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Review Article

Mental health care in China: review on the delivery and policy issues in 1949–2009 and the outlook for the next decade

Li K, Sun X, Zhang Y, Shi G, Kolstad A. Mental health care in China: review on the delivery and policy issues in 1949–2009 and the outlook for the next decade.

Using qualitative and quantitative methodologies, delivery models and policies on mental health care in China during the period of 1949–2009 were reviewed and characteristics of different stages of the mental health-care development were also analysed in this period. Recent studies demonstrate that mental health-care services in China are being transformed from large mental hospital-based pattern to community-based pattern in the past six decades. Combining the international experiences with current strategies and situations of Chinese health care, we provided the outlook for mental health-care services in the next decade in China. In addition, we proposed relevant policy recommendations that mainly focus on the equity and availability of mental health-care services with the purpose of promoting community-based health services.

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Summations and Considerations

- In this review, we will summarise the delivery system and policy issues on mental health-care development in the past six decades.
- We will also provide outlook for the trends in the next decade.
- Detailing these points may help guide this new health-care system reform.

Introduction

A fundamental mental health-care system has been gradually established since People's Republic of China was founded 60 years ago, especially since market-based reform was enacted 30 years ago. This system allows much more people with mental disorders to gain access to basic mental health care (1). By the end of 2009, China's gross domestic product (GDP) per capita reached $3680 after three decades of rapid economic growth, which placed China among upper-middle income countries (1). At this critical time of socio-economic development, the government of China initiated a new round of health-care system reform aiming to ensure that all Chinese can gain equitable access to safe, effective, convenient and affordable health-care services through establishing basic health-care system by 2020 (2). In this review, we will summarise the delivery system and policy issues on mental health-care development in the past six decades. We will also provide outlook for the trends in the next decade. Detailing these points may help guide this new health-care system reform.

Current situations of mental health care in China

The characterisation of mental disorders in China

The prevalence of mental disorders in China. More and more people are exposed to mental health risks related to rapid economic growth, industrialisation, urbanisation and aging of the society during the past 60 years, especially the 30 years after the market-based reform (3). As a matter of fact, there were no national data on the prevalence of mental disorders from 1949 to 1981 because no epidemiological survey on mental health had been conducted during that period. In 1982, Peking University Health Science Center carried out an epidemiological survey on mental disorders in 12 regions of China with the technical support from the World Health Organization. This survey demonstrated that the prevalence of mental disorders (schizophrenia, mania, depression, organic mental disorders excluding neurosis) was 1.1% and the lifetime prevalence was 1.3% among the population aged 15 and above (4). In 1993, the Peking University Health Science Center and others undertook the second-round epidemiological survey on mental disorders in seven regions of the 12 regions sampled in the first survey, using the same methods and diagnosis criteria as those in the 1982 survey. The research revealed that the prevalence was 1.1% and the lifetime prevalence was 1.3% (5). In the following decade, no national epidemiological investigations on mental disorders were conducted. The epidemiological survey in Zhejiang Province in 2001 showed that the prevalence of mental disorders (including neurosis) was 1.7%, and the lifetime prevalence was 1.8% (6). In 2004, the epidemiological survey in Hebei province revealed that the prevalence rate of mental disorders was 1.6%, while the lifetime prevalence was 1.9% (7). The incidence of the serious psychosis including schizophrenia, bipolar affective disorder, schizophrenic-affective disorder and paranoid psychosis was 1%. On the basis of these data, the number of patients suffering from serious psychosis amounted to 13.35 million in China by the end of 2009. In addition, the investigations stated above indicated that the prevalence of mental disorders increases rapidly with the development of our society.

The economic burden of mental disorders in China. The burden of mental disorders is becoming increasingly heavy because most mental disorders, especially serious psychosis, have complicated aetiologies and need long-term treatment. Thus, it brings tremendous economic and psychological burden on the patients, their families and the community. According to the economic data from the World Bank, depression ranked the fourth among the top 10 diseases causing heavy economic burdens in China, accounting for 4.5% of the Global Disease Burden (GDB). The World Bank also predicted that the GDB of mental disorders will rise to one-fourth of the total GDB from the current level of one-fifth by 2020 (8). According to World Health Report of 2001, the number of patients with neuropsychiatric disorders was 450 million, and their corresponding GDB ranked number one among all diseases, prevailing the GDB of cardiovascular diseases, cancer and respiratory system diseases (9). In a word, mental health problems have brought great economic burden to this society and became a prominent social issue, which needs the efforts of the entire society.

Especial groups vulnerable to mental disorders in China. The demands on mental health care are particularly profound in the adolescents, the elderly and female. First, the incident of psychological problems in children and adolescents increased from 13.0% in the early 1990s to 15.6% in 2005. Second, the incidence of mental disorders among the elderly has been gradually increased, which is now close to the level in developed countries. In 1999, a survey in Beijing among the population aged 65 and above revealed that the prevalence of depression and Alzheimer's disease were 3.85% and 3.86%, respectively (10). However, in 2009, 111 million people (8.3% of the total population) may need mental health intervention on Alzheimer's disease among the group aged 65 and above in China in 2009. Third, mental disorders are serious among the female population. For example, the incidence of suicide in the female population in China (especially young women in rural areas) is higher than that in the male population in China or in the female population in other countries. One hospital-based study on attempted suicides found that the number of attempted suicides among female in China is 2.5-fold of that in the male (10). The prevalence of post-partum depression is also kept at a high level (8–20%) (11). Fourth, the problem of drug addiction and alcohol abuse in China is also serious. Fifth, efforts are also required for post-disaster intervention (12,13). China is a country with high frequency of natural disasters such as earthquakes, floods, landslides, fires and emerging infectious diseases. As a consequence, there are increasing needs for post-disaster psychological intervention and rehabilitation (3).

