Public Services and Informal Profits: Governing Township Health Centres in a Context of Misfit Regulatory Institutions

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Abstract

China's healthcare system is governed by institutions that are mutually incompatible. Although healthcare providers are supposed to offer affordable curative care services and engage in public health and administrative work, they receive insufficient financial support from the state and rely on generating informal profits and grey income. The "institutional misfit" between this public welfare mandate and medical service providers' market orientation is particularly pronounced in the case of township health centres (THCs), a generalist type of healthcare provider with a key role in China's healthcare system. Based on fieldwork in four county-level jurisdictions, this study explores how local governments and THCs interact to cope with institutional misfit. It sheds light on a large variety of informal practices pertaining to human resources, healthcare services, drug procurement, health insurance and capital investment. Local governments deliberately neglect regulatory enforcement and collude with THCs to generate informal profits, behaviour which undermines service quality and increases healthcare costs. The study also shows that while the New Healthcare Reform altered the informal and collusive practices, it has failed to harmonize the underlying institutional misfit. To date, we see only a reconfiguration rather than an abandoning of informal practices resulting from recent healthcare reforms.

Keywords: township health centres; healthcare policy; local government; zero mark-up; New Healthcare Reform; China

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After decades of unprecedented economic growth, the People's Republic of China (PRC) finds itself at a crossroads in the early 21st century. While economic development has slowed in recent years, its costs and side effects are increasingly entering public consciousness. Rising incomes have lifted millions out of poverty, but income inequality has also soared. Public services such as healthcare or

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education have been defunded and commercialized. In healthcare, the resulting neglect of unprofitable public health has facilitated the reappearance of previously extinct infectious diseases.[1] At the same time, profitable curative care and drugs are available only for those who can pay. After illness had become the most common cause of impoverishment in rural China around 2000, the central government introduced a basic and highly subsidized rural health insurance – the New Rural Cooperative Medical System (NRCMS).[2] While health insurance benefits overall remain highly unequal,[3] their expansion to the rural areas was expected to enhance the accumulation of household wealth and increase support for the Chinese Communist Party (CCP) regime.[4] But rural health insurance primarily benefited local healthcare providers; its effects on impoverishment remained limited and its influence on the quality of treatment was ambiguous.[5] However, the quality of local healthcare services is an important determinant of trust and support for the CCP regime.[6] The mixed results in terms of material protection and public opinion thus highlighted the problem of China's commercialized-but-public healthcare services.[7]

In order to restore the healthcare system as an effective public service, in 2009 the central government initiated the so-called New Healthcare Reform (NHR), an umbrella term for various policies that are to be implemented until 2020. The NHR included the abolishment of drug profits at the grassroots level and a renewed emphasis on preventive care. While some studies have engaged with the reform's impact on patients,[8] few have analysed the financial arrangements behind it. In China's decentralized polity, most public services are provided by local governments. However, local governments often lack the financial and administrative resources, as well as the incentives, to reconsolidate healthcare provision as a public service.[9] Since the 1990s, the public finance system has been characterized by centralized revenue mandates, decentralized expenditure mandates, and a lack of progressive fiscal transfers supporting local government service provision.[10] As a result, local governments largely depend on local revenues, the distribution of which is highly unequal. Furthermore, the tax system creates incentives for them to focus investments on infrastructure to nurture industry and commerce. Consequently, local governments are usually unable or reluctant

1 Public health here refers to health services approximating the characteristics of public goods, and is primarily associated with preventive care. Preventive care refers to the *ex ante* use of drugs and medical services to keep health conditions from appearing, for example through immunizations. Curative care refers to the *ex post* use of drugs and medical services to treat medical conditions that have already appeared.
2 Klotzbücher et al. 2010.
3 Duckett 2004; Huang, Xian 2015.
4 See also Heberer 2009.
5 Jackson et al. 2005; Babiarz et al. 2012; Yi et al. 2009.
6 Dickson et al. 2016.
7 See also He, Alex Jingwei, and Qian 2013.
8 See, e.g., Fang, Yu, et al. 2013.
9 Allen, Cao and Wang 2014.
10 Wong 2009.

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to allocate funding to the healthcare sector. In 2014, the central government launched a comprehensive fiscal reform aimed at tackling these problems. This reform, however, is a slow process with uncertain outcomes. For the time being, the distribution of fiscal resources remains unable to support public service provision and policy implementation as envisioned by the central government.

There are, therefore, deep structural contradictions between fiscal resource allocation and the regulatory standards of the healthcare sector. This study will focus on township health centres (*xiangzhen weisheng yuan* 乡镇卫生院, hereafter THCs) in order to explore the effects of these contradictions. The THCs differ from regular hospitals in that their service portfolio is less profitable: they merely provide basic curative care services, while additionally being in charge of public health and various administrative tasks. Since the 1980s, they have been subordinated to the fiscally fragile township level of government, and thus exposed to a high risk of shortfalls in budgetary funding.[11] Previous studies have found that rural health insurance benefited THCs;[12] however, less is known about how they fare under the NHR. More generally, few studies have systematically analysed how contradictory regulatory institutions affect local government behaviour and policy implementation in rural China. For THCs, the contradictions are particularly intense, which renders them a suitable case through which to explore this issue. How do they cope with the contradictions between the functions they are expected to perform and the resources they are allocated? How do these contradictions affect their interactions with the local governments that are supposed to enforce the regulations? And what effect has the NHR had on the situation?

