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What should be the basis for compulsory and optional health insurance premiums? Opinions of Swiss doctors

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Summary

PRINCIPLES: Little is known about doctors' opinions on how to finance health services. In Switzerland, mandatory basic health insurance currently uses regional flat fees that are unrelated to health and ability to pay, and optional complementary insurance uses risk-based premiums. Our objective was to assess Swiss physicians' opinions on what should determine health insurance premiums.

METHODS: We surveyed doctors in the canton of Geneva, Switzerland, about the desirable funding mechanism for mandatory health insurance and complementary health insurance. The proposed determinants of insurance premiums were current health and past medical history, lifestyle, healthcare costs in the previous year, genetic susceptibility to disease, regional average healthcare costs, household income, and wealth and demographic characteristics.

RESULTS: Among the 1,516 respondents, only a few (<5%) believed that the mandatory health insurance premium should depend on health risk (health status, previous costs, genetics, and age and sex). More than 30% of respondents supported premiums based on lifestyle (34.6%), regional average health expenditures (31.2%), and household income and wealth (39.6%). For complementary health insurance, most respondents supported premiums based on lifestyle (74.6%) and on health risk (46.4%), but surprisingly also on household income and wealth (44.9%) and regional average health expenditures (39.4%). The characteristic most influencing the answers was the medical specialty.

CONCLUSION: Doctors' opinions about healthcare financing mechanisms varied considerably, for both mandatory and complementary health insurance. Lifestyle was a surprisingly frequent choice, even though this criterion is not currently used in Switzerland. Ability to pay was not supported by the majority.

Key words: *health financing; cost sharing; Switzerland*

Introduction

How health expenditures should be financed is a matter of debate. In most developed countries, healthcare financing is a mix of tax funding (Beveridge model), social insurance funding (Bismarck model), private health insurance and direct out-of-pocket payments. The Swiss system is also a mix. In Switzerland, each person has been obligated to purchase mandatory health insurance from an authorised insurer since the introduction of the Health Insurance Law in 1996 [1]. This mandatory insurance (which funds 35% of total healthcare costs) covers a core set of health services and is run by private companies on a non-profit basis. Therefore, it is very similar to a social health insurance, as it is operated on a non-profit basis and covers everybody. Taxation-based public funding accounts for 19% of healthcare expenditures, voluntary private health insurance accounts for 9%, out-of-pocket health spending for 31%, and old age and disability insurance for 3% [2]. The part of health expenditures that is supported directly by citizens (private insurance and out-of-pocket expenses) is one of the highest among Organisation for Economic Co-operation and Development (OECD) countries [2]. In addition, health expenditures caused by accidents are financed by a separate mechanism, through a proportional payroll tax which accounts for 3% of healthcare cost.

In most developed countries, individual contributions to social health services are linked to ability to pay, either through taxation funding, where the income tax component is typically progressive with income, or through social health insurance funding (or mandatory insurance funding), which is usually financed jointly by employers and employees through payroll deduction. Such systems enforce solidarity between the rich and the poor. Switzerland is an exception for mandatory health insurance funding, with a regionally rated flat fee independent of income. However, low-income residents receive subsidies to pay their health insurance premiums, which makes premiums income-dependent at the lower end of the income spectrum.

Mandatory insurance premiums in Switzerland do not depend on health risk, thus enforcing solidarity between the healthy and the sick, as in most western countries. However, in the face of increasing heath expenditures, additional proposals have been made to take into account people's lifestyles, such as smoking or physical activity, so that insurance premiums would act as incentives for prevention [3]. However, such proposals are not yet implemented.

Complementary private health insurance premiums cover services that are deemed unessential and, therefore, not reimbursed by basic insurance. In Switzerland, the main form of complementary insurance provides access to private clinics and hospitals. Premiums are usually proportional to an individual's risk of requiring healthcare, whether based on pre-existing conditions, genetic traits or lifestyle. In Switzerland, about 32% of residents purchase complementary insurance [4].

