Effect of the New Health Care Reform on catastrophic health expenditure in chronic households in Shaanxi Province: a before-and-after analysis

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Objective

In 2009, China officially launched the New Health Care Reform (NHCR). Our study aims to measure the occurrence of catastrophic health expenditure (CHE) of chronic households in Shaanxi Province before and after the New Health Care Reform, and explore the influence of reform on CHE.

Methods

The data were from the fourth and fifth National Household Health Service Surveys of Shaanxi Province. In total, 1942 chronic households in 2008 and 7704 households in 2013 were selected for analysis.

WHO's method was used to estimate catastrophic health expenditure, which was defined as an out-of-pocket payment for health care equal to or higher than 40% of a household's capacity to pay.

Multilevel logistic regression model was used to explore the influence of the NHCR on CHE.

Concentration index was used to measure the income-related inequality in CHE.

Results

1. CHE occurrence before and after NHCR

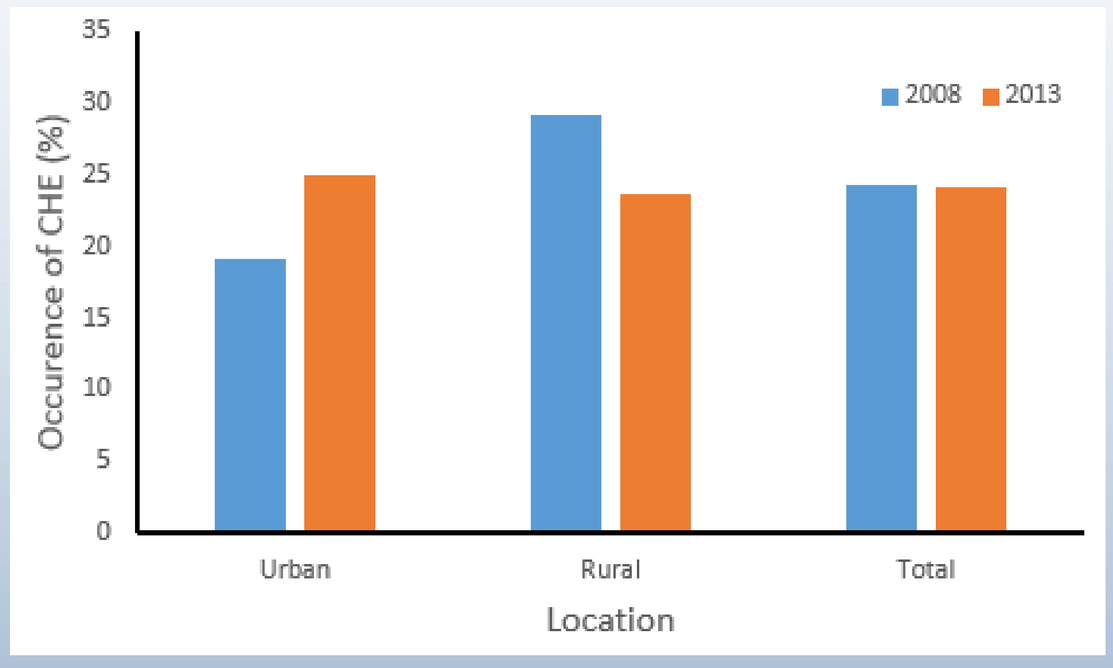


Fig. 1 CHE occurrence among chronic households in rural and urban areas.

From 2008 to 2013, the occurrence of CHE in rural areas declined from 29.15% to 23.62%. However, the CHE rate in urban increased from 19.18% to 24.95%.

2. The effect of NHCR on CHE occurrence

After controlling for confounding variables, the random-intercept logistic regression model showed that a significant interaction term between year and geographic location, implying that the influence of the NHCR on CHE differed between urban and rural areas.

Table 2 Multilevel Random Intercept Logistic Regression

Variables	Coef.	P>z	95% CI	
			Low	High
Post	0.24	0.149	-0.087	0.573
Rural	-0.05	0.794	-0.457	0.349
Post*Rural	-0.49	0.031	-0.943	-0.045
Commercial insurance	×	×	×	×
Household size	×	×	×	×
Having elderly members	×	×	×	×
Having children	×	×	×	×
Economic status	×	×	×	×
Age of household head	×	×	×	×
Female Household head	×	×	×	×
Household head employed	×	×	×	×

3. The change of inequality in CHE before and after reform

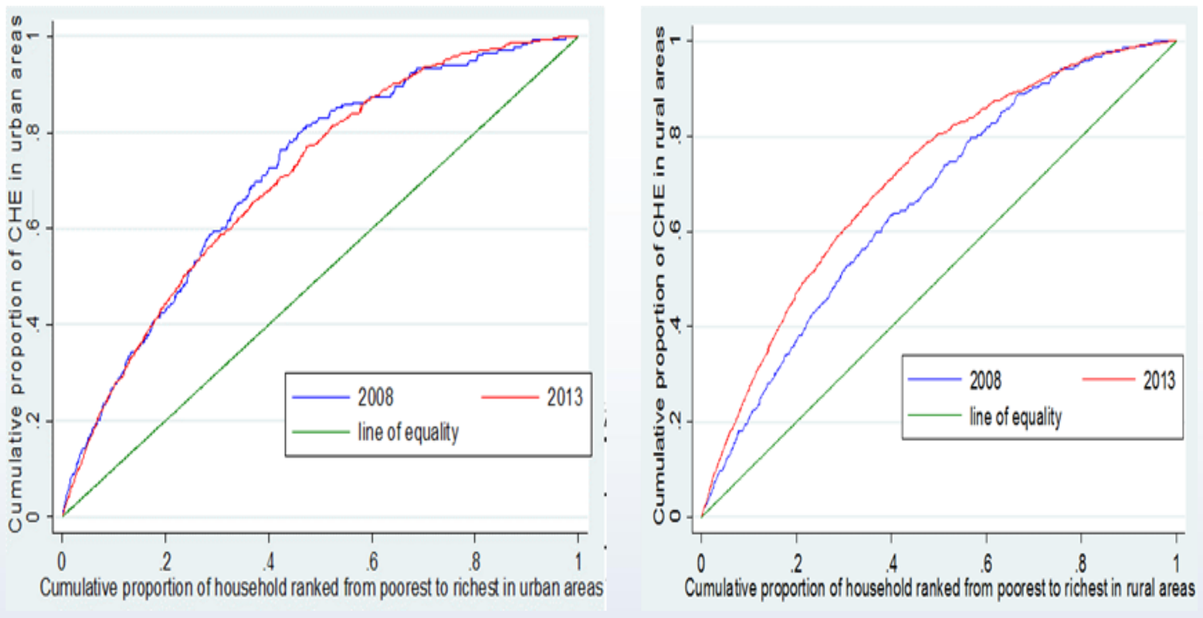


Fig.2 Concentration curves of CHE occurrence in urban and rural

From 2008 to 2013, the concentration index of CHE in rural areas increased from –0.4572 to –0.5499 (Diff= -0.0927, Z= -2.22, P= 0.026).

Conclusion

Our study suggested that the NHCR might not have been effective in reducing the CHE occurrence for chronic households. Although the occurrence of CHE in rural households had decreased, the occurrence of CHE in urban areas was higher than before. In addition, the income inequality of CHE occurrence was greater in 2013 compared to that in 2008 in rural areas. Although the reform resulted in higher insurance coverage and higher government expenditure in health care, the financial burden of health care on households did not necessarily improve. Further efforts on developing the current health insurance system and optimizing the hierarchical health care system are required to improve the protection against CHE.