

Original Paper

Analysis of Development Status of Primary Medical and Health Institutions in Chongqing, China from 2015-2018

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Abstract

The important manifestation of social civilization proves to meet the demands of patients for medical treatment to the greatest extent through promoting grass-roots medical reform, improving construction of grass-roots medical and health institutions and improving their service capabilities. Chongqing, the youngest municipality in China, has a population of 34.04 million, is also a typical city with a prominent urban-rural dual structure. Construction and development of service system in primary-level medical and health institutions is of great significance for improving health of people in Chongqing. This essay uses observation variables such as “community health service center”, “township health institution” and “village clinic” as its basis and puts its research objects on Chongqing Statistical Yearbook 2015-2018, the latest data from the National Bureau of Statistics and from Chongqing Municipal Health Commission Statistics Bulletin 2015-2018. Through statistical methods, collected and sorted data are imported into EXCEL table, and corresponding database is established. While statistical indicators include composition ratio, utilization rate, average and etc. and a descriptive statistical analysis is performed. Research and study are given on changes of observation variables of primary medical institutions in Chongqing from 2015 to 2018. It is found that: the number of primary medical institutions showed a downward trend as a whole; the proportion of patients seeking medical treatment through primary diagnosis and treatment was still relatively high; composition of observation variable in township and village level is unreasonable; and slow growth happens in the number of township first-level medical and health institutions and the number of beds. In view of problems found in the research, the essay puts forward some solutions to improve construction of service system of primary health institutions in Chongqing, namely, to invest more in basic construction of primary medical and health institutions, to guide medical graduates to work in primary medical institutions and to increase training and guidance of primary medical technicians. In this way, we can better promote the development of primary-level medical and health institutions in Chongqing

and provide citizens with more and better medical services.

Keywords

primary care, health institutions, Chongqing; medical level

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1. Introduction

Grass-roots medical and health institutions, as the “gateway of medical institutions”, are foundation of the entire medical system and play an important role in ensuring public health. The meaning of life varies from person to person and changes from time to time (Viktor, 2003, p. 110). With continuous deepening of China’s medical reforms, the broad masses of people are attaching more and more importance to life and health and having further requirements for higher level and ability of medical services. For a long time, grassroots medical and health institutions have been in a weak link and developing very slowly in the entire medical system. With progress of society and improvement in degree of civilization and people’s living standards, it is very important for primary-level medical and health institutions to develop their service capabilities and levels, so as to better meet people’s needs for better health. Efforts should be made to improve the level of primary-level medical and health services in Chongqing, and to meet the requirements on capacity and level of primary-level medical and health services in Chongqing, China’s youngest municipality with a population of 34.04 million. The essay analyzes the current situation of primary medical and health institutions in Chongqing, finds out their existing problems, gives countermeasures to better improve the service system of primary medical and health institutions in Chongqing and to better service Chongqing citizens, especially grassroots people. Through this way can the close connection between people's health and happiness be enhanced (Liang, 2011, p. 177).

2. Research Objects and Methods

2.1 Research Objects

Research objects and main sources in this essay are *Chongqing Statistical Yearbook* (2015-2018), *China Statistical Yearbook* (2015-2018) and *Chongqing Health and Family Planning Statistical Yearbook*, and *Main Statistics of Chongqing Health and Health*.

2.2 Observation Variables

Table 1. Observation Variables

Observation items	Variable 1	Variable 2	Variable 3
Community health service center (station)	Number of institutions	Number of visits	Organizational composition
Township health institution	Number of beds	Number of patients out of hospital	Bed application
Village clinic	Total personnel	Turn-over rate	Human resources
Total	Number of medical technicians	The average length of stay	Medical services

One type of observation items and 3 types of observation variables are determined by sorting out relevant data materials of primary medical and health institutions in Chongqing from 2015 to 2018. Variables 1 and 2 are formed through using observation items to have statistics of corresponding institutions, number of beds and so on. Variable 4 is determined through combining observation items, analyzing organizational composition, bed application and etc.