Although the underlying principles of health financing systems have raised considerable interest in academic circles [5–8], only a few surveys have assessed the opinions of the general public or of healthcare professionals. In Switzerland, a legislative proposal to replace regionally rated mandatory insurance premiums with premiums proportional to income and wealth was rejected by more than 70% of voters [9]. Two surveys assessed opinions on health funding in the general population: gesundheits monitor [10] and sondage santé [11]. In the first, run every year, around 60% of respondents have a positive opinion of the mandatory insurance system, and 80% agree that individual contributions to the health system should not depend on health risk. Of note, these percentages have remained fairly constant during the past ten years. in the santésuisse survey, also run every year, people were asked on the best way to set mandatory insurance premiums: 40% prefer the current system, whereas around 50% would prefer a premium based on ability to pay (payroll, wealth or income tax); these proportions did not vary in the past five years. Population opinion largely depends on health funding history: in Bulgaria, a majority supports significant state involvement in healthcare financing, with free access to services regardless of income, age, or health status, and progressive funding [12]. In the United States in 2007, most physicians rejected the current employer-based system of healthcare financing [13]. In Denmark, survey participants were more supportive of additional user charges than of increased income taxes to pay for improved health services [14], but the scenario concerned only complementary health services and not basic care.

In this study, we reported on the opinions of doctors in Geneva, Switzerland, about the desirable funding mechanism for compulsory basic health insurance and for complementary private health insurance. Doctors have an interest in a well-funded and well-functioning health system; they are also confronted with a variety of financial issues, whether from payers (budget pressures, controls by insurance companies, restrictions by managed care plans) or from patients (inability to pay, non-covered services). For these reasons, doctors may have a well-informed and relevant opinion about the best way to fund healthcare.

Methods

Study design and subjects

We conducted a mail survey in 2007 among physicians of all clinical specialties working (2,745 eligible participants) in Geneva, Switzerland, including both private practitioners in Geneva and salaried staff at the Geneva University Hospitals.

Questionnaire

The questionnaire assessed doctors' opinions on various practice-related issues, among them their opinion on financing of healthcare. Results of other parts of this survey have been published [15–17].

The leading question on the determination of health insurance premiums was "According to you, should the following influence the amount of the basic and complementary health insurance premiums paid by the insuree?" The different proposed items included current health, lifestyle, costs accrued in the previous year, genetic predispositions, regional average costs, income and wealth, and demographic characteristics. The answers were yes or no in two columns, with one headed "compulsory basic health insurance premium" and the other "complementary health insurance premium". An additional question asked doctors' opinions on whether compulsory health insurance should be financed by: (a) flat fee, independent of income, with subsidies for people with low income (current system); (b) proportional payroll tax (as for social security and other social insurance programmes); or (c) a federal or cantonal tax, progressive with regard to income (as for the funding of public schools).

Finally, respondents were also asked to report their age, sex, specialty (either completed or planned) and practice setting (private practice or public hospital practice).

Statistical analysis

We reported numbers and proportions of respondents agreeing with each funding mechanism. These proportions were compared across subgroups of respondents (sex, age, specialty, practice setting and membership of a managed care network). We classified specialties into five groups: primary care doctors (generalists and general internists), internal medicine specialists (including neurologists), paediatricians, psychiatrists, and technical specialists (surgeons, anaesthetists, ear-nose-throat specialists, ophthalmologists, dermatologists, gynaecologists-obstetricians and radiologists). We distinguished between three categories of practice setting: independent private practice, public hospital practice as trainee (intern or resident), or public hospital practice as senior staff physician. For each item, responses for compulsory and complementary insurance premiums were compared using a McNemar test. Chi-square tests were used to compare responses for compulsory insurance premiums among the different physician subgroups. The level of significance considered was 0.05. We also performed a multivariate logistic regression with sex, group of age, practice setting and specialty as independent variables. Answers for the preferred financing system were compared among subgroups using a chi-square test.

Results

Sample characteristics

The survey response rate was of 56.3% (1,546/2,746). Participation was not related to age, setting of practice and source database. However, men responded more frequently than women: 58.0% (956/1,649) versus 53.7% (589/1,097, p = 0.027). Participation varied according to specialty, from 52.6% (449/854) in technical specialists to 62.2% (445/715) in primary care doctors (p = 0.003). The item-specific response rate for questions dealing with healthcare financing was high; only 30 respondents completed fewer than half of these questions. Therefore, we included 1,516 questionnaires in the subsequent analysis (table 1). Most respondents (table 2) were men (61.5%) and in private practice (56.7%). Only 11.2% belonged to a managed care organisation (table 2).

