Final report

Analysis of National Health Expenditure in China: Trends and Future Situations

China Health Economics Institute
LI Yaqing
Acknowledgments

First of all, I would like to express my respect to the Board of Alliance for Health Policy and System Research for they support on research project in developing countries, then I have opportunity to continue my research project.

I should express my thanks to Dr. Miguel A. González-Block, Dr. Dabbie, Dr. Luo Li and many researchers who joined the protocol workshop, Geneva(2001), I got so many valuable guidance from them.

I would like to send my special thanks to Dr. Guy Carrin for his valuable software and technical support.

I am also should say thanks to Mr. Meng Jianguo, my policy advisor in MOH, all my colleagues in CHEI, and M.D. Ma Wenjun, Dr. Sun Fei, Ms. He Pingping etc. for their disinterested guidance and time devoted to the improvement of this project.

Last, but not at all least, I should say thanks to Dr. Paitoon Kaipornsak, for his introduce me SimFin and share his precious experience with me.
# CONTENTS

<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>3</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 1 Introduction</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 2 Literature Review</td>
<td>10</td>
</tr>
<tr>
<td>Chapter 3 Research Methodology</td>
<td>12</td>
</tr>
<tr>
<td>Chapter 4 Data and Result</td>
<td>32</td>
</tr>
<tr>
<td>Chapter 5 Conclusion and Discussion</td>
<td>42</td>
</tr>
<tr>
<td>Chapter 6 Policy Implication</td>
<td>47</td>
</tr>
<tr>
<td>References</td>
<td>50</td>
</tr>
</tbody>
</table>
Abbreviations

THE: China Total Health Expenditure

GEIS: Government Employee Insurance Scheme

LIS: Labor Insurance Scheme

CMS: Cooperative Medical Care System

GHE: Government Health Expenditure

SHE: Social Health Expenditure

PHE: Private Health Expenditure

NHA: National Health Account

CHEI: China National Health Economics Institute
Chapter 1 Introduction

China has total population of 1.27 billions, about 64% of them live in rural areas (2000). The birth rate is 14.03 per thousand populations while the mortality is 6.45 per thousand populations. The current GDP is RMB 6,9403 billion yuan (US$839 billion) in year 2000. The current fiscal budget was in deficit with revenue and expenditure of RMB 1339.52 billion yuan (US$161.97 billion), and RMB 1588.65 billion yuan (US$192.10 billion), respectively, at present.

It shows that the health status of rural population is worse than urban, such as higher infant mortality (rural 40-50‰, urban 15-25‰) lower life expectancy (rural average 65, urban over 70), but the utilization of health care in rural population is lower than urban. Along with the economy transition and institutional reform, urban unemployment is increasing, for this group of population, the economic condition is worse then before. For above two groups of population, most of health expenditure comes from out-of-pocket, the share of out-of-pocket then total health expenditure is increasing continually in the past decade. The share of government expenditure then total health expenditure declining, it is will make the situation seriously. Finally, the two groups population might get negative effect on their health status as well.

Health systems of China is facing a difficult dilemma: on one hand, populations may have important needs for better health and on the other hand the financial resources they can mobilize are limited. Choices have to be made all the time: households allocate part of their budget to health, government have to establish their health budget under budgetary constraints.

In order to meet the need of administration for health services in China, the study on China Total Health Expenditure (THE) started in the early 1980’s.

In 1991, the China Total Health Expenditure Task Force was established, and the study on THE was formally taken as study project in the Network for Training and Research on health Economics and Financing (Network), which was supported by EDI / World Bank.

Some essential questions have been paid attention on the study of us:
1. How have the relative shares of out-of-pocket expenditure and government health expenditure changed as a proportion of total health expenditure in China over the past ten years and what may have been some of the factors in the macro-economy contributing to these changes?
2. If current trends in the macro-economy and health spending of China continue, what will this mean for patterns of health expenditure and macroeconomic conditions over future years and where will the potential burden of out of pocket expenditure lie?
3. If a variety of possible changes to the macroeconomic indicators of China in the future are simulated what will be the results on the availability of health care resources in the country and the potential distribution of health care expenditure?
4. What may be the macroeconomic and health policy options and implications indicated from the results of the above that decision makers could consider in order to reduce out of pocket payments in the future particularly for the poor?

The health financing has three main sources in China, government, social and out-of-pocket payment (private Health Expenditure). For the government source, Ministry of finance allocates the recurrence budget and program fund to ministry of public health; the state committee arranges the capital budget for health facilities to ministry of health. Then the department of planning & financial of MOH allocates this resource for each province or facilities or programs. Other ministries allocate health resources on their owner health facilities (almost all of facilities is located in urban area). It is in national level, for province level, county level also. The pattern of distribution brings a result of the health resources centralized in urban area instead of rural area. From the existing twenty years database on China health expenditure, many problems were found:
In 1999, the percentage of THE / GDP is 5.10%, the Capita health expenditure are 595.27 (urban) and 193.91 (rural), three times.

The share of health funding from the government budget (excluding the subsidies for Government Employee Insurance Scheme) decreased from 32% (1986) to 15.55% (1998) and 15.34(1999).

The share of the out-of-pocket payments from the total health expenditure increase from 20% (1978) to 26%(1986), 37%(1990), 57.81%(1998) and 59.18%(1999).

It shows an inequity health expenditure structure.

National Health Account (NHA) provides the best value when it is carried out periodically and used to track changes in the financing of the health care system. Three important questions facing developing countries can be addressed by the NHA. First, what is the contribution to and impact on national health spending of reforms, which develop new sources of finance for the health sector? Second, what are the functional and distribution implications of efforts to make financing-provision linkages more pluralistic? Third, what is the impact of policies to manage health consumption and expenditure?

However, the NHA analysis has a limitation, as it does not take into account of the financial constraint and the link between health expenditure and other potential production sector in the economy.

To enable the estimation of future macroeconomic effects on health care G. Carrin (1998) developed “SimFin”, a simulation model of financial needs and government budget options for the functioning of the health system” which will be used in this study.

