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**Medicines in Health Systems: Advancing access, affordability  
and appropriate use**

**Chapter 3 - Annex 1**

# Medicines in Universal Health Care Coverage

## Case Study of China’s Rural Cooperative Medical Scheme (NCMS)

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## Summary

Three major health insurance programs cover specific groups: rural residents under the New Rural Cooperative Medical Scheme (NCMS: over 90% of rural population covered (1,3))<sup>1</sup>, urban employees under the Urban Employees Basic Medical Insurance (UE-BMI), and unemployed urban residents under the Urban Residents Basic Medical Insurance (UR-BMI). The three schemes function differently in how they are financed and operate, and can be quite different with regard to reimbursement structures and coverage (1-3). Healthcare reform, including implementation of insurance schemes, is very dynamic. Lower levels (municipalities/counties) are given considerable discretion in implementation (4). **We focus on the rural poor (NCMS) where we have the most information.**

### **Medicines selection for reimbursement (directed to providers and beneficiaries):**

Part of the formularies of NCMS are medicines that are on the national EML which in 2012 contained 520 medicines, 317 Western and 203 Traditional (8-10). Moreover, each province has their own EML (the National EML plus a provincial supplementary list). The provincial supplementary list is usually selected from the products which are the most used at rural primary healthcare level (township). In *Yunnan Province*, for example, the formulary of NCMS in Yunnan contains medicines of the National EML plus a provincial supplementary list (11-12). The number of medicines increases from village level to county level where providers have the largest number of medicines to choose from (370 medicines from the EML and an additional 900 outside the EML). Even though there is a clear relationship between the national EML and the NCMS formulary there is no clear relationship between the Yunnan NCMS and standard treatment guidelines as described below.

**Standard treatment guidelines (called “clinical pathway”).** Various pilot projects are being undertaken in hospitals to require these guidelines which are not specific to NCMS. As of August 2013, about 100 hospitals were applying them with some success (13-15). Aside from a small pilot study (15), we found little evidence, however, that such clinical pathways are evidence based, as opposed to experience-based.<sup>2</sup> Certainly, there are evidence-based guidelines (See e.g., TB at reference (16)) but the extent to which they are followed is less well document (16). Further, we cannot confirm one way or the other, that the clinical pathways are linked to the National Essential Medicines List, or even whether or not the EML selection procedures are evidence-based.

**Beneficiaries cost-sharing or co-payment:** All EML medicines are covered by insurance schemes with EML medicines reimbursed at higher rates than non-EML (5). However, NCMS/other public insurance beneficiaries do have co-payments, deductibles, price ceilings for medicines that form part of the EML and that are included in the relevant formulary. For all medical expenditures (including medicines) used by the NCMS

<sup>1</sup> Recent estimates range from 90- ‘over 99%’ coverage of rural population. Coverage percentages should be considered provisional. The rural population as a whole may be underestimated, leaving out unregistered people ineligible for the NCMS. These individuals remain uninsured.

<sup>2</sup> For **Chinese (traditional)\_medicines**, clinical practice guideline (CPG) development on 11 common diseases has been reviewed (Yumen Y, Shi, N-n, Wang Li-ying et al. (2012) Development of Clinical Practice Guidelines in 11 Common Diseases with Chinese Medicine Interventions in China, *Chin J Integr Med.* 18(2):112-119) **and the majority are NOT evidence-based.**

risk pool participants, exclusions, up-front deductibles and price ceilings exist (5-7). Where insurance does not cover outpatient expenses, outpatient EML medicines are paid out-of-pocket. The central government has not issued specific reimbursement policies and reimbursement depends on the local NCMS decisions in this regard.

**Generic substitution:** According to national policies regarding prescribing, all prescriptions are supposed to be written in the generic name (30). At provincial level, the competitive bidding process (see below) is based on these generic names. The Pharmaceutical and Therapeutic Committee of each local hospital makes the final decision on medicines purchased by the hospital according to their judgment as to efficacy and cost-effectiveness.