Basis for mandatory health insurance premiums

A total of 445 respondents answered "no" to all items. Correlation between the different answers was low and the highest correlation achieved was 0.43, between "health status, health problems and past medical history of the insuree" and "genetic susceptibility to certain diseases". Only a few respondents believed that compulsory health insurance premiums should depend on current health and past medical history (4.0%), health expenditures in the previous year (4.6%), and genetic susceptibility to disease (table 1). Only one in ten (10.4%) thought that they should depend on demographic characteristics (table 1). On the other hand, 34.6% of respondents believed that the premiums should depend on lifestyle, 31.2% on regional average health expenditures, and 39.6% on household income and wealth (table 1). Of note, differences between subgroups of respondents were small (table 2), except for the different medical specialties: the proportion of physicians who supported premiums based on lifestyle varied between 21.5% for psychiatrists and 49.5% for technical specialists, and

Table 1: Opinions of respondents on what factors should influence health insurance premiums.

	Compulsory health insurance	Complementary health insurance
Health status, health problems and past medical history of the insuree	4.0% (61/1,515)	46.4% (692/1,492)
Lifestyle (tobacco, drugs and alcohol consumption, obesity, sedentary lifestyle, etc.)	34.6% (522/1,507)	74.6% (1,119/1,500)
Healthcare costs generated by the insuree in the previous year	4.6% (70/1,514)	17.9% (269/1,501)
Genetic susceptibility to certain diseases	2.1% (31/1,512)	9.8% (146/1,497)
Average healthcare costs in the canton of residence	31.2% (469/1,502)	39.4% (586/1,489)
Income and wealth of the insuree's household	39.6% (597/1,509)	44.9% (672/1,497)
Demographic characteristics (age, sex, etc.)	10.4% (157/1,511)	24.8% (371/1,494)
McNemar test p-value <0.001 for all items between compulsory and complementary health insurance		

Table 2: Characteristics and opinion of respondents, by subgroup, on the use of the items dealing with lifestyle, cantonal average healthcare costs, and household income and wealth in determining compulsory health insurance premiums, with chi-square p-values for the association between opinions and characteristics.

	N (%)	Lifestyle	Regional average healthcare costs	Household income and wealth
Sex				
Women	583 (38.5%)	31.6% (183/580)	28.9% (167/578)	41.9% (244/582)
Men	932 (61.5%)	36.5% (338/926)	32.6% (301/923)	38.1% (353/926)
p-value		0.06	0.13	0.18
Age				
Up to 35 years	302 (19.9%)	32.9% (99/301)	36.1% (108/299)	41.7% (126/302)
36–50 years	598 (39.4%)	34.6% (206/595)	30.9% (184/595)	38.8% (231/596)
Over 50 years	614 (40.5%)	35.3% (215/609)	29.0% (176/606)	39.4% (240/609)
p-value		0.85	0.11	0.73
Practice setting				
Public senior	148 (9.8%)	32.7% (48/147)	21.6% (32/148)	34.5% (51/148)
Public in training	509 (33.6%)	34.1% (173/507)	35.8% (181/505)	44.0% (223/507)
Private practice	859 (56.7%)	35.3% (301/853)	30.2% (256/849)	37.8% (323/854)
p-value		0.81	0.003*	0.04*
Speciality				
Internal medicine specialists	227 (15%)	31.1% (70/225)	30.2% (68/225)	41.1% (92/224)
Paediatricians	125 (8.2%)	32.0% (40/125)	26.8% (33/123)	29.6% (37/125)
Technical specialists	435 (28.7%)	49.5% (215/434)	29.9% (128/428)	29.9% (130/435)
Psychiatrists	282 (18.6%)	21.5% (60/279)	32.1% (90/280)	49.1% (138/281)
Primary care	440 (29%)	30.6% (134/438)	32.8% (144/439)	45.1% (197/437)
p-value		<0.001*	0.69	<0.001*
Managed Care Network				
Yes	170 (11.2%)	28.4% (48/169)	36.7% (62/169)	39.6% (67/169)
No	1336 (88.1%)	35.5% (471/1,328)	30.5% (404/1,323)	39.5% (525/1,330)
p-value		0.06	0.10	0.85
* Statistically significant association				

the proportion of physicians who supported premiums based on household income and wealth varied between 29.6% for paediatricians and 49.1% for psychiatrists. In a multivariate logistic regression with age, sex, practice setting, specialty and managed care network as explanatory variables, we observed the same significant associations (table 3), with the highest odds ratio of 2.19 (95% confidence interval [CI] 1.55–3.09, p <0.001) observed for technical specialists versus internal medicine specialists for the item dealing with premiums based on lifestyle, and an odds ratio of 0.58 (95% CI 0.4–0.82, p <0.01) observed for technical specialists versus internal medicine specialists for the item dealing with household income and wealth.

