al. 1998: 11.
[322] Selby et al. 1996: 635, 639f.
[323] Hsu et al. 2006b: 1813ff.

delayed or avoided attending a casualty department because of the co-payments, and this behaviour correlated with the level of actual cost involved.[324]

An earlier survey of a comparatively small group of people insured with a large HMO in the United States already showed that the great majority (82 percent) had to pay for emergency treatment out of their own pocket, but only one in two knew the level of cost sharing. Almost one respondent in five reported having modified their behaviour during the preceding twelve months for that reason: 12 percent visited a different facility, 12 percent contacted a different provider by phone, 9 percent delayed going to casualty and 2 percent did not go at all. There was a clear correlation between the level of co-payment and changed take-up behaviour.[325]

Another study shows that people with both low and high co-payments make less use of emergency care for less serious symptoms than those whose insurance covers the full cost. But high co-payments additionally reduced the likelihood of visiting a casualty department with serious symptoms. For the chronically ill, co-payments – regardless of their scope – reduce the use of emergency facilities for both less and more serious symptoms. A study of 3,589 chronically ill persons in the United States showed that the use of medical services fell with both low and high co-payments, independently of the severity of the illness or health problem. Closer analysis also showed that those with high or low co-payments were less likely to have sought medical care for minor symptoms than patients whose costs were covered in full. For serious symptoms reduced take-up was observed only among those with high out-of-pocket payments, while behaviour was unchanged with low co-payments and with none. So perceptible co-payments in particular reduce take-up regardless of the severity of the symptoms. During the four-year observation period no effects were discernible on the health status of chronically ill patients.[326]

As expected, similar effects can be achieved through high-deductible formularies. A quasi-experimental comparative study from the United States showed that changing from employer-funded insurance policies to policies with deductibles between $500 and $2,000 for individuals and $1,000 to $4,000 for families reduced the use of emergency care by about one tenth. Insurance data showed that people tended to avoid attending a casualty department with less

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[324] Hsu et al. 2004: 293f.
[325] Reed et al. 2005: 813f.
[326] Wong et al. 2001: 1891f.

serious problems and especially for repeated treatments.[327] During the brief observation period (on average not even one year) no adverse effects were observed such as increased hospital admissions or other complications.[328] However the study allows no conclusions to be drawn about the respective level of cost sharing and did not record delayed or non-attendance at emergency departments under different health conditions.[329]

The data presented so far show clearly that co-payments also act as a deterrent to attending casualty department and using emergency facilities. Especially where co-payments are high, but not only in this case, the effect is maintained with serious symptoms. However, the consequences for the health of those affected have not been adequately researched. Depending on the circumstances and expectations completely different factors may be playing a role on the demand side. For example a survey at the Charité hospital in Berlin showed that although three quarters of patients visited the casualty department due to subjectively perceived medical needs, two thirds came without being referred by a practitioner because they were simply unaware of the alternatives.[330]

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[327] Wharam et al. 2007: 1097ff.

[328] Ibid.: 1100f.

[329] Grudzen/Brook 2007: 1126f.

[330] Steffen et al. 2007: A1090/B971/C923.

14. The Practice Fee in Germany

The German Health Modernisation Act of 2003 introduced a co-payment of 10 percent of the costs on all medical services up to a maximum of €10; the minimum charge is €5, below that the patient pays the actual cost. A good two years after the Act came into force in Germany at the beginning of 2004 the first research findings arrived on the increase in existing co-payment modalities and especially the introduction of new ones. Mirroring the priorities of public and media attention, the research focused on the practice charge. Since 1 January 2004 every adult beneficiary of the statutory health insurance has had to pay a charge of €10 to visit the physician or dentist. The fee is due once per quarter, but is also charged for every additional consultation made without a referral from the practitioner visited first. Preventive measures such as immunisations, check-ups and screening are exempted.[331]

The most striking thing about the published research on the funding and steering effects of the practice charge is the conspicuous contradiction between studies. One study by the Wissenschaftliches Institut der AOK (WIdO) shows a clear social impact across the board at the end of the first quarter of 2004,[332] while a joint analysis by the Deutsches Institut für Wirtschaftsforschung (DIW) and the Technical University (TU) in Berlin for the same period was unable to find income-dependent differences in ambulatory doctor visits.[333]

The discrepancies can be partly explained by the different data sets on which the studies are based, as well as by incongruous approaches. But closer analysis also shows that premature analysis of very short-term effects may have influenced some of the findings. None of the research published up to the beginning of 2007 on the practice fee supplied sufficient valid and reliable data to be able to call into question the relevance for the German context of the many international research findings.

All research on the practice charge in Germany published to date is based on the beneficiaries' subjective assessment of their own health. The data sets from insurance funds and service providers (e.g. the Regional Associations of Statutory Health Insurance Physicians) are not congruent and

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[331] Redaktionsbüro Gesundheit 2005: 2.

[332] While 8.2 percent of the interviewees with a net household income of €3,000 or more declared that they had postponed doctor visits because of the €10 user charge per calendar quarter, this share was 19.2 percent among those with an income below €1,000. Compared to average social health insurance beneficiaries, the unemployed admitted twice as often (20.9 percent) at the end of the same quarter of the previous year to having skipped a doctor visit or postponed it to the following calendar quarter because of the co-payment (Zok 2005: 5).

data protection laws make it very difficult to match service-use data to individual patients. Furthermore, all the assessments are based either on random samples or panel surveys, where marginalised social groups are fundamentally excluded. So the effects of the practice charge and other co-payment increases on homeless people, drug addicts and other groups with extremely high health risks are thus excluded from the research, which would mean a systematic underestimate of the social impact.[334] Another fundamental restriction of the validity of the German studies stems from the short observation period and the difficulties in estimating the medium-term and systemic effects of new or increased co-payments.[335] The effects of co-payment conditions on service utilisation certainly represent an interesting approach, but neither the number of physician contacts nor the monetary value of avoided practice visits allow us to say anything about the meaningfulness of the steering achieved and still less about any savings that may have been made.[336]

A study by WIdO examines possible changes in behaviour caused by the practice charge using a representative sample of three thousand people covered by statutory health insurance. The surveys were conducted shortly after the end of the first quarter in 2004 and 2005, in other words directly after the Health Modernisation Act came into force and one year later, and related to the three months preceding the interview. The second survey was conducted primarily to identify and exclude possible distortions occurring in close association with the actual introduction of the practice fee (anticipatory behaviour, changeover difficulties, teething problems).[337] The observation that three quarters of respondents reported having had medical treatment between January and March is conspicuous: the proportion is strikingly high in comparison with the population as a whole.[338]

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[333] Zok 2005a: 5; Grabka et al. 2005: 5f.