This study aims to Advocate for policy makers to increase government expenditure on health by showing the links between the macro-economy and funds available for health, implications of increasing health spending on total government expenditure and the benefits to the poor in terms of reduced out of pocket payment burden.
Chapter 2 Conceptual framework

The macro-economy’s influence on health and other government social spending has been an increasing field of concern and research given rapid changes in the policies employed by developing countries today. Many fiscal policies, which address government consumption patterns, squeeze government expenditure in order to contain budget deficits and promote investment and economic growth. Governments try to tell their populations of how improvements in social spending will be made in the future through economic growth. Sometimes, however, any benefits of growth that are achieved are not translated to populations most in need.

China is no exception with its economic situation, and the transition to a more market oriented macro-economy. Through pressure on government spending the country has been faced with a declining government share of total health expenditure. This brought with it the consequence of increasing out-of-pocket payments being necessary, the burden of which was disproportionately experienced by the poor. This has reminded health policy makers that the health sector is linked to the macro-economy.

Research has shown the two to be linked in both directions, that is, the macroeconomic conditions have an impact on health and health care but also that health has an impact on the macro-economy of a country (Jeffrey D. Sachs, 2001). For example, Behrman(1993) concluded that economic growth can strongly affect health and health care in a number of ways. Firstly that if growth occurs there will be effect on the expected returns on investments in health. Secondly, because growth produces an increase in current income, the demand for goods rise including health care together with the capacity to self-finance these purchases. Finally that it brings “expansion of governmental command over resources associated with growth.” He also illustrated the reverse link through suggesting that health can strongly affect economic growth by its direct impact on labour productivity, thereby contributing to the economic growth of a country itself. Genberg (1993) presented a framework for analysing the relationships between macroeconomic development and health outcomes in developing countries; He concluded “macroeconomic developments and policies can have significant effects on the health sector, both through the constraints the place on government health expenditures and through the demand of the private sector for health services”.

To enable the estimation of future macroeconomic effects on health care G. Carrin (1998) developed “SimFin”, a simulation model of financial needs and government budget options for the functioning of the health system” which will be used in this study (see figure 1, page 15).
Chapter 3 Research Methodology

3.1 Introduction to the SimFin model:

It is an existing experimental model approach. The model software adopted and little modified the SimFin model (Carrin 1998), according to the availability of Chinese data. It is a simulation model of financial needs and government budget options for the functioning of the health system. Holding workshops, the participants are policy-makers of relevant departments from different ministries and macro-economic experts, to evaluate each item of variables before applying model.

3.2 The conceptual framework

The information about a nation’s health expenditure provides baseline and trend data for monitoring changes in resource allocation, in order to plan the health sector properly, we should understand how it works as an integral part of the economy. For instance, the fiscal constraints impose limitations on public health expenditure. This model related the link between health expenditure and other economic variables, based on the national income account and public finance account using the figures of variables involved in the first initial year (2000) and then increasing at the average rate annually. In other words: Output (or revenue) of the economy derived from international trade (external factors) and domestic production (GDP) with the utilization of GDP are used to determine financial constraints and needs. These become constraints to total expenditure, Health expenditure as a component of total expenditure is then taken into account in the model. Out-of-pocket expenditures (PHE: urban and rural residents) are also included (Figure 1).

---

1 The author is very grateful to Dr. Guy Carrin for his valuable SimFin model.
Figure 1: SimFin Model

- Balance of trade
  - Change of net reserves in foreign currency
  - Constraints of the international macroeconomic

- Utilisation of GDP
  - Government revenue
    - Government budget constraints

- General macroeconomic constraints

FINANCIAL NEEDS FOR THE HEALTH SYSTEM

- Government Expenditure
  - Government Health Expenditure

- Private Health Expenditure
| Health Expenditure of Ministry of Health | Health Expenditure of other Ministries |

Source: SimFin: a simulation model of financial needs and government budget options for the functioning of the health system / WHO 1998
3.3 The Model Feature

3.3.1 Use of Macro Fin begins with the defined base year. This study chose the year 1995 to be the given initial year owing to the available data. By adding the forecast period of ten years to the selected year, the forecasts of each year will be obtained. The detailed structure of Macro Fin consists of the following sets of equations:

1). The population:
   The population (POP) each year is obtained simply by taking the population level for the previous year and multiplying it by the demographic growth rate\(^2\) (grpop):
   \[
   \text{POP}_t = \text{POP}_{t-1} \times (1 + \text{grpop}_t)
   \]
   The value is used in order to obtain values of variables expressed in per capita terms.

2). Value added by sector\(^3\):
   2.1) Value added (va) may be regarded as the net contribution of a sector to a nation’s production. There are composed of three sectors in this study: (a) Primary Industry (Agriculture); (b) Secondary Industry (Industry); (c) Tertiary Industry (Services). The value added in these sectors \((j=1\text{ to }3)\) in time \(t\) is determined by taking into account the value of the previous year \((t-1)\) at constant prices and the rate of growth (grva):
   \[
   \text{va}_{t,j} = \text{va}_{t-1,j} \times (1 + \text{grva}_{t,j})
   \]
   2.2) The gross domestic product is the best measure of economic activity in a country. Gross domestic product at factor cost (gdpf) measured in constant prices is then the sum of added values from the various sectors:
   \[
   \text{gdpf}_t = \sum_j \text{va}_{t,j}
   \]
   Gross domestic product in current prices is obtained by multiplying gdp by gdp deflator (PRPGDP):
   \[
   \text{GDPF}_t = \text{gdpf}_t \times \text{PRPGDP}_t
   \]

3). Utilization of resources:
   The values of the different utilization of gross domestic product at current factor prices (GDPF) are given for the base year. These are private consumption (PVC), government consumption (GVC), gross fixed capital formation (GFC), import of goods and services (MGS), export of goods and services (EGS). The model then calculates what share of gross domestic product for the base year these utilization represent. Those shares take the form of coefficients. The following equations are to obtain the information on the utilization of resources:
   \[
   \begin{align*}
   \text{PVC}_t &= a_{t,2} \times \text{GDPF}_t \\
   \text{GVC}_t &= b_{t,2} \times \text{GDPF}_t \\
   \text{GFC}_t &= c_{t,2} \times \text{GDPF}_t \\
   \text{EGS}_t &= d_{t,2} \times \text{GDPF}_t \\
   \text{MGS}_t &= e_{t,2} \times \text{GDPF}_t
   \end{align*}
   \]

4). International transactions:
   4.1) All elements needed obtained from the above section will then be used to calculate the balance of trade (BOT\(_t\)): export of goods and services minus import of goods and services equate to the balance of trade.
   \[
   \text{BOT}_t = \text{EGS}_t - \text{MGS}_t
   \]

\(^2\) All growth rates are represented by symbols beginning with “gr”. The subscript “t” means years.