To answer these questions, the remainder of this article is organized as follows. The next section introduces how the concept of "institutional misfit" is used to systematically analyse the relationship between regulatory institutions in the healthcare sector on the one hand and the funding arrangements of THCs on the other. Together, the regulatory institutions and funding arrangements create an incentive structure that results in a deadlock mechanism: local governments neglect budgetary funding for THCs; THCs in turn violate healthcare sector regulations in order to generate informal profits to compensate for the shortfall. Finally, there is little incentive for local governments to hold THCs accountable to those regulations. The article then makes use of fieldwork data to analyse the effects of these dynamics with regard to THCs' human resources, drug procurement, the pricing of drugs and services, capital investment and health insurance. It first focuses on the situation in the early 2000s, including the effects of the NRCMS, and then analyses how various policies that come under the NHR umbrella impact THCs. The final section summarizes the findings and interprets their consequences for China's socio-economic development in the 21st century. This study provides in-depth insights into the current situation of THCs in rural

11 Smith 2010; Tang and Bloom 2000.
12 Babiarz et al. 2012; Jackson et al. 2005.

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China as well as into the financial arrangements and implementation dynamics of the NHR in its later stages. Furthermore, the concept of institutional misfit offers a new perspective on local government behaviour and public service provision under China's dysfunctional fiscal system. While previous research has directly associated strong local state capacity with effective public service provision,[13] this study shows that contradictory regulatory institutions can undermine public service provision even in wealthy localities.

Healthcare Sector Regulation and Institutional Misfit

Both healthcare sector and public finance regulations are characterized by multiple contradictions, which negatively affect the compliance of the actors they target.[14] The public pricing system is of paramount importance in this respect because it defines medical service items for accounting and assigns prices to thousands of specific services and drugs. Healthcare pricing has been used as a social policy tool since the founding of the PRC, and basic healthcare services have been kept artificially cheap in order to facilitate access by the poor. Even today, prices for healthcare services on average only account for about 50 per cent of the actual costs of provision (cost-recovery rate).[15] Moreover, labour costs are not to be covered by service revenues primarily but by transfers from local governments for the salaries of permanent public service posts (*bianzhi* 编制).[16] Hospitals are allowed to operate pharmacies and charge profit margins on medicines sold (15 per cent) as well as on certain service items (like high-tech diagnostic tests). Finally, a formal code of medical ethics requires doctors to act in the best interests of the patients.[17] This code is increasingly backed up by laws and regulations which, for example, make "inducing demand" for drugs and medical tests a punishable offence.[18] In order to function according to these and other relevant norms and regulations, the healthcare system needs a substantial input of public funding – an input the intergovernmental fiscal system is incapable of providing.

The concept of institutional misfit is used here as a tool to analyse how contradictory regulations affect the behaviour of THCs and local governments. Institutional misfit constitutes the opposite of "institutional fit" as described by Peter Hall and David Soskice.[19] Both institutional fit and institutional misfit refer to "relationships of mutual dependence and influence between different

13 Huang, Yanzhong 2004.
14 The term "healthcare sector regulation" here refers to the various laws and administrative decrees regarding the interactions of governmental actors, healthcare providers, companies and patients.
15 Liu, Liu and Chen 2000; Yu et al. 2012.
16 Brødsgaard 2002.
17 Hsiao 2008.
18 "Induced demand" is a term from health economics which refers to doctors providing more treatment than is medically necessary in order to generate profits. This form of medical malpractice is usually difficult to detect. See MoH 2006, Art. 44f; Tort Law (People's Congress) 2009, Art. 63.
19 Hall and Soskice 2001.

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institutions or simultaneous processes" that can have either facilitative or corruptive effects.[20] For example, cross-subsidizing a low cost-recovery rate for healthcare services with profits from drug sales or diagnostic tests facilitates growth in the industries producing pharmaceuticals and medical equipment (institutional fit). However, the same pricing structure can have corruptive effects on medical treatment, as it creates incentives for doctors to induce demand. Therefore, such a pricing structure potentially undermines the quality of treatment and increases its costs (institutional misfit). As the example shows, sometimes institutional fit and misfit are but two sides of the same medal. The concept of institutional misfit allows us to systematically capture regulatory contradictions, exploit their analytical potential and shed light on their social effects.

Institutional misfit is particularly intense for THCs. This is because they face a powerful set of regulatory contradictions. First, they do not have a profitable service portfolio, as the focus of their work is on unprofitable preventive care and basic outpatient services,[21] rather than profitable inpatient services.[22] The salary system usually rewards employees who generate profits with bonuses; however, these opportunities are concentrated in curative care. Preventive care workers thus tend to lose motivation and adopt a negligent workstyle. Doctors in curative care on the other hand strive hard to make their work profitable, often by inducing demand. These corruptive effects could be controlled by strictly limiting the size of bonuses – experiments in this direction are being pursued under the NHR – and adequately funding THCs' human resource expenditures.

Second, THCs' formal entitlements to public funding are not always sufficient to support their operation. Funding is usually calculated on the basis of either *bianzhi* posts or bed capacity. There are two types of THCs, general and central ones. General THCs are usually smaller facilities which tend to have few or no beds, as they primarily provide outpatient and preventive care. They are often collectively owned and usually have no *bianzhi* positions. Central THCs are larger and provide some basic inpatient services. They have more beds, are more likely to be state-owned and tend to have *bianzhi* positions for at least some of their staff. The NHR aims at increasing the number of *bianzhi* positions in THCs and improving public health funding, as will be discussed in greater detail below. However, such *bianzhi* positions can be fully, partly or not at all funded from public budgets, and local governments can determine the respective salary levels of *bianzhi* positions. The formal institutions of budgetary funding thus favour the more profitable facilities, and there is no mechanism to guarantee that THC entitlements will be sufficient to allow them to operate sustainably in accordance with healthcare sector regulations.[23]

20 Mayntz 2009, 92.

21 Outpatient services refers to a type of curative care where the patient does not stay overnight in a hospital. This type of care is usually associated with minor or chronic illnesses.

22 Inpatient services are a type of curative care where the patient stays at the hospital overnight, usually owing to serious illness or surgery.

