The reform of the rural cooperative medical system in the People’s Republic of China: interim experience in 14 pilot counties

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Abstract

During the 1960’s and 1970’s the Chinese government encouraged the ‘rural cooperative medical systems’ (RCMS), in order to ensure access to basic health care among the rural population. There was a break in the development of the RCMS in the early 1980’s, as a consequence of market economic reforms. These reforms involved a shift from a communal to a household production system. As a result the collective way of financing rural health care was more or less abandoned. However, the government of the People’s Republic of China was aware of the need to provide social protection against health care expenses. In March 1994 the government initiated a project to reestablish the RCMS. This project was implemented on a pilot basis in 14 counties of seven provinces. The reestablishment of the RCMS would be guided by the basic principles of health insurance.

In October 1995, a first mid-term evaluation of the RCMS Project was held. One of the major research questions concerned the extent to which the RCMS had reduced the risk of paying health care bills that would otherwise be a burden on families. This article addresses this question and assesses the results obtained after two years of RCMS experimental work. A general finding is that the population structure by occupation and income varies, and that the RCMS has adapted itself to this variety. It is also confirmed that the burden of health care costs on families was reduced, more so in some counties than in others, but this reduction has been modest. The research results indicate that there is ample room for improvement. The outlook is hopeful, however. At the national level, there is now systematic thinking about RCMS. The current RCMS work is also having a considerable influence on other counties that are keen to reestablish the RCMS. © 1999 Elsevier Science Ltd. All rights reserved.

Keywords: Cooperative schemes; Health insurance; Rural health financing

Introduction

According to Chinese history reports, ‘cooperative medical funds’ were already operating in the 1940’s, which was earlier than the founding of the new China.
These were established by farmers on a voluntary basis, whereby protection was ensured when illnesses entailed high medical expense. The cooperative organization of rural health financing was pursued as of 1955 through the initiatives of communes and brigades in rural areas (Sheng-Lan et al., 1994, p. 10). During the 1960's and 1970's this method, which came to be termed 'rural cooperative medical systems' (RCMS), was encouraged by the government and the Communist Party. The growth of the village collective economy provided the basis for the development of the RCMS. Funding for the RCMS was supplied from the collective welfare funds as well as from farmers' contributions. The share of collective welfare funds in total funding varied from 30 to 90%, with an average of 50% (Cheng and Liu, 1995, p. 2). Farmers' contributions ranged from 0.5 to 2% of their annual income. This system enabled farmers to maintain access to primary health care. By the mid-1970's, more than 90% of China's villages had a RCMS, administered by the brigade and with the village health clinic as the principal health care provider.

However, a major break in the development of the RCMS occurred in the early 1980's, as a consequence of widespread market economic reforms. These reforms basically involved a shift from a communal to a household production system. As a result the collective way of financing rural health care was more or less abandoned, and user fees for health services were expected to compensate for the reduction of public revenue (Liu et al., 1995, p. 1987). It also appeared that many communities rejected RCMS because of its association with the political upheaval of the Cultural Revolution period (Xueshan et al., 1995, p. 1111). By 1984, village coverage had dropped to 4.8%. In 1989, however, the central government launched a nationwide 'rural primary health care' program, and RCMS village coverage progressed to 10% by 1993.

However, in view of what had happened to the RCMS, the government of the P.R. of China was aware of the need to pursue the provision of social protection against health care expenses, so that access to care among the rural population could be secured. In March 1994, the government initiated a project to reestablish the RCMS, henceforth called the Project. This Project was implemented on a pilot basis in 14 counties of seven provinces. It was clear from the start that the RCMS would have to be a joint financial effort by government, the villages and the rural population to meet the basic health care needs. The basic principles of health insurance would guide RCMS development. It was stipulated, however, that the RCMS would operate on a voluntary basis, and would have to be adapted to the local economic situation (State Council, 1994, pp. 9–12). Counties and townships played a vital role in the design of RCMS. It was therefore expected that the pilot counties might give a different response to the challenge of RCMS development.