[334] According to unsystematically gathered observations by the personnel of the drug prevention project *Fixpunkt e.V.* in Berlin / Germany, the initially pronounced undesired effects of user fees for physician visits seem to have attenuated in the meantime, at least for low-income intravenous substance abusers enrolled in physician-based drug substitution programs. Regular visits to the substituting physician and spending in pharmacies quickly bring social welfare recipients (Hartz IV), in particular, to the exemption threshold fixed for the chronically ill at one percent of yearly income; due to the statutory health insurance funds' practice of carrying forward lower exemption limits into the following year and approving these limits in advance, co-payments are no longer perceived as an unsurmountable barrier. This as well as other similar and familiarisation effects might have contributed to the finding that some surveys no longer show that low-income groups are reducing their number of doctor visits (cf. Zok 2005: 5). Thus, increased cost sharing could unexpectedly provide the clinically controversial methadone programme with additional positive effects (interviews with social workers employed by Fixpunkt in April 2006).

[335] Quite a few examples of the discrepancy between short-, middle- and long-term effects are presented in the preceding Chapters 9 to 13; also cf. principally Hankin et al. 1980; Schneeweiss et al. 2002: 525; Schokkaert/van de Voorde 2005: S32; Gaynor et al. 2006; Shang 2005.

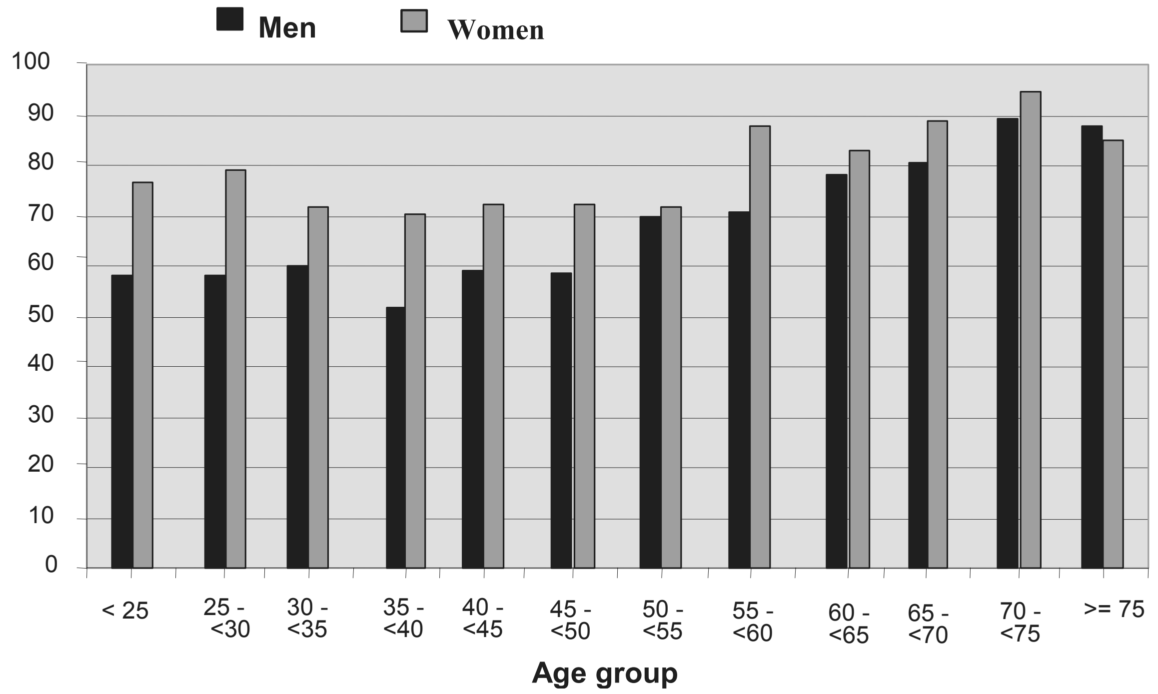
[336] Further details discussed in Chapter 8. 10-13 and 15.5-15.7.

[337] Zok 2005a: 2.

[338] The direct data evaluation exhibited an utilisation increase in early 2005 as compared to the first calendar quarter of 2004: Whilst immediately after the implementation of user charges for outpatient care 29.9 per-

Analyses of office visits by gender and age show a higher proportion of women, and although service use increases steadily with age, the burden of cost sharing through the practice charge is expected to increase significantly less steeply than the burden of drug co-payments.

Figure 2: Practice visits by age and sex (1st quarter 2005)



Source: Wissenschaftliches Institut der AOK.[339]

Of the one quarter of respondents who had not been to the practitioner in the preceding quarter, only a minority said that the practice fee was the reason (6.5 percent in 2004 and 6.6 percent in 2005). Beyond that nearly one fund member in ten who self-reported to be mildly ill and one in fourteen who reported to be seriously ill said that they had delayed consulting a physician or not gone at all because of the practice fee. The overall proportion of fund members who did not go to the practitioner or delayed their visit to the next quarter because of the practice fee was 9.4 percent in May 2005, rather less than the previous year (11.7 percent). Although the proportion who postponed consulting a physician because of the practice fee fell in all age groups, the magnitude of the effect decreased with the age of the fund member. Whereas among the under-30s 14.7 percent consulted a physician later or not at all, the proportion of over-65s was just 5.4 percent. The practice

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cent of the informants stated that they had not made any doctor visits, one year later the share had decreased to 25.8 percent (Zok 2005: 2).

[339] Zok 2005a: 3.

fee is also more likely to lead women to avoid or delay consulting a practitioner (10.4 percent compared with 8.2 percent for men).[340]

In the study, 50.2 percent of respondents said that they tried to complete consultations or treatments within a quarter if possible to save additional practice fees. But this observation does not automatically mean that it can be said that the practice fee has a "sensible" management effect, as long as it is impossible to judge whether possible premature use of services causes unnecessary spending, whether fitting the end of a course of treatment into a quarter is reasonable and, conversely, whether possibly delaying visiting a physician until a new quarter does not cause avoidable complications and deterioration with ensuing extra costs.

One conspicuous finding of the WIdO study is that the observed social impact of the practice fee and other co-payments in the early phase following the implementation of the Health Modernisation Act was no longer observable just one year later.[341] After the first quarter of 2004 almost one fund member in five with a monthly income under €1,000 (19.2 percent of that group) reported having postponed a consultation because of the practice fee, whereas this was the case with less than one in twelve fund members whose income was over €3,000. The socio-economic differences had evened out, whereby in particular the clear fall in the co-payment burden on the lowest-income groups and the unemployed could reflect an effective hardship arrangement.

However, another study whose latest data cover the same period contradicts this finding. According to the Bertelsmann Foundation's Gesundheitsmonitor the total number of consultations fell and the number of referrals shot up. Here it was found that members of the lowest income group were disproportionately likely to avoid a consultation completely (37 percent compared with the average of 28 percent of all better-off respondents, whereas in the higher social strata this effect was less strong, and this group tended more to delay consultations.[342] The greatest fall in consultations was interestingly found among the under-35s, while older citizens were apparently less responsive to the introduction of the practice charge.[343]

Table 3: Proportion of respondents who postponed, avoided or arranged additional consultations in response to the practice fee, by social class

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[340] Zok 2005a: 5f.

[341] Ibid.

[342] Reiners/Schnee 2007.

[343] Hesse/Schlette 2005: 5; this finding is consistent with former and recent observations monitored in the USA, showing that individuals in poorer health are less sensitive to price in the decision to seek health care (Wedig 1988: 161; Newhouse 1993; Remler/Atherly 2003: 277f).