23 Wong 2002.

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Third, and most importantly, THCs are subordinated to the lowest levels of government, where the risk of financial shortfalls is highest. Many local governments face massive regulatory contradictions between their largely disconnected fiscal revenue and expenditure mandates. This misfit leaves them unable to fund their public service units appropriately. General THCs are more likely than central THCs to be subordinated to the township level, which is highly fragile in fiscal terms. Furthermore, even local governments with sufficient financial capacity are incentivized to invest their funds in economically or politically more lucrative projects. In the widespread absence of adequate funding, violating healthcare sector regulations has become a key component of healthcare financing, and one that is crucial for THCs' organizational survival. Institutional misfit is therefore reinforced by multiple regulatory contradictions.[24]

The corruptive effects of this misfit manifest themselves in informal and collusive practices in the interactions between local governments and THCs. The contradictory regulations are weakened as institutions because THCs cannot operate in accordance with healthcare sector regulations sustainably and local governments simply lack meaningful incentives to enforce those regulations. The financial stability of THCs may be harmed if the various administrative bodies with oversight issue too many fines, which explains why such organs are often held back via informal practices.[25] In order to guarantee social stability, local governments need to maintain an intact network of local service providers[26] – this includes one THC for every township and town.[27] Therefore, local governments will bail out a THC if it is threatened by bankruptcy, and may refrain from shutting one down even in severe cases of misconduct and corruption.[28] The three separate factors of underfunding, induced demand and ineffective monitoring have been examined by previous studies. This study merges these elements into a social mechanism, here referred to as deadlock, which exploits the analytical potential of their interdependence. It creates a causal link between the contradictory regulations and the prevalence of informal practices and collusion in a local context.[29] The deadlock has a massive distorting effect on healthcare policy implementation, because neither THCs nor local governments tend to be willing and/or able to work in accordance with the regulations. It impacts Chinese localities, unless they have a very strong fiscal capacity, and a government highly dedicated to healthcare.

24 Tang and Bloom 2000; Wong 2002.
25 Fang, Jing 2008.
26 Tam 2011.
27 Central Committee and State Council 2002, Art. 9.
28 Audibert et al. 2013; Tam 2011.
29 Informal practices here refer to actions that violate a given law or regulation. They include both unilateral actions and interactions between several actors. Collusion refers to informal practices that involve active coordination and cooperation between several actors.

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Governing THCs before the New Healthcare Reform

Before the enactment of the NHR in 2009, the deadlock mechanism affected most aspects of THCs' operations. Owing to a lack of financial resources or because of different priorities, local governments did not fund THCs appropriately. THCs had to make their operations as profitable as possible, which required them to violate various regulations. Local governments had strong incentives to tacitly consent to these tactics or even collude with THCs. Table 1 illustrates the division of financial responsibility for funding THCs prior to the NHR, including the NRCMS and public health, where THCs perform important functions. The areas of funding are presented in the columns, whereas the rows represent the different levels of government with financial responsibility. The central and provincial levels of government only assumed clearly defined responsibilities in subsidizing the insurance funds for the NRCMS and purchasing and delivering vaccines for public health work. Furthermore, there were various vague mandates for support, especially for officially recognized poverty areas. But the main financial responsibility was assigned to local governments. They were charged with financing capital investment, running costs and human resources, as well as the administration of the NRCMS and public health work. Owing to the dysfunctional intergovernmental fiscal system, THCs' entitlements to local budgetary funding were very often (partly or entirely) ignored.

As the following paragraphs will show, the intensity of underfunding and informal practices in each place is related to the degree of fiscal subsistence. Table 2 illustrates some core data regarding the four county-level jurisdictions where fieldwork was conducted in 2010, 2011 and 2016. A County and G County are located in the less developed parts of two coastal provinces, which is reflected in their low level of public spending. Both suffered from a lack of local revenue to fund their expenditures. B County, situated in the west of China, was officially classified as poor and therefore received substantial fiscal transfers. C District is in an economically dynamic area on the edge of a larger urban conglomerate in central China and could rely to a large extent on local resources. According to the standards of the National Health Service Survey by the Ministry of Health (MoH), G County is most representative of rural China with regard to per capita income, whereas the other localities represent above-average socio-economic conditions.[30] Most data presented here therefore describe a comparatively light version of the deadlock mechanism.

Human resources

The entitlements to budgetary support were a core topic in interviews with THC directors and staff. In G County, for instance, budgetary support was a

30 MoH 2009a, 7.

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Table 1: **Financial Responsibility for THCs, Public Health and the NRCMS by Level of Government before the NHR**

	General Budgetary Funding for THCs		NRCMS		Public Health	
	Capital investment	Running costs and human resources	Insurance funds	Administrative costs	Immunization (vaccines)	Administrative costs
Centre	Support		Formalized cost-sharing			Support
Province	Support				Purchase, transport	Support
Prefecture						Support
County	Main responsibility	Main responsibility		Main responsibility		Main responsibility

Source:
Central Committee and State Council 2002.

Notes:
Formalized cost-sharing applies to all four levels of government indicated here.

Table 2: **Fiscal Capacity and Public Spending in the Field Counties in 2010**

	A County	B County	*C District*	G County
Hukou population	1.15 million	200,000	*600,000*	450,000
Per-capita fiscal spending (yuan)	3,000	5,200	*5,000*	2,200
Share of local revenues in expenditures (fiscal subsistence)	56%	51%	*68%*	27%

Source:
National Bureau of Statistics 2011.

Notes:
Data for C District had to be compiled from local yearbooks that would reveal its identity. It is not directly comparable to the data of the other three.

substantial problem. The general THC received essentially no budgetary transfers and paid staff salaries from operational revenues.[31] The central THC was in a similar situation but had just been placed under the financial authority of the county level. Its director hoped this decision would bring more financial support in the future.[32] The situation was similar in A County.[33] The central THC at B County's county seat received only 1,000 yuan a year per employee until 2010, and accordingly, was forced to pay very low salaries.[34] The THCs in wealthy C District received budgetary transfers for 30 per cent of the basic salaries of the permanent (*bianzhi*) staff before 2009.[35] These accounts illustrate that underfunding was the norm, in varying degrees, in the four localities prior to the NHR.

