

Fairness in Financial Contribution

Javad Javan-Noughabi^{1,*}

¹Department of Health Economics, Iran University of Medical Sciences, Tehran, Iran.



Health care systems are responsible for providing preventive, therapeutic and rehabilitation services (1). But, payments for this services must be according to ability to pay (2). Thus, the World Health Organization (WHO) developed the concept of Fairness in financial contribution (FFC) as a one of the three main goals of a health systems (3). Before we describe the FFC, we must first define the household's Capacity to pay (ctp_h). Household's Capacity to pay is defined as household's total expenditure (exp_h) minus household's subsistence expenditures (se_h) or household's food expenditure (fe_h) (if $se_h > fe_h$).

$$ctp_h = exp_h - se_h \quad \text{if: } se_h \leq fe_h$$

$$ctp_h = exp_h - fe_h \quad \text{if: } se_h > fe_h$$

The ratio of a household's out-of-pocket (OOP)

payments for health to their capacity to pay is defined as the household financial contribution (HFC).

$$HFC = oopctp_h = \frac{oop_h}{ctp_h}$$

Finally, the FFC index formula is as follows:

$$FFC = 1 - \sqrt[3]{\frac{\sum_{h=1}^n w_h |oopctp_h - oopctp_o|^3}{\sum w_h}}$$

$$oopctp_o = \frac{\sum w_h oop_h}{\sum w_h ctp_h}$$

The range of FFC index is between 0 and 1. 1 represents the most fairness and 0 represents the most unfairness (4).

Fairness in financing contribution will be achieved if all households pay an equal share of their

Corresponding author: Javad Javan-Noughabi, Department of Health Economics, Iran University of Medical Sciences, Tehran, Iran. E-Mail: javadjavan.n@gmail.com

Received: July 01, 2018

Accepted: July 05, 2018

Published: July 06, 2018

Editor: Omnia Hamdy, National Institute of Laser Enhanced Sciences, Cairo University

capacity to pay for health. If HFC exceeds a certain threshold, catastrophic health expenditures (CHE) will be occurred. Based on WHO criteria, CHE occurs when out-of-pocket (OOP) payments for healthcare are more than or equal to 40 % of a household's capacity to pay (HFC>40%) (4). The lack of prepayment mechanisms for risk pooling and low household capacity to pay are the main factors that increase the possibility of the exposure to catastrophic expenditures (5).

Healthcare Financial Mechanisms

CHE is directly related to OOP and indicates the inappropriate health coverage. OOP is the most unfairness and regressive mechanism of healthcare financing without any risk pooling (3). The literature showed that every year, more than one hundred million people suffered from catastrophic health expenditures due to OOP payments, especially in developing countries (6). OOP payments are including medical direct, non-medical direct and indirect costs. The probability of the CHE increases when non-medical direct and indirect costs are taken into account (7).

The World Bank noted that, "By 2030, no one should fall into poverty because of out-of-pocket health care expenditures" (8). Also, World Health Day 2018 named as 'Universal Health Coverage: Everyone, Everywhere' (9). As a result, healthcare financing should be based on financial risk-protection mechanisms such as general taxation and social insurance. Studies showed that the coverage by health insurance reduces the probability of occurrence of CHE (10-14). However, Insurance can significantly increase the risk of incurring catastrophic health care expenditures through "moral hazard". Moral hazard defined as increases the rate of health care utilization due to lowering the cost of health care (15).

Capacity to Pay

Household income level is a key factor affect the capacity to pay that have an inverse association with CHE (16). Generally, Rural and poorer households are at higher risk of catastrophic health expenditures (16, 17). Studies showed that households with four or more members were less likely to experience CHE (13, 16, 18). The prevalence of CHE is higher in Households headed by older and unemployed people (10). Having

the chronic illness among household members increase the likelihood of CHE. This factor affect the both of OOP and CTP (18).

References

1. Organization WH, Canada PHAo, Canada CPHAo. Preventing chronic diseases: a vital investment: World Health Organization; 2005.
2. Wagstaff A, Van Doorslaer E. Equity in health care finance and delivery. Handbook of health economics. 2000;1:1803-62.
3. Organization WH. The world health report 2000: health systems: improving performance: World Health Organization; 2000.
4. Xu K, Organization WH. Distribution of health payments and catastrophic expenditures methodology. Geneva: World Health Organization; 2005.
5. Organization WH. Designing health financing systems to reduce catastrophic health expenditure. 2005.
6. Xu K, Evans DB, Carrin G, Aguilar-Rivera AM, Musgrove P, Evans T. Protecting households from catastrophic health spending. Health affairs. 2007;26(4):972-83.
7. Shrimme MG, Dare AJ, Alkire BC, O'Neill K, Meara JG. Catastrophic expenditure to pay for surgery worldwide: a modelling study. The Lancet Global health. 2015;3:S38-S44.
8. Kim J. World Bank Group President Jim Yong Kim's Speech at World Health Assembly: Poverty, Health and the Human Future. Retrieved. 2013;1(17):2014.
9. Organization WH. The World Health Organization: working for better health for everyone, everywhere. World Health Organization; 2018.
10. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJ. Household catastrophic health expenditure: a multicountry analysis. The lancet. 2003;362(9378):111-7.
11. Galárraga O, Sosa-Rubí SG, Salinas-Rodríguez A, Sesma-Vázquez S. Health insurance for the poor: impact on catastrophic and out-of-pocket health

- expenditures in Mexico. *The European Journal of Health Economics*. 2010;11(5):437-47.
12. Lara JLA, Gómez FR. Determining factors of catastrophic health spending in Bogota, Colombia. *International journal of health care finance and economics*. 2011;11(2):83-100.
 13. Li Y, Wu Q, Xu L, Legge D, Hao Y, Gao L, et al. Factors affecting catastrophic health expenditure and impoverishment from medical expenses in China: policy implications of universal health insurance. *Bulletin of the World Health Organization*. 2012;90:664-71.
 14. Buigut S, Ettarh R, Amendah DD. Catastrophic health expenditure and its determinants in Kenya slum communities. *International journal for equity in health*. 2015;14(1):46.
 15. Keane M, Stavrunova O. Adverse selection, moral hazard and the demand for Medigap insurance. *Journal of Econometrics*. 2016;190(1):62-78.
 16. Zhou C, Long Q, Chen J, Xiang L, Li Q, Tang S, et al. Factors that determine catastrophic expenditure for tuberculosis care: a patient survey in China. *Infectious diseases of poverty*. 2016;5(1):6.
 17. Aryankhesal A, Etemadi M, Mohseni M, Azami-Aghdash S, Nakhaei M. Catastrophic Health Expenditure in Iran: A Review Article. *Iranian journal of public health*. 2018;47(2):166.
 18. Van Doorslaer E, O'Donnell O, Rannan-Eliya RP, Somanathan A, Adhikari SR, Garg CC, et al. Effect of payments for health care on poverty estimates in 11 countries in Asia: an analysis of household survey data. *The lancet*. 2006;368(9544):1357-64.