**Medicines price or rebate negotiation:** There is lack of information that is specific to NCMS. In contrast, at national level and unrelated to a specific insurance scheme China's Ministry of Human Resources and Social Security (MoHRSS) in early 2010 considered a pricing and reimbursement negotiation system to include innovative medicines into the insurance formulary (17). It is unclear if negotiations presently occur at provincial level that would affect NCMS even though provinces are bidding for and procuring medicines (see below).

**Bulk purchasing** exists in all insurance schemes including NCMS. Provinces bid/procure essential medicines for insurance schemes, including NCMS, with centralized collective bidding using internet-based procurement systems for public sector hospitals and other health service providers (18). This system led to unfavorable results in some provinces. For instance in the *Shaanxi Province* in the public sector, the procurement agency was purchasing medicines at prices higher than international reference prices (originator brands and lowest priced generics were 8.89 and 1.49 times higher priced than reference prices respectively) (19). The emphasis on price competition has led to concerns that medicine quality might suffer.

**Generic reference pricing directed towards providers.** The Central Government in China sets ceiling retail prices for medicines (i.e., reimbursable medicine lists) that affect all insurances including NCMS. Even at the provincial level in China, there is a department of pricing that has an authority to approve the pricing of many services and goods including health services and pharmaceutical products (7) which would apply to NCMS. Products in supplementary EMLs are mostly also included in the reimbursable medicine lists.

**Prescriber-payment methods:** Fee for service, as the most popular method used over the past decades, has been associated with the rapid cost escalation of health care including pharmaceuticals since hospitals have no incentives for cost control (1-4) However, there are mixed payment methods used such as case-based, capitation and global budgets in place in different provinces and insurance programs including NCMS (3, 15, 18, 20).

**Pay for performance:** In many provinces, health insurance schemes and/or the government paying healthcare institutions based on their performance (1, 21). Public satisfaction has been used as one performance criterion in some provinces. (21) Most cities also established compensation policies to pay staff a basic salary plus a bonus based on performance including criteria such as quality of services and achieving social responsibilities, e.g. controlling cost escalation (22). There appear to be no national pay-for-performance policies regarding individual prescribers. Whether there are payments for performance strategies specific to NCMS is unclear.

**Separation of prescribing from dispensing.** The “Zero-markup” policy for Essential Medicines, including those received by NCMS beneficiaries, has been created with the idea of, in effect, separate prescribing from dispensing, i.e., separating financial incentives from prescribing. As a result of this policy medicines retail prices in community health centers declined as well as prescription expenditure per encounter (14). It seems that the policy almost no significant effect in reducing total number of medicines per prescription over the period before and after implementation (2007–2010) (23) and appeared to encourage doctors to supplement their incomes by increasing their fee-for-service activities, such as the administration of injectable antibiotics (24). These effects were not specific to NCMS providers.

**National disease management programs and education:** There is lack of information on programs to promote quality use of medicines for disease **management**. However, there are provincial funds that have been established to subsidized chronic disease including hypertension, diabetes, tuberculosis, anemia, etc. Patients were reimbursed at higher rate for outpatient expenditures associated with the listed chronic disease at village clinics and township hospitals. (24) For instance, in the *Changle County* patients with hypertension or diabetes and using certain medicines reimbursed at 80% of their essential drug expenditure at village clinics and township hospitals and not the normal 25% (25).

**Patient/consumer satisfaction:** Health sector reform monitoring and evaluation is required by central government emphasize patient/consumer satisfaction, which has been routine survey and monitoring at local level and has been extensively used for hospital performance evaluation.