Drug procurement and informal profits

Such underfunding facilitated regulatory non-compliance by THCs, as well as lax supervision and collusion in drug procurement and curative care provision. For example, THC staff in A County and C District clearly indicated that the profit margins for drugs were substantially higher than the 15 per cent officially allowed by the pricing system. In A County, THCs could raise profit margins up to 40 or even 60 per cent through selective compliance with two contradicting regulations.[36] According to the director of a general THC, this method was a crucial source of funding: "Our expenditures entirely depended on the high profit margins we charged patients, including the costs of construction, equipment and

31 Interview 20101202a, with staff of a general THC in G County.
32 Interview 20101202b, with staff of a central THC in G County.
33 Interview 20111123, with the directors of two central THCs in A County; interview 20111124b, with the directors of two general THCs in A County.
34 Interview 20110830, with the director of a central THC in B County.
35 Interview 20111012, with the director of a central THC in C District.
36 The first one was a policy promoted by the Food and Drug Administration since 2000, which aimed at decreasing drug prices via bidding and bulk purchases organized by local governments. Before, healthcare providers usually purchased drugs individually. Both wholesale and retail prices should have been reduced to benefit patients. However, in A County, retail prices were not reduced and sales continued according to the regular pricing system (the second regulation), which assigned higher retail prices to the purchased drugs. Interview 20111124a, with a local cadre in A County.

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salaries."[37] In C District, there was an oligopoly of local wholesale companies, while companies from other localities were denied access to the THC market. This was common practice in the region and allowed for informal profit margins of around 50 per cent.[38] Such purchasing strategies are collusive, as they require active coordination between THCs and local governments, and the latter often keep a share of the profits. National statistics indicate that THCs in fact imposed profit margins between 60 and 70 per cent on average in 2008, so such informal profits were the norm rather than the exception.[39]

Capital investment

In capital investment projects for construction or equipment, the combined lack of budgetary investment and regulatory enforcement caused many THCs to go into debt. The pricing system created strong incentives for them to expand the provision of profitable services, such as surgery and diagnostic tests, beyond their formally indicated business model.[40] But, many THC doctors only hold vocational education degrees and sometimes lack the skills needed to conduct complex surgery. According to formal regulations, investment decisions are part of governmental health planning; however, informally, THCs could make their own investments.[41] Alternatively, they could apply for funding through central and provincial capital investment programmes, but these programmes require substantial co-payments by both THCs and local governments. As one THC director in wealthy C District explained, most facilities (including his own) needed to go into debt to finance such projects, a situation also not foreseen by formal regulations.[42]

Often, debts were accrued by deferring payments to construction companies and suppliers of equipment and drugs. A construction company would begin work on a project and then be paid off gradually afterwards.[43] If the local government did not come up with its co-payments, the THC's burden could increase accordingly. A THC director in A County related how the construction of a new hospital ward cost 3 million yuan. The province was to bear 50 per cent of the cost, and the THC the remaining 50 per cent. The provincial government had originally required the city and county governments to contribute to the project, but owing to their fiscal difficulties, they were unable to do so, and had reported this to the provincial level. The province contributed 1.5 million yuan nevertheless,

37 Interview 20111124b, with the directors of two general THCs in A County.
38 Interview 20111010, with a county-level NRCMS administrator in C District; interview 20111013, with the director of a central THC in C District; interview 20160830, with the director and staff of a central THC in C District.
39 See also Figure 1.
40 Cf. Pei and Bloom 2011.
41 See also Wong 2002.
42 Interview 20111013, with the director of a central THC in C District.
43 Ibid.

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leaving the remaining 1.5 million yuan to be paid by the THC in yearly instalments.[44] Such practices were a common occurrence, and the resulting debt further increased the pressure on THCs to induce demand. Ultimately, the bulk of such budgetary shortfalls is paid for by the patients.

Health insurance

Prior to the implementation of the NHR policies, health insurance (NRCMS) was already crucial to funding healthcare in rural areas. The focus of its reimbursements was on catastrophic health expenditures and inpatient services, which is why it particularly benefited central THCs.[45] For instance, in 2010, the director of G County's central THC described the NRCMS as a "life-saver." In the three years following its introduction in 2007, the revenues of G County's central THC increased seven-fold. In particular, the high reimbursement rates for appendix surgery and other inpatient treatments guaranteed good business each month. Prior to the introduction of the NRCMS, the THC found it difficult to keep all employees occupied, renovate its facilities or construct new buildings. Thanks to the NRCMS, business in every department increased notably, and the THC was able to save enough money to meet the co-payment requirements of provincial capital investment programmes.[46] For the NRCMS to compensate for THCs' lack of budgetary funding, it had to reimburse the specific profitable service items and drugs local THCs had available, so local governments often designed the reimbursement catalogues accordingly. Furthermore, local governments often denied the NRCMS administrative organs the authority to meaningfully sanction THCs, even in obvious cases of induced demand. By turning a blind eye to regulatory violations and colluding with THCs in drug procurement, local governments could enhance the effect of the NRCMS in alleviating institutional misfit and improving the THCs' financial situation.[47]

The New Healthcare Reform and its Effects on THCs

The NHR, scheduled to last from 2009 to 2020, came with the promise to restore China's healthcare system as a public service and to reverse the problematic course it had taken during the reform period. A large set of different policies come under the NHR umbrella, so this section will focus on those that affect THCs in particular.[48] Among these is the reform of China's Essential Medicines (EM) system, implemented between 2009 and 2011.[49] This policy restricted THCs' pharmaceutical portfolios to a selection of cost-effective

44 Interview 20111123, with the directors of two central THCs in A County.
45 See also Babiarz et al. 2012.
46 Interview 20101202b, with staff of a central THC in G County.
47 Müller 2017, 139–164.
48 MoH 2011.
49 MoH 2009b.

