

# The distribution and influential factors analysis of National Price-Negotiated Drugs in Medical Institutions and Pharmacies in China: A Case Study of Hyperkalemia

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## Background

The National Medical Products Administration opens designated pharmacies as an alternative supply channel for national price-negotiated drugs except for designated medical institutions to promote their availability. The same payment treatment of basic medicine insurance is implemented in both two supply channels. The outpatient chronic and special disease policy is also an important part of China's medical insurance system. Some drugs simultaneously have the status of national price-negotiated drugs, while their indications also satisfy the conditions of the outpatient chronic and special disease policy. It is contradictory for these drugs to choose payment policies, such as hyperkalemia treatment drugs. Besides, the implementation of the policy varies across different provinces in China, with differences in coverage and drug availability.

## Objectives

To collate the medical insurance policies in different provinces in China and describe the distribution and the impact factors of the national price-negotiated drug in medical institutions and pharmacies under different payment policies in China, taking sodium zirconium cyclosilicate (SZC) for hyperkalemia as an example.

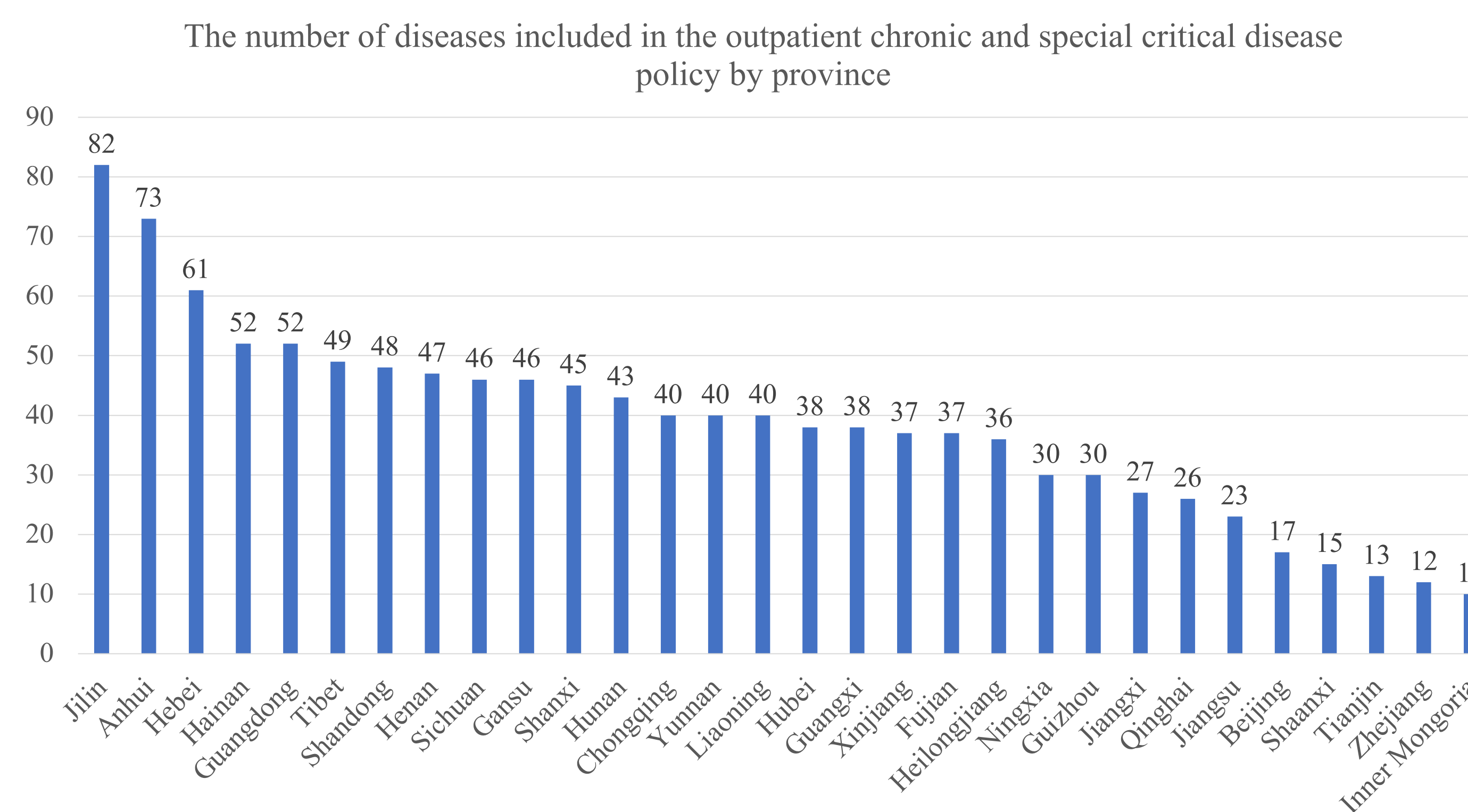
## Methods

**Data Sources:** The text of policies was taken from the official website of the Healthcare Security Administration of each province. The number of medical institutions and pharmacies were searched and calculated from the National Medical Insurance Service website.