Overall, NCMS has achieved a relatively high enrollment, provided some financial risk protection for individuals in rural China and has partly reduced oversupply of specialty services and prescription drugs (31). With respect to whether the pharmaceutical strategies using within NCMS address the issues associated with equitable, appropriate, and affordable costs of medicines there are studies that show an improved access to care and reduced catastrophic spending albeit with wide regional and sub-population disparities and anomalies (5). Several studies (cited in reference 6) support the general notion that NCMS has had a mixed to positive impact on health care utilization but with limited impact on health care expenditure (7). For instance, outpatient service utilization has not significantly changed under NCMS. Although the quantity of inpatient service in general has increased under NCMS, people with high income tend to use more services

than those with low income. (6: Yu et al.,),. A recent summary (7: Liang et al. ) showed that the increase of public funding to subsidize health insurance in China, did not mitigate out-of-pocket payments for healthcare over the past decade. The healthcare financial burden on the rural population increased.

*Implementation of the “Zero mark-up” policy – a system’s perspective*

The “Zero mark-up” policy was established as part of the 2009 healthcare/pharmaceutical policy initiative to improve population access to, and reduce the cost of essential medicines at the township and village levels (Chen et al. 11). The government started a “zero-mark-up” (i.e. no-profit) policy for all government-run primary care facilities in urban and rural areas and is for all EML medicines (Chen et al. 11). Prior to these reforms, public healthcare providers were allowed to keep a mark-up of up to 15% by prescribing and selling of all medicines. The “Zero mark-up” policy was intended to prevent healthcare institutions from profiting from drug prescriptions and sales, and is intended to eliminate or reduce perverse economic incentives for physicians to prescribe expensive medicines or to overprescribe in public primary healthcare facilities, including community health centers (CHCs) in urban areas and township health centers (THCs) in rural areas. The overall policy goal was that availability and access at primary care level would increase when medicines cost less. For 2012, “zero mark-up” was to be expanded to village clinics, non-government run primary care facilities, and pilot county hospitals.

Several evaluations of this policy have been conducted, particularly in Beijing. Cheng (23) found that the ratio “zero markup medicines” cost/total medicines cost per visit increased in all Beijing CHCs and ranged from about 50% to about 75%. In Beijing’s CHCs, it was found that the policy helped in containing the rising trend in costs of medicines (Li et al (42)). However, there are implications for hospitals with respect to potential loss of revenue from medicine sales which can have follow-on effects on other stakeholders. For instance, by design, the policy leads to increasing medical SERVICE fees among providers, payers, and hospitals. Table 1 summarizes the achievements and implementation challenges and Figure X illustrates them.

*Table 1. Health System achievements and implementation challenges to the “zero mark-up” policy*

Achievement/Challenge	Reference	STAKE-HOLDER	SUB-SYSTEM INVOLVED
<i>Supply Side</i>			

<b>Local governments, are reluctant to subsidize hospitals for income loss under the new policy</b>	Liang and Lagenbrunner UNICO Studies Series ; no. 9. Washington DC World Bank. 2013; Li et al. (42)	Government, local	Governance, financing
<b>Loss of sales/profits with zero markup</b>	Fang et al. Lancet Glob Health 2013; 1: e227–37	Public sector hospitals	Financing, governance
<b>Room for generics to enter the market who have lower margins anyway</b>	Schatz and Nowlin, 2010. China Bus Rev. ;37:22–5	Generic industry	Financing, medicines and technology
<b>Mandatory price reductions could have some manufacturers to reduce production or pull medicines from the market.</b>	Speculation	Generic and originator industry	Financing, medicines and technology
<b>Insufficient government subsidies may result in weak ability to maintain the essential medicine system, or sales of diagnostics, technologies, or other revenue generation methods to cover basic operational costs.</b>	Barber et al. (9)	Hospitals	Governance, human resources, financing, Medicines and technology; health information, service delivery
<b>Health-insurance funds and basic public-health funds are being used to compensate doctors for the income they have lost as a result of zero mark-up</b>	Li et al. (42)	Providers, Payers	Governance, service delivery, human resources
<b>High proportion of gov’t subsidy lowers the financial accountability of Community Health Centers.</b>	Audibert et al. China Economic Review (2013), <a href="http://dx.doi.org/10.1016/j.chieco.2013.01.004">http://dx.doi.org/10.1016/j.chieco.2013.01.004</a> )	Government, hospitals	Governance, service delivery, financing
<b>The number of Western drugs per outpatient prescription decreased while that of traditional Chinese medicines increased</b>	Chen et al. (11)	Providers, patients	Human resources, service delivery, financing, medicines and

