Swiss Social Health Insurance: Co-payments work

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From the perspective of an insurance community, co-payments are only interesting if they affect total expenditure by a decrease in the probability or the size of damages. If the insured take preventive actions to reduce the risk or change their behavior when damages occur, their expenditure will decrease. If insurance coverage is comprehensive, important incentives for prevention and restricting damages are absent. Economists speak of moral hazard, referring to the effect of the extent of insurance coverage on the behavior of the insured.

In health insurance, the insured have a particularly large influence on the amount of services they demand. Healthy food, sufficient physical motion, prevention of stress, all these reduce the probability of an illness. Moreover, the behavior in case of an illness, i.e. the choice of therapy or the patients' compliance with the physicians' prescriptions will substantially affect health care expenditure. Do co-payments reduce moral hazard in health insurance? Swiss social health insurance is an ideal candidate for studying this issue, as co-payments have a long tradition there.

Characteristics of the Swiss health insurance system

In Switzerland, 100 percent of the population is enrolled in the statutory (basic) health insurance system. In the complementary private insurance sector, the equivalence principle holds – the insured pay risk equivalent premiums. By comparison, community rating applies in social health insurance, i.e. every person within a sickness fund pays the same premium irrespective of his/her risk. This implies that the so-called good risks (persons whose payments exceed their expected expenditure) subsidize the bad risks (persons with payments below the expected expenditure). With the given health care expenditure profiles, community rating means for instance that the young subsidize the old and that men subsidize women.

In contrast to Germany and other countries, Switzerland does not impose any substantial interregional redistribution in financing health care. Premiums are differentiated according to regional differences in health care expenditure. Furthermore, contributions to health insurance are not paid from the payroll but function as in other insurance sectors. Every individual – adult, adolescent or child – therefore pays his/her own premium. Nevertheless, low-income persons receive a subsidy from the local government as well as from the federal state to pay for health insurance. The average health insurance premium is around € 170 per month.

Co-payments in Swiss health insurance include a minimal € 160 deductible per year. Expenditure that exceeds this threshold is subject to a 10 percent co-insurance rate. The system is capped: the maximum co-payment for a person is € 560. This implies that medical bills up to € 4,160 (€ 160 plus € 4,000) are subject to demand-side co-insurance. 90 percent of the insured have expenditure below this threshold. Exemptions for chronically ill or low-income persons from the compulsory co-payment rules do no exist. This consistent employment of coinsurance is directed at moral hazard. The adverse equity implication is seen as the price that the community must pay for achieving a more efficient use of health care services.

In Switzerland, the insured can opt for a deductible above € 160. The optional deductibles amount to € 270, € 400, € 800 and € 1,000. They come with (maximal) premium rebates of 8 percent, 15 percent, 30 percent and 40 percent. The 10 percent co-insurance rate for expenditure above the deductible does not change. This is also valid for the cap, which is only adjusted by the chosen deductible.

The goal of the optional deductibles is to influence the demand for health care services by the insured, i.e. to fight moral hazard. However, there is a disadvantage to these options. They allow the insured to choose the insurance contract that suits their expected health care expenditure best. In other words, good risks will opt for a high deductible,

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whereas bad risks will stay put with the compulsory minimal deductible.

Still, even though individuals will rationally choose the size of the deductible, the incentives of the measure remain. Yet, they are reinforced since the extent of co-payments has been enlarged by these options.

Moral hazard or self-selection? – That is the question!

While 60 percent of the insured stick to the minimal deductible, 40 percent choose one of the higher deductibles (see Fig. 1 that summarizes the shares for a representative sample of 60,000 persons in the canton of Zurich). Of these individuals, three fourths opted for the € 270 deductible. The figure reveals a substantial decrease in gross health care expenditure with an increasing deductible. A person with the minimal deductible (€ 160) on average incurred € 2,150 health care expenditure per year; the average in the highest deductible (€ 1,000) only amounted to € 510.