**Policy Analysis:** Policy discourse analysis was used to mine policy commonalities and tendencies in 31 provinces in China. The basic contents of the collected policy texts were retained and the ROSTCM6 analysis software was used for lexical processing, word frequency statistics, and semantic network analysis.

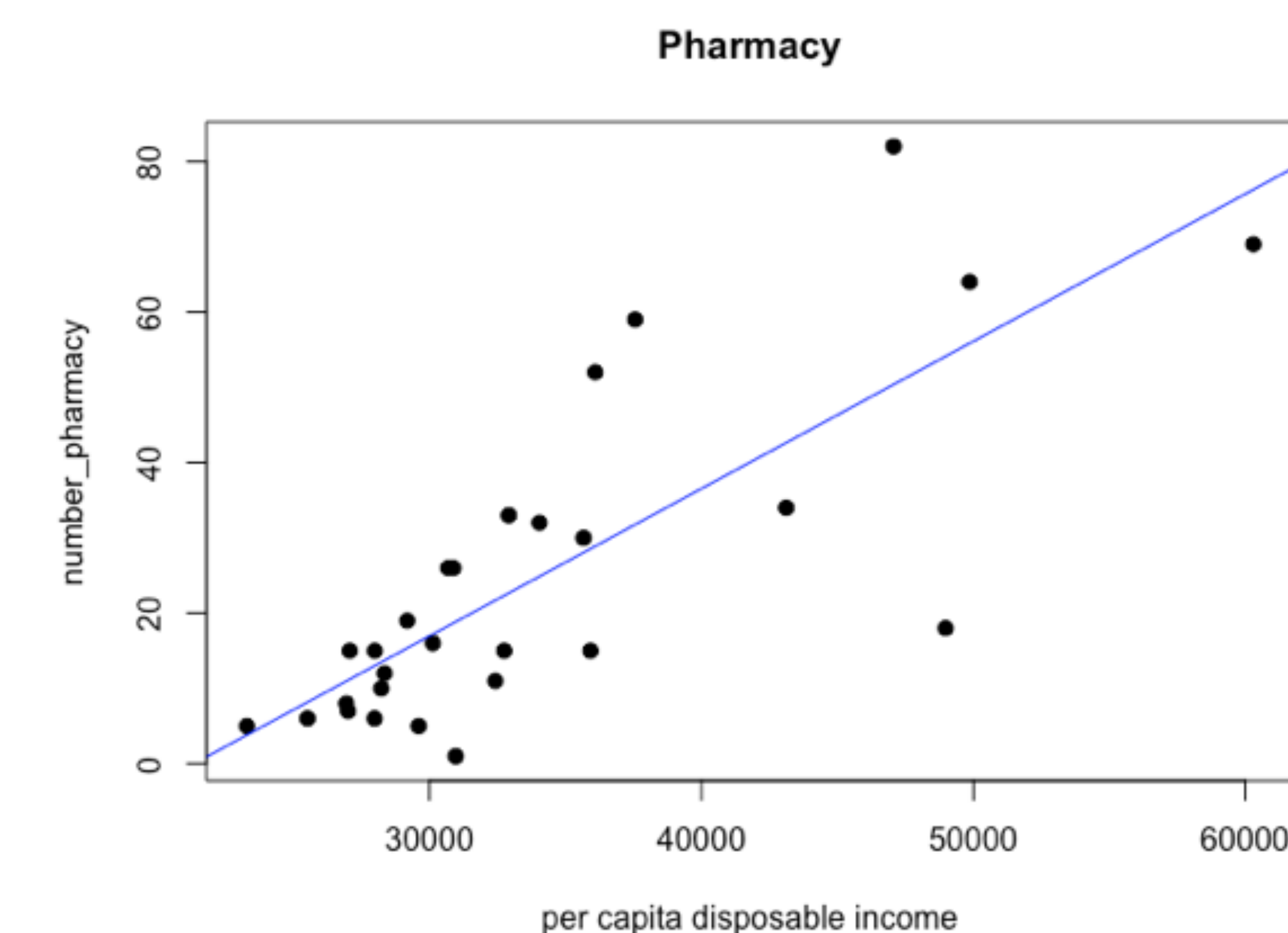
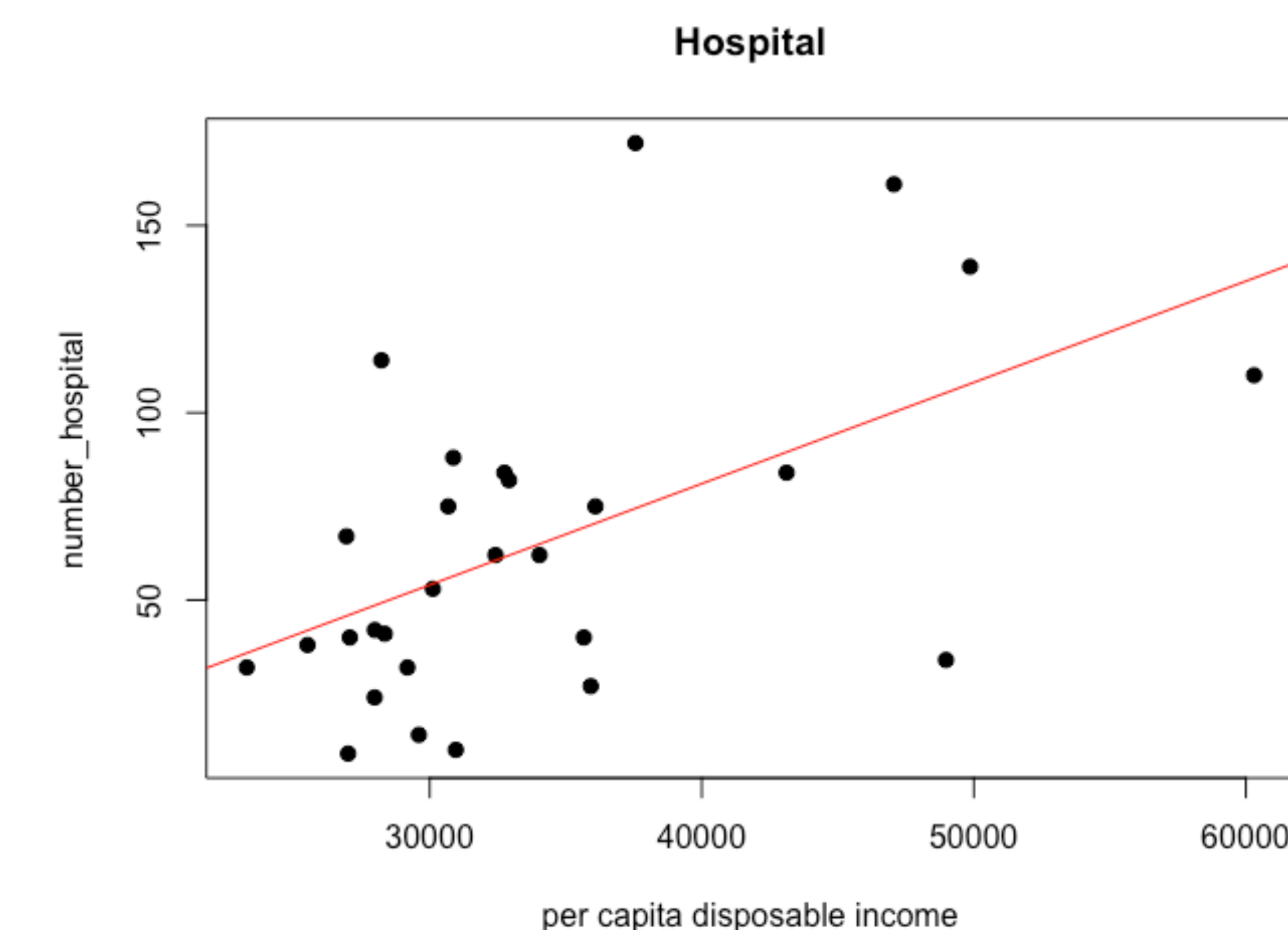
**Data Analyses:** Descriptive statistics and correlation analysis were used to analyze the relationship between the distribution of SZC in institutions and medical insurance policies and per capita disposable income. Spearman rank

