Analysis of Equity in Utilization of Inpatient Health Services for the Eld-erly in China

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Abstract: To measure the equity of inpatient health service utilization of the elderly in China,analyze the contribution of multiple influencing factors to the inequality,and provide decision-making reference for improving the equity of inpatient service utilization of the elderly.Methods:using the 2018 national baseline survey data of China Health and elderly care follow-up survey(Charls),the equity of inpatient health service utilization of the elderly and the contribution of its influencing factors were investigated by using the centralized index and centralized index decomposition method.Results:the concentration index of inpatient health service utilization of the elderly was 0.0486.Conclusion:the utilization of inpatient health services for the elderly in China is unfair to a certain extent.The economic situation is the main factor leading to the unfair utilization of inpatient health services for the elderly in China.
Keywords: Health Service Utilization; Hospitalization; Fairness; Concentration Index

Ensuring health equity and equitable access to health services is the fundamental goal of health policy development in countries around the world today.Equity in the use of health services(Equity of health services)means that the use of health services should be based on demand,not on other factors such as economic level,social status or gender.According to the 7th National Census Bulletin released in May 2021,the population of the country is 141178 million,with 18.7%of the population aged 60 and over(of whom 13.5%are aged 65 and over),and the proportion of the elderly population is increasing year by year.It is expected that after 2050,China will enter a society of severe aging,and the issue of equity in the use of health services for the elderly has received more and more attention.Using the national tracking data of China Health and Pension Tracking Survey(CHARLS)in 2018,this paper studies the fairness status of the utilization of inpatient health services for the elderly and their influencing factors,and provides a decision-making reference for promoting the realization of a higher level of equity in hospital health services for the elderly.

1. Method

Sourced from the China Health and Pension Tracking Survey(CHARLS)National Baseline Survey,conducted in 2011,covers 150 county-level units and 450 village-level units,tracked every 2-3 years.This paper mainly selects the 2018 national survey data for analysis,according to the research needs,selected as of December 31,2018 and 60 years old samples as the study object,a total of 9676 samples were selected.

Firstly,the CHARTS database index is screened,classified and integrated,and the socio-demographic status,family economic situation,medical expenditure,utilization of hospital health services for the elderly and so on are analyzed descriptively Secondly,the centralized index calculation and the concentrated curve drawing are carried out by the relevant code of state16.0,and finally,according to the fitting results of the probit model,the marginal effect of the relevant factors is introduced in the centralized index decomposition model to evaluate the contribution rate of these factors to the fairness of the utilization of hospital health services for the elderly.[1]

2. Result

The sample was 9,676,of whom 4,793 were men and 4,883 were women.The average age is 68.67 years and the average number of family members is 2.63.The total number of hospitalizations in the past year was 1931,and the concentration index was 0.0486 to measure the fairness of the utilization of inpatient health services for the elderly as an indicator of the fairness of the use of health services.It shows that there is some unfairness in the utilization of inpatient services and tends to favor the elderly with better economic conditions.[2]

The results of centralized decomposition show that there are many factors that affect the fairness of the utilization of hospital medical services for the elderly.The results show that gender,[3]age,marital status,work status,living environment,chronic diseases,disability and other factors have a positive effect on the concentration index,indicating that the degree of unfairness will increase because of these factors,but also because of education level,health insurance and other factors to a certain extent.By comparing the absolute value of the contribution rate,it can be seen that among the many factors that have an impact on the equity of the use of inpatient health services for the elderly,the three factors with the greatest contribution rate are:economic status,chronic diseases and medical insurance

status,of which the contribution rate of economic conditions is the largest,63.88 percent,as detailed in Table 1.

Table 1 The inpatient health services of the elderly in China are decomposed using the centralized index

Argument	Concentrated index	Elasticity factor	Contribute	Contribution rate(%)
Pre-variable				6.7072
Gender(Control Group-Female)				
man	.0349	.0600	.0021	4.3614
age	.0462	.0194	.0009	1.8650
Level of education (control group-illiterate)				
elementary school	.0522	-.0216	-.0011	-2.3517
junior high school	.0786	-.0116	-.0009	-1.9033
High school and above	.0301	-.0087	-.0003	-.5475
Marital status (unmarried in control group)				
married	.0487	.0158	.0008	1.5989
Work status (control group-unemployed)				
incumbency	-.0286	-.0618	.0018	3.6844
The enable variable				66.5171
Health insurance (control group-no health insurance)				
Basic medical insurance for urban workers	.0153	.0565	.0009	1.8001
Basic medical insurance for urban workers	.0579	.0092	.0005	1.1139
New cooperative medical care in rural areas	-.0256	.1425	.0036	-7.5988
other	.0397	.0444	.0018	3.6707
Living environment (control group-rural)				
town	.0509	.0344	.0017	3.6442
Economic status(control group-low consumption group)	.0121			
Low-and medium-consumption groups	-.0423	-.0286	.0012	2.5240
Medium consumption group	.0077	.4420	.0034	7.0904
Medium to high consumption group	-.0052	.4731	-.0025	-5.1257
High consumption group	.0452	.6308	.0285	59.3984
A variable is required				31.1016
Self-assessment of health status(control group-very good）				
Better	-.0242	.0012	.0000	-.0605
So so	.0551	.0187	.0010	2.1446
Poor	.0646	.0241	.0016	3.2393
Very poor	.1175	.0088	.0010	2.1461
Whether you have a chronic disease(control group,No)				
be	.0433	.2266	.0098	20.4370
Disability(control group s No)				
be	.0794	.0193	.0015	3.1951

3. Conclusions and discussions

According to the results of the study,the concentration index of inpatient health service utilization of the elderly in China is 0.048,indicating that the inpatient health service of the elderly will increase the probability of utilization because of its better economic conditions.Consistent with the results of the study of the whole population,such as Lu Ruyan,Zhong Yaqin,etc.It shows that there is some unfairness in the utilization of hospital health services for the elderly in our country,and the resources are tilted towards the better economic situation groups.[4]

As an economic index in this paper,the per capita consumption level of households is a direct reflection of economic conditions and the factor that affects the fairness contribution rate of hospital health services for the elderly,which reflects the intrinsic relationship between economic conditions and the utilization of health services.According to the World Health Organization's definition of healthy aging,the functioning of [older]persons depends not only on their own health characteristics,but also on the influence of the externalenvironment.In the face of the same health problems,the elderly who are more well off will choose hospitalization or rehabilitation,while the elderly who are in financial difficulty will consider the medical burden more,thus choosing outpatient or home conservative treatment,thus resulting in unfair use of inpatient health services for the elderly.The positive contribution of self-

assessment of health status,chronic diseases and disability indicates that these factors exacerbate the unfairness of the use of inpatient health services for older persons,mainly because poor health(poor self-assessment of health,chronic diseases,disability)encourages older persons to receive more inpatient health services.[5]

Combined with the above analysis,we finally learned that economic conditions are the most important factor,while the economic burden of disease is also an important factor.In order to improve the fairness of the utilization of hospital health services for the elderly,the government should first increase financial input,improve the primary health care service system and provide more convenient medical services for the elderly;Reduce the incidence of various diseases.

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