\(^3\) Symbols for variables in lower case refer to variables (except growth rate) in constant prices. The same symbols in upper case refer to variables in current prices.
4.2) The other components of international transactions are net foreign income (NFIN), net foreign transfers (NFTR), and short- and long-term capital flows (CF). The value of a transaction in year t is obtained by applying the rate of growth to year t-1:

\[ \text{NFIN}_t = \text{NFIN}_{t-1} \times (1 + \text{grnfin}_t) \]
\[ \text{NFTR}_t = \text{NFTR}_{t-1} \times (1 + \text{grnftr}_t) \]
\[ \text{CF}_t = \text{CF}_{t-1} \times (1 + \text{grcf}_t) \]

4.3) The change of net reserves in foreign currencies (RESV) is defined as:

\[ \text{RESV}_t = \text{BOT}_t + \text{NFIN}_t + \text{NFTR}_t + \text{CF}_t \]

Which is written in terms of US$ as:

\[ \text{RESV}_t^\$ = \text{RESV}_t / \text{ER}_t \]

The balance of trade and the change in net foreign currency reserves will be a result of the model. These two variables show the international position of the economy. A negative balance of trade continuing for several years, for example, could explain a drop in net reserves. Such net reserves could hinder the desired purchase of imported goods such as drugs by the health sector. On the contrary, a positive balance of trade may help to increase reserves, and this could allow the purchase of drugs to be stepped up.

5). Prices:

All price indexes for the base year are fixed at 100. For the forecasting period, the consumer price index (CPI) and the GDP deflator (PRPGDP) are defined as follows:

\[ \text{CPI}_t = \text{CPI}_{t-1} \times (1 + \text{grcpi}_t) \]
\[ \text{PRPGDP}_t = \text{PRPGDP}_{t-1} \times (1 + \text{grprpgdp}_t) \]

The consumer price index is used to convert current expenditure (such as that incurred by the government or by the private sector) at constant price to current expenditure at current prices. The consumer price index is used to convert capital expenditure at constant price into capital expenditure at current prices. The GDP deflator is used to calculate the gross domestic product at current prices.

6). Exchange Rate:

This study, owing to the limitation of data, will use nominal exchange rate (ER, Yuan/USS). The exchange rate is used to convert foreign currency values into values expressed in local currency or convert local currency values into values expressed in foreign currency.

7). Government revenue:

7.1) Three kinds of tax are identified, one is “industry, commercial, agriculture and Animal Husbandry”(TXIC), second is “others”(TXO), third is “international trade”(TXFT). The levels of these taxes are given for the base year. Estimates are then made for the forecasting period with the following equations:

\[ \text{TXO}_t = b_{t,3} \times (\text{PVC}_t + \text{GVC}_t) \]
\[ \text{TXFT}_t = c_{t,3} \times (\text{EGS}_t + \text{MGS}_t) \]

The TXIC are linked to the gross domestic product:

\[ \text{TXIC}_t = a_{t,3} \times \text{GDP}_t \]

For the base year, the coefficients above are calculated. However, some hypotheses about the rates for the forecasting period may also be made as given.

7.2) Other government revenue: non-tax revenue (NTR) can be calculated in the similar manner,

\[ \text{ntr}_t = \text{ntr}_{t-1} \times (1 + \text{grnt}_t) \]

7.3) The values of government revenue at current prices is calculated by multiplication of other government revenue by the GDP deflator:

\[ \text{NTR}_t = \text{ntr}_t \times \text{PRPGDP}_t \]

7.4) Total government revenue (GREV) can now be calculated:

\[ \text{GREV}_t = \text{TXIC}_t + \text{TXFT}_t + \text{TXO} + \text{NTR}_t \]

8). Government expenditure:
8.1) Expenditure at constant prices:

In this study, according to the available data, current expenditure includes Economic Construction (gec), Culture & Education and Administration (gca), National Defense (gnd) and Repayment of Loans & others (gro). The values of such expenditure for the base year must be given. Expenditure for the simulation period is then calculated with the following equations:

\[
\begin{align*}
\text{gec}_t &= \text{gec}_{t-1} \times (1 + \text{grgec}_t) \\
\text{gca}_t &= \text{gca}_{t-1} \times (1 + \text{grgca}_t) \\
\text{gnd}_t &= \text{gnd}_{t-1} \times (1 + \text{grgnd}_t) \\
\text{gro}_t &= \text{gro}_{t-1} \times (1 + \text{grgro}_t)
\end{align*}
\]

8.2) Expenditure at current prices:

Expenditure at current prices is obtained by multiplying expenditure at constant prices by the consumer price index:

\[
\begin{align*}
\text{GEC}_t &= \text{gec}_t \times \text{CPI}_t \\
\text{GCA}_t &= \text{gca}_t \times \text{CPI}_t \\
\text{GND}_t &= \text{gnd}_t \times \text{CPI}_t \\
\text{GRO}_t &= \text{gro}_t \times \text{CPI}_t
\end{align*}
\]

Total government expenditure (GE) is then determined as follows:

\[
\text{GE}_t = \text{GEC}_t + \text{GCA}_t + \text{GND}_t + \text{GRO}_t
\]

8.3) The government budget deficit:

The government budget deficit (GBD) is defined as follows:

\[
\text{GBD}_t = \text{GREV}_t - \text{GE}_t
\]

And as a percentage of GDP at factor cost:

\[
\text{PGBD}_t = \frac{\text{GBD}_t}{\text{GDPF}_t}
\]

9). Ministry of health expenditure:

9.1) Expenditure at constant prices:

(a) In this study, the expenditure is classified as:
1. Recurrent budget for health system;
2. Medical research;
3. Health administration expenditure;
4. Other health expenditure.

