
POSTER ABSTRACT

Association between continuity of care and inpatient admission/emergency visits for patients with asthma under China's free-referral health care system.

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Xuejin Zou^{1,2}, Li Kuang¹

1: Sun yat-sen University, People's Republic of China;

2: The First Affiliated Hospital of Guangzhou Medical University.

Background: China has undergone open access and free-referral health care system ever since its establishment, so patients in China have been having high degree of freedom choosing health providers and physicians/specialists. The Chinese government tried to consolidate the fragmented service system in 2009 Health Care Reform when social health insurance schemes have covered the majority of population. At present, patients with asthma in Guangzhou pay their health expenses in three ways. Patients without any health insurance pay all medical expenses out-of-pocket and enjoy absolute freedom of choosing providers and physicians. As for patients covered by health insurances, they are required lower copayment if visit their registered hospital at the first place, but the copayment should be increased 10% if they visit the unregistered hospital by self-referral. Nevertheless, no referral approval are required from general/family physicians for all patients.

Objective: Since few qualitative studies on the continuity of care have been performed in China, this research is determined to measure the continuity of care for patients with asthma, explore the influencing factors, clarify the association between continuity of care and inpatient/emergency visits.

Methods: One-year hospital administrative data (January to December, 2013) were obtained from The First Affiliated Hospital of Guangzhou Medical University, which is ranked first-class in the specialty of respiratory diseases in China. The hospital is located in Guangzhou with over 150 million populations. Patients diagnosed as J44.8, J45, J46 and J82 according to ICD code were included in this study and 783 cases (20%) were chosen from the total 3876 asthma patients by completely randomized sampling. Two indicators, Usual Provider of Care (UPC) and Continuity of Care (COC), were used to measure the continuity of service. Multiple linear regression analysis was used to explore the association between continuity and variables on healthcare utilization and insurance type.

Results: Out of 783 patients, 43.4% were male, 21.7% aged 18-39, 47.1% aged 40-59, and 31.2% aged older than 60. 51.3% of them were registered to the hospital, 14.3% were not registered, and the rest were without any insurance. With regard to the outpatient service utility during a year, 62.2% of patients visited 4-6 times, 17.2% 7-9 times, 10% 10-12 times,

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and 10.2% more than 13 times. The medium of COC was 0.3, low-level group ($COC < 0.2$) accounted for 41.0%, medium group ($0.2 \leq COC \leq 0.4$) 22.7% and high-level group ($COC > 0.4$) 36.3%. The medium of UPC was 0.5, and the low-level group ($UPC \leq 0.69$) and high-level group ($UPC > 0.69$) took up 65.3% and 34.7% respectively. COC and UPC were both influenced by times of outpatient visit during a year and types of health insurance plan. The outpatient visit times exerted positive influence on COC and UPC ($\beta_{COC} = 0.88 [95\%CI 0.819-0.941]$ $0.135 [95\%CI 0.059-0.211]$, $\beta_{UPC} = 0.072 [95\%CI 0.017-0.127]$, $0.109 [95\%CI 0.040-0.178]$, compared with patients visited 4-6 times), but when it exceeded 13 visit times, the influence went down ($\beta_{COC} = 0.128 [95\%CI 0.052-0.204]$, $\beta_{UPC} = 0.081 [95\%CI 0.012-0.150]$). The continuity of care for patients under contracted plans was significantly better than patients with no health insurance ($\beta_{COC} = 0.138 [95\%CI 0.089-0.187]$, $\beta_{UPC} = 0.078 [95\%CI 0.033-0.123]$) and patients visited unregistered providers ($\beta_{COC} = 0.198 [95\%CI 0.104-0.292]$, $\beta_{UPC} = 0.121 [95\%CI 0.035-0.207]$). The degree of continuity exerted significant influence on inpatient admission and emergency visit. The inpatient admission rate and emergency room visit rate for the high-, medium- and low-level COC group were 4.9%, 12.1%, 15.2%, and 6.0%, 21.3%, 25.2% respectively. For patients in high- and low-level UPC groups, the admission rate were 2.2% and 13.9%, while the emergency room visit rate were 7.7% and 22.5%.

Conclusion: The weak continuity of care for patients with asthma in China is by large caused by China's long-term free-referral system and fragile primary care service network. This research confirms that health plan design and visit times are major influencing factors for the continuity of care, and good continuity of care associates with decrease of inpatient and emergency visits. The necessary measures to take in China to improve the continuity of care include accumulating evidences of benefits of continuity of care and spreading the information to policy makers and the public, strengthening primary care system, designing effective health insurance plans and manipulating the implementation. As may be obvious from the foregoing, it is believed that patients and hospitals should work together to improve the continuity of care.

Keywords: delivery of health care; integrated care; continuity of care; asthma; hospital services utilization