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generics included on central and provincial EM lists.[50] The so-called "zero mark-up" rule furthermore forbade THCs to introduce any profit margins on the drugs they sold. To ensure that THCs were able to function sustainably under the new regulations, the central government launched an initiative to clear their accumulated debts and called on local governments to create more permanent *bianzhi* posts for THCs in 2011. But, as Table 3 illustrates, the reforms were only gradually backed up by financial commitments. As the following sections will discuss in greater detail, the compensation offered was insufficient to create a more sustainable mode of financing for THCs.

Human resources and public health

The NHR sought to improve the human resource situation of THCs, which was often characterized by fluctuations and instability owing to a strong reliance on temporary and contract workers. In 2011, the State Commission of Public Sector Reform (SCOPSR) encouraged local governments to create and fund more *bianzhi* positions in THCs, and recommended a standard norm for the numbers and types of these positions.[51] Accordingly, almost 25 per cent of *bianzhi* positions should be reserved for public health staff, and public health transfers could be used to fund their salaries. Since 2009, the central government has enacted minimum standards for Basic Public Health Service expenditures, largely leaving intergovernmental cost-sharing arrangements to the provinces. In 2015, the central government formalized and expanded its financial responsibility to cover 80 per cent of public health expenditures in west China, and 60 per cent in central China.[52] The funding arrangements in public health have been consolidated, but they only constitute a small part of THCs' revenues and therefore have a limited effect in alleviating institutional misfit.[53]

In the localities visited, THCs' human resource situations improved somewhat under the NHR, but often remained ambiguous and problematic. In wealthy C District, the share of *bianzhi* salaries covered by budgetary transfers had been gradually increased, from 30 per cent before 2007 to 70 per cent since 2011.[54] In B County, the two central THCs were treated unevenly. The large one in the county seat received 100 per cent of the *bianzhi* salaries from public budgets, whereas the smaller and more remote one only received around 30 per cent. As it was a designated poor county, 80 per cent of public health expenditures were funded through fiscal transfers.[55] In fiscally weak A County, cadres indicated

50 Tian, Song and Zhang 2012.
51 SCOPSR 2011.
52 MoF 2015.
53 Furthermore, THCs are expected to share these transfers with the village doctors, and coordinate them in the provision of basic public health services. The coordination of village doctors has been highly problematic throughout the reform period, and remains so under the NHR.
54 Interview 20111012, with the director of a central THC in C District.
55 Interview 20110830, with the director of a central THC in B County; interview 20110831, with staff of a central THC in B County.

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Table 3: **Financial Responsibility for THCs and Public Health by Level of Government (Changes since 2009)**

	General Budgetary Funding for THCs			Public Health
	Capital investment	EM compensations	Running costs and human resources	
Centre	Support	Earmarked funds since 2012		Formalized cost-sharing system for basic public health services since 2015
Province	Support	Occasional cost-sharing	(Support in some provinces since 2016/2017)	
Prefecture				
County	Main responsibility	(Informally main responsibility)	Main responsibility	

Sources:
MoF 2014; 2015.

Notes:
Formalized cost-sharing applies to all four levels of government indicated here.

that the number of *bianzhi* positions had been expanded, but the director of a general THC added that there was no official standard defining the level of budgetary support connected to a *bianzhi*. Fiscal transfers here covered only 70 per cent of public health expenditures.[56] The main financial responsibility for human resources thus remains with local governments, which leaves the salaries of THC staff exposed to the risk of financial shortfalls. In 2016, Jiangsu provincial government launched an additional fiscal transfer programme to help THCs retain qualified staff.[57] Other provinces have now begun to adopt similar practices, which may come to constitute a crucial pillar of THC funding in the future.

Drug pricing and procurement

The NHR required THCs to restrict their drug portfolio to medicines included on the new EM lists; it also introduced a zero mark-up policy for these drugs.[58] Previously, THCs had been allowed to charge a mark up of 15 per cent on drugs, but informal profit margins were usually between 60 and 70 per cent, as described above. The reform had a negative effect on THCs' revenues: profits from drug sales decreased substantially after 2009, despite not being fully abolished, as Figure 1 illustrates. To cover the THCs' financial losses, the central

56 Interview 20111124b, with the directors of two general THCs in A County. This was connected to A County's particular mode of compensating for the zero mark-up, which is discussed below.

57 "Jiangsu linxuan jiceng weisheng gugan rencai 2000 ming youyizhe kehuo sheng caizheng buzhu" (Jiangsu selects 2000 outstanding grassroots health workers to receive provincial support), news.xinhuanet.com, 7 July 2016, http://news.xinhuanet.com/local/2016-07/07/c_129124263.htm. Accessed 7 September 2017.

58 MoH 2009b. See also Fang, Yu, et al. 2013.

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government required that compensation arrangements be put in place. One common approach was simply to transfer payments amounting to 15 per cent of the value of drugs sold to each THC. In B County and C District, THCs not located in the county seat reported to receive compensation in this form.[59]

However, this approach is problematic for two reasons. First, compensation equating to a 15 per cent mark up does not cover the informal profit margins the THCs were making prior to the NHR. Second, such compensation arrangements continue to give THCs incentives to over-prescribe drugs. A more progressive compensation approach was used in A County. Local officials calculated the total losses the EM reform inflicted on THCs and provided compensation equivalent to this amount. Those THCs experiencing financial difficulties received higher levels of compensation.[60] In some cases, local governments received financial support from higher levels of government. A County, for example, received 40 per cent of its compensation payments from the provincial government. In 2012, the central government decided to set up an earmarked annual fund of 9 billion yuan for this purpose.[61] However, considering the high levels of informal profits generated before the reform, most of the financial burden still falls to local governments, and substantial regulatory contradictions therefore remain.