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Policies on mental health care in China

The current model of mental health care in China. Briefly, the current delivery system and service pattern of mental health care in China is insufficient for the needs of mental health care. Currently, Chinese mental health-care system is still dominated by large psychiatric hospitals that provide inpatient treatment for serious psychosis. Only 50.0% of psychiatric hospitals provide preventive or community-based mental health care. There is lack of the community mental health services and the network for psychological rehabilitation for the mental health patients and their families. Few mental health hospitals provide specialist care for adolescents, the elderly and women. In summary, the mental delivery system and the service pattern of mental health care cannot meet the present needs and demands (14).

New strategies on mental health care in the next decade. In March 2009, the CPC Central Committee and State Council promulgated the guidelines for deepening the health-care system reform in China (New Health Care Reform Plan) (2). The goal of the health-care reform plan is to provide equitable access to basic health and medical care through the establishment of basic health-care system by 2020. It emphasises institutional arrangements such as the basic health insurance system, public health and medical delivery system, and equitable access to the basic public health services. The New Health Care Reform Plan pays additional attention to the vulnerable population. The New Health-Care Reform Plan also considers the mental health system as one important component of the public health system.

However, it is pity that this plan does not provide clear guidelines on how to strengthen community-based mental health services, how to integrate the mental health-care system into the overall health-care system and how to combine the newborn mental health care with the primary health care. Therefore, our research group tried to develop relevant policies aiming to improve the overall performance of mental health-care system in China.

Data Source and Methodology

Source of data and quantitative analysis

The basic data on the mental health-care delivery system such as the number of mental health institutions, beds in hospital, psychiatrists and psychiatric nurses are collected through routine information reporting system of the Center for Health Information and Statistics in the Ministry of Health. The levels and trends of the mental health-care resources such as psychiatrist per 100 000 people and beds in mental hospital per 10 000 people are calculated, reflecting the availability of mental health care for the population.

Literature review and analysis

Specifically, we searched CBM, CNKI, PUBMED and Chinese Ministry of Health official website by using keywords ‘mental health services’, ‘health policy’, ‘China’. As a result, we got 7337 related research articles. Of them, we got 7000 from CBM database, 171 from CNKI database, 163 from Chinese Ministry of Health official website and three from PUBMED database. We excluded 171 of them for content repetition. After carefully reading every article, we further excluded another 6947 ones for these papers cannot meet our inclusion standards (related to the mental health status in China). Finally, 210 highly relevant papers were chosen as the basis for review and analysed.

Experts interview

A total of 213 experts on mental health care were interviewed, including 25 officers from Chinese ministry of Heath, five senior experts from Committee of Mental Health in China, 26 chiefs of the mental health hospitals in big cities, 63 directors of mental department from general hospitals, 23 community representatives, 65 psychiatrists and psychiatrist nurses and seven experts from other countries. The interview questions were mainly about the history of mental health delivery system and relevant policies, the development trends and their causes and providing outlook on the pattern of mental health care in China in the future. We interviewed the experts using semi-structured interview method either by face-to-face or telephonic way. We asked questions and recorded the answers, and then we summarised and analysed each answer with the hope of finding out the new visions on Chinese mental health policy development.

Results

The development of the mental health resources in China in the past 60 years

The traditional Chinese medicine (TCM) had played an important role in caring and treating patients with mental disorders for thousands of years in China. It was not until the 1850s that modern western medicine including the modern psychological knowledge and practice was introduced into China.

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However, the mental health care in China developed very slowly in the following years. Nevertheless, since the foundation of the People's Republic of China, the development of mental health-care system had accelerated and can be mainly classified into the following three phases (Table 1).

The first phase from 1949 to 1961. When the People's Republic of China was founded in 1949, there were only nine mental hospitals with 1142 beds and no record on the number of psychiatrists was available. In 1952, the number of mental hospitals increased to 12, the number of hospital beds increased to 2016, and total number of psychiatrists was 100. This meant that for every 250 000 people there was only one mental hospital bed and every 5 million people had one psychiatrist. However, the mental health resources gradually expanded. When the First National Conference on Mental Health Care was held in 1958, there were 62 mental hospitals with 15 000 hospital beds and 655 psychiatrists, meaning one mental hospital bed per 43 000 people and one psychiatrist per million people. In the next 3 years following the First National Conference on Mental Health Care, the number of mental hospitals, beds and psychiatrists increased rapidly and peaked in 1961, with 139 mental hospitals, 22 000 beds and 1228 psychiatrists. The occupancy rate of the mental hospitals stayed high, with the lowest rate of 83.4% in 1961 and highest rate of 95.0% in 1956 because of the shortage of mental hospital beds. Besides the rapid expansion of the mental health-care resources, new medical technologies and medicine for mental disorders were also introduced into China, such as insulin shock therapy, electroconvulsive shock and chlorpromazine, which were used to treat schizophrenia and other psychoses at that time. The characteristics of the model on mental health care in that period were dominated by large mental hospitals. Main treatment type was custody and inpatient treatment and long inpatient care (average length of stay was over 120 days).