2.3 Statistical Methods

Efforts are made to import the collected and sorted data into EXCEL table, to establish the corresponding database, to determine statistical indicators including composition ratio, utilization rate, average, etc., and to perform descriptive statistical analysis.

3. Findings and Analysis

3.1 Number of Primary Medical Institutions

The total number of primary medical institutions in Chongqing showed a gradual downward trend from 2015 to 2018. In particular, the number of township health institutions dropped from 924 in 2015 to 872 in 2018, a decrease of 5.63 percentage points. Although the number of village clinics is also declining, the reduction is relatively gentle, and the proportion of village clinics in primary-level medical and health institutions is absolute majority, basically and stably maintaining at about 88% per year.

Table 2. Changes in the Number of Primary Medical and Health Institutions in Chongqing from 2015 to 2018

Variables	Proportion of primary medical institutions (%) growth rate [%]			
	2015	2016	2017	2018
Number of community health service center	500(3.94)	497(3.93)	468(3.79)	472(3.87) [-5.60]
Number of township health institution	924(7.27)	894(7.08)	881(7.14)	872(7.15) [-5.63]
Number of village clinic	11280(88.79)	11241(88.99)	10988(89.07)	10847(88.98) [-3.84]
Total	12704(100)	12632(100)	12337(100)	12191(100) [-4.04]

3.2 Beds in Grass-Roots Medical and Health Institutions

From the perspective of changes in the number of beds in primary medical and health institutions in Chongqing, the number of beds in community health service centers increased from 7900 in 2015 to 9400 in 2018, up 18.99% which shows the fastest growth among all grassroots medical and health institutions and exceeds the 15.25% increase in the total number of beds in primary-level medical and health institutions. However, the number of beds in primary medical and health institutions still shows less increase than that in the city, with latter being up 24.56% (from 176,700 to 221,100).

Table 3. Changes in the Number of Beds in Primary Medical and Health Institutions in Chongqing from 2015 to 2018

Items	Number of beds/10 thousand Ratio(%) and growth rate [%] of primary medical and health institutions			
	2015	2016	2017	2018
Number of community health service center	0.79(4.47)	0.87(4.56)	0.85(4.12)	0.94(4.27) [18.99]
Number of township health institution	0.39(2.21)	0.40(2.10)	0.41(1.99)	0.42(1.91) [7.69]
Total	1.18(6.68)	1.27(6.65)	1.26(6.11)	1.36(6.18) [15.25]
Total number of beds in health institutions in the city	17.67	19.09	20.61	22.01 [24.56]

3.3 Human Resources in Primary Health Care Institutions

The key to enhance the capacity of primary medical services is talent (Lu et al., 2020, p. 27). From changes in the number of health technicians in community health service centers, township health institutions, and village clinics from 2015 to 2018 in Chongqing, both the absolute number of increases and the extent of growth show an upward trend. The community health service center boasts the fastest growing, increasing from 8,780 in 2015 to 10,486 in 2018, up 19.43%. The slowest growth is in the number of health technicians in Chongqing's village clinics, which increased from 3041 in 2015 to 3265 in 2018, up 7.37%. From changes in the total number of personnel in grass-roots medical and health institutions in the city, there is a phenomenon of increasing and decreasing. The total number of community health service centers in Chongqing increased from 10,574 in 2015 to 12,395 in 2018, up 17.22%, which proves the highest increase among primary medical institutions. It is worth noting that the total number of village clinics decreased from 25,335 in 2015 to 21,158 in 2018, a reduction of 16.49%. Meanwhile, the total number of primary-level medical and health institutions in Chongqing decreased from 68,080 in 2015 to 67,812 in 2018, down 0.39%. The total number of medical and health institutions in the city increased from 227,212 in 2015 to 272,758 in 2018, up 20.05%. At the same time, the growth of health technicians in the city reached 25.43%, far exceeding that of grass-roots health technicians. In addition, from the proportion of health technicians among the total medical personnel, the ratio in community health service centers and township health institutions have remained above 80% from 2015 to 2018, far exceeding the average ratio of about 74% in the city. However, only the proportion of health technicians in village clinics lags far behind (except 2016) other indicators.