(b) The values of the base year are given. For the simulation period, the current expenditure of the MOH (hre_{mi,j}) of category j (j=1,\ldots,4) in year t is the result of multiplication of the value of year t-1 by the rate of growth (grhre_{mi,j}):

\[
hre_{t,mi,j} = hre_{t-1,mi,j} \times (1 + grhre_{t,mi,j})
\]

Total current expenditure therefore equals the the sum of the values of 4 categories:

\[
hre_{t,mi} = \sum_j hre_{t,mi,j} \times (1 + grhre_{t,mi,j})
\]

(c). Health capital expenditure (hce) is determined as follows:

\[
hce_{t,mi} = hce_{t-1,mi} \times (1 + grhce_{t,mi})
\]

(d). Total expenditure (he) is calculated as follows:

\[
he_{t,mi} = hre_{t,mi} + hce_{t,mi}
\]

9.2) Expenditure at current prices:

(a). To obtain expenditure at current prices, the consumer price index was used:

\[
HRE_{t,mi,j} = hre_{t,mi,j} \times \text{CPI}_t
\]

Total current expenditure is:

\[
HRE_{t,mi} = \sum_j HRE_{t,mi,j}
\]

(b). Capital expenditure at current prices (HCE) is obtained by using the consumer price index. This leads to the following equations:

\[
HCE_{t,mi} = hce_{t,mi} \times \text{CPI}_t
\]

(c). Total expenditure by the Ministry of Public Health:

\[
HE_{t,mi} = HRE_{t,mi} + HCE_{t,mi}
\]
10). Health expenditure by other ministries:

The MOH is not only one to incur health expenses. Other Ministries can also engage in the health services. The other Ministries in the study refer to the Ministry of Finance, the Ministry of Defense, the Ministry of Education, Ministry of Labor, and Other special Ministry etc.

10.1) Health expenditure at constant prices:

Four categories are chosen:
1. Recurrent budget for Traditional medicine and family planning;
2. Government employee insurance scheme and Enterprises health expenditure (state-owned);
3. Collective-owned units and organization & Institutions health expenditure;
4. Other government department health expenditure (special) and high education for medical training.

Current expenditure \( (\text{hre}) \) and capital expenditure \( (\text{hce}) \) are defined as follows:

\[
\text{hre}_{t,\text{oth},j} = \text{hre}_{t-1,\text{oth},j} \times (1 + g\text{hre}_{t,\text{oth},j}) \\
\text{hce}_{t,\text{oth},j} = \text{hce}_{t-1,\text{oth},j} \times (1 + g\text{hce}_{t,\text{oth},j})
\]

where \( j(j=1,\ldots,4) \) refers to the category.

Total expenditure is therefore defined as:

\[
\text{HE}_{t,\text{oth}} = \sum_j \text{hre}_{t,\text{oth},j} + \sum_j \text{hce}_{t,\text{oth},j}
\]

10.2) Health expenditure at current prices:

For current expenditure at current prices \( (\text{HRE}) \) and capital expenditure at current prices \( (\text{HCE}) \), the CPI is used to convert them from the constant prices:

\[
\text{HRE}_{t,\text{oth},j} = \text{hre}_{t,\text{oth},j} \times \text{CPI}_t \\
\text{HCE}_{t,\text{oth},j} = \text{hce}_{t,\text{oth},j} \times \text{CPI}_t
\]

Total expenditure of all the other ministries is obtained by summing all types:

\[
\text{HE}_{t,\text{oth}} = \sum_j \text{HRE}_{t,\text{oth},j} + \sum_j \text{HCE}_{t,\text{oth},j}
\]

11). Health expenditure in the private sector:

11.1) Expenditure at constant prices:

In China, there are three types of private health expenditure:
1. Urban households;
2. Rural households;
3. Private practitioners expenditure.

Current expenditure \( (\text{hre}) \) and capital expenditure \( (\text{hce}) \) are defined as:

\[
\text{hre}_{t,\text{pr},j} = \text{hre}_{t-1,\text{pr},j} \times (1 + g\text{hre}_{t,\text{pr},j}) \\
\text{hce}_{t,\text{pr},j} = \text{hce}_{t-1,\text{pr},j} \times (1 + g\text{hce}_{t,\text{pr},j})
\]

where \( j(j=1,\ldots,3) \) refers to the source of private expenditure.

Total expenditure is defined as follows:

\[
\text{HE}_{t,\text{pr}} = \sum_j \text{hre}_{t,\text{pr},j} + \sum_j \text{hce}_{t,\text{pr},j}
\]

11.2) Expenditure at current prices:

For current expenditure at current prices \( (\text{HRE}) \) and capital expenditure at current prices \( (\text{HCE}) \), again the CPI is used to convert them from the constant prices:

\[
\text{HRE}_{t,\text{pr},j} = \text{hre}_{t,\text{pr},j} \times \text{CPI}_t \\
\text{HCE}_{t,\text{pr},j} = \text{hce}_{t,\text{pr},j} \times \text{CPI}_t
\]

Total private expenditure is defined as follows:

\[
\text{HE}_{t,\text{pr}} = \sum_j \text{HRE}_{t,\text{pr},j} + \sum_j \text{HCE}_{t,\text{pr},j}
\]
### 3.3.2 Concluding table of variables used
There are two kinds of Variables being used in this study:

1. Variable List of data to be collected (the base year):

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>POP</td>
</tr>
<tr>
<td><strong>Value added by sector j (j=1, 2, 3)</strong></td>
<td>Va_j</td>
</tr>
<tr>
<td>(j= Primary Industry, Secondary Industry, Tertiary Industry)</td>
<td></td>
</tr>
<tr>
<td><strong>Utilization of resources</strong></td>
<td></td>
</tr>
<tr>
<td>Private consumption</td>
<td>CVP</td>
</tr>
<tr>
<td>Public consumption</td>
<td>GVC</td>
</tr>
<tr>
<td>Fixed capital gross formation</td>
<td>GFC</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>MGS</td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>EGS</td>
</tr>
<tr>
<td><strong>International transactions</strong></td>
<td></td>
</tr>
<tr>
<td>Balance of trade</td>
<td>BOT</td>
</tr>
<tr>
<td>Net foreign income</td>
<td>NFIN</td>
</tr>
<tr>
<td>Net foreign transfers</td>
<td>NFTR</td>
</tr>
<tr>
<td>Short - and long - term capital flow</td>
<td>CF</td>
</tr>
<tr>
<td>The change of net reserves</td>
<td>RESV</td>
</tr>
<tr>
<td><strong>The exchange rate</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER</td>
</tr>
<tr>
<td><strong>Price index</strong></td>
<td></td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>CPI</td>
</tr>
<tr>
<td>GDP deflator</td>
<td>PRPGDP</td>
</tr>
<tr>
<td><strong>Government revenue</strong></td>
<td></td>
</tr>
<tr>
<td>Industry, commercial, agriculture and animal husbandry</td>
<td>TXIC</td>
</tr>
<tr>
<td>Taxation of International trade</td>
<td></td>
</tr>
<tr>
<td>Taxation on Others</td>
<td>TXFT</td>
</tr>
<tr>
<td>Non --Tax revenue</td>
<td>TXO</td>
</tr>
<tr>
<td>Total government revenue</td>
<td>ntr</td>
</tr>
<tr>
<td></td>
<td>GREV</td>
</tr>
<tr>
<td><strong>Government expenditure</strong></td>
<td></td>
</tr>
<tr>
<td>1. Economic construction</td>
<td>gec</td>
</tr>
<tr>
<td>2. Culture &amp; education and Administration</td>
<td>gca</td>
</tr>
<tr>
<td>3. National Defense</td>
<td>gnd</td>
</tr>
<tr>
<td>4. Repayment of loans &amp; others</td>
<td>gro</td>
</tr>
<tr>
<td>Total government expenditure</td>
<td>GE</td>
</tr>
<tr>
<td>Government budget deficit</td>
<td>GBD</td>
</tr>
<tr>
<td><strong>Ministry of health expenditure</strong></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--</td>
</tr>
<tr>
<td>Current expenditure by category ( j = 1, \ldots, 4 ):</td>
<td></td>
</tr>
<tr>
<td>( j = ) Recurrent budget for health system; Medical research; Health administration expenditure; Others health expenditure</td>
<td></td>
</tr>
<tr>
<td>Total current expenditure</td>
<td>( hre_{mi,j} )</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>( hre_{mi} )</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>( hce_{mi} ) ( he_{mi} )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Health Expenditure by Social Mobilization</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current expenditure</td>
<td>( Hre_{she} )</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>( Hce_{she} )</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>( He_{she} )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Health expenditure in the Private sector</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current expenditure</td>
<td>( hre_{pr} )</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>( hce_{pr} )</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>( he_{pr} )</td>
</tr>
</tbody>
</table>
2). Variable list of data input for exogenous and policy:

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of growth of the Population</td>
<td>grpop</td>
</tr>
<tr>
<td>Rate of growth of Value added by sector j (j=1, 2, 3)</td>
<td>grva_{j}</td>
</tr>
<tr>
<td>The following resources as proportion of GDP</td>
<td></td>
</tr>
<tr>
<td>Private consumption</td>
<td>a_{2}</td>
</tr>
<tr>
<td>Public consumption</td>
<td>b_{2}</td>
</tr>
<tr>
<td>Fixed capital gross formation</td>
<td>c_{2}</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>d_{2}</td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>e_{2}</td>
</tr>
<tr>
<td>Rates of growth of international transactions</td>
<td></td>
</tr>
<tr>
<td>Net foreign income</td>
<td>grnfin</td>
</tr>
<tr>
<td>Net foreign transfers</td>
<td>grnftr</td>
</tr>
<tr>
<td>Short - and long - term capital flow</td>
<td>grcf</td>
</tr>
<tr>
<td>Rate of growth of price indexes:</td>
<td></td>
</tr>
<tr>
<td>Consumer price index</td>
<td>grcpi</td>
</tr>
<tr>
<td>Deflator of GDP</td>
<td>grprpgdp</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>ER</td>
</tr>
<tr>
<td>Government revenue</td>
<td></td>
</tr>
<tr>
<td>Rate of taxation on:</td>
<td></td>
</tr>
<tr>
<td>Industry, commercial, agriculture and animal husbandry</td>
<td>a_{3}</td>
</tr>
<tr>
<td>Taxation of International trade</td>
<td>c_{3}</td>
</tr>
<tr>
<td>Taxation on Others</td>
<td>b_{3}</td>
</tr>
<tr>
<td>Rate of growth of:</td>
<td></td>
</tr>
<tr>
<td>Non - tax revenue (constant prices)</td>
<td>grntr</td>
</tr>
<tr>
<td>Rate of growth of government expenditure (constant prices)</td>
<td></td>
</tr>
<tr>
<td>1. Economic construction</td>
<td>grgec</td>
</tr>
<tr>
<td>2. Culture &amp; education and Administration</td>
<td>grgca</td>
</tr>
<tr>
<td>3. National Defense</td>
<td>grgnd</td>
</tr>
<tr>
<td>4. Repayment of loans &amp; others</td>
<td>grgro</td>
</tr>
<tr>
<td>Rate of growth of Ministry of health expenditure (constant prices)</td>
<td></td>
</tr>
<tr>
<td>Current expenditure by category j (j = 1,...,4):</td>
<td>grhr_{e_{mi,j}}</td>
</tr>
<tr>
<td>( *j = = Recurrent budget for health system; Medical research; Health administration expenditure; Others health expenditure)</td>
<td></td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>grhce_{mi}</td>
</tr>
<tr>
<td>Rate of growth of Health Expenditure by Social Mobilization (constant prices)</td>
<td></td>
</tr>
<tr>
<td>Current expenditure</td>
<td>Grhr_{e_{she}}</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>Grhce_{she}</td>
</tr>
<tr>
<td>Rate of growth of health expenditure in the Private sector (constant prices)</td>
<td></td>
</tr>
<tr>
<td>Current expenditure</td>
<td>grhr_{e_{pr}}</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>grhce_{pr}</td>
</tr>
</tbody>
</table>
Chapter 4 Data and Result