In October 1995, a first mid-term evaluation of the RCMS Project was held. One of the major research questions addressed the counties' ability to organize health insurance protection. In other words, to what extent would health insurance reduce the risk of paying health care bills that would otherwise be a burden on families. This article addresses this particular question and assesses the results obtained after two years of RCMS experimental work. In Section 2, we discuss the relaunching of the RCMS. A baseline household survey was held in the 14 counties and the results concerning counties' income and health care expenditure are discussed in Section 3. The results of this household survey prove to be a convenient tool in the assessment of the level of health insurance provided through the RCMS. The assessment of the interim progress over the period 1994–1995 is presented in Section 4. Perspectives for further development are given in Section 5. We conclude in Section 6.

Relaunching the RCMS

The state council's report

In the late 1980's the government of the P.R. China took a series of initiatives to renew or improve access to health care in rural areas, which included the rural primary health care initiative. A further significant step was taken by the State Council in 1992 with a general study of the feasibility of the reintroduction of RCMS. In an important paper, henceforth called 'State Council Report', the State Council outlined the objectives and overall process of reestablishment of the RCMS in China (State Council, 1994).

The State Council Report emphasized that the access to primary health care for the rural population in backward economic areas needed urgent improvement. The prime purpose of the RCMS would be to drastically reduce the problems of poverty caused by disease and of disease caused by poverty. The population should not loose significant amounts of money or assets (food, animals, etc.) just to pay for medical

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2 'Commune' and 'brigade' are terms used before the 1980's; they are equivalent to the currently used 'township' and 'village', respectively.
3 Also called 'village welfare funds'. Funding was based on income from collective agriculture and enterprise activities at the village level.
4 This is the term used for China’s cabinet.
expenses. The State Council Report suggested a goal of achieving reestablishment of the RCMS in 70% of all villages by the year 2000.

Several other propositions were made in the State Council Report. These included the nonprofit objective of RCMS, as well as the recruitment of members on a voluntary basis. Furthermore, the RCMS should improve the quality of services and extend the scope of health services. Finally, but very importantly, the RCMS models should be adapted to the local economic situation and the income status of the local rural population.

The RCMS project and the basic research question

On the basis of the State Council Report, the RCMS Project was launched in 1994. The RCMS Project is managed by the Ministry of Health (MOH) that reports to the State Council. A central technical team (CTT) was established, comprising MOH officials and researchers from Beijing Medical University and Anhui Medical University. Technical support from the World Health Organization was provided through collaboration with the CTT. The CTT was given the responsibility for all research components and for reporting to the State Council through the Ministry of Health. From the start, the RCMS Project was to be carried out in 14 pilot counties, namely two counties in each of seven designated provinces. Following selection of the provinces and counties, three townships were selected for the pilot RCMS in each county. For each RCMS, a management committee was responsible for the design and evaluation of the RCMS and for the monitoring of its daily operations.

Given the principal objective advanced in the State Council Report, the applied research in the first two-year phase (1994–1995) concentrated on the following basic research question: to what extent have counties and their townships been able to reduce the burden of health care costs on the rural population? In this article an assessment will be made of population coverage by RCMS, the overall level of insurance as well as of the adequacy of the reimbursement structure. Baseline data on income were gathered through a household survey organized at the start of the project in the 14 counties. In the following section we report on the results of this household survey, as these will be used in the assessment later on.

Results of household surveys

Introduction

In September 1994, the 14 pilot counties were involved in a household survey about incomes and health expenditures. There is a total of 8.7 million population in the 14 counties. A great variation is observed among the population size of the counties selected, namely from 140,000 to 1.3 million. From each selected county three townships were chosen. There is also substantial variation in the township population size, namely from 12,500 to about 40,000 inhabitants.

The provinces were designated in such a way that they represented the most developed, the less well developed and the least developed parts of China. The counties were chosen for their previous efforts in rural primary health care work, and for the presence of local public health officials with a keen interest in RCMS. In each county then, townships were chosen so as to represent the different economic levels within the county. From each township, three villages were further selected. Finally, in each village 60 families were randomly selected; we have therefore 540 interviewed families per county.

Average income

Income was recorded for the year 1993, and has to be understood as yearly cash income earned by families. In other words, the value of self-production of food or other income in kind is not included; neither is the value of the housing services if the interviewed family is the owner of a house.