The second phase from 1962 to 1978. After the Great Leap Forward campaign that started in 1958, China adjusted its national economic policy according to the present condition. After 1961, the number of mental hospitals and beds decreased significantly until 1965, and then the mental health resources started to grow again in the following 12 years. At the beginning of market-based reform in 1978, the number of mental hospitals increased from 76 in 1965 to 219 with 42 000 hospital beds, 3128 psychiatrists compared with 1404 in 1963. There was one mental hospital bed per 23 000 people and one psychiatrist per 330 000 people. The Cultural Revolution, which brought about turmoil to the political and socio-economy in China, almost suspended the development of the psychiatric medicine and normal operations of the mental hospitals, resulting in destruction of hospital equipment, lack of medicine supply, loss of the psychiatrists and the widespread use of traditional medicine on mental disorders. Even the morality explanation on the aetiology of the mental disorders resurged and 'Mao Zedong Thoughts' was used to treat the mental diseases for a short period of time. Nevertheless, insulin shock therapy, electroconvulsive shock and psycho-medicine remained to be the mainstream of the treatment on mental diseases and pattern of mental health care in the closed wards was unchanged. The average length of stay was 105 days. The occupancy rate in 1962 was only 84.7%; however, it was above 90.0% in other years, with the highest of 97.2% in 1965.

The third phase from 1978 to 2009. The policy of market-based reform since 1978 created economic miracles for 30 consecutive years, with annual GDP growing at around 10.0% and disposable income for urban residents and rural residents growing at 9.0% and 6.0%, respectively. Until 2009, the number of mental hospital has increased to 637, the number of beds has increased to 191 225 and the number of psychiatrist has increased to 18 751, which was 2.91-fold, 4.53-fold and 5.99-fold of the level in 1978, respectively. There were 1.43 hospital beds per 10 000 people and 1.4 psychiatrists per 100 000 people in 2009, which meant that the availability of mental health care had been strengthened greatly in the past three decades. During this period of time, new medicine and new treatment methods were introduced to China quickly. The treatment cycle was reduced significantly. The average length of stay was reduced to 49 days in 2008 from 103 days in 1978, or 52.4% shorter. Meanwhile, the occupancy rate showed the trends of levelling off, going down and then going back up. During 1978–1992, the supply of the mental health-care services could not meet the increase in demands for mental health care because of significant income growth of the residents, which resulted in the high occupation rate (91.0% and above, even reaching highest of 98.6%). Nevertheless, the cost for mental health-care services grew quickly because of rapid introduction of new medicine and new medical technologies; however, the medical insurance covered only about 30.0% of the population, creating financial obstacles to access to

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Table 1. The development of the mental health-care resources in China from 1950 to 2009

Year	Number of Hospital	Number of beds	Number of staff	Number of psychiatrists	Number of discharged patients	Average length of stay	Occupation rate
1950	9	1142	–	–	–	–	–
1951	10	1515	–	–	–	–	–
1952	12	2016	–	100	–	–	–
1953	16	2783	–	–	–	–	–
1954	20	3636	–	192	–	128.9	91.7
1955	23	4112	–	307	6633	141.2	87
1956	34	7889	–	436	–	132.3	95
1957	43	10 469	–	436	–	131.9	89.1
1958	62	15 365	8994	655	20 463	104	89.7
1959	82	18 297	10 186	798	38 801	85.6	87.8
1960	109	19 893	10 654	–	34 591	95	89.2
1961	139	21 958	–	–	–	101.8	83.4
1962	82	17 293	6015	1228	28 500	110.7	84.7
1963	80	16 661	9598	1404	30 654	105.8	90.7
1964	85	17 381	–	–	–	107.5	94.3
1965	76	17 806	–	–	–	115	97.2
1966	81	17 694	–	–	–	–	–
1967	89	17 646	–	–	–	–	–
1968	93	20 804	–	–	–	–	–
1969	98	21 654	–	–	–	–	–
1970	116	23 940	–	–	–	–	–
1971	130	26 386	–	–	–	–	–
1972	172	33 509	20 372	–	–	–	–
1973	162	34 459	21 049	–	–	112	95
1974	168	35 265	22 174	–	53 665	109.1	95.6
1975	179	37 692	23 855	–	59 076	115.1	94.5
1976	191	39 396	26 433	–	66 817	105.8	90.1
1977	205	40 832	28 036	–	67 150	106.3	90.8
1978	219	42 195	30 021	3128	82 202	103	92.4
1979	254	46 918	34 558	–	1 00 808	92.1	91.3
1980	255	49 096	37 818	–	1 11 102	92.6	95.4
1981	269	52 689	41 936	–	1 17 714	95.1	95.5
1982	280	54 615	43 899	–	1 28 148	96.8	96.6
1983	299	58 449	46 900	5279	1 36 700	98.4	96.3
1984	325	63 997	49 600	–	1 58 600	90.4	95.8
1985	348	67 795	51 882	6683	1 61 565	92.2	98.2
1986	374	72 717	54 758	–	1 66 223	90.8	96.1
1987	394	76 381	57 000	–	1 85 000	88.2	98.5
1988	414	80 904	59 129	–	1 98 006	85.1	98.6
1989	435	84 600	62 000	–	2 10 000	84.4	–
1990	444	86 737	63 885	11 570	2 11 913	80.9	95.3
1991	449	87 762	65 180	–	2 24 779	79.1	96
1992	450	89 921	66 360	–	2 30 710	83.6	93
1993	476	94 325	67 986	–	2 32 117	76.2	84.2
1994	477	96 620	68 618	–	2 36 604	70.4	85.3
1995	482	95 300	69 100	–	2 60 000	66.9	82.2
1996	484	97 200	70 200	14 056	2 64 700	63.94	77.31
1997	485	97 660	71 372	–	2 60 909	63.8	76.03
1998	481	97 300	70 800	–	2 70 000	59.9	74.82
1999	479	96 000	71 000	–	2 71 100	54.3	74.21
2000	482	99 000	71 900	14 875	2 96 700	52.4	73.56
2001	479	1 00 200	71 500	–	3 13 500	51.7	75.16
2002	583	1 12 022	74 877	16 287	4 14 293	56.7	79.0
2003	565	1 10 672	73 772	–	4 35 229	51.0	81.2
2004	557	1 08 961	71 500	–	4 83 467	50.0	83.9
2005	557	1 09 961	69 150	17 204	5 04 132	48.0	85.2
2006	570	1 16 441	73 182	–	5 58 137	47.1	87.1
2007	577	1 57 727	77 419	–	6 32 096	48.1	91.6
2008	598	1 71 752	82 580	17 910	7 32 402	49.0	90.9
2009	637	1 91 225	88 117	18 751	8 15 962	49.4	95.2