4.1 Base Year Data and scenarios

This study chose 1990-2000 as the base year data. Data source are exciting yearbooks and official reports. Policy-makers of relevant departments from different ministries and macro-economic experts estimated the each item of exogenous data for analyze the effect on health expenditures in the future under different economy conditions.

We estimated the trend of health expenditure changed under the macro-economy during past 11 years (Figure 4.2.1 a-c) first. Then according to China available data and combine with China economic policy, by running the model got the trend with average economic growth model, we treat it as the base case model (Table 4.2.2).

Normally, when we deal with the future, there may possibly be some events occur, it is make some sensitive factors changed, especially those exogenous determined, such as GDP growth rate, government policy and therefore government expenditure. So scenarios will be set as an assumption on future economic circumstance. Due to uncertainties of the future as discussed, the estimation was used under 3 scenarios to analyze the health expenditure structures. Those scenarios are used to represent the conditions of macroeconomic variable movements & health expenditure variables. There are the Trend with Short SARS Impact Scenario (Table 4.2.3), The Trend with Long Term SARS Impact Scenario (Table 4.2.4) and Low Economic Growth Scenario (Table 4.2.5).

4.2 Estimation of the result:

4.2.1 The Trend in Past 11 Years

In the past 11years, the macroeconomic environment was that: GDP increased with continuous high growth rate, total government revenue increased year by year, the population of China increased with a lower growth rate. Meanwhile the total health expenditure (THE) increased also, THE can be divided into three components by source, government budget health expenditure (GHE), Social health expenditure (SHE), and private health expenditure (PHE). The share of THE in GDP changed with a wavy increasing. (See Figure 4.2.1a), it is increasing continuous after the year of 1994.

Figure 4.2.1a The Trends of THE/GDP(%)
The structures by sectors are as the following two figures (Figure 4.2.1b and c), the share of GHE and SHE were decreasing while the total expenditure as a percentage of GDP was increasing. Within THE, the PHE increased continuous, the mostly contributor was made by urban resident health expenditure increasing.

Figure 4.2.1b The Share of THE

Figure 4.2.1c The Share of PHE
4.2.2 The Trend with Average Economic Growth

Base case (Table 4.2.2): The assumption is the national and international situation stable as usually, Chinese economy are as expected to keep long term average growth rate, it refers to the case when the economy is in line with the government economic policy, and it has performed in past 11 years. Under this normal long term situation, the macroeconomic expand fast, GDP increase with a high growth rate, correspondingly, THE increase with a little lower growth rate then GDP, the THE/GDP(%) will changed as wavy (Figure 4.2.2a).

Table 4.2.2 The Trend with Average Economic Growth

<table>
<thead>
<tr>
<th>unit</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population billion</td>
<td>1.28</td>
<td>1.30</td>
<td>1.31</td>
<td>1.32</td>
<td>1.33</td>
</tr>
<tr>
<td>Growth Rate of GDP %</td>
<td>7.3</td>
<td>8.0</td>
<td>8.2</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>THE/GDP(%) %</td>
<td>5.3</td>
<td>5.2</td>
<td>5.3</td>
<td>5.2</td>
<td>5.1</td>
</tr>
<tr>
<td>GHE/THE(%) %</td>
<td>14.6</td>
<td>14.4</td>
<td>13.8</td>
<td>13.8</td>
<td>13.6</td>
</tr>
<tr>
<td>SHE/THE(%) %</td>
<td>24.2</td>
<td>24.0</td>
<td>24.3</td>
<td>25.3</td>
<td>26.2</td>
</tr>
<tr>
<td>PHE/THE(%) %</td>
<td>61.14</td>
<td>61.60</td>
<td>61.90</td>
<td>60.92</td>
<td>60.14</td>
</tr>
<tr>
<td>UHE/PHE(%) %</td>
<td>53.4</td>
<td>55.0</td>
<td>56.3</td>
<td>57.0</td>
<td>57.7</td>
</tr>
<tr>
<td>RHE/PHE(%) %</td>
<td>46.6</td>
<td>45.0</td>
<td>43.7</td>
<td>43.0</td>
<td>42.3</td>
</tr>
</tbody>
</table>

Figure 4.2.2a The Trends of THE/GDP(%)
In 9th National five years plan (1996-2000), government made strenuous efforts to infrastructure construction, push the economic develop quickly. In 1999, the urban medical health reform system is being carried out, the health insurance coverage increased in urban area, in 2000, the issuing of the “Urban Health Reform Directions” resulted in reformed practices in urban health institutions, and a new CMS will pilot in most rural regions, so under all above opportunities, health system will get more develop. As the result of the series reform, GHE and SHE will increase sharply. So that, the share of PHE in THE will trend gently to decreasing (see Figure 4.2.2b-c).

Figure 4.2.2 b The Share of THE

Figure 4.2.2 c The Share of PHE
4.2.3 The Trend with Short SARS Impact Scenario

The assumption is that macro-economy keeps long term average growth rate before the SARS indulge in wilful persecution in some regions of China, and it would be controlled very soon. It impacts on economy with a short term.