In Table 1, counties are ranked according to per capita income, in ascending order. The data on average income per capita (column 1) reveal important income differences between the pilot counties. For instance, the most well-off county, Xiaoshan of Zhejiang Province, has an average income that is about eight times as much as that of Yihuang county.
of Jiangxi province. In their study on income inequality in China, Hussain et al. (1994) point at widening inequalities between counties since the economic reform. They cite a number of factors such as land quality and proximity to a city. In addition, they refer to an important explanatory factor of inequality, namely the existence of township and village enterprises (TVE (Naughton, 1994, p. 266)) in the rural areas. The TVE are ‘collective’ for-profit enterprises that are controlled by local governments and that are engaged in nonagricultural activities. They have become a crucial factor in the economic development of the counties’ economies as they generate substantial employment and income among the rural population.

Income inequality is also prevalent within counties. As an example, we studied income distribution in Qidong County. The value of the Gini-coefficient was 0.3245, therefore revealing some inequality. The population group with the average income has a cash income that is about seven times as much as the poorest group. And the richest population group has an income that is about 14 times the income in the poorest category. It is this income disparity that provides one of the arguments for the development of a health care financing system, based on social health insurance principles, that by its very nature would aim to ensure access to the low-income population.

Average health expenditure

The average health expenditure per capita in each county is presented in column 2 of Table 1. The variation is large: from a minimum of US$5.9 in Yongxiu to a maximum of US$24.6 in Xiaoshan. For the two poorest counties (with an average income per capita of less than US$100), average health care expense per capita is US$6.6–9.3. Comparable figures have been reported by Song (1995), who found that, for 30 poor counties, average personal health care expense per capita was US$8.412.

In this cross-section least squares regression the dependent variable is the logarithm of health expenditure per capita, whereas the sole explanatory variable is the logarithm of income per capita. The adjusted $R^2$ is 0.44. The income elasticity coefficient estimated is statistically significantly different from 0 at the 1% probability level (one-tailed t-test). The income elasticity of 0.46 means, for instance, that a 10% increase in income tends to increase demand for health care by 4.6% ($=0.46 \times 10\%$).
for the 14 pilot counties reveals that the income elasticity of health expenditure is 0.46. That this income elasticity is below 1 implies that the share of health care in income drops as county income rises. In fact, it can be seen (in column 3, Table 1) that these shares vary between a minimum of 4% for Haining and Xiaoshan (ranked 13th and 14th, respectively, according to income level) to a maximum of 14.9% for Xinmi (ranked 4th according to income level). In other words, the poorer the county, the higher the share of income that families allocate to health services. Thus, RCMS schemes have an important role to play in protecting families against the burden of high health care costs.

Appraisal of the insurance function of the RCMS

Population coverage

By the mid-term evaluation seminar in October 1995, the RCMS design within the framework of the Project had been implemented in 12 of the 14 pilot counties\(^{14}\). The eligible population is basically ‘rural’ and comprises farmers, workers in TVE and their dependents\(^{15}\). The population coverage rates are presented in Table 2. In all three townships of six counties, the RCMS covered 80% or more of the eligible population. The RCMS population coverage rates are below 50% in counties in three counties only. Unfortunately, the lack of data does not permit us to assess which population groups within the counties have so far not been reached by the RCMS.

Which method was used to enroll the population in the RCMS? In most townships, the contribution collection function is carried out by village leaders on a once-a-year basis. The funds are then transferred to the township level management. Workers’ contributions are collected directly via the TVE. Regarding farmer contributions, the village leaders collect from farmers’ homes, according to a list of registered households, at a time decided by the RCMS management and village leader\(^{16}\). This essentially means that those who did not choose or were unable to register at the time of collection may not have an opportunity to do so until the collection time for the following year. This is a serious drawback and hampers enrollment. Also registration tends to be based on the village list of farmers, and is therefore not adapted to a family registration including all family members.

The overall level of insurance

Notwithstanding the fact that the majority of the population is well covered in most townships, the key question remains to what extent the RCMS provides real protection against health care costs. A first way to assess the degree of insurance is to analyze which part of health care expenditure is reimbursed or covered via health insurance.

Before proceeding with the assessment, two remarks are in order about the RCMS contributions. First, it is important to note that, apart from members’ premiums, the RCMS receives funding from local government. In addition, students might not be among the targeted population for RCMS, as soon as they are covered by ‘schoolchildren health insurance’. In addition, other health financing subsystems are applicable to workers in industrial and state enterprises (‘labor insurance’) and to civil servants (‘public service medical care’). For good overviews, see Xing-Yuan and Tang (1995) and Yu (1991).

