



Comprehensive reform of community health service in east, middle and west regions of China: from patients' perspective

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Abstract

Objectives: To analyze the satisfaction of patients with community health service (CHS) and the changes of the CHS delivered before and after the new health reform in different regions of China, and to put forward relevant policy recommendations for CHS development.

Methods: Twelve community health centers were selected by random sampling in each of the eight typical cities in the east, middle and west regions of China. Questionnaire survey was conducted among patients visiting these institutions during daily work hours.

Results: The proportions of the participants who stated that the medical environment, service attitude and medical skills of the doctors were improved were higher in the west region than those of the east and middle regions; but the percentage of patients who held that the drug price had lowered was higher in the east region than those of the middle and west region, the differences were of statistical significance ($P < 0.0125$). The patients' satisfaction rates with medical environment, service attitude, and technical skills of the medical staff in the west region were 88.9%, 91.5% and 81.6% respectively, which were higher than those in the east and middle regions. In the east region, the satisfaction rate with the reimbursement for this visit was 58.5%, which was highest among the three regions; in the west region, patients' satisfaction rates with drug types and preventive care were 51.5% and 65.9%, respectively, which was significantly higher than those in the east and middle regions ($P < 0.0125$). As recommended by the participants, the top three aspects of health services that need to be improved were drug type and quality (25.3%), drug prices (21.8%) and technical skills (18.2%) in the east region; infrastructure (28.2%), drug prices (21.8%) and drug types and quality (21.2%) in the middle region; infrastructure (30.8%), drug types and quality (28.1%) and reimbursement (27.9%) in the west region.

Conclusions: The comprehensive CHS reform should take the opinions of patients into account; essential drug system should be consolidated continually; and the reform of the payment system should be promoted by actively cooperating with the health insurance organizations.

Keywords: Patient, Community health service, Comprehensive reform, Satisfaction

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Introduction

The patients of community health service units are the ultimate beneficiaries of community

healthy service (CHS) as well as the representatives of health service demanders. Therefore, patients' evaluations and recommendations



on CHS and its comprehensive reform are of great value to community health development [1]. In this survey study on community health comprehensive reform (The Opinions of Deepening the Reform of the Medical and Health System was issued in March 2009, which was the starting point of the new health reform in China), we summarized changes of CHS before and after the new health reform in China, in terms of service delivery, patients' satisfaction rates and patients' expectation over next steps in community health comprehensive reform. Based on these analyses, the paper discusses and puts forward policy recommendations for community health reform.

Methods

Participants

A total of 8 cities were selected in this study, including Hangzhou and Wuxi in the east region of China; Hefei, Wuhan and Tongling in the middle region; and Chengdu, Baoji and Shihezi in the west region. Through random sampling, 12 community health service centers were chosen from each city (in Shihezi, community health service units are mainly composed by stations; therefore, two community health centers and 10 community health stations were selected instead). The survey was conducted among patients of these community health units from October to November 2011.

Contents and procedures

Investigators were mainly composed of researchers of Chinese National Health Development Research Centre

(CNHDRC), students of local medical colleges, and health workers of these community health units. After pre-investigation and investigator training, data were collected with the questionnaires via face-to-face interviews. The following information was collected: (1) general information of surveyed patients, including age, gender, educational levels, health insurance, the type of registered residence, etc.; (2) the changes of service delivery after the new health reform compared with conditions before the new health reform, including the changes of medical environment, medical workers' attitude and technical skills, convenience, reimbursement rates of medical expenses, drug prices, preventive care (such as vaccine injection and physical examination) and initiative services; (3) the patients satisfaction with the services they received, including satisfaction rates with medical environment, medical workers' attitude and technical skills, reimbursement, medical expenses, drug price and types, etc. The questionnaire was in the form of 5-likert

scale with categories "very satisfied", "satisfied", "average", "dissatisfied" and "very dissatisfied". If the patients couldn't answer the question, the answer was marked as unclear; the satisfaction rate was calculated based on the answers of "very satisfied" and "satisfied".

Statistical analysis

Data was input with EpiData 3.0, and statistical analyses were performed using SPSS 17.0 for Windows. χ^2 tests were conducted to compare the composition differences on the study variables among the east, middle and west regions, for which the predetermined significant level was 0.05; and two-two comparisons were performed among different regions, for which the predetermined significant level was 0.0125.

Results

General information of the surveyed patients

Table 1 shows the general information of the 1700 surveyed patients. Among all the patients, 340 patients were of the

Table 1. General information of patients in different regions (n,%)

Indicators	Total(n=1,700)	East (n=340)	Middle (n=642)	West (n=718)
Gender				
Male	669(39.4)	123(36.2)	260(40.5)	286(39.8)
Female	1 031(60.6)	217(63.8)	382(59.5)	432(60.2)
Age				
<55 years	835(49.1)	183(53.8)	291(45.3)	361(50.3)
≥55 years	865(50.9)	157(46.2)	351(54.7)	357(49.7)
Types of medical insurance				
Urban employee medical insurance	1005(59.1)	193(56.8)	401(62.5)	411(57.2)
Urban residents medical insurance	284(16.7)	72(21.2)	93(14.5)	119(16.6)
Free medicare	50(2.9)	10(2.9)	15(2.3)	25(3.5)
Other social insurance	167(9.8)	30(8.8)	54(8.4)	83(11.6)
Out of pocket payment	194(11.5)	35(10.3)	79(12.3)	80(11.1)



east region, 642 were of middle region, and 718 were of the west; 60.6% of the patients were female; and 50.9% of patients were aged over 55 years. The proportions of urban employees' medical insurance, urban residents' medical insurance and out of pocket health payment among all patients were 59.1%, 16.7% and 11.5% respectively.