In order to reduce the negative impact of the zero mark-up policy on profits, many local governments resorted to informal practices, such as a partial implementation of the EM system. They allowed THCs to continue to use some non-EM drugs and to make a profit on these drugs. C District, for example, issued a target rate of 80 per cent for the usage of EM medicines, and left the remaining 20 per cent to be covered by non-EM drugs. The local government furthermore created regulatory loopholes by requiring THCs to implement the zero mark-up only for Western medicine. In the county seat, THC staff indicated that they bought non-EM Western and Chinese manufactured drugs (*zhongcheng yao* 中成药) at market prices, and added a 15 per cent profit margin to the purchasing price.[62] Staff at a more remote THC added a profit margin of 20 per cent to Chinese herbal medicine (*zhongyao* 中药).[63] Similar practices were also adopted in A County (and elsewhere in China[64]): THCs there added a 15 per cent or more mark up for non-EM Western drugs, and about 30 per cent for Chinese herbal medicine.[65] While such partial implementation can decrease THCs' dependence

59 Interview 20110831, with staff of a central THC in B County; interview 20160830, with the director and staff of a central THC in C District.
60 Interview 20111123, with the directors of two central THCs in A County.
61 The earmarked fund was equivalent to slightly less than 15% of THCs' aggregated drug expenditures in 2012. It does not take into account inflation, therefore its value for THCs decreases annually. CHFP 2013; 2016; interview 20111123, with the directors of two central THCs in A County; interview 20111124b, with the directors of two general THCs in A County; MoF 2014.
62 Interview 20160829, with staff of a central THC in C District.
63 Interview 20160830, with the director and staff of a central THC in C District.
64 See, e.g., "Xiangzhen yiyuan kao shenme shengcun?" (How do THCs secure their livelihood?), health.sohu.com, 25 July 2014, http://health.sohu.com/20140725/n402732070.shtml. Accessed 26 July 2016.
65 Former cadre from A County, e-mail communication with author, 5 December 2016.

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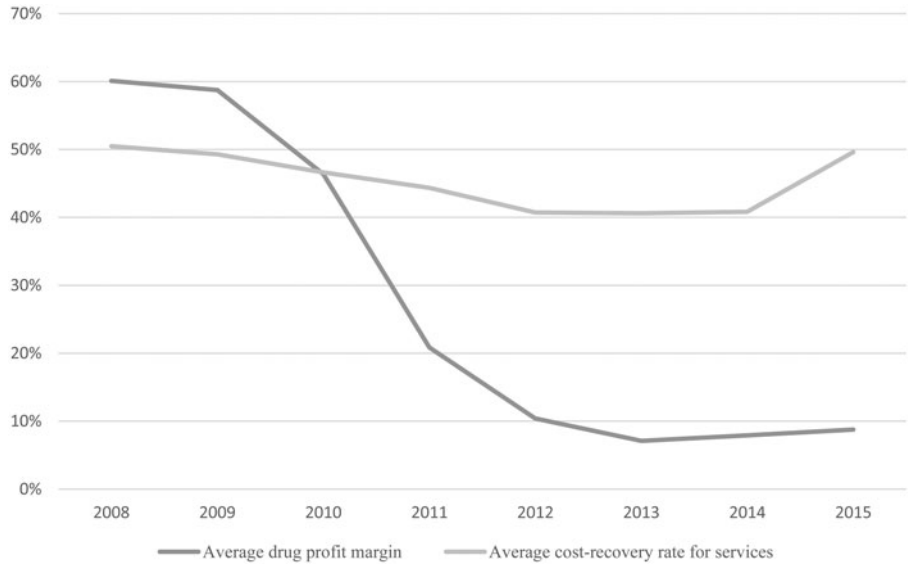
Figure 1: **Profitability of Health Services and Drugs**



Source:
CHFP 2013; 2017.

Notes:
The figures represent both rural THCs and their "urban" counterparts, the community health service centres. The profit margin for drugs was calculated in accordance with the official calculation method (quotient of drug revenues and expenditures, minus one). The cost-recovery rate was calculated as the quotient of service revenues and expenditures, which in turn were calculated by subtracting drug revenues and expenditures from overall operational revenues and expenditures. The outcomes are largely consistent with other measures. See also Liu, Liu and Chen 2000; Yu et al. 2012.

on local governments' insecure budgetary funding, it also creates incentives to induce demand for profitable drugs and implies lax supervision.

Another strategy to compensate for the financial losses caused by the EM system was for local governments and THCs to solicit kickbacks from drug companies.[66] The NHR centralized the procurement and pricing of listed drugs at the provincial level, obliging THCs to order their medicines directly from a provincial website. This seemingly took away the authority of local governments to coordinate purchasing and collude in generating informal profits, as described above. However, in C District, the provincial EM platform allowed THCs to select the company from which they wished to purchase drugs. In A County, too, THCs could list "preferred companies."[67] This permitted individual THCs a certain amount of leeway when it came to selecting drug suppliers – and offered an opportunity to generate grey income. These findings chime with recent reports about THC directors accepting kickbacks from pharmaceutical companies,[68] and

66 A kickback here is an informal payment from the drug company to the THC after the purchase of a drug, which returns part of the purchasing price.
67 Interview 20160823, with a local cadre from A County.
68 Wu et al. 2015.

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local governments threatening to not purchase from certain drug companies unless inducements are offered.[69] At a 2015 health symposium, which included representatives of the central government, one speaker indicated that such kickbacks are common practice: "[Pharmaceutical] enterprises pay 20, 15 or 30 per cent … [the zero mark-up] is smoke and mirrors [and] can only drive the chain of interest from daylight into the shadows."[70] Unlike previous informal profits, kickbacks are a form of grey income not captured by official statistics and are punishable as bribery under the criminal law. They arguably compensate for a substantial share of the costs inflicted on THCs by the zero mark-up policy.