Social class	**Postponed**	**Avoided completely**	**Additional**	**No information**
Upper	27.76	14.20	24.82	33.22
Upper middle	26.79	17.11	23.70	32.40
Middle	25.63	18.79	28.17	27.41
Lower middle	28.92	20.28	23.63	27.16
Lower	29.44	22.25	26.28	22.03

Source: Reiners and Schnee 2007 (N=6716, p=0.000).

At the same time, the number of insurance fund members who sought no treatment at all from fund practitioners fell following introduction of the Health Modernisation Act compared with the respective period before the reform (spring 2003, well before the introduction of the practice fee, and spring 2005, twelve months afterwards),[344] but remained relatively constant between 2 and 3 percent.[345] The overall trend for the consultation ratio remained relatively constant, but rose slightly by 0.2 percent between spring 2003 and spring 2005. In relative terms, the effects of the practice fee tended to be stronger in the number of consultations with particular types of specialist and less with general practitioners. The more meaningful figure for total office visits on the other hand fell more clearly, by about 8 percent, between spring 2003 and spring 2005. According to another study, the biggest drop was seen by internists (-7 percent), followed by family practitioners (-5 percent) and gynaecologists (-3 percent). However a downward trend was already observable here, because consultations fell by only 5 percent between autumn 2003 and autumn 2004.[346]

Analysis of office visits reveals a worrying trend. Especially people with a poor health status reduced their contacts between spring 2003 and spring 2005 from about twenty-three to sixteen visits per quarter, while the corresponding figure for people with outstanding health fell from about five to three. However, in the latter group a slight rise was observed between autumn 2004 and spring

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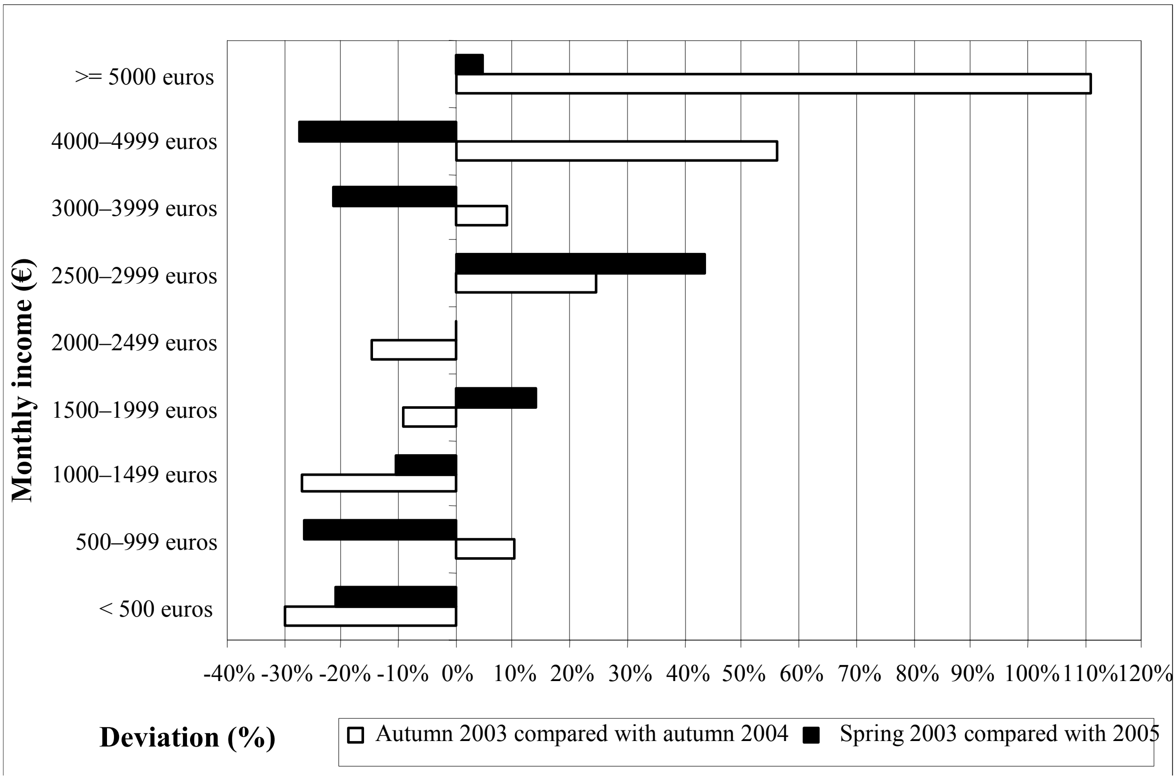
[344] Like other analysis of the Health Monitor (*Gesundheitsmonitor*), data on physician contacts reveal seasonal trends attributable to the date of the survey, because in spring beneficiaries tend to have better recollection of health problems during the winter semester while surveys performed in autumn are more likely to recall events during summer time when illness and physician contacts are more infrequent. Data comparison of autumn 2003 or autumn 2004 and spring 2004 or spring 2005, respectively, have likewise delivered interesting results, but the “purest” effect of the co-payment for ambulatory doctor visits can be expected from comparing the data for spring 2003 and spring 2005 (Gebhardt 2005: 14).

[345] Reiners/Schnee 2007.

2005, and only in the group with poor health was the fall more sustained.[347] Unlike the DIW-TU study briefly described below, the Gesundheitsmonitor found that all fund members had reduced their practice visits and that this effect was especially pronounced among persons with poor health. That would not only suggest that important consultations could be affected and relevant ensuing costs involved.[348] This finding also shows that the government has not fully succeeded in its aim of preventing undesirable effects of co-payments through suitable hardship arrangements.[349] It is namely also conspicuous that unemployed people and single parents were especially likely to completely avoid or postpone a consultation (21 and 18 percent of respondents respectively).[350]

Figure 3: Use of outpatient services by income



Source: Gebhardt 2005: 24

Against the background of the moral hazard theory, it is astonishing in the Gesundheitsmonitor survey that above all people with a high number of consultations reduced their number of visits. In fact, among people with up to four consultations per year the number of contacts actually rose by up

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[346] Gebhardt 2005: 15f.

[347] Gebhardt 2005: 20.

[348] Ibid.: 23f.

[349] Ibid.: 24.