There are many uncertainties when we talk about future, there may possibly be some events occur, SARS it is. It attack human being this year, China is a most serious region. Some economic sectors were impact badly, such as tourism, transportation, foreign trade and economic cooperation, etc. Chinese government do they best to minimize the loss. Under this macro situation, the GDP growth rate maybe cannot achieve its target (Table 4.2.3), government revenue will decrease, and expenditure will increases sharply, the government deficit as a percentage of GDP will very high. THE/GDP will achieve its peak of 5.4; due to the impact would be short term, so next two year the percentage likely to keep on 5.2 (Figure 4.2.3a). Government budget health expenditure increase high, meanwhile, social health expenditure and private health expenditure increase also, so the structure of THE will change a little bit (Figure 4.2.3b).

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Rate of GDP</td>
<td>7.3</td>
<td>8.0</td>
<td>7.8</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>THE/GDP(%)</td>
<td>5.3</td>
<td>5.2</td>
<td>5.4</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>GHE/THE(%)</td>
<td>14.6</td>
<td>14.4</td>
<td>13.8</td>
<td>13.7</td>
<td>13.6</td>
</tr>
<tr>
<td>SHE/THE(%)</td>
<td>24.2</td>
<td>24.0</td>
<td>24.3</td>
<td>25.3</td>
<td>26.2</td>
</tr>
<tr>
<td>PHE/THE(%)</td>
<td>61.14</td>
<td>61.60</td>
<td>61.90</td>
<td>60.95</td>
<td>60.18</td>
</tr>
<tr>
<td>UHE/PHE(%)</td>
<td>53.4</td>
<td>55.0</td>
<td>56.3</td>
<td>57.0</td>
<td>57.7</td>
</tr>
<tr>
<td>RHE/PHE(%)</td>
<td>46.6</td>
<td>45.0</td>
<td>43.7</td>
<td>43.0</td>
<td>42.3</td>
</tr>
</tbody>
</table>

Figure 4.2.3a The Trends of THE/GDP(%)
4.3.4 The Trend with Long Term SARS Impact Scenario

The assumption is that macro-economy keeps long-term average growth rate before the SARS indulge in wilful persecution in some regions of China, and it wouldn’t be controlled very soon. It impacts on economy with a long term. GDP growth rate is lower than it would be. Government revenue will keep a lower level, and expenditure would increase sharply, the government deficit as a percentage of GDP keep in a high level. Due to the dilemma, THE/GDP would keep 5.2 continues (Table 4.2.4). Government budget health expenditure, social health expenditure and private health expenditure would increase powerless, so the structure of THE changeless.

Table 4.2.4 The Trend with Long Term Impact

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Rate of GDP</td>
<td>7.3</td>
<td>8.0</td>
<td>7.5</td>
<td>7.5</td>
<td>7.6</td>
</tr>
<tr>
<td>THE/GDP(%)</td>
<td>5.3</td>
<td>5.3</td>
<td>5.2</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>GHE/THE(%)</td>
<td>14.6</td>
<td>14.3</td>
<td>14.0</td>
<td>13.7</td>
<td>13.4</td>
</tr>
<tr>
<td>SHE/THE(%)</td>
<td>24.4</td>
<td>24.6</td>
<td>24.9</td>
<td>25.1</td>
<td>25.4</td>
</tr>
</tbody>
</table>
4.3.5 The Trend With Low Economic Growth Scenario

It is assumed that government cannot be successful to push the economic development as the target, (Table 4.2.5). The GDP growth rate keeps a lower level, the structure of health expenditure and three sectors growth rate are still the same as in the base case. This shows a limitation of the model. Because, along with the macroeconomic worsening, health expenditure, especially on the government budget health expenditure should be influence by it, normally it should be lower than the base case, but in this case, even though the economic developing is slowly, but the health expenditure still as the same with the base case. The major reasons are that these unchanged variables were treated exogenous to the system in this model.

Table 4.2.5 Low Economic Growth Scenario

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Rate of GDP</td>
<td>7.3</td>
<td>8.0</td>
<td>6.8</td>
<td>6.8</td>
<td>6.9</td>
</tr>
<tr>
<td>THE/GDP(%)</td>
<td>5.3</td>
<td>5.3</td>
<td>5.4</td>
<td>5.4</td>
<td>5.5</td>
</tr>
<tr>
<td>GHE/THE(%)</td>
<td>14.6</td>
<td>14.3</td>
<td>13.6</td>
<td>13.2</td>
<td>12.8</td>
</tr>
<tr>
<td>SHE/THE(%)</td>
<td>24.4</td>
<td>24.6</td>
<td>26.2</td>
<td>26.2</td>
<td>26.1</td>
</tr>
<tr>
<td>PHE/THE(%)</td>
<td>60.99</td>
<td>61.02</td>
<td>60.16</td>
<td>60.63</td>
<td>61.08</td>
</tr>
<tr>
<td>UHE/PHE(%)</td>
<td>52.5</td>
<td>53.0</td>
<td>53.4</td>
<td>53.9</td>
<td>54.3</td>
</tr>
<tr>
<td>RHE/PHE(%)</td>
<td>47.5</td>
<td>47.0</td>
<td>46.6</td>
<td>46.1</td>
<td>45.7</td>
</tr>
</tbody>
</table>
Chapter 5 Conclusion and Discussion

5.1 Conclusion of the Experiment

In the 1990s, China decided to establish a new socialist market economy system by the end of the twentieth century. From then, the reform of the Chinese economic system entered a new phase. With the changes in the national macro-economic system and policies, Chinese health reform and development is in a fortified position.

The Trend in Past 11 Years: In the past 11 years, GDP increased with continuous high growth rate, total government revenue and expenditure increased, and THE growth rate was high then GDP growth rate, GHE, SHE and PHE increase with a high growth rate, especially the PHE.

The Trend with Average Economic Growth Model: Under the normal long term situation, this century the macroeconomic expand fast, GDP increase with a high growth rate, the THE/GDP (%) will changed as wavy, GHE and SHE will increase sharply. So that, the share of PHE in THE will trend gently to decreasing.