Service pricing reforms

Another NHR promise was to increase the cost-recovery rates of basic curative care services and reduce the profit margins on diagnostic tests and surgery. However, the dominant price reforms for THCs actually further decreased the cost-recovery rate of their services, arguably also to counter a shift to induce demand for profitable service items in reaction to the zero mark-up policy.[71] For example, in outpatient care, the general diagnosis and treatment fee (*yiban zhenliao fei* 一般诊疗费) bundled different standard services such as registration, examination and injections together for a standard fee of 10 yuan. In inpatient care, most of the jurisdictions visited during fieldwork implemented the so-called "single-disease price caps" (*dan bingzhong xianjia* 单病种限价), which fix maximum fees for common treatments at THCs. In A County, the local government introduced price caps for eight procedures commonly performed at THCs. For instance, the price for treatment of appendicitis was fixed at 1,000 yuan and could only go up by 20 per cent in complicated or severe cases.[72]

In C District, a price cap *per diem* (bed-days) for inpatient services was being prepared in 2011 and subsequently implemented.[73] In 2014, the local government's website announced that the locality had achieved the lowest average costs for inpatient treatments at THCs in the region with this reform. However, in 2016, the THC staff explained that inpatient services had been drastically reduced:

> Now, we do not deliver babies or offer surgery anymore, at the grassroots level it has all been abolished … Regulatory standards are higher now, you have to attend 100 births per year in order to qualify. In the past, we could undertake common operations such as … appendicitis

69 Xu and Hu 2014, 4.
70 He, Xiao 2015.
71 Yi et al. 2015.
72 Interview with staff of a central THC in G County; interview 20110830, with the director of a central THC in B County; interview 20110831, with staff of a central THC in B County; interview 20111123, with the directors of two central THCs in A County.
73 Interview 20111010, with a county-level NRCMS administrator in C District.

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surgery, but … these days, relations between patients and doctors are tense. Surgery is too risky, and doctors are no longer ready to take the responsibility.[74]

While price reforms were not explicitly mentioned, they may well have contributed to this change in C District. Sometimes, local governments are not sensitive to the needs of THCs and set the prices too low. In B County, for example, the single-disease price caps were decided at the higher city level. One THC director was unhappy about this reform and complained that the new prices would not cover the costs of service delivery.[75] That being said, there are usually weak points and loopholes to be found in the local pricing reforms discussed here which THCs can exploit in order to reduce their losses.[76]

Service pricing reforms are a crucial part of the NHR. As Figure 1 illustrates, the average cost-recovery rates of THCs' medical services declined during the NHR. To improve the overall cost-recovery rates, service prices need to be reformed by the provincial pricing departments. Chongqing attempted such a reform in 2015, but it disproportionately increased the burden for certain groups of patients and was therefore aborted after only a few days.[77] This illustrates the complexity of re-pricing thousands of service items at a time. Even though the cost-recovery rates have risen again in recent years, their low level keeps reinforcing the deadlock mechanism. The Development and Reform Commission keeps on pushing for comprehensive service pricing reforms in the NHR's final stage.

Health insurance

The NRCMS system has been financially consolidated under the NHR, with the central and provincial levels funding increasingly larger shares of the insurance funds. The per capita funding standard of the NRCMS reached 350 yuan in 2013, which amounted to about 27.5 per cent of rural per capita health expenditures.[78] The profitability of the NRCMS for THCs continued to depend on reimbursements being paid for profitable service items and drugs. Local governments continued to adapt the NRCMS to THCs' service portfolios and recent pricing reforms in order to render them more attractive to patients. In A County, these adaptations focused on inpatient services, and in C District they focused on Chinese medicine, in accordance with the respective development models of local THCs.[79] As before the NHR, the effectiveness of the NRCMS as a funding

74 Interview 20160830, with the director and staff of a central THC in C District. Similar statements were made at different THCs, but most still had their operation rooms.
75 Interview 20110830, with the director of a central THC in B County
76 Müller 2017, 157.
77 "Chongqing yigai fengbo jingshi yiliao fuwu jiage gaige" (Reforming health service prices: warnings and inspirations from the disturbance to Chongqing's healthcare reforms), hkcd.com, 9 April 2015, http://www.hkcd.com/content/2015-04/09/content_921692.html. Accessed 24 June 2015.
78 CHFP 2016, 91.
79 Interview 20111010, with a county-level NRCMS administrator in C District; interview 20111123, with the directors of two central THCs in A County; interview 20160830, with the director and staff of a central THC in C District.

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mechanism for THCs strongly depends on inducing demand for profitable services and keeping regulatory enforcement lax.

Capital investment

The State Council decided in 2011 to resolve the problem of THCs' accumulated debt, which largely originated from capital investment projects, as described above. In July 2011, it announced a joint effort at all levels of government to clear THCs' debt within two years, and decreed that no further debt should be accumulated. The centre promised to pay off all debt that had accumulated before 31 December 2009, and the sub-national levels of government were to take care of the rest.[80] But, according to official statistics, the level of THCs' debt to assets was only reduced from 30 per cent in 2011 to 25 per cent in 2015, while the absolute amount of debt continued to increase, indicating only a slight improvement in the situation.[81]

Fieldwork was conducted in the months following the release of this document, and the central THCs in A County and C District all had construction work in progress. One THC director in A County explained that construction work had come to a halt because the construction company had run out of money. Clearance work had already been accomplished, and they were just waiting for the money to be transferred.[82] The director of a general THC in A County pointed out that most of its current equipment had been purchased recently. In the future, they could only buy additional equipment if the government paid for it.[83] In 2016, THC staff in wealthy C District explained that the local government had ultimately handled the THC's debts. But when asked about current investment projects for equipment, they indicated that they had reverted to the old practice of THCs financing a part of the costs via debt and profits.[84] So, even in the wealthiest locality, the reform had not brought about a lasting change in capital investment practices.