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\(^{14}\) The counties in Beijing were awaiting implementation at that time.

\(^{15}\) The dependents do not comprise children below school age, as health care is provided free of charge for them through the local government budget. In addition, students might not be among the targeted population for RCMS, as soon as they are covered by ‘schoolchildren health insurance’.

\(^{16}\) ‘Village leader’ is equivalent to village mayor.

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Table 2

<table>
<thead>
<tr>
<th>County</th>
<th>Range(^{b}) in the percentage of population covered ((%))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yihuang</td>
<td>90</td>
</tr>
<tr>
<td>Wuzhi</td>
<td>100</td>
</tr>
<tr>
<td>Yongning</td>
<td>76-100</td>
</tr>
<tr>
<td>Xinmi</td>
<td>31-64</td>
</tr>
<tr>
<td>Yongxia</td>
<td>83-90</td>
</tr>
<tr>
<td>Lingwu</td>
<td>80</td>
</tr>
<tr>
<td>Changyang</td>
<td>94</td>
</tr>
<tr>
<td>Wuxue</td>
<td>100</td>
</tr>
<tr>
<td>Xinghua</td>
<td>38-61</td>
</tr>
<tr>
<td>Haining</td>
<td>32-54</td>
</tr>
<tr>
<td>Qidong</td>
<td>68-85</td>
</tr>
<tr>
<td>Xiaoshan</td>
<td>67-91</td>
</tr>
</tbody>
</table>

\(^{a}\) As a result of delays in RCMS implementation, no data are given for Fangshan and Pinggu Counties. \(^{b}\) The range is only mentioned, when differences are noted across townships within the same county.
Table 3
Average health insurance contributions per person and their share in average health expenditure per capita and average income per capita

<table>
<thead>
<tr>
<th>County</th>
<th>Average health insurance contribution per capita (US$) (1)</th>
<th>Average health insurance contribution per capita destined for health care cost reimbursement (US$) (2)</th>
<th>Ratio of average health insurance contribution per capita destined for health care cost reimbursement in average health expenditure per capita (%) (3)</th>
<th>Ratio of average health insurance contribution per capita in average income per capita (%) (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yihuang township 1</td>
<td>2.3</td>
<td>2.1</td>
<td>31.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Yihuang township 2</td>
<td>0.8</td>
<td>0.7</td>
<td>10.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Yihuang township 3</td>
<td>2.1</td>
<td>2.0</td>
<td>30.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Wuzhi</td>
<td>2.3</td>
<td>2.0</td>
<td>21.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Yongning</td>
<td>1.4</td>
<td>1.2</td>
<td>10.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Xinmi</td>
<td>3.0</td>
<td>2.8</td>
<td>17.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Yongxiu township 1</td>
<td>1.5</td>
<td>1.5</td>
<td>25.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Yongxiu township 2</td>
<td>2</td>
<td>1.9</td>
<td>32.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Yongxiu township 3</td>
<td>0.6</td>
<td>0.6</td>
<td>10.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Lingwu</td>
<td>1.3</td>
<td>1.2</td>
<td>8.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Changyang</td>
<td>1.5</td>
<td>1.4</td>
<td>14.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Wuxue township 1</td>
<td>2.4</td>
<td>2.3</td>
<td>25.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Wuxue township 2</td>
<td>2.3</td>
<td>2.2</td>
<td>24.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Wuxue township 3</td>
<td>2.5</td>
<td>2.4</td>
<td>26.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Xinghua</td>
<td>2</td>
<td>1.8</td>
<td>15.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Qidong township 1</td>
<td>2.6</td>
<td>2.6</td>
<td>18.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Qidong township 2</td>
<td>2.5</td>
<td>2.3</td>
<td>16.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Qidong township 3</td>
<td>2.8</td>
<td>2.6</td>
<td>18.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Haining farmer</td>
<td>2.6</td>
<td>2.5</td>
<td>18.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Haining worker</td>
<td>3.9</td>
<td>3.7</td>
<td>27.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Xiaoshan township 1</td>
<td>1.3</td>
<td>1.0</td>
<td>4.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Xiaoshan township 2</td>
<td>1.3</td>
<td>1.0</td>
<td>4.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Xiaoshan township 2</td>
<td>0.4</td>
<td>0.3</td>
<td>1.2</td>
<td>0.1</td>
</tr>
</tbody>
</table>

a,b Unless otherwise mentioned, contributions are defined on a county-wide basis. c,d Health insurance contributions at township level are divided by average per capita income in the county.
establish a reserve fund, to pay for administration and to undertake preventive activities. In columns 1 and 2 of Table 3, we present, respectively, the average health insurance contribution per capita and the part of this contribution that is destined for the reimbursement of health care costs; the latter can now be compared with average health care expenditure per capita.