Patients' evaluation of CHS before and after health reform

Of the surveyed 1700 patients, 920 had visited CHS units before April 2009. Table 2 shows the opinions of 920 patients on the changes of CHS before and after health reform from eight aspects.

In general, more than 80% of the patients thought the medical environment, service attitude and convenience were improved, but less than 40% of the patients believed that the drug price and reimbursement rate were improved. There were no significant differences among the east, middle and west regions in terms of convenience of visiting doctors, reimbursement rate, preventive care and initiative service delivery ($P>0.05$). There were significant differences among different regions on medical environment, medical staff's attitude, technical skills, and drug price ($P<0.05$). Two-two comparisons showed that patients who thought medical environment, medical staff's attitude and technical skills had improved shared a significantly higher proportion in the west cities than those in the east region ($P<0.0125$); and more patients in east cities thought the drug price was lowered compared with those in the middle and west regions ($P<0.0125$).

Patients' satisfaction with the services they received

Table 3 shows the patients' satisfaction with the services they received. In general, patients' satisfaction rates were above 85% in terms of medical environment and service attitude in all regions, but the total satisfaction rates of reimbursement rate, types of drugs and drug price were 46.4%, 46.1% and 20.6% respectively. There were significant differences on all the study variables except for drug prices among different regions ($P<0.05$). Two-two comparisons showed that the satisfaction rates of medical environment, medical staff's attitude, and

technical skills in the west region were 88.9%, 91.5% and 81.6% respectively, all of which were significantly higher than those in the middle and east regions ($P<0.0125$). Patients' satisfaction rate with reimbursement rate in the east region was 58.5%, higher than those of the middle and west regions ($P<0.0125$); and the satisfaction rates on drug types and preventive care in the west region were 51.5% and 65.9% respectively, both higher than those in the east and middle regions ($P<0.0125$).

The aspects of CHS that need further improvement

Table 4 shows the patients' recommen-

Table 2. Patients' appraisal of the changes of CHS before and after reform in different regions(n, %)

Indicators	Total (n=920)	East (n=211)	Middle (n=337)	West (n=372)	χ^2	P
Medical environment improved	777(84.5)	151(71.6)	293(86.9) *	333(89.5)*	35.559	0.000
Service attitude improved	772(83.9)	153(72.5)	283(84.0) *	336(90.3)*	31.640	0.000
Technical skills improved	668(72.6)	132(62.6)	231(68.5)	305(82.0)*#	29.970	0.000
More convenient	751(81.6)	164(77.7)	272(80.7)	315(84.7)	4.639	0.098
Reimbursement rate promoted	304(33.0)	59(28.0)	108(32.0)	137(36.8)	5.022	0.081
Drug price reduced	357(38.8)	98(46.4)	123(36.5)*	136(36.6)*	6.732	0.035
Preventive care improved	490(53.3)	108(51.2)	166(49.3)	216(58.1)	5.982	0.051
Initiative care increased	486(52.8)	118(55.9)	167(49.6)	201(54.0)	2.477	0.290

Note: *compared with the east region, $P<0.0125$; #compared with the middle region, $P<0.0125$

Table 3. Patients' satisfaction with the services in different regions(n, %)

Indicators	Total (n=1700)	East (n=340)	Middle (n=642)	West (n=718)	χ^2	P
Medical environment	1467(86.3)	287(84.4)	542(84.4)	638(88.9) *#	20.925	0.022
Service attitude	1509(88.8)	293(86.2)	559(87.1)	657(91.5) *#	18.538	0.047
Technical skills	1327(78.1)	261(76.8)	480(74.8) *	586(81.6) *#	38.150	0.000
Reimbursement rate	784(46.1)	199(58.5)	270(42.1) *	315(43.9) *	75.934	0.000
Drug price	351(20.6)	78(22.9)	119(18.5)	154(21.4)	12.271	0.267
Types of drugs	788(46.4)	153(45.0)	265(41.3) *	370(51.5) *#	90.091	0.000
Preventive care	1008(59.3)	190(55.9)	345(53.7) *	473(65.9) *#	72.407	0.000

Note: *compared with the east region, $P<0.0125$; #compared with the middle region, $P<0.0125$



Table 4. Patients' recommendations on further improvement of CHS in different regions (n, %)