Source: Health Statistics by the Center for Health Information and Statistics, Ministry of Health.

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mental health care (15). The occupancy rate decreased gradually from 1992 to the lowest point of 75.2% in 2001. This implied the phenomenon of 'the co-existence of the shortage and the oversupply' in terms of mental health-care services because of the lack of ability to pay among uninsured or underinsured residents. Since 2002, the coverage of the basic health insurance scheme has been expanding significantly, including the New Rural Cooperative Medical System, the Basic Medical Insurance System for Urban Employees and the Basic Medical Insurance System for Urban Residents. The coverage of medical insurance was increased from 22.1% in 2003 to 92.4% in 2009, and the occupancy rate of mental hospital beds increased from 81.2% in 2003 to 95.2% in 2009 (16). More and more patients had to wait for the admission into the mental hospitals in some large cities in China such as Beijing, because the capacity of mental health care cannot meet the demands of patients.

The analysis on current situation of mental health-care model in China

Shortage of mental health-care resources. First, the mental health-care resources are in shortage and their distribution is unbalanced across regions. There were only 1.43 mental hospital beds per 10 000 people and 1.4 psychiatrists per 100 000 people in China in 2009, which was only one-fourth or one-third of the average level of the world, respectively (Table 2). The two ratios were much lower than those of Japan (at 9.5/10 000 and 29/100 000, respectively), Republic of Korea (at 4.2/10 000 and 4.4/100 000, respectively), Malaysia (at 0.54/10 000 and 2.3/100 000, respectively) and Thailand (at 0.49/10 000 and 1.4/100 000, respectively) (17).

Second, the majority of mental health-care providers are institutions managed by the Ministry of Health (MOH), Ministry of Public Security (MOPS), Ministry of Civil Affairs (MOCA) and China Disabled Persons' Federation. The survey on the mental health-care resource in 2006 by the Department of Disease Control showed that there were 1124 mental hospitals and Department of Psychiatry in general hospitals (18). Among them, there were 647 mental health institutions managed by MOH, accounting for 57.5% of the total, which provide preventive care, treatment and rehabilitation for all residents. There were 48 mental health-care institutions run by the MOPS, accounting for only 4.3% of the total, which provided treatment and rehabilitation for mental patients who violated the public security. Their responsibilities also include forcing drug abusers to abandon drug habits. The MOCA operates 143 mental hospitals, accounting for 12.7% of the total mental hospitals, which provide the treatment and rehabilitation for the poor or the veteran mental patients. Almost 80.0% of the chronic mental patients get medical care in the mental hospitals run by the MOCA (19). Moreover, China Disabled Persons' Federation, as an important non-profit organisation, provides social services and rehabilitation for the mental patients with disabilities (20).