[350] Ibid.: 27.

to 10 percent following the introduction of the practice charge. At the same time it was observed that the number of contacts fell above all among persons who visited a physician at least ten times per year. While the average frequency of practice contacts in this group in spring 2003 was 28.9 visits per person and quarter, the figure fell to 25.4 in spring 2004 and still further to 23.8 in spring 2005 and 23.2 in spring 2006.[351] Actually the practice fee cannot have any effect on moral hazard behaviour among the "high frequency users" so an increase in consultations would have been expected. Because they are very likely to visit a practice at least once every quarter and will thus have to pay the practice fee anyway – at least up to the exemption limit – avoiding additional consultations within the quarter will not save them any costs. For people with a high number of consultations generally evenly distributed throughout the year due to chronic conditions, the practice charge offers no economic incentive to visit the practitioner less often. As utility-maximising *homines oeconomici* these people should be expected to maximise consultations in order to take full advantage of the fee once paid.[352] Here various other factors will surely be decisive, such as increases in other co-payments at the same time as the introduction of the practice charge, the ongoing debate about supposed overuse of the health service, general uncertainty about the effects of the reform, and above all interference by effects of the almost simultaneous changes in payment arrangements for practice-based physicians and the introduction of practice budgets.[353]

In any case the measured behaviour relativises the economic theory of rational demand in the health sector and demonstrates that other factors play an important role and may relegate behaviour derived from economic theory to the background.[354] Furthermore it is questionable whether the described changes were really caused by the introduction of the practice fee. There is reason to believe that the changes in frequency of consultations are more likely a consequence of modified behaviour by practice-based practitioners adapting to the almost simultaneous changes in payment and budgeting arrangements.[355] This is probably also reflected in another effect observed following the changes brought about by the Health Modernisation Act. The number of consultations of practice-based specialists without a referral by a family physician or another specialist fell clearly after 2004. Previously only 55–59 percent of patients had obtained a referral from a general practitioner before visiting a specialist, but after the introduction of the practice fee that figure jumped to be-

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[351] Reiners/Schnee 2007.

[352] Gebhardt 2005: 17.

[353] Cf. Reiners/Schnee 2007.

[354] Stuart/Stockton 1973: 353, footnote 2; cf. also Kern/Kupsch 2002: 15 and M. Ginsburg 2006: w537f.

[355] Cf. Zuckerman et al. 2004: 379ff; Rice/Labelle 1989: 597; Creese/Kutzin 1995: 10; Schroeder/Cantor 1991: 1099; Richardson 1991: 16; Reiners/Schnee 2007.

tween 81 and 85 percent by 2006. Habituation effects or falling referral rates have not been observed to date, so the practice charge does seem to strengthen the gatekeeper function of family physician.[356]

A joint study by the DIW and the Technical Uniuversity of Berlin (TU) analysing the socio-economic panel (SOEP) found a significant fall in the average number of consultations by 0.24 (or 8.8 percent) between 2003 and 2004, whereby people with good or very good health visited the practitioner considerably less often than those with poorer health. The authors concluded that the practice fee primarily reduced unnecessary and multiple consultations, but led neither to a fall in medically necessary treatment nor to any disadvantage for members of lower social classes.[357] However, this finding stands in clear contradiction to the results of international research outlined earlier in this study.

Indeed, closer examination of the design reveals fundamental conceptual weaknesses in the DIW-TU study, in view of which the far-reaching conclusions would appear overstated. The early date of the survey suggests a low discrimitaive power of findings and above all precludes making general statements about the steering effects of co-payments, which as a rule can only be assessed after a sufficient interval has passed.[358] Also the implied connection between general health status in year x and necessity of practice-based medical services in year x+1 is questionable from a clinical perspective. The assessment of the “necessity” of consultations derived from that statement seems too arbitrary to justify any conclusions about the effectiveness of the steering function of co-payments,[359] especially given that avoided treatment by no means automatically generates cost-saving effects, and can lead instead to considerably higher ensuing costs.[360] And even if members of the lower class do not reduce their use of medical services more strongly than the average for the population, that certainly does not exclude social disadvantage as claimed by the study.[361] Increased

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[356] Reiners/Schnee 2007.

[357] Grabka et al. 2005: 5ff.

[358] See footnote 335.

[359] Alongside other studies, the RAND experiment had revealed that co-payments have a much stronger negative effect, especially on initial physician visits, by those in good to excellent health than people in bad health or with chronic conditions; only for follow-up doctor visits, healthy and ill individuals present a similar reduction of utilisation (Wedig 1988: 158ff; Newhouse 1993: 160ff).

[360] Chapters 10 to 13 provide several examples for this undesired co-payment effect that can be generally observed; Sections 15.6 and 15.7 summarise again the findings concerning this matter. The following citations should be highlighted at this point because of the sample size or the comprehensiveness of the approach: Soumerai et al. 1991, 1994 and 1997; Tamblyn et al. 2001; OECD 2004b: 18; Goldman et al. 2004, 2006; Chandra et al. 2007.

[361] Grabka et al. 2005: 5.

use of services can be an expression of social disadvantage and a "normal" decrease can affect poorer citizens more strongly in relation to real need.

A study published in 2005 investigated for the first time the effects of deductibles in statutory health insurance in Germany, as offered to voluntarily insured members of the Techniker Krankenkasse (TK) since the beginning of 2003.[362] The experience of 10,155 fund members in three regions shows that the number of visits to practice-based practitioners by voluntarily insured fund members fell by 36.4 percent after the first twelve months, while visits by co-insured family members fell by 6.4 percent. This represented a cost reduction for insurance fund expenditure for outpatient services of €38–94 and an overall reduction in use of health services amounting to €137.[363] However, this study covers only people who are voluntarily insured in the statutory health insurance system – in other words the better off – and of these only a tiny not necessarily representative sample (0.015 percent of all statutory health insurance fund members). As voluntary members they are partly outside the solidarity-based funding system because their income is only counted up to the cut-off level (currently €3,562.50 monthly).[364] This is very important in relation to the postulated gains for fund members as a whole, which despite the asymmetric burden imposed by deductibles are supposed to lead to more "solidarity".[365]

Fundamentally the study assumes overuse of health services and ignores important empirical findings of health science research. Correspondingly the authors determine the cost-cutting and steering potential of "deductibles" without distinguishing between desirable and undesirable effects. But not going to the practitioner can result in considerable costs that can more than cancel out the calculated savings.[360] The short-term nature of the identified management effect is especially worrying, given that international research identifies clear differences between the first year following the introduction of cost sharing and subsequent years.[335] Rather than making a helpful contribution to scientific debate, publishing such research after (less than) one year calls its seriousness into question.

15. Unresolved Problems

The following summary provides an overview of the most important theoretical and practical contradictions of co-payment theory and the central findings about the effects of cost sharing. This

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[362] By bearing an absolute cost-sharing amount of €300, beneficiaries of the "TK-Program 240" obtain a yearly contribution discount of €240 per year in which each outpatient physician visit accounts for €20.

[363] Felder/Werblow 2006: 65, 71.

[364] AOK-Mediendienst 2005.

summary reiterates why the risks associated with out-of-pocket payment for health care often outweigh the expected benefits.

15.1. Patient Behaviour not Operationalisable

The one-sided concept of the *homo oeconomicus* can at best explain a small part of the behaviour of the "consumer in the health market". The assumption that all insured persons are 100 percent rational utility maximisers[366] leaves out many real motives for behaviour.[367] There is no proof that people in the "perfectly imperfect" health market behave fully or decisively in the way proposed by the endless formulae and figures from the economists' ivory towers.[368] With the practice charge in Germany for example, we find none of the free-riding effects that would confirm the idea of the individual economic rationality of statutory health insurance fund members.[369] Similarly, studies from the United States from the early 1990s show that the effects of co-payments for visiting a family practitioner, contrary to widespread theoretical presumptions,[370] do not differ noticeably between different income groups.[371] That might at first glance appear to provide confirmation for objective "rational" steering, but it certainly calls into question some of the conventional modelling ideas about purchasing power, marginal utility and prioritisation.