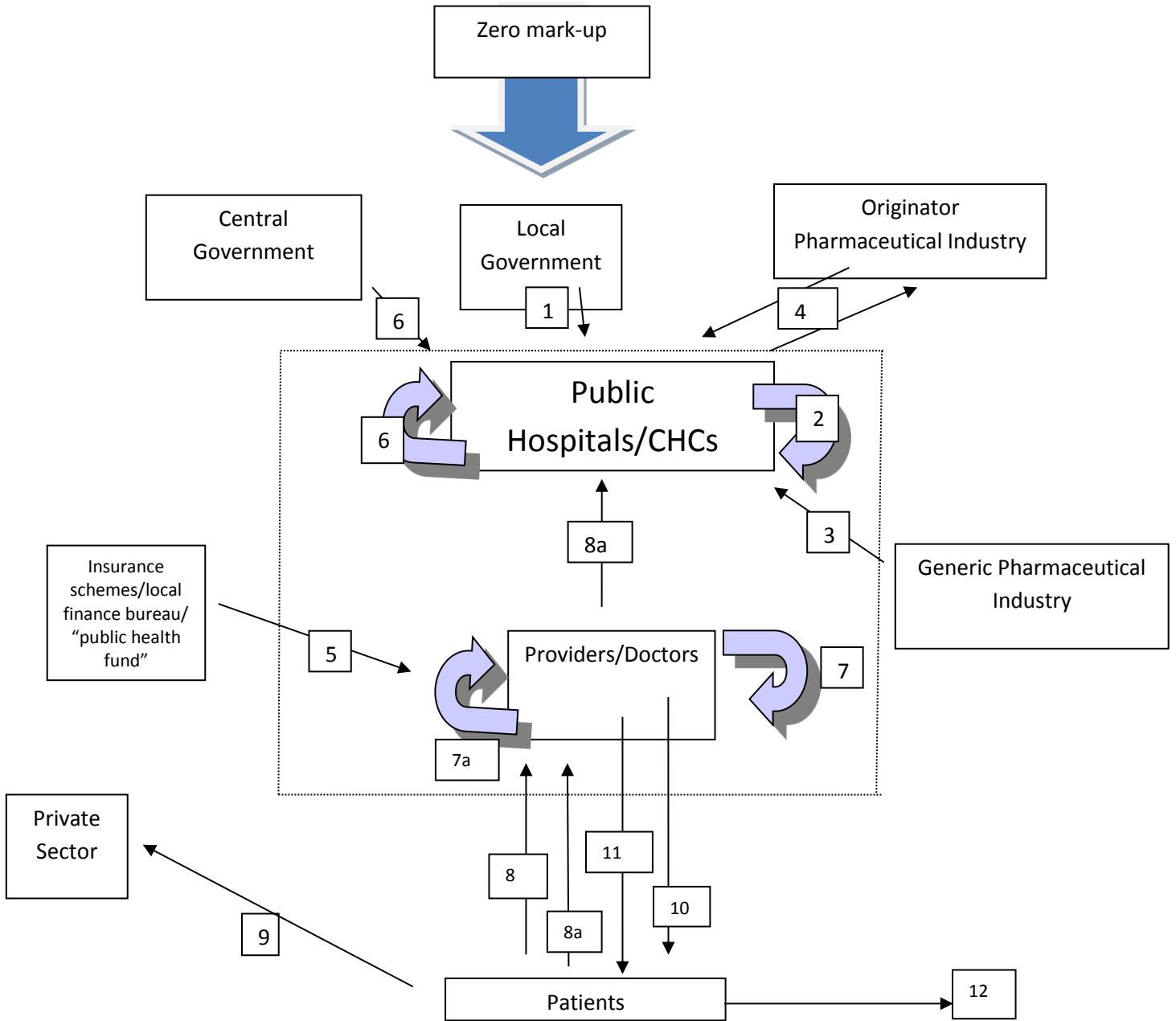
<b>Doctors implementing zero-mark-up earning less than they had before but had greater numbers of patients; and lower total incomes</b>	Cheng et al. (34)	Providers	technology Human resources, service delivery
<b>In a field trial, facilities receiving fixed gov’t subsidy willing to adopt “zero mark-up” medicines but weak incentive to generate more revenue or procure innovative medicines outside the essential medicines list.</b>	Cheng et al. (34)	Hospitals	Human resources, service delivery, financing
<b>Doctors had stopped providing essential medicines (at zero mark-up) because of the lack of profit.</b>	Li et al. (42)	Providers	Human resources, service delivery, financing
<i>Demand Side</i>			
<b>Primary hospitals not getting sufficient government financial support to compensate for the loss in drug revenue (speculation) might lead to poor availability of some essential medicines and many patients having to purchase them in the private sector or at higher level hospitals.</b>	Fang et al. Lancet Glob Health (2013); Li et al. (42)	Hospitals	Human resources, service delivery, financing
<b>Zero markup incentivizes prescribers to concentrate in therapeutic areas such as anti-infectives, where there are already small markups on NCMS medicines</b>	Fang et al. Lancet Glob.Health (2013)		Human resources, service delivery, financing, medicines and technology
<b>Where policy had ONLY been implemented in township hospitals, there was a corresponding 64% decline in patient attendance at the village clinics that were surveyed because drug costs were lower at the township hospitals</b>	Li et al.(42)	Patients, hospitals, providers	Human resources, service delivery, financing, medicines and technology
<b>Fall in doctors’ total incomes had had a negative impact on the doctors’ levels of enthusiasm and satisfaction.</b>	Li et al. (42)	Providers	Human resources, service delivery, medicines and technology
<b>Fall in doctors’ total incomes led to increasing fee-for-service activities,</b>	Li et al. (42)	Providers	Human resources,