Table 2. Comparisons between mental health-care resources in China and global average level

Mental health-care resources	China	Average level
Mental hospital beds (1/10 000)	1.03–1.38	4.36
Psychiatrist (1/1 00 000)	1.27–1.47	3.96
Psychiatric nurse (1/1 00 000)	2.10–2.42	12.63
Clinical psychologist (1/100,000)	na	6.43
Clinical social worker (1/100,000)	na	3.50

Third, there are some regions with no mental health-care resources in China. Data showed that 37 out of the 333 prefectures in China have no mental hospitals or psychiatric departments, where 41.9 million people reside on an area of 3.11 million square kilometers. All those regions are geographically remote and mountainous with low population density (10). Among 2868 county-level administrative regions (including counties, county-level city and districts) in China, there are only 220 county-level mental hospitals and 53 psychiatric departments in the county hospitals, which suggest that at least 90.5% of the counties have no mental health institutions. Another evidence of imbalanced distribution of mental health-care resources is that among 13 120 secondary and tertiary hospitals nationwide in 2006, only 220 have psychiatric departments (21).

Fourth, fiscal subsidies to the mental hospitals are based on fiscal capacity rather than the needs of the patients. After 1994, fiscal system of China became decentralised. Under such fiscal arrangement, mental hospitals operated by higher level governments will get more fiscal funding than remote regions. A study in 2001 showed that the share of the fiscal subsidy as a percentage of total revenue was 29.3%, 21.4%, 18.4% and 8.3% for mental hospitals at provincial, city, county and township levels, respectively, which means that the financially poor mental health patients with higher needs of fiscal subsidies actually get less subsidies from bigger mental hospitals affiliated by higher levels of governments (22).

Fifth, for the ordinary residents, cost of each inpatient care could not be sustained if they are admitted into secondary and tertiary mental hospitals. Owing to the typical 'dual economic structure' as a developing country, the annual disposable income for

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Table 3. Fiscal subsidies to mental hospitals and spending of discharged inpatients by the level of government hospitals in 2001

Indicators	Province level	City level	County level	Township level	Other	Total
Number of mental hospitals	28	228	200	45	14	513
Average fiscal subsidy (yuan)	18 636	12 621	7908	2985	0	12 350
Annual income of the staff in mental hospitals	19 183	15 971	11 479	8593	8966	15 281
Share of fiscal subsidies in the total revenue of mental hospitals	29.3	21.4	18.4	8.3	33.3	22.3
Share of fiscal subsidies in the income of the mental hospital staff	97.15	79.02	68.89	34.74	0	80.82
Average spending of discharged inpatients	6151	3439	1798	1056	978	3185
The share of the average spending of discharged inpatients in the annual disposable income of the urban residents*	89.59	50.08	25.19	15.38	14.25	46.39
The share of the average spending of discharged inpatients in the annual net income of the rural residents**	261.08	145.97	76.321	44.82	41.51	135.19

Source: G. Shi, etc. The research on the input in mental health care in China. Shanghai Archive of Psychiatric Medicine. 2002, 15 (6): 373; National Bureau of Statistics. The Digest of China Statistics. Beijing, China Statistics Publishing House. 2002.

*The annual disposable income for urban residents in 2001 was 6866 yuan.

**The annual net income for the rural residents in 2001 was 2356 yuan.

the urban residents in China is about three times than that of the rural residents. In 2001, the average income of urban residents is about 6866 RMB and the average spending for each discharged patient from the mental hospital at city level and above was more than 50.0% of the annual disposable income. As for the rural residents, the annual net income was only 2356 RMB. Thus, no matter which level of the mental hospital they were admitted to, the average inpatient spending will be more than 41.5% of their annual net income. In 2001, the health insurance covered only 26.0% of the population. The Third National Household Survey on the Health Services showed that 41.6% of mental patients who should have been hospitalised were not hospitalised (Table 3) (15).

Lack of knowledge on mental health in the citizens. The lack of knowledge on mental health is a worldwide issue. Research shows that the proportion of the citizens who have never heard of schizophrenia, alcohol dependency and depression was 13.7–24.1% (23). Even among those who have heard of depression, over one-tenth of them do not know that depression is a type of mental disorder (23).

Less than 60.0% of the medical staff in the general hospitals have no basic knowledge of mental health care and only 18.7% of them say that they often encounter patients with psychological problems during their professional practice (24). The most common psychological problems among patients in general hospitals include anxious disorders and depression with reported incidence of 5.8–29.5% (25–27).

A comparative study on schizophrenia and diabetes using self-compiled questionnaires by Dr. Lee in Hong Kung in 2005 (28) showed that more than 40.0% of family members, friends and colleagues of the 320 schizophrenia patients have discrimination on these patients, whereas the ratio is only 15.0% on diabetes patients. In a research on the sense of shame and relevant factors in Taiwan in 2005, Dr. Yen and others (29) found that 25.1% of the 247 patients with depression had high level of sense of shame. The research also showed that higher level of shame was associated with lower level of education.

Generally speaking, most patients with mental disorders, even if they only suffer from mild psychological problems, are reluctant to acknowledge such mental diseases. They are reluctant to seek help from psychologists or psychiatrists. Even worse, some patients and their family members seek help from witch, which may delay the treatment of the patients or even worsen the diseases (30). The social discrimination also has negative impact on the psychology and daily life of patients' family members. Though only a very small portion of mental patients may lose control of their behaviours, posting threats to the personal safety and property security, it has unexpectedly worsened social discrimination on the mental patients.

The evolution and the trend of the mental health-care policy in China

During the past 60 years from 1949 to 2009, mental health-care policy in China has been significantly changed. In general, mental health-care policy in China has four milestones reflecting the characteristics of policies in different periods (10).