The second bar in each category of Figure 1 represents health care expenditure net of the patients' co-payments. The third bar illustrates the average premium per deductible. A comparison with the expenditures shows that despite large rebates, a substantially financial redistribution from low- to high-risk individuals occurs.

These observations do not tell whether the lower expenditure in the higher deductible classes is in the first place a consequence of the contract selection by the insured, expecting different future health care expenditure, or whether it is a reflection of a change in the behavior of the insured. One would expect that both self-selection and moral hazard matter. The separation of the two effects is methodologically challenging, as the two simultaneously show up in the health care expenditure data. While one observes lower expenditure of the insured who have opted for a high deductible, one does not know the reason for it.

In the 1980s, the RAND corporation sponsored an extensive study designed to detect the price effect of deductibles on the demand for health care. In a controlled randomized experiment, persons were allocated with health insurance contracts that differed with respect to the co-insurance rate. Since the persons had no possibility to choose their contract, a selection effect could be excluded. On average, the RAND researchers detected a reduction of 20-30 percent in the demand for health care due to co-insurance (see Manning et al. 1987).

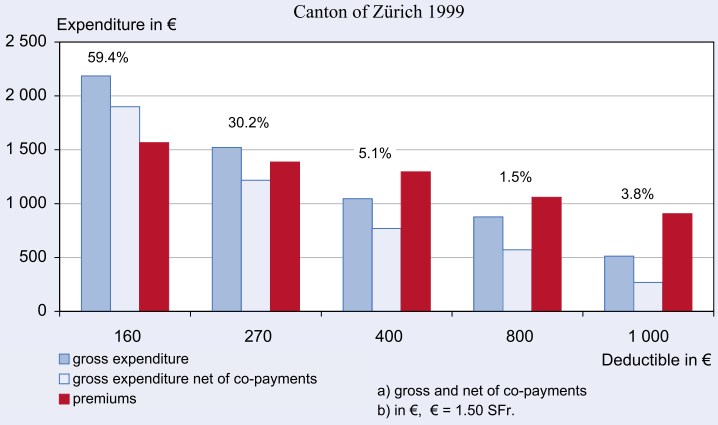
In the Swiss system, persons have the choice between different deductibles. If one expects that the choice reflects the expectation of future health care expenditure, the problem of self-selection can be solved by explicitly incorporating the choice of contracts.

This, indeed, was the approach we took in the Swiss study. In the first step, we estimated the choice of the individuals with respect to the size of the deductible. In the second step, taking into account the results of the first step, we estimated the influence of the deductibles on the demand for health care services.

Three months prior to the end of one year, an insured has to choose the deductible in his health insurance contract for the next year. In this decision, he/she will take into account the health-care expenditure he/she expects for the following year. If the premium rebate exceeds the expected additional co-payments, he/she will likely opt for a high deductible. Why should a person who expects very low health-care

Figure 1

PER CAPITA EXPENDITURE[a)], PREMIUMS[b)] AND THE SHARE OF THE INSURED PER DEDUCTIBLE
Canton of Zürich 1999



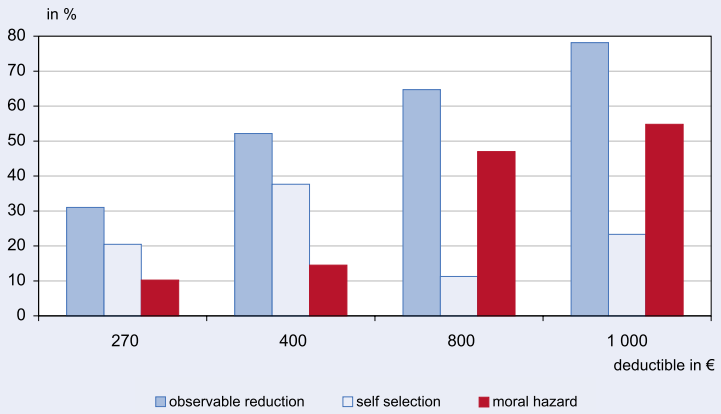
Source: own calculations.

expenditure not go for the highest deductible? A chronically ill person, by comparison, will likely adhere to the minimal deductible.