The Trend with Short SARS Impact Scenario: SARS attack Chinese economy and social, GDP growth rate will decrease 0.4 percentage, government revenue decrease, but expenditure increases sharply, THE/GDP will achieve its peak of 5.4, but next two year the percentage likely to keep on 5.2.

The Trend with Long Term SARS Impact Scenario: Economy was influenced by SARS continues, GDP growth rate is lower, Government revenue still keeps a lower level, and expenditure would be high, THE/GDP would keep 5.2. Government budget health expenditure, social health expenditure and private health expenditure would increase powerless, so the structure of THE changeless.

The Trend With Low Economic Growth Scenario: Economic development cannot achieve its target, The GDP growth rate keeps a lower level, and the structure of health expenditure and three sectors growth rate are still the same as in the base case.

5.2 Discussion

Along with the economic development, in principle, health expenditure will normally increase rapidly. Government should push forward the employee health reform by legislation with reasonable cost sharing among the government, employers and employees. From the results of simulation, and the estimation of the result, the study could examine and discuss as follows:

5.2.1 the environment for health system development:

The national health care system is always closely associated with its social-economic system. The health care system of China evolved under the planned economy and thereby operated in line with the planned economic system in the past 40 years. The Decisions on Issues Pertaining to the Establishment of Socialist Market Economic System ratified on the third plenum of 14th Party Congress in November 1993 set the objective to create a new Socialist Market Economic System by the end of this century.

So, with the introduction of socialist market economy, the environment for health development has undergone fundamental change, which will inevitably affect the development of health sector. The health policy and planning must therefore be made consistently with what the change in economic environment. In 9th National five years plan (1996-2000), government made strenuous efforts to infrastructure construction, push the economic develop quickly. In 1999, the urban medical health reform system is being carried out, the health insurance coverage increased in urban area, in 2000, the issuing of the “Urban Health Reform Directions” resulted in reformed practices in urban health institutions, and a new CMS will pilot in most rural regions, so under all above opportunities, health system will get more develop in this century.

5.2.2 Health financing system:
There are three main sources for health financing, government budget, social and private mobilization. We separate the expenditure by source; there are GHE, SHE and PHE.

Under the planned economy, due to GHE cannot meet the needs for medical service, tremendous health facilities have been run by the enterprises, which constitute an important component of China’s health care delivery system. The spending for enterprises-run health facilities and medical expenditure for enterprises employees takes by each enterprise, which led to different burden on different enterprises due varying social obligations. Though this problem is resolving by health insurance reform, the SHE still increase sharply year by year.

Along with the economic development, the income level and more educated people, the need for more and high-quality health services are increasing rapidly. That makes the share of private health expenditure in THE increase sharply, from 23.2% in 1980, 26.5% in 1985, 37.06% in 1990, 50.34% in 1995, 60.68% in 2000.

Amount above increase sharply number, though the GHE quantitative increase quickly, the share of GHE spending in THE declined from 25% in 1990, 17% in 1995, 14.9% in 2000, with the urban and rural health security policies were implemented, the government budget expenditure will increase with gminating rate in quantitatively. The forecasting trend GHE/THE (%) and PHE/THE (%) will trend parallel in the future.

With the macro-economic developing, the GHE quantitative increase quickly, but it still cannot meet the requirement of health developing. It full shows a frangibility of public health service system while SARS indulge in wilful persecution in some regions of China. So we should take the lessons from SARS event to establish an Chinese emergency events disposal system.
Chapter 6 Policy Implication

This study offers an overview of the resources available for health and shows decision-makers the links between the national macro-economy and health sector. The results of various scenarios will give a number of options for health care expenditure under differing macroeconomic projections, the estimated health expenditure trends and structures would be beneficial to analysis health financing policy in the future. It implicate that:

1. Developing health service system, keep in line with macro-economy

Since 90’s, the reform of the Chinese economic system entered a new phase. Health system should seize the opportunity, restructure health administration system and invigorate health institutions; to make sure of health reform is in line with the macro-economic system reform.

2. Improving health financing policies:

The health financing and resource allocation should largely depend on the government with market playing a very limited role in this sector.

2.1 Public spending on health should be specified in the government budget, public health services i.e. health supervision, infectious and endemic diseases prevention, the production, storage and transportation of vaccine, epidemiological monitoring and basic maternal and child health services, and a emergency events disposal system should be fully covered by government’s budget. The government is responsible for providing necessary buildings, equipment, staff salary, and other operating expenses, meanwhile, the government should provide funds for basic scientific research and training.

2.2 The government should formulate health-financing policies and mobilize all effective approaches to financing health care.

2.3 The government should commit that its health budget will be in line with the growth of national economy and government revenue.

3. Developing the financing channels:

Reforms in commodity circulation system, establishing labor, technology, information and intellectual market also provide health sector a broad stage to make full use of its high quality labor force and promote technological and industrial development. In those economically developed areas, health institutions should be encouraged to engage in technological and industrial development assisting health services with industry. Corresponding favorable taxation policy should also be formulated to enable the products of health sector to be translated into funds for developing health care services through market operation, which will widen the financing channels and reduce the burden of society in financing health care services.

4. Reforming Social Security System

The social security system consists of social insurance, social relief and social welfare. Health insurance is an important component in social security system.

4.1 In urban areas, we should carry out the urban medical health reform system continuously, increase the health insurance coverage, try to integrate personal health account and social risk pooling scheme with reasonable cost sharing among the government employers and employee.

4.2 In rural areas, we should accelerate restoration of cooperative medical care system or health insurance schemes. And pilot new CMS in most rural regions, summary the experience to practices in all rural areas. Government should cover the rural poor under poverty line.

4.3 For those uncovered by employee health insurance, rural CMS, or new CMS, they should be covered by some kind of social health insurance plan with its revenue coming mainly from the beneficiaries and from subsidies from other sources.
Bibliographic References


OECD Health Policy Unit, (2000), *A System of Health Accounts for International Data Collection*