In column 3 of Table 3, we present the ratios of the average health insurance contribution (destined for the reimbursement of health care costs) per capita to average health care expenditure per capita. We refer to these ratios as the ratios of insurance protection; the higher is the ratio, the higher is the level of insurance. It is only when there are no deductibles, copayments or restrictions on health care benefits that the ratio would be 1. We observe a great variation in the ratios. Some counties, such as Lingwu and Xiaoshan, have low ratios, below the 10% mark, which reveal that their RCMS schemes hardly insure their members. Some counties such as Qidong and Wuxue, however, do much better and reach ratios between 18 and 27%. The best performing county is Yihuang with ratios in two townships above 30%. Still, the overall conclusion is that ‘on average’ health insurance contributions do not yet suffice to offer RCMS members a reasonable health insurance benefit. Even in Yihuang with the largest degree of insurance, the population as a whole still pays around 70% out of pocket.

An important additional finding is that there is a negative relationship between the level of insurance, measured by the ratio discussed above and the level of income per capita. The simple correlation between the two variables is -0.573. A cross-section regression analysis confirms that the income elasticity of the ratio is negative, namely -0.72, and statistically significant. In other words, there is a tendency for the richer counties to offer lower protection. This result is opposite of what we would have expected, as the richer counties have in principle a higher capacity to contribute to health insurance.

In Section 4.3, we use a second way to assess the level of insurance, by analyzing the adequacy of the reimbursement structure.

Reimbursement structure and effective reimbursement rates

General findings

In all counties, health insurance benefits are stated as reimbursement levels for the various types of health services. Variation in reimbursement structure across counties is wide, and is the result of the policy to let counties and townships adapt RCMS to their own local situation and preferences. All counties insure hospital care at the township and county level, whereas three counties insure hospital care at the provincial level as well. There can also be significant variations across townships within the same county. Seven counties have designed the same model for each of the three pilot townships. In the remaining counties, variations in health insurance benefits are found by township. For instance, in some townships within the same county, only consultations and operations are covered, in other drugs and diagnostic services for outpatients and inpatients are also partially reimbursed.

Most pilot counties (11 of the 12) insure against outpatient costs at village level, in several counties at low reimbursement levels (20%–25%) of the fee or as a fixed amount (such as exemption from fees up to US$0.19 or US$0.25). Effectively it would appear that, on average, a patient would still have to pay about 80% of the village health station fee for a single visit. Variation in benefits for township and county level outpatient and inpatient care is very wide. In some townships, only consultations and operations are covered, in other drugs and diagnostic services for outpatients and inpatients are also partially reimbursed. Most RCMS have fixed different levels of reimbursement for the various types of health services, and for different levels of charge, from a low 20% to a high 70%. For example, 20% may be reimbursed for inpatient care, but excluding drugs, up to a ceiling of US$125, and then 30% may be reimbursed above that amount to the next ceiling, usually with a specific maximum total reimbursement per admission or per person per year. Drugs may have a different rate, and even specific types of X-rays may have different reimbursement rates. This reimbursement as a benefit is complicated and probably not easily understood by the insured population.

Effective reimbursement rates in selected counties

In Table 4 we present the detailed reimbursement structure of three selected counties, viz. Yihuang,
Table 4
Reimbursement structure in selected counties