The first milestone was the First National Conference on Mental Health held in 1958. The meeting put forward the principles of mental health care as treating patients actively, administrating patients locally, taking serious patients into custody and treating mild patients openly. It also adopted a

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strategy of the combination of medicine, labour, recreation and physical exercises, education, information and communication. The policy was suitable for the socio-economic development level and the need on the prevention and control of the mental disorders, and it enhanced the progress of the mental health care. During the Culture Revolution in the mid-1960s and early 1970s, the focus of health-care development was tilted towards rural areas, and community-based networks of health care were established in rural and urban areas. New drugs such as clozapine, amitriptyline, imipramine, chlorprothixene and new therapies such as electroconvulsive therapy were introduced into China. After 1982, the World Health Organization and Peking University jointly established the Training and Research Centre for Mental Health care in China, providing technical assistance and guidance to scientific research and clinical practice, as well as policy consultation on the development of mental health-care system.

The second milestone was the Second National Conference on Mental Health care in 1986. The main objective of the meeting was to study and solve the problem of the poor access to both inpatient and outpatient mental health care at that time. In the same year, MOH, MOCA, MOPS and China Disabled Persons' Federation held a joint meeting on the prevention, treatment and rehabilitation of mental health care, which defined the principle as raising awareness of the importance of mental health care, strengthening the cooperation of different government departments, expanding the availability of the mental services and promotion of medical technology. The policy of establishing a socialised and open system for the prevention, treatment and rehabilitation on mental disorders was also formulated in the conference. From 1991 to 1995, MOH, MOCA, MOPS and China Disabled Persons' Federation, together with other NGOs, were conducting a large-scale piloting on the integrated strategy on the prevention, treatment and rehabilitation for patients with psychosis in 64 cities and counties. The key components of the piloting included government leadership in the provision of mental health care, inter-department coordination and cooperation, and wide community participation. Comprehensive interventions such as medication, psychological counselling, social services and systematic occupational training were used to allow patients to regain social functions and return to the society.

The third milestone was the Third National Conference on Mental Health in 2001. The meeting formulated the goals, priorities and development strategies of the mental health-care delivery system and its pattern in the 21st century. The guideline for mental health care was adjusted to the following: prevention as priority, combination of prevention with treatment, focus on susceptible population, extended coverage of mental health care and management legally. The policy accelerated the promulgation of Mental Health Act, the mobilisation and participation of the whole society to protect the rights of the psychosis and the promotion of mental health of all Chinese people. Subsequently, the MOH developed The Working Plan for the Mental Health care in China (2002–2010), which identified the prevention and treatment of mental disorders and prevention and reduction of psychological and behaviour problems as two major themes. The following six specific interventions were formulated: (i) strengthen health education and IECs to promote the knowledge on mental health care among the population; (ii) carry out psychological and behaviour interventions among the susceptible population, curb the increasing prevalence of mental disorders; (iii) improve mental health-care delivery system and supportive conditions, enhance the effectiveness of the treatment and rehabilitation on mental disorders; (iv) establish and improve the administration, governance and coordination of mental health-care delivery system at all levels of government, organisations and networks; (v) build the capacity and enhance personnel quality in the mental health-care system; and (vi) obtain elementary information on mental disorders. In 2004, the State Council approved and unveiled The Guidance on the Mental Health care, which was jointly released by MOH, Ministry of Education, MOPS, MOCA, Ministry of Justice, Ministry of Finance and China Disabled Persons' Federation. Four objectives were set in the guidance: (i) by 2005, 30.0% of the general population should understand core information on mental health; (ii) the incidence of the mental disorders and psychological behaviour problems among the children and adolescent should be decreased to 12.0% by 2010; (iii) the treatment rates of schizophrenia should achieve 50.0% by 2005 and 60.0% by 2010; (iv) the population covered by essential treatment and rehabilitation on mental disorders should be increased to 400 million by 2005 and 800 million by 2010.

The fourth milestone is the National Inter-department Meeting on Mental Health care by the MOH, the MOPS, the MOCA and China Disabled Persons' Federation in 2006, and the release of The National Guideline on the Mental Health System Development from 2008 to 2015 in 2008. The following indicators and targets were set in the document: (i) the proportion of schools with curriculum on mental health education should reach 80.0% by 2010 and 85.0% by 2015 in urban areas,

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and 50.0% by 2010 and 70.0% by 2015 in rural areas; (ii) in counties (county-level cities and districts) piloting programmes on the prevention of psychological and behavioural problems, the proportion of residents with access to psychological instruction should reach 80.0% by 2010 and 90.0% by 2015 in urban areas, and 60.0% by 2010 and 80.0% by 2015 in rural areas; (iii) in counties (county-level cities and districts) piloting the network of the management and treatment for the serious psychosis through free medicine and hospitalisation, the proportion of effective treatment and management on patients with mental disorders should reach 60% by 2010 and 80.0% by 2015; (iv) in counties (county-level cities and districts) piloting community-based treatment and rehabilitation for the patients with mental disorders, the proportion of mental disorders patients with access to rehabilitation services should reach 60.0% by 2010 and 80.0% by 2015; (v) the incidence of the mental disorders and psychological problems in children and adolescents should be reduced to 12.0% by 2010 and 10.0% by 2015, where baseline data were 13.4–15.6% in sampled regions in 2005; (vi) the proportion of population with knowledge on mental disorders prevention and psychological health should reach 50.0% by 2010 and 80.0% by 2015, where baseline data were 30.0–40.0% in the sampled regions in 2005; and (vii) the treatment rate of the patients with the schizophrenia should reach 60.0% by 2010 and 80.0% by 2015, where survey in some regions showed that it was only was 15.0–30.0% in 2005.