Table 4. Changes in the Number of Health Technicians, the Total and Ratio in Primary Medical and Health Institutions in Chongqing from 2015 to 2018

Variables	2015			2016			2017			2018			Growth rate	
	Health technician	Total	Ratio	Health technician	Total	Ratio	Health technician	Total	Ratio	Health technician	Total	Ratio	Health technician	Total
Community health service center	8 780	10 574	83.03	9 394	11 239	83.58	9 303	11 132	83.57	10 486	12 395	84.6	19.43	17.22
Township health institution	26 413	32 171	82.1	27 010	32 692	82.62	27 391	33 095	82.76	28 829	34 259	84.15	9.15	6.49
Village clinic	3041	25 335	12	1 962	2 399	81.78	2 982	22 817	13.07	3 265	21 158	15.43	7.37	-16.49
Total	38 234	68 080	56.16	38 366	46 330	82.81	39 676	67 044	59.18	42 580	67 812	62.79	11.37	-0.39
Total health technicians in the city	166 812	227 212	73.42	179 346	242 829	73.86	191 254	255 252	74.93	209 237	272 758	76.71	25.43	20.05

3.4 Medical Services in Primary Medical and Health Institutions

Primary medical care is the cornerstone of service effectiveness in the entire medical system (Zhao, 2020, p. 341). From changes in medical services of primary-level medical and health institutions in Chongqing, the number of diagnosis and treatment visit and of discharged patients, as well as the average hospital stays of discharged patients all showed an upward trend from 2017 to 2018, but the utilization rate of hospital beds has declined. The number of medical visits increased from 79.7009 million in 2017 to 81.329 million in 2018, the number of discharges increased from 2.0031 million to 2.0157 million; and the average days of hospitalizations for discharged patients increased from 6.49 to 6.86 days. However, the bed utilization rate reduced from 75.2% in 2017 to 74.99% in 2018. Utilization rate is showing a downward trend, but the absolute value of bed use is still very high. Compared with the number of the whole city, diagnosis and treatment visit in primary medical institutions accounted for 51.23% in 2017 and 50.93% in 2018, both exceeding 50%. From the number of discharged patients, primary medical institutions only account for 29.3% and 28.66% of the whole city.

Table 5. Medial Services in Primary Medical and Health Institutions in Chongqing from 2017 to 2018

Variable	Medical services					
	2017			2018		
	Number in primary medical and health institutions	Number in the whole city	Ratioprimary medical and health institutions	Number in primary medical and health institutions	Number in the whole city	Ratioprimary medical and health institutions
Diagnosis and treatment visit (10 thousand)	7 907.09	15 433.81	51.23	8 132.98	15 968.77	50.93
Number of discharged patients	200.31	683.43	29.31	201.57	703.3	28.66
Average hospital stays of discharged patients	6.49	8.34		6.86	8.53	
Utilization rate of hospital beds	75.2	81.42		74.99	80.11	

4. Conclusion and Suggestion

The following can be found through observing variables and changes in primary medical and health institutions in Chongqing, and comparing with the whole city:

First of all, the overall number of primary-level medical and health institutions in Chongqing is declining. As the youngest municipality directly under the Central Government in China, Chongqing has long been plagued in its development due to its outstanding characteristics of dual urban-rural structure. With the central government's implementation of the Western Development and the direct administration of Chongqing, the city has achieved unprecedented development, its urban-rural dual structure has been eased to a certain extent. Increasing urbanization and rapid concentration of rural population in the city result in decreasing number of primary medical institutions year by year, especially at the township and village levels.

Secondly, the proportion of patients seeking medical treatment through primary care is still relatively high. Most patients, when having symptoms, go directly to rural primary medical institutions or community primary medical institutions. However, in view of current medical conditions in primary-level medical and health institutions, it is more difficult to accurately judge some more difficult diseases, leading to delaying timely treatment of patients.