In the Swiss study we modeled the contract choice using individual health care expenditure data of the following three years, 1997–1999. The expenditure in 1997 and 1998 were used to form the expectation of future expenditure, as they indicate the health status of an individual. Additional explanatory variables for the choice of the contract for 1999 are the individual's age, sex, income as well as his/her premium (for details, see Werblow and Felder 2003).

Figure 2

SEPARATING SELF-SELECTION FROM MORAL HAZARD



Source: own calculations.

The estimation results confirm the hypotheses: The higher health care expenditure in the past, the higher the probability that an individual distances himself from choosing an optional (higher) deductible. Low-income individuals likewise prefer the compulsory minimal deductible. Individuals with a low income fear the risk of high co-payments more than high-income persons. Individuals living in high-premium regions more likely choose a higher deductible. This has to do with the regulation of proportional rebates. For any deductible, the rebate in absolute terms, therefore, increases with the premium level. For this reason, in high-premium regions, it is more profitable to restrict insurance coverage by means of a high deductible.

Does moral hazard exist in Swiss health-care insurance?

In the second step of the estimation, we dealt with the explanation of the demand for health-care services, given the choice of contract. By taking into account the endogeneity of the choice, it is possible to net-out the effect of selection from the change in demand. In the second estimation, age, sex and income, but also supply-side factors such as the density of physicians in the neighborhood of an insured serve as explanatory variables for the demand for health-care services. The estimation results confirm to a large extent the existence of moral hazard. Despite self-selection, health-care expenditure for high-deductible individuals is significantly lower compared to individuals with a minimal deductible.

Figure 2 summarizes the results for an average male person. The first bar in each category shows the observed reduction of health-care expenditure for the four optional deductibles compared to the level of the minimal deductible (corresponds to the bars in Fig. 1). The next two bars present the division of this change between self-selection and moral hazard.

A forty-year-old man who opted for a deductible of € 270 on average incurs 30 percent lower health care expenditure than a man of the same age and a minimal deductible of € 160. Two thirds of this reduction are – according to our estimations – due to self-selection. The remaining one third is caused by a change in behavior. The same division between self-selection and moral hazard occurs at the deductible level of € 400.

For the two highest deductibles, moral hazard is more prone. Of the observed change in health care expenditure 70 percent is due to moral hazard. With a higher reduction of health-care expenditure in total, self-selection makes up 30 percent.

Deductibles in Switzerland reduce health-care demand

The Swiss social health insurance system includes differentiated optional deductible schemes. The insured appear to deal rationally with these options, i.e. as in other insurance sectors they

choose their coverage depending on the expected damages and the premiums. Our study based on health-care expenditure data of 60,000 individuals shows that price signals from deductibles significantly affect behavior even when taking into account the endogeneity of the contract choice. Optional deductibles substantially reduce health-care expenditure.

Even though part of the reduction of health care expenditure is due to the rational choice of contracts, co-insurance induces a change in demand that significantly contributes to the reduction. Depending on the size of the deductible, between one third and 70 percent is due to moral hazard. Furthermore, the higher the deductible, the higher the change in behavior of the insured.

There is an efficiency-equity trade-off when the government goes for optional deductibles in social health insurance. However, it is noteworthy that there is an efficiency gain involved. If demand-side coinsurance in health care were only redistributive, no one would have to care about co-insurance. The efficiency-equity trade-off can be handled with restricting the rebate, which persons can attain whenever they choose a higher deductible. It is important, however, that some incentives for the insured remain, taking into account the costs whenever they demand health care services.

Conclusion

Patients' co-payments are a suitable measure to reduce health care expenditure. They positively affect prevention and foster the expenditure awareness of the insured. These effects can be identified in Swiss social health insurance, a system that contains a compulsory deductible of € 200 extended by optional deductibles up to € 1,000.

References

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