<table>
<thead>
<tr>
<th>Countyd</th>
<th>Reimbursement structure</th>
<th>Outpatient visitsa</th>
<th>Inpatient admissionsb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reimbursement</td>
<td>Maximum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>percentages</td>
<td>reimbursement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(US$)</td>
<td>(US$)</td>
</tr>
<tr>
<td>Yihuang</td>
<td>village 45–50</td>
<td>2.5–4.4/year</td>
<td>reimbursement schedule with different reimbursement percentages (from 25% to 30–50%) for different levels of charge; maximum charge is US$ 125 deductible of US$ 25 in one township</td>
</tr>
<tr>
<td></td>
<td>township 35–45</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>county 30–40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lingwu</td>
<td>village 25</td>
<td>0.19/prescription</td>
<td>township:</td>
</tr>
<tr>
<td></td>
<td>township 25</td>
<td>0.25/prescription</td>
<td>county: 94 per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qidong</td>
<td>village 100</td>
<td>farmers</td>
<td>township:</td>
</tr>
<tr>
<td></td>
<td>township 70</td>
<td>village: 0.25/visit</td>
<td>county: 60</td>
</tr>
<tr>
<td></td>
<td>county 50</td>
<td>township: 0.63/visit</td>
<td>province: 20</td>
</tr>
<tr>
<td></td>
<td>province 40</td>
<td>county: 1.88/visit</td>
<td>province: 40/ admission</td>
</tr>
<tr>
<td></td>
<td>workers</td>
<td>province: 6.25/visit</td>
<td>workers township and county: 29/ admission</td>
</tr>
<tr>
<td></td>
<td>village 0.31/visit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>township: 0.75/visit</td>
<td>province: 63/ admission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>county: 2.25/visit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>province: 6.25/visit</td>
<td></td>
</tr>
</tbody>
</table>

* Generally, outpatient visits are reimbursed at the village health station and township health centre level. The county and the province will be mentioned explicitly if there is reimbursement of outpatient services at that level as well. These are inpatient admissions at the township health centre and the county hospital. Hospital care at provincial hospital is insured only, if explicitly mentioned. Unless otherwise mentioned, the reimbursement structure is valid at both the township and county level. The reimbursement structure of township 1 in Yihuang is presented. Qidong and Lingwu have the same reimbursement structure in all towns- ships.

Lingwu and Qidong. These counties represent, respectively, the counties with different levels of insurance protection. Yihuang is among those counties with ratios of insurance protection above 25%. Lingwu is among the counties with the lowest ratios of protection (below 15%), whereas Qidong is part of the counties with ratios in the range of 15–25%. In Qidong reimbursement is higher for workers than for farmers, which reflects the workers’ higher contribution rate and incomplete pooling.

Due to the presence of copayments, deductibles and other restrictions, official or scheduled reimbursement rates do not adequately reflect the true or effective insurance protection. It is useful therefore to simulate the effective reimbursement rates when patients incur specific expenses for outpatient and inpatient care.
This simple simulation exercise will allow us to understand better the ranking of the counties in terms of health insurance protection. In this simulation, fees per outpatient visit are set at US$1.8, US$6.0 and US$13.3 at village, township and county level, respectively. The fees for inpatient fees at the township and county level are set at US$51.3 and US$138.9, respectively. All fees are equal to the average fee for outpatient or inpatient care at the level of the village health station, township health centre or county hospital in the 14 counties. We next apply the reimbursement rules (in Table 4) to these hypothetical cases.

The results of the simulation are presented in Table 5. They confirm that effective reimbursement rates differ, and often significantly, from the scheduled rates. It is verified that Qidong offers a more effective protection to its workers. In Lingwu and Qidong, the effective reimbursement level of more outpatient care is low however and does not exceed the 18% mark. Both counties offer more protection at the township level than Yihuang. Nevertheless, Yihuang shows a more balanced pattern of effective insurance coverage. Yihuang attaches at least as much importance to the reimbursement of outpatient as that of inpatient care. This is not the case of the other two counties, where outpatient care is much less reimbursed, relative to inpatient care. A better insurance of county hospital care is offered in Yihuang, compared to the other two counties. It is easy to understand why Yihuang with its greater coverage of outpatient care and of inpatient care at the township level was found to rank highest among the counties in terms of level of insurance.

The extent to which contributions are pooled

Pooling of risks and contributions is an essential ingredient of social health insurance. In most townships contributions are grouped into one RCMS account. However, in eight townships, separate accounts for farmers and workers have been established. The latter limits risk-sharing, of course.

It is said that enterprises and their workers are reluctant to have funds pooled. Perhaps one of the reasons is that workers speculate that farmers have higher incomes and, hence, that they should contribute more. The limits of financial solidarity between workers and farmers may have been trespassed. The latter can happen when the average worker's contribution exceeds the average farmer's contribution by far. The absence of willingness to pool funds is exacerbated when workers judge that farmers' declared income is far below their real income and that, therefore, their capacity to pay RCMS contributions is underestimated.