Fundamentally too little attention is given to the question whether moral hazard effects or "hidden actions" of people with health insurance cannot in fact also have desired effects,[372] namely where there is underuse of services offered;[373] this is an issue in certain areas of the German health care system.[374] The proposed solutions for the dilemma that subjectively rational consumer behaviour unfortunately does not always match up with the cost efficiency that is increasingly being demanded are hardly satisfactory. An analysis in British accident and emergency departments showed that physiotherapy initiated immediately for soft tissue injuries, which was associated with perceptible out-of-pocket payments, led to greater patient satisfaction but not to a quicker restoration of

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[365] Cf. Pütz 2003: 39.

[366] Pauly 1968, 1983; Breyer et al. 2005; Pütz 2003: 28, Felder/Werblow 2006: 17f and many others.

[367] Ginsburg 2006: w528f; Yegian 2006: w534.

[368] Reiners 2006: 10ff.

[369] Reiners/Schnee 2007; presentation of Bernard Braun, University of Bremen, during a hearing of the Federal parliamentary group of the "Left Party" (Linkspartei) in the German House of Parliament (Deutscher Bundestag) on user charges for outpatient physician visits held on May 15, 2006 in Berlin.

[370] See e.g. Stuart/Stockton 1973: 353, footnote 2.

[371] Cherkin et al. 1992: 38f.

[372] Cf. Rice 2004: 134ff.

[373] For example McGlynn et al. 2003.

[374] SVR 2003a: 52, 218.

ability to work and thus caused no broader macroeconomic benefit.[375] This problem might tend to increase as drug advertising to laypeople expands, for if pharmaceutical advertisers succeed in convincing "consumers" of the unproven advantages of new products;[376] demonstrating cost-effectiveness will definitely require an imaginative use of models and data.[377]

Altogether it is fascinating how unshakeably the moral hazard theory has come to dominate – for four decades – not only health economics but also the social policy and development debates. No amount of pointing to "impressive economic studies"[378] can disguise the fact that the empirical evidence - apart from interviews with selected economists - is largely restricted to a superficial interpretation of the findings of the RAND study (described in detail in chapter 8). The moral hazard assumptions are based exclusively on a subjective perception of overuse of health care services and observed changes in use of medical services under different cost-sharing conditions.[379] The derived data for "price elasticity" and especially the classification as "frivolous" or even "wasteful" consumption[380] completely ignore any clinical-epidemiological, socio-economic or other influence on the demand behaviour of patients.

If direct payments by patients reduce the use of both useful evidence-based treatment and medically non-indicated measures (see chapter 9), then there is no basis to conclude from cost-dependent changes in utilisation that there has been "unjustified" or "frivolous" exploitation of the situation of being insured. For avoiding the use of medical services does not correlate at all with their clinical-epidemiological justification and purposefulness. The decisive research question would instead be whether the demand for a health service by an insured person is to be regarded as justified use or an expression of moral hazard. That question, however, has to date not only remained unanswered; the proponents of "moral risk" have so far successfully avoided asking it.[381] In the worldwide renais-

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[375] Richardson et al. 2005: 91f.

[376] Kravitz et al. 2005: 1998f.

[377] A good example of this is Block 2007.

[378] In Schulenburg (2007: 14), the following statement on cost-sharing arrangements can be found: "Empirical studies support impressively that co-payments induce a sustained reduction of the demand for health care benefits and are an effective means for preventing the so called supply-induced demand of health care delivery."

[379] Manning and Marquis (1996: 610) define moral hazard as follows: "Cost sharing decreases the out-of-pocket price paid by the patient, which increases the amount of medical care demanded (moral hazard)." This approach fully ignores the possibility that in view of a potential under-utilisation this effect might rather express medical needs than frivolous use.

By the way, the same is also true for the assumption of ex-ante moral hazard, which does not play an important role in the matter of patient out-of-pocket payment in any case, and the empirical evidence for which still remains to be furnished.

[380] Moise/Jacobzone 2003: 20.

[381] Cf. Wagstaff/Pradhan 2005: 1.

sance of neo-positivism, where the neo-classical ideology has succeeded in placing politicians and social policy-makers under a permanent obligation to provide evidence for the obvious, it is rather surprising to find that there is a complete lack of clinical, epidemiological, psychological, sociological or even economic indicators for the objective measurement of moral hazard.

15.2 Provider-driven Demand

Patient cost sharing ignores the real power relations in the healthcare system. The expensive decisions are made not by the patient but by the physician.[382] It has been adequately demonstrated that the design of the payment arrangements largely determines the services provided by providers.[383] As a rule physicians and hospitals respond to reduced revenues – be it through loss of "points" per service or through reduced or abolished patient co-payments – by inducing demand for their services[384] or through other modifications of their behaviour as providers,[385] in order to avert income losses.[386] The volume of services provided is thus primarily the outcome of payment and budgeting systems and not of the demand behaviour of the insured persons.[387] In this context managing physicians' decisions would appear to be more promising for controlling health expenditure than additionally burdening patients with charges and cost sharing.

Patient co-payments exacerbate the problem of increasing supply-induced demand and reduce the efficiency of the system as a whole.[388] Thus the restriction of drug coverage for older Medicaid members in the US state of New Hampshire to a maximum of two products led not only to a 35 percent drop in medicine-taking, but also to a significant increase in admissions to nursing homes.[389] After the abolition of this restriction the effect – whose costs clearly exceeded the potential savings – turned out to be completely reversible.[390] Also revealing are findings from Canada, where a study examining the behaviour of older rheumatism patients under different drug co-payment conditions between 1997 and 2000 found that although cost sharing led to a drop in prescription collections, in

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[382] Steinbach et al. 2004: 2f; Deber et al. 2000: 1417ff.

[383] Cf. Pfaff 1985: 273f; Zuckerman et al. 2004: 379ff.

[384] Rice/Labelle 1989: 597; Creese/Kutzin 1995: 10.

[385] Beck/Horne 1980: 794f; Schroeder/Cantor 1991: 1099; Richardson 1991: 16.

[386] The implementation of cost sharing in the United Mine Workers Health and Retirement Fund in Pennsylvania did indeed reduce expenditure on health care for miners by 10 percent, but overall average costs per illness period increased for all patients in the catchment area by 17 percent. Similarly, outpatient physician consultations by miners decreased by 4 percent, whereas doctor visits for the rest of the population increased by 11 percent (Fahs 1992: 35, 41f).

[387] Bodenheimer 2005a: 851.

[388] Cf. Arhin-Tenkorang 2000: 13f.

[389] Soumerai et al. 1991: 1075.