<b>such as the administration of injectable antibiotics at the township level</b>			service delivery, medicines and technology
<b>Medicine expenditure per prescription also decreased</b>	Chen et al. (11)	Patients, providers	Service delivery, medicines and technology
<b>NCMS: increased demand for services as medicines no longer are being used to generate revenue</b>	Li et al. (42)	Payers	Human resources, service delivery, financing, medicines and technology
<b><i>Health Outcomes</i></b>			
<b>Potential increase in avoidable hospitalization because of decreased availability and unmet care</b>	Speculation	Public and private sector hospitals	Medicines and technology; health information
<b>Increase in antimicrobial resistance as injectable antibiotics may be used more frequently</b>	Li et al. (42) /speculation	Public and private sector hospitals	Medicines and technology; health information

Note: references in (brackets) refer to references in the Case Study

Figure 1. Diagram: Potential consequences of the zero mark-up policy – a health system’s perspective



1. Some local gov’ts reluctant to subsidize hospitals for income loss
2. Loss of sales/profits and income for hospitals
3. Room for low-margin generics to enter market
4. Shrinking multinational company revenues from sales possibly leading to reduction in production and/or removal of medicines from market. Hospitals use older, generic products instead of newer, more expensive products.
5. Health insurance funds and/or ‘public health’ funds used to compensate doctors
6. High subsidies lower fiscal accountability of Community Health Centers (CHC)
7. Fall in doctor’s income leads to lack of motivation. 7a. Doctors supplement income by increasing fee-for-service
8. CHCs have incentives to use “non-zero margin” medicines not on the EML. 8a. Increasing service fees for procedures
9. Lack of timely subsidies leads to poor availability of medicines so patients go to private sector
10. Doctors stop providing medicines due to lack of profit motive, although this must be balanced by their need to keep patients.
11. Prescriptions may be concentrated in therapeutic areas such as anti-infectives, where the markups on medicines may be smaller
12. #11 possibly leads to increased antimicrobial resistance

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Table 2 : Overview of the medicines benefit package and pharmaceutical management in (NCMS)