Perspectives for continued development

Increasing the population coverage

Population coverage could be further improved via the adoption of a more open registration policy. Currently, several RCMS schemes limit their registration to one or two specific times during the year. Of course, potential members that are keen to join outside these registration periods need to wait to get registered. In order to improve the attractiveness of RCMS, one may think of a policy where registration is possible at any time during the year.

Registration can also be encouraged by the use of a marketing approach. Promotion in various ways, for instance via newspapers, leaflets, television or radio-announcements could be considered. In other words, RCMS could be seen more by its managers as a business, but one with not-for-profit objectives. A
prime objective is to improve access to care among all population groups. Therefore, it would be all the better when modern marketing techniques are used, if they help to achieve this objective.

RCMS management can also strive to become an effective user of the RCMS data information system which exists at county level. This system should be conceived as an active tool to improve membership. For instance, the information system can serve to indicate occurrence of adverse selection, as it can provide, among other, elements the age distribution of RCMS members. Adverse selection could be countered by a deliberate drive to broaden membership to all population categories.

Increasing the level of insurance

Generally one should envisage an increase in reimbursement levels in order to raise the health insurance protection of the RCMS. Over the next two-year period, the counties could attempt to achieve average effective reimbursement rates of at least 50%. Note that the regression result which points at a negative relationship between the ratio of the insurance protection and income, suggests that the most important effort for higher reimbursement ought to come from the more developed pilot counties. Because the RCMS schemes need to ensure a financial equilibrium, an increase in reimbursement naturally calls for a rise in health insurance contributions.

Concerning the recommended increase in health insurance contributions, a first question is whether workers, farmers and others would have the capacity to pay higher premiums. We may obtain some indication about capacity to pay by analyzing the share of the existing premiums in average income per capita (column 4 in Table 3). We see that the minimum and maximum shares are 0.1% (in Xiaoshan) and 3.0% (in Yihuang), respectively. These shares can then be compared with the observed shares of average health care expenditure in average income, already reported in column 3 of Table 1. For the ‘average’ rural citizen in the counties, observed health care expense is seen to be a multiple of the premiums charged. The latter suggests that there should be no particular financial problem for him/her to pay a higher premium. In fact, according to insurance theory (Arrow, 1970), a risk-averse person would be willing to pay a premium which is at least equal to the expected health care expenditure. However, we lack data on income and health expenditure by socio-economic category of the population, and willingness to pay among the low-income can not be verified. It stands to reason that especially the poorest may not have the willingness to pay for an across-the-board increase in premiums, and this demands further investigation.

Secondly, in most pilot counties, village, township and county governments already contribute to the financing of RCMS. The question arises whether these contributions could increase, and to what extent. A reexamination of local public finance with respect to this issue could be encouraged. Such an increase could contribute to reinforcing health insurance financing for the population as a whole. However, additional government funds could also be used to provide funding for the purchase of RCMS membership for the poorest. The possibilities for provincial and central government to cofinance the development of RCMS could also be explored.

Finally, we refer to the results of an attitude survey about RCMS (Carrin et al., 1996) among the population in the 14 counties, that showed that some of the critical attitudes towards RCMS were caused by the low health insurance benefits that schemes offered. Indeed, the population appears to understand that low reimbursements are not capable of alleviating the financial burden of health care costs. This finding therefore supports the view that higher benefits are warranted to attract more members. We reiterate though that health insurance contributions, whether from government or from the population, ought to be adjusted upwards in order to sustain any projected higher benefits.

Expanding health insurance benefits and improving reimbursement

It would foster the link between the RCMS and health development on the whole, if one were to define first the types of benefits and, subsequently, the reimbursement (or copayment) structure. For the longer run, one would recommend a total or large reimbursement (zero or small copayment) for preventive services, in view of their positive welfare impact on the individual and society in general. Primary curative services also merit the highest reimbursement (lowest copayment) rate possible. Not only would it stimulate access to basic care. However, good primary care services can also reduce the need for more costly hospitalization.