Third, composition of health service technicians at township and village levels is unreasonable. From current construction and development of grass root medical and health institutions across China, the state attaches great importance to developing grassroots medical and health institutions to ensure the health and safety of grass root people. Medical and health industry has the attribute of technology-intensive (Chen et al., 2020, p. 16), but it develops slowly due to constraints of geographical location, conditions and demographic changes at the grass root level, especially towns and villages. In particular, it is more difficult to build a team of professional health technicians. Many newly graduated excellent medical college students are not willing to work in remote township or village health and medical institutions. Health technicians originally working in the institutions have left townships or villages to work in urban medical institutions after improving their skills in grass root institutions. As a result, it is very difficult to build the team of health professional and technical personnel in townships and villages.

Fourthly, relative slow growth can be seen in the number of institutions and beds in township and village first-level medical and health institutions.

Relative slow development in township medical and health institutions results from lack of inside vitality and increasing competition pressure from outside. Most township medical and health institutions are run by the government, which are badly restricted in various aspects and will exist for a long time, thus leading to a lack of inside vitality for reform. Meanwhile, with the spread of openness, more and more private medical institutions have appeared in towns. Although they still need to work in accordance with relevant national laws and regulations, they are relatively flexible with better incentive mechanisms and great motivation to become bigger and stronger. Therefore, both internal and external reasons make it difficult for large-scale government-run medical institutions to carry out large-scale expansion. While the number of beds cannot increase rapidly, or even may decrease with changes of population structure of the township.

5. Suggestion

First of all, to invest more in basic construction of primary-level medical and health institutions. Construction of the community health service system has attracted the attention from the whole society (Li et al., 2013, pp. 9-12), especially construction of grass root medical infrastructure requires a large amount of government investment. Given that China attaches great importance to the construction of primary-level medical and health institutions, government should increase its investment in building primary-level medical institutions. Efforts should be made to promote infrastructure of grass-root medical institutions, especially replacement of medical equipment, and more purchase of newer and more complete medical equipment. Meanwhile, the number of beds should be increased according to location of primary medical institutions and changes in population structure, so that patients can receive proper diagnosis and treatment there.

Secondly, to guide medical graduates to work in primary medical institutions. National and local governments have given policy preference in salary and promotion to encourage newly graduated medical students to work in grass-root medical and health institutions. Meanwhile, efforts should be made to guide primary medical institutions and medical universities to establish internships and training bases, and to allow medical college students to exercise and improve in primary medical institutions.

Thirdly, to increase training and guidance for grass root medical technicians. It is advisable to activate the internal vitality of grass-root medical institutions, to improve medical level and service capabilities of technical personnel, and to send them to universities or famous hospitals for training and learning on a regular base. At the same time, some well-known medical experts should also be invited to provide guidance and assistance to primary-level medical and health institutions, so as to improve the level and ability of professional and technical personnel in grass-root medical and health institutions.

References

- Chen, Q. L. et al. (2020). Investigation and Research on Status of Health Human Resources in Primary Medical Institutions in Chengdu. *Chinese Primary Health Care*, 2020(2), 16.
- Li, C. L. et al. (2013). Analysis of the Path to Improve the Quality of Medical and Health Services. *China Health Quality Management*, 2013(3), 9-12.
- Liang, Q. Z. (2011). *Facing Disease—Medical Concept and Organization of Traditional Chinese Society* (p. 177). Beijing: Renmin University of China Press.
- Lu, Z. X. et al. (2020). Suggestions on Strengthening the Construction of Primary Medical and Health Services—Also on Moving Forward the Pass of Epidemic Prevention and Control. *Administrative Management Reform*, 2020(3), 27.
- Viktor, E. F. (2003). *Man's Search for Meaning* (Z. Q. He, & F. C. Yang, Trans., p. 110). Beijing: Xinhua Publishing House.
- Zhao, Q. et al. (2020). Development and Prospect of China's Primary Medical System. *Chinese General Practice*, 2020(3), 341.