Domain	Area	Policy	Description national level	Description province or lower level
<b>Selection (directed to providers and beneficiaries)</b>				
	Formularies and EML (number of medicines included, existing link between STG and formulary)	<b>Yes</b>	National essential medicine list in 2012 contained 520 medicines, 317 Western and 203 Traditional. Medicines on the EML form part of the formularies of NCMS. Each province has their own EML (National EML plus provincial supplementary list) and each insurance system (except for UR-BMI which shares it with UE-BMI) has their own formulary that varies by province. Primary care institutes must prescribe under National and provincial EML <b>National formulary</b> <a href="http://baike.baidu.com/view/3245617.htm">http://baike.baidu.com/view/3245617.htm</a>	<b>Example - Yunnan Province:</b> Has their own provincial list of EML (National EML plus a provincial supplementary list). So this provincial list was developed by adding supplements onto the national insurance medicine list. The list is also divided by class A and class B. In class A, the Yunnan province list contains 349 Western medicine, 154 Chinese traditional medicines. In class B, it contains 877 Western medicines, 990 Chinese traditional medicine 990. Notice the numbers are all larger than the National EML. For NCMS reimbursement list- see <a href="http://www.ynf.gov.cn/uploadfile/document/20090109163841919.doc">http://www.ynf.gov.cn/uploadfile/document/20090109163841919.doc</a> .  2009 Yunnan EML supplemental list – 1 <a href="http://wenku.baidu.com/view/0c23d8222f60ddccda38a071.html">http://wenku.baidu.com/view/0c23d8222f60ddccda38a071.html</a>  2009 Yunnan EML supplemental list - 2 <a href="http://wenku.baidu.com/view/e9008233a32d7375a4178023.html">http://wenku.baidu.com/view/e9008233a32d7375a4178023.html</a>  <b>Example - Yunnan Province NCMS:</b> There is a specific formulary that applies to NCMS beneficiaries in Yunnan province and it varies according to the level of provider: <b>1.</b> Village level (most basic): Only 307 medicines from National EML <b>2.</b> Township: 307 EML plus supplement of around 200 medicines. <b>3.</b> County and above: 307 EML plus large supplement of around 900 medicines. (personal communication, Yang Li, August 2013)

[The concept of clinical pathway management \(or standard treatment guidelines\) is still relatively new in China \(13-16\)](#)

Aside from a pilot study in 13 hospitals in several provinces (15), we found little evidence that clinical pathways are evidence based, as opposed to experience-based

Beneficiaries cost-sharing or co-payment	<b>Yes</b>	All EML medicines public insurance reimbursement (at levels higher than non-EML) with co-pay/deductible/ceilings . For services and NON-essential medicines, the same applies. Once a medical expenditure surpasses the ceiling, patients take over . Provincial levels may vary.	<b>Example - Yunnan Province NCMS:</b> 307 medicines are free of charge. Supplementary medicines are with additional charge or 100% payment out of pocket. <a href="http://www.ynf.gov.cn/uploadfile/document/20090109163841919.doc">http://www.ynf.gov.cn/uploadfile/document/20090109163841919.doc</a> .
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Generic substitution	<b>No</b>	No national requirements for generic substitution, or favorable terms for registering generics. There are generic prescription rules/policies which we have not accessed .	<b>Example - Yunnan Province NCMS:</b> for essential medicines no incentives to sell high cost medicines as providers have to provide them free of charge. Patients using class B medicines need to pay about 10%-25% out of pocket.
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**Purchasing (mainly directed to pharmaceutical suppliers, including distributors and industry or providers)**