It can be examined how one could include all necessary diagnostic components and treatment, whether at the outpatient or inpatient level. In this sense, there is no important justification to exclude coverage of drug costs from the benefits. Fear of abuse from the patient’s and provider’s side may explain several exclusions from benefits. In this case, however, incentives to change patient and provider behavior may need to be established. The RCMS management could organize
or cofinance health education about the correct use of drugs or certain types of unwarranted treatment. RCMS management can also help in adjusting provider behavior. For instance, it can inquire into contracts whereby income is no longer linked, as at present, to the volume of drug prescription.

In general the reimbursement (copayment) levels need to be increased (decreased) in the RCMS pilot schemes, in order to raise the attractiveness of health insurance. Moreover, the reimbursement (copayment) structure can be simplified, towards a limitation of the number of different reimbursement (copayment) percentages and of the different types of health care services to which they apply. The latter will simplify RCMS administration and lower administrative costs. It will also increase the understanding of the RCMS members and patients.

Towards increased pooling

As was discussed above, in several townships the RCMS keep separate accounts for farmers and workers. If immediate and total pooling proves to be unacceptable, a special contract between RCMS management and the various professional groups can be established: this contract (valid for, say, 2–3 years) would stipulate how the degree of pooling could be gradually increased, and how the various contribution and benefit levels would be adjusted over the given time period.

In any case, a special effort will be needed to assess the income levels of the farmers and other self-employed people. For instance, in several counties, it is said that farmers earn more than presently assumed. An increased contribution for farmers could therefore be examined.

Conclusion

The RCMS Project so far has involved applied research, focussing on the implementation of the RCMS. This process has taken on different levels of importance across the counties and in the selected pilot townships in these counties. A general finding is that, although all counties are rural, the population structure by occupation and income clearly varies. The Project has adapted itself to this variety, however, and its has given continued support in implementation and in monitoring the progress in the different pilot counties.

This article has further highlighted specific interim results of the RCMS Project. We have learned, first, that the average population coverage in most townships is adequate and that full population coverage seems to be a feasible goal. In a limited number of townships, coverage needs drastic improvement, however. In this respect, more should be known about the population groups that are still left behind. Regarding the enrollment of RCMS members, usually this is possible only once a year. It is clear that enrollment procedures and subsequent collection of premiums should be reviewed and made more flexible, so that it becomes easier for people to enroll during the course of the year.

Secondly, substantial improvement is needed regarding the level of insurance. Currently, average effective reimbursement of health care costs in the county ranked best in terms of level of insurance does not exceed 32%. A new target for the counties could be to bring effective reimbursement up to at least 50% in the next two years, followed systematically by further increases. It is clear that such a policy would result in increases in premium levels and additional cofinancing of all levels of government. It seems that further premium increases are not impossible, provided there is also a willingness to pay for an increased level of insurance. This willingness to pay can be enhanced by making the health insurance benefit package more attractive, including more adequate levels of health care. We also concluded there is a possibility for government to provide funding for the uninsured poor, as they may lack capacity to pay for better insurance.

Thirdly, considerable attention has been paid in discussions to the voluntary vs. compulsory character of the RCMS. At the same time, this has led to the issue of the degree of pooling of contributions within the RCMS. The central technical team has consistently advocated the need for pooling of farmers’ and workers’ contributions, at least in the long run. In addition, the appeal of a system covering all of the population has been highlighted.

It is fair to say that after merely two years the Project can boast some accomplishments, such as counties’ and townships’ direct and continuous involvement in the design of RCMS with the objective to reduce the burden of health care costs. On average, this burden was reduced, more so in some counties than in others, but it is acknowledged immediately that this reduction has been modest. Thus, there is ample room for improvement in the level of insurance.

Despite these shortcomings, we submit that the outlook is hopeful. At the national level, there is now systematic thinking about RCMS, through workshops and technical discussions where ideas are exchanged. The current RCMS work is already having a considerable influence on other counties that are keen to reestablish the RCMS. Furthermore, as a result of the experience gained, the Ministry of Health has been able to draft plans for legislation and to submit them to the Legislation Department of the State Council. At the level of the counties and townships, the skill has
been acquired to define and detail the local RCMS programs. Future RCMS plans will be dealing with the issue of adequacy of insurance coverage and other insurance-related issues such as the integration of preventive and curative services in the health insurance benefit package, cost-containment and provider contracts. The openness whereby these plans are discussed is promising for the future development of RCMS.

References