Indicators	Total (n=1700)	East (n=340)	Middle (n=642)	West (n=718)	χ^2	P
Basic infrastructure and equipment	457(26.9)	55(16.2)	181(28.2)*	221(30.8)*	25.936	0.000
Drug types and quality	424(24.9)	86(25.3)	136(21.2)	202(28.1)#	8.773	0.012
Drug price	378(22.2)	74(21.8)	140(21.8)	164(22.8)	0.264	0.876
Reimbursement rate and scope	348(20.5)	47(13.8)	101(15.7)	200(27.9)*#	42.132	0.000
Medical techniques and skills	340(20.0)	62(18.2)	126(19.6)	152(21.2)	1.332	0.514
Initiative service	135(7.9)	9(2.6)	45(7.0)*	81(11.3)*#	24.755	0.000
Waiting time	102(6.0)	23(6.8)	53(8.3)	26(3.6)#	133.347	0.001
Service attitude	88(5.2)	17(5.0)	35(5.5)	36(5.0)	0.159	0.923
Public health service	82(4.8)	8(2.4)	22(3.4)	52(7.2)*#	16.399	0.000

Note: *compared with the east region, $P < 0.0125$; #compared with the middle region, $P < 0.0125$

dations on the further improvement of CHS. In general, 26.9%, 24.9%, 22.2% and 20.5% of patients thought the basic infrastructure, drug types, drug price, and reimbursement rates need further improvement, respectively. In the east region, the top 3 aspects in need of further improvement were drug types and quality (25.3%), drug price (21.8%) and medical techniques and skills (18.2%); in the middle region, the top 3 aspects were basic infrastructures (28.2%), drug price (21.8%) and drug types and quality (21.2%); and in the west region, they were basic infrastructure (30.8%), drug types and quality (28.1%) and medical expenses reimbursement rate and scope (27.9%). There were significant differences on all study variables except for drug price, medical techniques and service attitude among the three regions ($P < 0.05$). Two-two comparisons showed that the requests for developing public health service and initiative service in the west region were stronger than in the middle and east regions ($P < 0.0125$), while the requests for shortening the waiting time were stronger in the

middle region than in the west region ($P < 0.0125$).

Discussions

Patients of different regions were satisfied with CHS and the condition of the west region was better than that of the east region in general

The general satisfaction rates are high, especially in terms of medical environment, service attitude and convenience. Even some of the community centers in our study were favorably commented on by patients in terms of basic infrastructure construction, cultural building and public health service, etc. Patients of the west region are more satisfied with CHS than those in the east and middle regions. From our field surveys, we can see that CHS in east and middle regions started at a very early time, so more work has been done, and the whole service system has been well developed. Therefore, the patients' expectation on CHS in these regions is high. However, CHS in the west region started late, the health service system in the region is still underdeveloped, and the infrastruc-

ture and services in this region are not so advanced as in the east and middle regions. Therefore, after the new health reform, CHS has obviously improved in the west region, which can be vividly reflected by patients' responses and evaluations.

The main problems reflected by patients focused on drug price, drug types and quality, reimbursement

In patients' views the drug prices are not reduced obviously. There are two reasons. On the one hand, the purchasing power in communities in these cities is low. Over 50% of our patients were above 55 years old, whose income was low but with highest demand and utilization rate of CHS. On the other hand, the online bidding of drugs doesn't overcome the deficiency of the on-spot bidding, in which the government authorities intervene too much and there are still some interruptions [2]. Therefore, the price of the drugs could not be lowered. As for drug types and qualities, although the local government has increased the types of drugs according to the national essential drug lists, the essential problems of the national essential drug lists like the irrational structure and poor adaptability [3], which were the main reasons for patients' dissatisfaction, remain unresolved. The reimbursement rate is still low; one reason is that the income level of the patients is low so that they could not afford the medical expenses. So their expectation on reimbursement is very high. The second reason was that the urban and rural health insurance systems are not well integrated. 11.5% of the surveyed pa-



tients, mainly the unemployed residents or floating population, were totally on their own expense for visiting doctors. Additionally, most patients with chronic disease are carrying heavy burden, and their long term out-patient expenses make them long for higher reimbursement rates.

Each region was facing different problems and challenges

In all the three regions, patients have a strong interest in reducing drug price and increasing drug types. Meanwhile, patients in the east region have a strong interest in improving technical skills of medical staff; patients of the middle and west regions expect that the basic infrastructure of CHS should be further improved; and the patients of the west region desire to raise the reimbursement rate. These indicate that each region in China is facing different challenges in

medical reform, and they should apply different policies to promote the development of the healthcare accordingly.

Policy recommendations

1. In the middle and west regions, basic infrastructure construction of CHS should be further facilitated.

2. As for essential drug systems, each region should start with standardizing essential drug procurement and setting up the new system of batch procurement combining price with quantity and integrating bidding and procurement to effectively reduce drug price [4]; meanwhile, the new essential drug system should be actively implemented.

3. The local government should facilitate the payment system reform and relieve patients' burden on medical expenses through actively coordinating with health insurance departments.

Competing interests

The authors declare no competing interests.

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(Source: NICE Quality standards, QS29, March 2013; available at <http://guidance.nice.org.uk/QS29>)