Recommendations on mental health-care reform in China

At present, China is committed to building a harmonious and people-oriented society, aiming at a well-off society by 2020. Improving population's health is one of the top priorities of the working agenda at all levels of governments in the next decade. Since June 2006, the State Council had been developing a health reform plan in the context of critical period of the industrialisation, urbanisation, globalisation and aging of the society in China. The health reform plan, unveiled in March 2009, stipulated the goal that every citizen will have access to primary health-care service by 2020 and the priorities of the health reform for 2009–2011, which will influence mental health reform in the next decade.

The recommendations on the policy of the basic health insurance system

According to the health reform initiatives, by 2020, China will achieve universal coverage via a comprehensive health insurance system, which consists of Basic Medical Insurance for the Urban Employees (BMIUE), Basic Medical Insurance System for the Urban Residents (BMIUR), New Cooperative Medical System for the rural residents (NCMS), Financial Medical Assistance System for rural and urban residents (FMAS), and Commercial Health Insurance Schemes (CHIS). FMAS will be the safety net for the poor and CHIS supplements the basic health insurance schemes. The short-term objective is that, by 2011, 90.0% of urban and rural residents will be covered by basic medical insurance. By the end of 2009, about 833 million rural residents were covered under NCMS and 400 million residents were covered under BMIUE and BMIUR, accounting for 92.4% of the total population in China, which means China achieved the goal of 90.0% coverage 2 years ahead of the schedule. Meanwhile, FMAS provided 9.7 billion yuan to support 63 million poor rural and urban residents to enrol NCMS and BMIUR (31). More than 100 commercial insurance companies sold health insurance products, and total premium income was 112 billion yuan, among which premium from health insurance, acute diseases insurance and medical insurance was 57.4 billion yuan, 25.6 billion yuan and 29 billion yuan, respectively (32). Furthermore, the reimbursement rates for the BMIUE, BMIUR and NCMS were 70.0%, 55.0% and 55.0% in 2009, respectively, which will be increased to 70.0–80.0% by 2020 and protect all the population from financial risks because of the catastrophic diseases.

To protect patients with mental disorders and their families, the following policies on the basic health insurance system should be strengthened: (i) all the spending related to community-based mental health care such as treatment, day care, rehabilitation, psychological counselling, occupational training and social supportive care should be included in the reimbursable list. It will help mental patients seek help from the community health centres and promote the development of the community-based mental health-care institutions in China; (ii) correct the policy that excludes patients with mental disorder from the beneficiary of FMAS in some regions. Financial assistance and social services for mental patients should be increased to relieve the financial and psychological burden on patients and their families; and (iii) commercial health insurance companies should be encouraged to develop specific products for mental patients, especially those chronic disorders such as dementia to adapt to diversified demands on mental health-care services because of the rapid income growth and the aging of the society in the next few decades.

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The recommendations on the essential medicine system in China

China is rolling out a nationwide Essential Medicine System (EMS), which will ensure everyone's access to a list of safe, efficient, convenient and affordable medicine. The central government has produced an Essential Medicine List (EML), including 205 generic medicine and 102 TCM compounds, which will be prescribed, dispensed and used in health facilities at local levels, such as Community Health Centers (CHCs) in urban areas and Township Health Centers (THCs) in rural areas. The health authorities at the provincial government also supplement 100–300 drugs to the national EML according to local needs and demands, which construct finally a list with 400–600 generic medicine. However, basic psychiatric medicines for mental disorders are not included in the EML, which prevent mental patients seeking treatments in community-based mental health-care institutions. Therefore, we would like to propose the following recommendations: (i) it is necessary to include the psychiatric medication into the EML, so that EMS can cover basic mental health-care services, and patients with mental disorders can be treated in health facilities at community level; (ii) health facilities at community level will face financial crisis if the government subsidy to compensate the profit of drug-selling cannot guarantee after EMS is implemented. Therefore, the fiscal subsidy to the infrastructure, the medical equipment purchase, the concurrent funds and salary of the health staff should be transferred from the government to guarantee the working of community-based mental health-care system in the future.