The NHR started out as a promising initiative, but so far it has failed to tackle the core contradictions that affect policy implementation and service delivery. Funding for human resources remains dependent on fragile local budgets, and a more sustainable approach to health service pricing has yet to be realized. A debt-reduction programme for THCs has been initiated, but its impact on THC debts has been ambiguous. Most importantly, a crucial source of THC revenues – drug profits – has been formally abolished. The central and provincial levels have created some compensatory mechanisms and have overall increased their financial responsibility for healthcare; however, substantial regulatory contradictions remain and continue to reinforce the deadlock mechanism. As seen in

80 State Council 2011.
81 CHFP 2012; 2016.
82 Interview 20111123, with the directors of two central THCs in A County.
83 Interview 20111124b, with the directors of two general THCs in A County.
84 Interview 20160830, with the director and staff of a central THC in C District.

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the purchase and sale of drugs, rather than putting an end to informal practices, the NHR merely caused them to be reconfigured and sometimes even drove these practices further into illegality.

Conclusion

By taking an integrative perspective on the interactions of local governments and THCs in four Chinese localities, this study shows how informal profit generation and collusive practices between healthcare providers and local governments have been – and continue to be – endemic in China, despite ambitious reforms. Institutional misfit, most notably between healthcare sector regulations and the intergovernmental fiscal system, facilitates a deadlock in local healthcare governance. Local governments are unwilling and/or unable to appropriately fund THCs; THCs violate medical ethics and regulations to generate informal or grey income to make up for the lack of funding; and local governments have few incentives to effectively monitor and sanction THCs. Rather, local governments and THCs tend to collude in order to manage the regulatory contradictions. This *modus vivendi* has distorting effects on the local implementation of healthcare policies. Both before and during the NHR (enacted in 2009), local governments turned to informal practices and collusion to manipulate the implementation of reforms, as was the case, for example, in health insurance or drug pricing and purchasing. These practices go beyond a mere individual abuse of authority: they have long become an integral part of healthcare financing in a local context.

As the example of THCs illustrates, the sometimes drastic measures of the NHR have not yet succeeded in fundamentally transforming this situation. THCs are a particular type of service provider that strongly embodies the contradictions of China's misfit regulations. Officially, their focus is on unprofitable public health, but their revenues are largely generated from the few profitable curative care services they offer. Their formal claims to budgetary support are ambiguous, and they are exposed to a high risk of financial shortfalls. The NHR introduced promising measures to reform THCs by putting a greater emphasis on public health, abolishing drug profits (zero mark-up), and expanding permanent public-sector employment. However, these reforms were only gradually and reluctantly backed up by central fiscal commitments. Furthermore, and more importantly, these forms of compensation ignored the informal arrangements of healthcare financing before 2009. For example, THCs enjoyed informal profit margins on drug sales of 60 to 70 per cent on average, but the earmarked funds compensated for less than the formally allowed 15 per cent mark-up. Local governments and THCs resort to informal practices to make up for the loss of revenue. These practices include partial implementation of the zero mark-up and collusive soliciting of kickbacks from drug companies. Overall, the NHR has reconfigured informal practices rather than eliminated them.

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The perspective of institutional misfit illuminates the degree to which the NHR depends on factors beyond the realm of healthcare policy. Whether China's healthcare system can be rebuilt as an effective public service will depend to a large extent on tax and fiscal reform. Such rebuilding will require a more progressive allocation of fiscal revenues that guarantees local governments a certain standard of fiscal capacity, as well as a meaningful set of incentives to spend on public services. Such a reform path has the potential to alleviate social inequality, support the expansion of the middle class and enhance support for the CCP regime. However, fiscal redistribution is a highly contentious issue and not an easy one to accomplish under the consensus-oriented modes of decision-making in the PRC. The central government initiated public finance reforms in this direction in 2014, and the second term of the Xi administration will determine their success or failure.

If the public finance reforms fail, local governments will continue to lack the resources and incentives to do much more than monitor a largely privatized healthcare system in the foreseeable future. In this case, THCs would still heavily depend on budgetary funding, and there would be a strong argument for focusing public spending on them, while privatizing more profitable hospitals. Earmarked transfers for THCs' human resources, such as those recently introduced in Jiangsu, may then become an important and permanent source of their funding. Formal privatization is a less demanding pathway to reform; however, this course would mean the withdrawal of the state intervention that generates support for the CCP regime and the institutionalization of social inequality in healthcare in the long run. For the private option, political consensus-building would thus be rather difficult. But both of these difficult alternatives have the potential to eliminate regulatory contradictions and to create institutions to which local governments and healthcare providers can be held accountable in a meaningful way. Both may also be preferable to muddling through, as they can increase the chances for more rule-based modes of governance and for some form of the rule of law to take hold in the PRC in the 21st century.

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Biographical note

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摘要: 中国的医药卫生体制被相互矛盾的制度管理。虽然医疗卫生机构应该提供贱价的医疗服务并且参与公共卫生和行政管理工作，但是上述机构往往得不到充分的财政支持， 从而只能依靠非正式盈利和灰色收入。医疗卫生机构介于公益性和市场导向之间的“制度性矛盾”在乡镇卫生院中表现得尤为明显。乡镇卫生院是一种在中国医药卫生体制中发挥着关键作用的综合型医疗卫生机构。本研究基于四个县、区的实地调查和田野研究，探讨地方政府和乡镇卫生院如何互动配合、处理制度性矛盾。该研究揭示了与人力资源，医疗服务，药品采购，医疗保险和基本建设投资相关的各种非正式行为。地方政府会故意得忽视执行规定，甚至与乡镇卫生院勾结共谋，产生和获取非正式盈利，从而一方面降低服务质量，另一方面增加医疗成本。该研究还表明，虽然“新医改”再调整了非正式和勾结共谋的行为，但是它没有协调根本的制度性矛盾。迄今为止，非正式行为仍然被重新塑造，而非全盘放弃了。

关键词: 乡镇卫生院; 医药卫生政策; 地方政府; 零差价; 新医改; 中国

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