[390] Soumerai et al. 1991: 1075, 1076.

times of high drug co-payments the number of visits to physicians rose significantly and the number of hospital admissions also tended to rise.[391] This result confirms the observation that hospital treatment and above all practitioner's visits can be avoidance responses to new or increasing prescription charges, which greatly undermine the intended saving effect.[392] Studies of the effect of co-payments must always also take into consideration provider behaviour if they claim to be providing empirical evidence. Thus the effects of the practice fee in Germany may at least to some extent be due to alterations to the payment system for physicians and the introduction of practice budgets, which occurred at almost the same time.[393]

15.3 Cost Containment Lacking

Health policy and especially health economics almost always very considerably overestimate the potential of cost sharing as an instrument for cost-containment.[394] It generally has an effect only at first contact with the healthcare system and on simpler, cheaper services. The really cost-intensive measures, such as hospital treatment, operations, cancer drugs, chemotherapy and radiotherapy depend almost exclusively on the diagnoses and decisions made by medical professionals.[395] On the other hand, the risks of partial underprovision are not negligible,[396] and often the costs ensuing from delayed intervention may exceed the savings.[397] In view of this record the continued faith in patient cost sharing would seem more pseudo-religious than evidence-based.[398]

Almost nobody seriously calls for a proportionate burden to be placed on the high-intensity users of the health service. As a consequence of advances in medical technology an increasing concentration of health spending on ever smaller sectors of the population has been observed since the middle of the twentieth century. Thus US studies at the end of the 1980s show that half of the US population accounts for no more than 4 percent of health spending, while more than 50 percent is spent on one twentieth of the population and nearly 30 percent on just the 1 percent of high-intensity users.[399] In 1987 the "healthy" half of the population consumed just 3 percent of health spending in the United

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[391] Anis et al. 2005: 1337ff.

[392] Anis et al. 2005: 1339. Cf. also Tamblyn et al. 2003.

[393] Pfaff 1985: 273f; Reiners/Schnee 2007.

[394] Manning et al. 1987b: 269; Saltman/Figueras 1996: 17; ; Zuvekas/Cohen 2007: 256.

[395] Stoddart et al. 1993: 7; Deber 2000: 37; Neuman/Rice 2003: 5.

[396] See Chapters 10-13.

[397] Beck 1974: 139f; Beck/Horne 1980: 793ff; Roemer et al. 1975; Evans 1993a, 1995; Fraser-Institute 1999; Tamblyn et al. 2001; OECD 2004c: 18.

[398] Schroeder/Cantor 1991: 1099; Evans et al. 1997: 43; Drèze 2001: 14.

[399] Berk et al. 1988: 51

States, while 41 percent went on the 2 percent who had to make most use of the system.[400] Recent studies from the United States actually show that just 7 percent of spending is on 70 percent of the population, while more than 50 percent of spending is accounted for by the "sickest" 5 percent. The unequal distribution of health spending in the United States has stabilised at a high level during the past two to three decades.[401]

Similar distributions have also long been known for France, where in 1970 two fifths of health spending was concentrated on 2 percent of citizens and the healthier half of the population was responsible for no more than 1 percent of the costs.[402] In Germany the spending curve is similarly skewed. Whereas half the members of the statutory insurance funds cause just 1 percent of spending on treatment, four fifths of spending is accounted for by one tenth of the insured population, nearly 50 percent by one fortieth and no less than 20 percent by 0.5 percent of the insured population.[403]

This skewed distribution of the financial burden of treatment across the population is found in all industrialised countries and is of fundamental importance for the cost-sharing discussion.[404] Purely mathematically, the potential for reducing society's health expenditure is very small, as long as co-payments are applied largely to low-intensity users.[405] The claimed funding and steering effects of cost sharing would – at least theoretically – be expected to be much stronger if they affected those "users" who cause the highest costs. However in most societies cost sharing for high- and maximum-intensity users of the health service is not only ethically extremely problematic, but there is also currently insufficient evidence that it would lead to reduced spending for this group of patients.[406] Besides, they compete with other cost-containment approaches, in particular the disease management programmes which have now also found their way into the German statutory health insurance system and aim to provide better and more efficient – and thus more cost-effective – healthcare especially for high-intensity users.

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[400] Berk/Monheit 1992: 146f

[401] Berk/Monheit 2001: 12f

[402] Berk/Monheit 1988: 53

[403] GEK 2003. In the USA average health expenditures for the "healthy" half of the population were US$122 per year, whereas the most expensive cases amounted on average to $56,459 per person (Berk/Monheit 2001: 13). A statutory health insurance provider in Germany calculated the yearly per capita expenditure at €70 for the healthy group of beneficiaries while the most cost-intensive half percent of beneficiaries give rise to expenditures of €21,074 per person per year (GEK 2003: 6f).

[404] Bodenheimer 2005a: 851.

[405] See Hajen 2004: 10.

[406] Bodenheimer 2005b: 1001.

Alongside the inevitable effects of demographic, epidemiological and particularly technological developments,[407] in international comparison mainly the following factors turn out to be cost-driving: a high general level of prices and high charges for medical services,[408] high administrative costs,[409] efficiency losses through excess capacity and underuse,[410] and the intensity of utilisation of medical facilities.[411] The authors of the RAND study already came to the conclusion that spending on health care could only be influenced to a relatively small extent (approximately 10 percent) by the structure of the funding and insurance system.[412]

In the rich industrialised states there is a certain correlation of out-of-pocket payments and high health expenditure.[413] One explanation could be that legislators respond to high levels of spending with cost sharing. But it is just as plausible that privatisation of costs leads to a loss of political control. The stronger the free-market element in social protection and the more healthcare is located outside public or at least regulated insurance arrangements, the greater the wiggle room for service providers to increase their profits at the expense of the patients, whose negotiating position is weak. Charges due from users of healthcare facilities serve to make up for budget-limited or otherwise capped revenues. Shifting costs to patients takes the pressure off funders, increases the revenues of medical service-providers, and also bypasses the political conflicts with service-providers that are otherwise inevitably provoked by reform measures. Costs increasingly shift to the weakest players in health policy, the patients, to the benefit of the providers.[414]

15.4 Discriminating against the Old and the Poor

A relevant revenue increase through out-of-pocket payment for health care can only be achieved through high and subjectively tangible cost sharing.[415] But the greater the burden on the individual when medical facilities are used, the stronger the unavoidable consequences of social disadvantage for poorer sections of the population and ill citizens.[416] Cost sharing acts as an access barrier to health services especially for members of lower-income groups because their purchasing power is

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[407] Ginsburg 2004: 1591.
[408] Redelmeier/Fuchs 1993: 776ff; Fuchs/Hahn 1990: 888f.
[409] Woolhandler/Himmelstein 1997: 769f; Woolhandler et al. 1993: 401, 403; Woolhandler et al. 2003: 772f.
[410] Redelmeier/Fuchs 1993: 774f; McGlynn et al. 2004: 2638ff.
[411] Rouleau et al. 1993: 783f.
[412] Manning et al. 1987b: 269.
[413] Rasell 1995: 1265; WHO 2000.
[414] Barer et al. 1998: 20.
[415] Cf. Kern/Kupsch 2002: 15.
[416] Cf. Stuart/Stockton 1983: 383; Rosian 2002: 169, 171; Trude/Grossman 2004; Nink/Schröder 2004: 168.