Recommendations on the capacity of the mental health delivery system

The action plan for the health reform in 2009–2011 listed capacity building as one of the priorities to improve equitable access to public health care and basic medical care. The government at all levels will invest in the infrastructure and human resources for 2000 county hospitals, 5000 THCs, 3700 CHCs and 11 000 Community Health Stations. The public health-care delivery system will be strengthened, including the mental health-care delivery system with more than 10 billion yuan investment in next 3 years. At present, the construction priorities are planned by the central government according to recommendations of provincial governments, which may neglect some key issues of the mental health-care delivery system. Thus, the following suggestions are proposed by the research group: (i) the first priority is to build mental hospital in 37 prefectures with no mental health facilities, which would benefit 41 million people in 245 counties. Among those counties, 143 counties have a population of $<$100 000. Therefore, it is imperative to set up psychiatric department with about 20–40 beds in more densely populated areas; (ii) construction of psychiatric department at county-level hospitals, rather than expansion of the mental hospitals at provincial or city levels should be the focus. Given the limited human resources and management capabilities, it might seem reasonable to expand the capacity of mental hospitals at the city or provincial level; however, as most of the mental hospitals at those levels have more than 250 beds already, it would be wasting to renovate and expand big mental hospitals. Instead, we should focus on enhancing their capacity of the training, technical assistance on the diagnosis, treatment, rehabilitation and management for the community-based mental health institutions. By the end of 2009, 1460 county-level hospitals and 2046 CHCs have commenced or completed construction. Therefore, it is recommended to make use of the opportunity, and include psychiatric departments in the construction plan for county-level hospitals as soon as possible; (iii) as psychiatrists in China obtain low income and are frequently attacked by their patients, most medical school students are not willing to be psychiatrists. Accordingly, we suggest that medical university could increase the number of psychiatric student admission and develop their interest in psychiatry. In addition, the government should improve the revenue of clinical psychiatrists and provide safe working offices for psychiatrists; and (iv) the training on physicians and nurses of the mental health care should be accelerated. In order to resolve shortage of mental health professionals, we suggest that The Standardised Training Programme on the Residents for Specialists and The Standardized Training Programme on the Residents for General Practitioners formulated by the Health Reform Office of the State Council should increase the number of psychiatrist trainees according to the prediction of future needs. It is necessary to provide subsidy to the trainee psychiatrists to encourage more medical students to select psychiatrist as their future career.

Recommendations on the policy of equitable access to the public health services

An important part in the action plan for the health-care reform in China is to achieve equitable access to basic public health services, among which community-based mental health care is one of the priorities. It is necessary to focus on two key areas to realise the objectives: (i) the current programme on

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community-based administration for major psychosis with free screening, free medicine and free hospitalisation should be strengthened in the pilot regions. The programme started in 2005 and achieved good outcome in protection of mental patients, relief of burden on families, communities and the society. It is important to summarise the experiences of community-based administration on mental patients in Shanghai, Beijing, Ningbo, Shenzhen and other regions, develop the procedures and patterns of community care, and support, clarify methods of the performance appraisal, and ensure fiscal funds; (ii) the programme on the management and treatment for psychosis should be expanded to the entire country. At present, the programme only covers 119 counties, accounting for 4.2% of all 2858 counties (including county-level cities and municipal districts) in China, and therefore it is in urgent need to roll out the programme to the entire country. The current biggest challenge for the roll-out is how to integrate the earmark funds for the programme into the operational funds of the mental health institutions, how to combine funding mechanism for the program with the current medical insurance schemes and how to connect the project management with the operation of community-based mental health institutions. In a word, how to establish the sustainable operation mechanism for the program is still a big challenge for the policymakers and executives in the health sector.

Policies and proposals for reforms on government hospitals

The government has committed to provide more financial subsidies to mental hospitals, infectious disease hospitals, tuberculosis hospitals and occupational diseases hospitals according to the health reform plan. Nevertheless, it is not clearly defined how much additional funds the government will provide to these hospitals.

On the basis of the policy of health-care reform, infrastructure investments, medical equipment procurement, hospital operations and staff salaries, research and development of medicine and subsidised care for the poor will be covered by governments at all levels. However, the trend is that with universal basic health insurance coverage in the future, insurance will cover the cost of medical care, and government fiscal inputs should be limited to infrastructure investment, medical equipment procurement, research and development of medicine and public health services not covered by basic health insurance schemes. Hence, in the interim period, it is necessary to clarify the responsibility of government fiscal input and the obligation of the insurers for the medical costs. Subsidies on operational cost of the mental hospitals should be determined by the negotiation between the association of hospitals and insurers to keep the operation of the mental hospitals sustainable.

It should be emphasised that putting mental hospitals into the public health system, ensuring the funds for its construction and operating expenses, and maintaining its non-profit status do not come at the cost of reduced income for hospital staffs or lower efficiency of mental hospitals. The key issue is that salaries of medical staff must reflect their productivity and performance, which is not well performed under the current governance of mental hospitals and compensation system. Accordingly, the breakthrough is to push forward the reform on performance appraisal system in the mental hospitals in the future.

Mental health management on special populations

Chinese medical reform programme pointed out that mental health of special populations should be intensively cared. Communist Youth League organisations at all levels with the support of government should carry out adolescent mental health survey and public education activities for young people. Aging Organisation proposes to carry out the work of elderly mental health measures by a variety of effective forms, according to local situations. In addition, Aging Organisation should cooperate with relevant government departments and family members of the elderly to prevent psychological problems of the elderly. They should also educate the elderly with the basic knowledge of senile dementia, depression and other old mental illness. Women's Federations at all levels, on behalf of all women, participate in making national mental health public policy and promote the implementation of mental health in women. They also provide mental health education and give relevant advocacy services.

Disclosures

The authors declare no conflicts of interest.

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