correlation test and one-way ANOVA were used to find the correlation between the number of medical institutions and pharmacies equipped with SZC with different factors including the per capita disposable income of each province, the payment coverage the outpatient chronic and special disease policy and the payment mode of each province for hyperkalemia treatments under the dual-channel management. A p-value < 0.05 was considered statistically significant.



## Results

The policy analysis found that the dual-channel management mainly focused on medicine accessibility. Provinces varied in the mode and manner of coverage and certification standards under outpatient chronic and special critical diseases policy, most included over 20 types of illnesses. On average, 64 medical institutions were equipped with SZC for each province, with a maximum of 172 (Shandong Province) and a minimum of one (Qinghai Province). An average of 24 pharmacies were equipped with SZC for each province, with a range of 1 to 82. Correlation analysis showed a moderate and positive correlation between the number of institutions equipped with SZC and per capita disposable income. The correlation coefficients were 0.511 (P<0.01) and 0.787 (P<0.01) for the number of medical institutions and pharmacies equipped with SZC respectively. Different payment modes of the drug under the dual-channel policy in the included province affected the number of pharmacies equipped with SZC(P<0.05).



## Conclusion

The economic status of the province influences the availability of designated medical institutions equipped with SZC. It is suggested that the provision of nationally price-negotiated drugs, such as SZC, should be assessed concurrently with diverse policies, requiring individual province-level consideration in China.

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