Basis for complementary health insurance premiums

For all items, responses for compulsory insurance premiums strongly differed from those obtained for basic health insurance premiums (all McNemar tests, p <0.001). Most respondents thought that complementary health insurance premiums should depend on lifestyle (74.6%), whereas very few agreed that they should depend on genetic susceptibility to disease (9.8%) (table 1).

Preferred financing model

A majority (57.0%) of doctors supported the current Swiss system of healthcare financing for compulsory health insurance premiums (a regional flat fee), 29.3% preferred a payroll tax and 13.7% preferred progressive income taxation (table 3). The only observed difference between subgroups concerned medical specialties: internal medicine specialists, psychiatrists and primary care physicians agreed much less with the current system than paediatricians and technical specialists (table 4).

Discussion

This survey shows that doctors in Geneva, Switzerland, have diverse opinions about the financing of mandatory basic health insurance (i.e. social insurance system). None of the proposed mechanisms for setting premiums were supported by the majority of respondents. The determinant of mandatory insurance premiums that received the strongest support was household income and wealth, which is in line with most other western countries, but even this proposal received support from only about 40%. Somewhat surprisingly, the second most supported determinant was individual lifestyle, and the third was the regional average cost.

The vast majority of physicians reject insurance premiums based on current health for the financing of compulsory public health insurance. This conforms to the fact that this system acts as social insurance system that aims to cover everybody, and that use of health-related premiums makes it impossible for the sickest people to obtain coverage, because their premiums become unaffordable [8]. The resulting gaps in coverage and inequity in access to care are politically and socially unacceptable [11]. Furthermore, gaps in coverage likely disrupt the provision of quality healthcare. Disagreement of most physicians with health-related premiums for compulsory health insurance in our survey may, therefore, reflect their wish for a well-functioning health system.

The most strongly supported basis for compulsory insurance premiums was income and wealth, with favourable opinions from about 40%. The principle of funding healthcare based on ability to pay is partly applied in Switzerland through general tax funding, but compulsory premiums are not based on the ability-to-pay principle. Of note, this principle was rejected in several federal referendums [18]. The fact that only a minority support the ability-to-pay principle for social security funding is not shared by other European populations: in Croatia [19] and Bulgaria [12], a majority of residents believe that insurance rates should increase proportionally to income, but political context has to be taken into account, as these countries have a long-standing history of healthcare provided and financed only by the government through tax payments.

The fact that premiums should reflect the regional average costs of healthcare was supported by about 30% of respondents. This reflects the long-standing Swiss principle of regional autonomy. Indeed, Swiss cantons have their own “health (care)” laws that regulate most matters related to health policy (the few aspects of health policy that are

Table 3: Odds ratios and 95% confidence intervals from multivariate logistic regression of the responses on the use of the items dealing with lifestyle, cantonal average healthcare costs, and household income and wealth in determining compulsory health insurance premiums as dependent variables, and age, sex, practice setting, specialty and involvement in a managed care network as explanatory variables.

	Lifestyle	Regional average healthcare costs	Household income and wealth
Sex			
Women versus men	1.16 (0.91–1.46)	1.31 (1.03–1.66)*	0.9 (0.72–1.13)
Age (reference: up to 35 years)			
36–50 years	1.29 (0.89–1.88)	0.97 (0.67–1.4)	1.14 (0.8–1.63)
Over 50	1.32 (0.83–2.09)	0.88 (0.56–1.4)	1.41 (0.9–2.19)
Practice setting (reference: public senior)			
Public in training	1.41 (0.88–2.26)	1.95 (1.19–3.2)**	1.58 (1.01–2.49)*
Private practice	1.36 (0.92–2.02)	1.47 (0.95–2.27)	1.01 (0.69–1.48)
Specialty (reference: internal medicine specialists)			
Paediatricians	1.08 (0.66–1.75)	0.9 (0.54–1.48)	0.58 (0.36–0.94)*
Technical specialists	2.19 (1.55–3.09)***	0.96 (0.67–1.38)	0.58 (0.41–0.82)**
Psychiatrists	0.61 (0.41–0.92)*	1.11 (0.75–1.64)	1.26 (0.87–1.81)
Primary care	1.07 (0.74–1.55)	1 (0.69–1.45)	1.19 (0.84–1.68)
Managed care network			
Yes versus no	1.31 (0.86–1.98)	0.69 (0.46–1.03)	1.2 (0.81–1.77)

* p <0.05; ** p <0.01; *** p <0.001

regulated by federal laws are healthcare insurance, health professions, epidemics, and ionising radiations). The fairly weak support for this principle among Geneva doctors may be due to the high costs of healthcare in this canton in comparison with the national average. As a result, Geneva residents would stand to benefit substantially from the implementation of nationwide averages. Of note, there is no contradiction in setting premiums according to income and wealth and in proportion to regional average costs.