smaller.[417] But because at the same time the need for healthcare is higher and doctor-patient contacts are more frequent in this share of the population,[418] payments are due more frequently and deductibles more quickly become a cost trap. The outcome is a partial inversion of the idea that the healthy should help bear the financial burden of sickness[419] and contradicts one of the basic tenets of social protection against health risks.[420] The increasing social gap in take-up of dental services, which has been observed in the past two decades in the United States,[421] is certainly partly due to the widespread and – especially in Medicaid – continually rising cost sharing for dental treatment.[422] A similar trend, incidentally, has also been found in Denmark – a northern European country with comparably small social inequalities.[423]

With older people this effect is especially striking, because here old-age poverty and chronic complaints come together.[424] On one hand, patient cost sharing reduces the capability of social protection systems to even out social inequalities of health opportunities. Against this background, many countries have set up protective arrangements for vulnerable groups. However, these can never exclude or counterbalance all social hardships, their effectiveness turns out to be quite uneven and they are always associated with sometimes considerable organisational expense. On the other hand, they do have an inhibiting effect on the two desired effects of cost sharing because they reduce the direct revenues the providers (unless they are compensated for the revenue foregone) and at least for the exempted groups they lessen the postulated management effect.[425]

15.5 Transaction Costs

The set-up, collection, accounting and control of patient cost sharing is associated with not inconsiderable administrative costs, which are, however, regularly omitted from the model calculations and ignored in evaluations. The collection of co-payments – and especially the implementation of exemption arrangements – may in fact often impact on the level of insurance contributions and thus

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[417] For instance Beck 1974: 136f; Whitehead et al. 2001; Dixon/Mossialos 2001; Burström 2002; Waitzkin 2003; Deppe 2003; Holst et al. 2004: 280; Ku/Wachino 2005; Ku/Broaddus 2005.

[418] Doorslaer et al. 2002: 237f.

[419] Ziniel 2004: 44.

[420] Grootendorst et al. 1997: 388ff.

[421] Manski et al. 2001: 658, 661.

[422] Ku/Broaddus 2005: 3; Ku/Wachino 2005: 2.

[423] Cf. Schwarz 1996.

424 For instance Beck/Horne 1980; Dixon/Mossialos 2001; Tamblyn 2001; Kawabata et al. 2002; Burström 2002; Robinson 2002; Applegate 2002; Benner et al. 2002; Lee et al. 2006; Chandra et al. 2007.

consume part of the postulated gain from increased revenue and reduced spending.[426] It must also be kept in mind that every administrative regulation has its weaknesses. In practice a varying proportion of those entitled to support will be excluded. Good examples of this are found in unclaimed social welfare benefits in Germany[427] and the unreliable allocation of fund insurance subsidies ("premium discount") for low-income groups in Switzerland.[428]

In the Netherlands various governments have repeatedly made attempts since the early 1980s to establish co-payments in acute medical care. In most cases they turned out to be unsuccessful and were abandoned shortly after their introduction.[429] Both the introduction of small flat-rate drug co-payments of approximately one euro per prescription and low co-insurance arrangements for medicines in the 1990s were designed to avoid any negative repercussions, but the revenues collected turned out to be insufficient to cover the administrative costs involved.[430] In 1997 the Netherlands introduced a 20 percent practice fee per physician visit, but neither the hoped-for funding returns not the expected management effect materialised, so this form of co-payment also came to an end after just three years.[431] Overall it can be observed that calling co-payments "minor" can perhaps be justified for short treatment episodes, but with long- or ever-lasting therapies even small cost-sharing amounts add up to a noticeable financial burden for those affected.[432]

15.6 Disregarding Medical Needs

The approach taken by many economists and politicians, to regulate health spending via demand behaviour of patients, ignores the relevance of clinical diagnoses in a very fundamental way. Co-payments that are intended to keep supposedly trivial cases out of the healthcare system lead to incompetent self-diagnoses[433] and to self-medication.[434] According to the extent that diagnosis shifts to the layperson, this can moreover lead to overprovision, undersupply and inadequate provision of

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425 Cf. Langer et al. 2006: 21f.

[426] Deppe 1987: 100; Schachenhofer 1997: 151; O'Brien et al. 2000: 37ff; Akal/Harvey 2001: 19. Legislators and health insurance funds cannot avoid this by simply transferring a relevant part of the additional bureaucratic burden to other stakeholders in the health care system; this is the case for the user charge for outpatient visits in Germany, where the responsibility for collecting the co-payment rests exclusively with statutory health insurance physicians. Even though their bureaucratic expenses are currently neutral for health insurance funds, undoubtedly some form of compensation will exist.

[427] Deppe 1987: 109.

428 Gerlinger 2003: 19.

429 Maarse 2004: 4.

430 de Wolf et al. 2005: 362.

431 Probst 2004: 23.

432 Moise/Jacobzone 2003: 20.

433 Padula 1992: 24.

care.[435] It is now sufficiently established and has been widely proven that the various forms of patient cost sharing prevent both superfluous and medically indicated interventions.[436] To date cost sharing has never been used successfully in any field of (para-)medical care to reliably and confidently distinguish between "reasonable" and "superfluous" utilisation of health care and to restrict the desired effects to "frivolous" use.[437] The intended - and often also achieved - reduction of use through co-payments always has just as strong an impact on indicated and highly efficient measures as on inappropriate or ones whose effect is marginal.[438]

To achieve a reduction in demand for supposedly unjustified treatments via user fees would presuppose that users of the health care system have a degree of medical knowledge that actually only medical professionals can have.[439] It is plain that such prior knowledge does not exist in the population, otherwise the services provided by medical experts would be superfluous. Research into the understanding and general knowledge of the population about relevant illnesses indeed shows – despite broad media treatment of the issues – a very sobering lack of knowledge among citizens.[440] For making a "rational" decision patients would firstly have to estimate in advance the level of the out-of-pocket payment involved and secondly be able to weigh up the consequences of treatment and non-treatment.[441] Because this is normally not the case, cost sharing is simply unable to fulfil the assumption that a patient will manage to distinguish with adequate reliability between "rational" and "frivolous" use of health services. Ultimately out-of-pocket payments lead, whether symptoms are slight or severe, to a significant cutback in healthcare utilisation.[442]

Furthermore, the often observed treatment delays caused by cost sharing lead to a worsening of conditions and increase the cost of medical intervention.[443] Delayed or avoided treatment by no means automatically generates the desired savings, but may in fact result in considerably higher en-

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434 Cf. also Zok 2006.

435 The example of intense headache reveals the risk of self diagnosis by medical laypersons because this symptom might be a sign of such diverse and serious conditions as flu, migraine or cerebral bleeding.

436 M. Shapiro et al. 1989: 1646f; Halton 2000: 4; Crawford et al. 2004: 28.

437 Stoddart et al. 1993: 9; Evans 2002: 26; Wong 2001: 1892.

438 Lohr et al. 1986a: S36; Siu et al. 1986: 1259; Richardson 1991: 23; Evans et al. 1993d: 2, 9; Barer et al. 1993a: 15, 31; Stoddart et al. 1993: 20; Rasell 1995: 1165; Deber 2000: 39; Kephart et al. 2003; Braithwaite/Rosen 2007: 603f.

