Implementation of national essential medicines policy in China: A cross-sectional study of township health centres
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Introduction: This study evaluated the current situation of primary care institutions in relation to the goals of the National Essential Medicines Policy (NEMP) which was issued by China’s central government in August 2009.

Methods: A systematic random sampling strategy was employed to select 90 township health centres (THC) from six provinces covering eastern (2), middle (2) and western (2) regions of China. Data were collected for the period of January to September 2011 with regard to the eight core NEMP indicators: varieties of national essential medicines (X1); varieties of provincial supplemental essential medicines (X2); average expenditure of medicines per outpatient visit (X3); average expenditure of medicines per inpatient care (X4); average expense per prescription (X5); percentage of prescriptions requiring injections (X6); percentage of prescriptions containing two or more antibiotics (X7); and percentage of prescriptions containing hormone (X8). Overall, 9000 prescriptions were randomly selected systematically to calculate prescription-associated indicators. An exploratory factor analysis was performed to extract factor scores with the eight indicators. The associations between factor scores and twelve institution-level characteristics were analysed using multivariate regression models.

Results: An average of 193 essential medicines and 85 provincial supplemental essential medicines were available. About 26.84 Yuan (Chinese RMB) and 592.58 Yuan for medicines were charged for per visit of outpatient and inpatient, respectively. The average expense per prescription was 33.38 Yuan. Some 38.23% prescriptions required injections; 21.96% contained two or more antibiotics; and 11.42% contained hormone. The factor analysis extracted three factors, reflecting “availability” (factor loading: X1=0.812, X2=0.795), “affordability” (factor loading: X3=0.888, X4=0.787, X5=0.777), and “rational use of medicines” (factor loading: X6=0.837, X7=0.517, X8=0.755), respectively. The total factor scores differentiated the THCs effectively (ranging from -0.981 to 2.983), which was negatively associated with the number of medical workers (standardized coefficient = -0.348, p = 0.029) and positively associated with the number of visits to outpatient/emergency departments (standardized coefficient = 0.425, p = 0.003). Further regression analyses showed that the number of visits to outpatient/emergency departments was associated with better affordability and rational use of medicines. The longer a THC implemented the NEMP, the more likely it performed better in rational use of medicines. The affordability of medicines decreased with the increase of medicines revenue. Higher income of doctors was associated with rational use of medicines and poor availability of medicines.

Discussion: The NEMP is a complex system, encompassing availability, affordability and rational use of medicines. Institutional-level structural and managerial measures are associated with the achievements of the NEMP goals, but not always in a consistent way.

Keywords: essential medicine, primary care, China