Medicines price or rebate negotiation	<b>Not enough information</b>	China's Ministry of Human Resources and Social Security (MoHRSS) is considering a pricing and reimbursement negotiation system to include innovative medicines into the insurance formulary.	This negotiation has not taken effect at the national level . Some demonstration plans have been conducted in the past few years in various regions (e.g, Qingdao, Jiangsu and Zhejiang) (personal communication, Wen Chen 28 November 2013)
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Bulk purchasing	<b>Yes</b>	Provinces bid/procure essential medicines for insurance schemes. Centralized collective bidding with internet-based procurement system for public sector hospitals and other health service providers	<b>Example - Ningxia Province:</b> Public bidding for drug supply and distribution. Recent contracts awarded to five manufacturers to supply the entire province. Tang et al. (26) <b>Example - Chongqing Province:</b> Centralized purchase Online public bidding. Unified distribution and selling prices Tang et al. (26)
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Generic reference pricing	<b>No</b>	Central Government sets retail prices for medicines. There is no reimbursement price or reference	There is no reimbursement price set at province level.
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directed towards providers

price defined at national level.

**Contracting and payment methods (directed to providers)**

Prescriber-payment methods **Yes** Mainly fee for service. However, there are mixed payment methods used such as case-based, capitation and global budgets.

Dispensing personnel payment methods **Not enough information** Majority of medicines are sold in hospitals and not pharmacies

Rates of prescriber and dispensing reimbursement **Yes** No national rates of reimbursement. The reimbursement rates vary by province and insurance **NCMS** (majority of counties): formula-based reimbursement of inpatient **services** and household savings account for outpatient **services** and preventive care 41% reimbursement . EML medicines are fully reimbursed.

**For NCMS**  
**Inpatient treatment:** In township level appointed hospital, reimbursement rate for ‘services’ (including medicines) is 80% - 85%. In county level appointed hospital, reimbursement rate for ‘services’ including medicines is 70% - 75%. In city (state)/secondary level appointed hospital, reimbursement rate for ‘services’ including medicines is 50% - 60%. In provincial/tertiary level appointed hospital, reimbursement rate for ‘services’ including medicines is 45% - 55%. Barber and Yao (5) **Outpatient service:** In 2012, the reimbursement rate for ‘services’ , including medicines, is about 50%, with 300 yuan maximum threshold Barber and Yao (5). As mentioned, reimbursement rates for EML medicines is often higher than for non-EML medicines.

For three counties in Shandong Province , NCMS covered 10-15% of -- drug expenditures for outpatient service in village clinics and township health centres (27) . Members paid the full medical expenses (which include medicines) for inpatient service at designated health facilities and then received reimbursements from the NCMS funds. Reimbursement was governed by complex procedures including stipulated deductibles, tiered reimbursement rates and ceilings (27). In Linyi County (rural Shandong Province) (28) the NCMS benefit package included an outpatient

reimbursement rate that was 20% of total expenses (**medicines AND medical expenses**). All medicines on the EML were reimbursed at some level. The inpatient reimbursement rate was tiered, e.g., 30% of total expenses (as above) if > 1000 Yuan, 40% if 1001–3000 Yuan, 50% if 3001–5000 Yuan, 60% if 5001–8000 Yuan, 70% if 8001–10 000 Yuan, and 80% if >10 000 Yuan. There was no deductible. The benefit package of Linyi’s NCMS was similar to those of most other counties, covering hospital outpatient and inpatient “services” including medicines (27).

Preferred prescriber and dispensing network	<b>No</b>	None	
<b>Utilization (directed to providers and beneficiaries)</b>			
Standard treatment guidelines	<b>Yes</b>	STG (now called “clinical pathway”) in which various pilot project are being undertaken in hospitals. As of August 2013, about 100 hospitals are actually applying this	We do not know how many and what % hospitals in the Yunnan province are part of the clinical pathway program but during the pilot period <b>2009-2011</b> , there were 110 piloting hospitals over the country and <b>5 of these 110 were</b> from Yunnan. <a href="http://www.ch-cp.org.cn/">http://www.ch-cp.org.cn/</a> : <a href="http://www.ch-cp.org.cn/m.php?name=hospital&amp;mo_order=9">http://www.ch-cp.org.cn/m.php?name=hospital&amp;mo_order=9</a>
Pay for performance (financial incentives for quality of care)	<b>Yes</b>	No national policies as PFP but lower levels of system are experimenting with this	<b>No information found for Yunnan Province.</b>  Shanghai Province: 2010 experiment. Only 50-70% of gov’t funds allocated to CHC with part or all of the withheld portion disbursed based on year-end assessment of performance Yip et al. (1). In this province, more than 90% of residents are insured with the <b>urban social health insurance scheme</b>  <i>Guizhou Province:</i> In three towns (26), existing fee-for-service method of paying village doctors was changed to a mixed payment method that included a salary plus a bonus (up to 100 yuan, or US\$12.50, each month) based on performance. The new payment method also used a ‘zero markup’ feature. These changes reduced spending at the village level, curbed unnecessary care for healthier patients, and also decreased the prescribing of unnecessary medicines (26). Other features of the arrangement encouraged doctors to refer sicker patients to township and county facilities,