439 A minimum of clinical expertise reveals the absurdity of the self-responsibility ideology, because again, a symptom such as intense headache might be a sign of such different health problems as migraine, haemorrhage or flu.

440 Bachmann et al 2007.

441 Neuman/Rice 2003: 5f; Ahmed et al. 2005: 393; cf. also Goodman 2006: w542f.

442 M. Shapiro et al. 1989: 1646f.

443 For example Chandra et al. 2007.

suing costs.[444] Recently published research confirms the long-held suspicion[445] that delayed treatment in medical facilities for beneficiaries of the Veteran Affairs insurance scheme increases mortality. If a patient has to wait longer than a month to be seen their mortality in the following half year is significantly higher than for those who are treated more quickly.[446] Cost-sharing arrangements that adequately take into consideration the medical or clinical needs at the individual level do not as yet exist.

15.7 Underestimated External Effects

As the general – and worldwide – rise in health expenditure is induced considerably more strongly by suppliers than by consumers,[447] it is, as already demonstrated, no surprise that the demand-side instrument of involving patients directly in health care costs makes little contribution to reducing spending and containing costs.[448] Instead cost sharing – especially among the chronically sick – reduces take-up of healthcare services in an undesired manner that endangers the quality of clinical care while at the same time increasing follow-on costs.[449] Applying the cost-sharing ideology to the chronically ill brings to light an inherent contradiction in the funding and steering function of co-payments. In the population where the highest spending occurs and thus potentially the greatest savings or revenues could be achieved, “cost sharing” contradicts the approach of using co-payments to prevent “unnecessary” use of healthcare services. In fact, making these patients contribute to the costs of their treatment brings about absolutely unwanted counterproductive effects.

Not every avoided office visit is necessarily a gain, and in fact not every prescription less will necessarily reduce costs for the insurer. The primarily economic – and above all micro-economic – perspective on health financing in general and specifically patient cost sharing has led in Germany and elsewhere to a popularisation of the simplistic misconception that every saved health treatment is automatically reflected in cuts in expenditure. If the use of healthcare services affected by co-payments falls this is generally regarded as proof of the effectiveness of cost sharing. But this assumption ignores both the clinical and epidemiological aspects and the external effects.[450] The ur-

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[444] See e.g. Soumerai et al. 1991, 1994 and 1997; Tamblyn et al. 2001; OECD 2004b: 18; Goldman et al. 2004, 2006; Chandra et al. 2007 and many others.

[445] Kenagy et al. 1999: 664.

[446] Prentice/Pizer 2007: 656f.

[447] Saltman/Figueras 1996: 17.

[448] Creese 1997: 202.

[449] Chernew et al. 2006: 153f

[450] According to more recent findings, high quality primary health care can not only improve patient satisfaction but also reduce the demand for more complex and, especially, for inpatient treatment (see Carlsen et al. 2007: 21ff). This might indirectly confirm the potentially negative consequences of saved physician visits,

gently needed distinction between desired and undesired effects – which would be imperative for converting treatment reductions into cost savings – is lacking both in most of the published studies and in the political debate.

Overall, the expected influence of cost sharing on general cost trends is at best negligible - whether through reducing the required amount of reimbursement for health care benefits delivered or through reductions in the total number of treatments.[451] Often the undesired effects cause considerably higher costs than the sum of revenues and savings and completely counteract the cost-containing effects widely expected of co-payments. Finally, the undesired effects go far beyond the level of the insurance funds and affect the individual's social and economic participation. Cost-related therapy terminations caused by cost sharing lead not only to a worse health status of people with chronic illnesses and to an increase in fundamentally avoidable complications and to a greater need for treatments,[452] but also to increased incapacity to work and to productivity losses.[453] In this way out-of-pocket payments for health care ultimately endanger the quality and reliability of the social health protection system, which all industrialised nations at least aim to realise.

15.8 Erosion of Solidarity

Out-of-pocket payments reduce the social compensatory effect of health insurance funds and state-run health systems. They undermine the functioning of solidarity-based insurance schemes, which are based on predictable regular prepayment for covering unpredictable costs of sickness and have proven to be superior to all other funding models.[454] This is also supported by the observation that in poorer countries, especially, user charges counteract the income-maintaining effects of (social) health insurance[455] while in richer societies they can be contradictory to the established mechanisms of the principle of solidarity, partly undermine their effects, and reinforce social injustice and inequality.[456] Directly involving patients in their treatment costs may reduce the financial access barriers to health insurance but it always has a negative effect on the quality of the insurance protec-

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because even though doctor contacts do not guarantee access to quality care, they are a necessary condition for it.

[451] Rasell 1997: 1167.

[452] Soumerai et al. 1991: 1074f; Soumerai et al. 1994; Slade et al. 2005; Atella et al. 2006

[453] Jinnett et al. 2007.

[454] WHO 2000a: 35f; OECD 2003: 46; Kephardt et al. 2003.

[455] Cf. e.g. Dong et al. 1999: 51ff; Tseng et al. 2003: 223f.

[456] Stuart/Stockton 1973: 344; Deppe 1987: 109; Richardson 1991: 22; Arhin-Tenkorang 2001: 11f, 38; Deppe 2003; Gericke et al. 2003: 24, and 2004; Knappe 2003: 236; Ziniel 2004: 33; Machinea et al. 2006: 88f; Gruber 2006: 1.

tion[457] and on access to high-quality medical care.[458] This is especially easy to comprehend where the patient's own share amounts to a high proportion of treatment costs, as is the case in many insurance contracts in the United States and across the board for example in South Korea,[459] or where co-payments are particularly substantial; among the industrialised countries this is most important in Japan, where hospital treatment can easily cost the patient many thousands of euros.[460]

The theory of many economists that cost sharing makes health systems fairer by eliminating waste and thus stabilising the acceptance of solidarity-based health insurance systems seems increasingly to be disproved. Instead, in a situation of ever new cost-sharing arrangements participants are losing their confidence in fair social redistribution.[461] Despite all the rhetoric, cost sharing and co-payments do nothing to achieve financial sustainability of health care systems.[462] Instead they improve the position of the healthy and better-off to the detriment of the ill and the poor.[463] Prescribing the bitter pill of co-payments is only justified when all other health policy options have been considered and exhausted.[464] The small and at best hypothetical benefit of increasing cost sharing in the health sector justifies neither the risks of losing acceptance of the social protection system nor the danger of medium- and long-term cost increases.[465]

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[457] Grootendorst et al. 1997: 390ff; Holst 2004: 43, 226; Holst et al. 2004: 280; Chernew et al. 2006: 153f.

[458] Eisenberg/Power 2000: 2102.

[459] Yang/Holst 2006: 161.

[460] Tu et al. 2003: 242f.

[461] Cf. on this point Wasem 1999: 74; Böcken et al. 2000: 125f; Marstedt 2002: 120f; Sachverständigenrat 2003a: 17; 2003b: 55ff; WHO 2005: 138f.

[462] CHSRF 2001: 2

[463] Deppe 2003

[464] Creese 1997: 203

[465] Müller et al. 2003: 6

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