For complementary insurance, three-quarters of physicians thought that premiums should depend on lifestyle. This mechanism was followed by current health, income and wealth, and regional average cost. Most of these determinants – at least lifestyle, health status and to some extent regional average cost – are consistent with the principles of a risk-based insurance mechanism. However, funding private complementary health insurance based on income and wealth seems illogical: complementary insurance concerns services that exceed basic needs, and in principle should not require a solidarity effort between the rich and the poor. A possible explanation is a willingness to make complementary insurance coverage accessible to more households, particularly low income households, as this improves the doctors' own economic situation. Participants did not strongly support premium determinants that reflect individual risk, such as demographic and genetic characteristics and past health. This might be because these characteristics are less predictive of health costs than current health. For instance, the predictive ability of genetic tests is lower than that of clinical characteristics [20]. Another reason may be that genetic testing is perceived as threatening to people's privacy.

Setting health insurance premiums based on lifestyle was supported by a third of physicians for compulsory insurance and three-quarters of physicians for complementary insurance. Three arguments can justify increasing fees for people with an unhealthy lifestyle [3]: actuarial fairness, beneficence, and individual responsibility. Unhealthy lifestyles are associated with greater healthcare costs, and a risk-based premium will reflect that. Secondly, a lifestyle-dependent premium may encourage healthier behaviours. There is, however, no evidence that such a mechanism is effective. Finally, it can be argued that people choose their lifestyle, and should be held accountable for their choices [21, 22].

Doctors' opinions differed significantly across medical specialties, reinforcing the absence of consensus on the best financing system among physicians. Differences among specialties in doctors' preferences for healthcare financing have been noted in previous surveys conducted in the United States [13], Germany [23] and Russia [24].

The main strength of this study was that it focused on physicians, who are well informed about the funding mechanisms of the health system. This is not necessarily the case in the general population targeted by previous surveys. Moreover, physicians from all practice settings or specialties were surveyed, which lends a wide applicability to our results. Another strength of this study is the high number of participants. The main limitation concerns the moderate proportion of respondents, but this proportion is similar to those encountered in other physician surveys. Another limitation is that these data are dated, but we have no reason to expect important shifts in opinions among doctors, just as

Table 4: Preferred financing model.

	Regional flat fee	Payroll tax	Progressive income taxation
Total	57% (846/1,485)	29.3% (435/1,485)	13.7% (204/1,485)
Sex			
Women	54.5% (310/569)	31.8% (181/569)	13.7% (78/569)
Men	58.5% (535/915)	27.8% (254/915)	13.8% (126/915)
p-value	0.23		
Age			
up to 35 years	54.5% (162/297)	30% (89/297)	15.5% (46/297)
36–50 years	58.5% (344/588)	28.1% (165/588)	13.4% (79/588)
Over 50 years	56.5% (338/598)	30.3% (181/598)	13.2% (79/598)
p-value	0.75		
Practice setting			
Public senior	56.2% (82/146)	27.4% (40/146)	16.4% (24/146)
Public in training	52.9% (266/503)	30.8% (155/503)	16.3% (82/503)
Private practice	59.6% (498/836)	28.7% (240/836)	11.7% (98/836)
p-value	0.07		
Speciality			
Internal medicine specialists	53.8% (121/225)	29.8% (67/225)	16.4% (37/225)
Paediatricians	68.0% (83/122)	23.8% (29/122)	8.2% (10/122)
Technical specialists	67.4% (288/427)	23.2% (99/427)	9.4% (40/427)
Psychiatrists	48.0% (131/273)	38.8% (106/273)	13.2% (36/273)
Primary care	50.8% (219/431)	30.4% (131/431)	18.8% (81/431)
p-value	<0.001*		
Managed care network			
Yes	54.6% (89/163)	28.2% (46/163)	17.2% (28/163)
No	57.3% (752/1,312)	29.4% (386/1,312)	13.3% (174/1,312)
p-value	0.39		

* Statistically significant association

the two annual surveys [10, 11] show largely stable opinions among the public.

In conclusion, this study did not reveal any consensus among physicians about the funding of compulsory health insurance. In particular, linking it to ability to pay was rejected by a majority of physicians. Many physicians supported the idea of lifestyle as a determinant of premiums; specifically a third supported it for mandatory insurance and three quarters for complementary insurance.

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