where costs were higher. As a result, total health care spending was not significantly reduced (26).

Various cities (Anshan, Xiamen, Wuhu, Ma’anshan, Luoyang, and Baoji) paid staff a basic salary plus a bonus based on performance. The performance criteria include quality of services and achieving social responsibilities such as controlling cost escalation. (22)

In some provinces with the “zero mark up” policy, the government increased direct subsidies to primary **health-care facilities**, tied to performance assessment. A recent 2011 review (29) asserted that 25/31 provinces had set up performance based government subsidy and income allocation schemes. Unclear how many are NCMS - specific.

Various cities (Anshan, Xiamen, Wuhu, Ma’anshan, Luoyang, and Baoji) that initiated the ‘zero margin’ policy (see above etc.) also established compensation policies to pay **staff** a basic salary plus a bonus based on performance. The performance criteria include quality of services and achieving social responsibilities such as controlling cost escalation (22).

Separation of prescribing and dispensing	<b>Yes</b>	Various policies to deal with this: “Zero-markup” policy for Essential Medicines at village/town level; “separating revenues and expenditures” (SRES) but NO specific policy on separating ‘prescribing and dispensing’	<b>NCMS</b> reimbursed 10% more for visiting a primary level health centers than a secondary or tertiary hospital.; no-markups on prescription drugs for the primary level health center on-site pharmacies
Disease management programs and education	<b>No</b>	There is no national policy in place. At province level the disease programs are more related to special reimbursements for outpatient than particular program with respect to clinical management.	<b>Example - Shijiazhuang, Hebei:</b> Health file and health management is required to be established, especially for rural elders under NCMS but “disease management” is just special reimbursements for outpatient. <b>Yunnan Province:</b> Under NCMS, there is a special disease outpatient service reimbursement if the insured suffers from chronic

renal failure (outpatient dialysis treatment), malignancy (outpatient radiotherapy and chemotherapy), organ transplant anti-rejection therapy, systemic lupus erythematosus, aplastic anemia, schizophrenia and bipolar disorder (requiring hospitalization), and epilepsy. Unclear if this includes medicines not on EML. With these diseases, the outpatient expenditure will be treated as inpatient treatment expenditure. The reimbursement rate is no less than 70% (25)

**Example - Dong’e County:** Chronic Disease Fund established and subsidized chronic disease under NCMS including hypertension, diabetes, tuberculosis, anemia, etc. Patients were reimbursed at higher rate for outpatient expenditures associated with the listed chronic disease at village clinics and township hospitals (25).

**Example - Changle County:** Patients with hypertension or diabetes and using certain medicines reimbursed by NCMS at 80% of their essential drug expenditure at village clinics and township hospitals and not the normal 25% (25).

	Patient/consumer satisfaction	<b>Not enough information</b>	No apparent national policy/regular surveys on this subject but patient satisfaction surveys can be found in academic publications.	
<b>Information system (directed mainly to insurance and providers)</b>				
	Medicines purchasing information (volume and price)	<b>Not enough information</b>	No public accessible information on medicines prices found	We found no information on purchasing prices by province. Indeed, as most public hospitals still make money from medicine sales, we would argue that such information would not be published
	Prescription monitoring	<b>Not enough information</b>	No formal programs of which could be found	