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How government insurance coverage changed the utilization and affordability of expensive targeted anti-cancer medicines in china: An interrupted time-series study

Yifan Diao^a, Jie Qian^a, Yang Liu^a, Yanping Zhou^b, Yan Wang^c, Hong Ma^d, Xiaoyan Wang^e, Ren Luo^e and Jing Sun^a

^aSchool of Public Health, China

^bPeking Union Medical College Hospital, China

^cCancer Hospital Chinese Academy of Medical Sciences, China

^dNorth Head Strategic Communications Healthcare Research, China

^eIQVIA (IMS Health and Quintiles) Institutes for healthcare informatics, China

Background: Little evidence is available to demonstrate the impact of the emerging government insurance coverage on patient utilization and affordability of expensive anti-cancer medicines and insurance sustainability in China. This study examined the insurance program in Zhejiang, focused on targeted anti-cancer medicines covered in 2015, and looked at how such inclusions influenced the utilization and affordability of these high cost medicines. The study intends to serve as a first step of providing quantitative evidence to assist government insurance policy design and reassessment.

Methods: Longitudinal hospital medicines procurement data collected were used to assess trajectories in medicines utilization during January 2013-December 2016. The study conducted segmented regression analyses of interrupted time series data to measure medicines utilization changes in level and trend. WHO/HAI methodology was used to measure the affordability of medicines. Key informant interviews were carried out to review the charity donation and insurance policies.

Results: The utilization trends of all studied medicines were decreasing ($p < 0.001$) prior to the insurance coverage. In the 3rd month of the insurance coverage, the utilization of all studied medicines increased by 15.58 to 439.14 standard units ($p < 0.05$). The utilization trends of medicines with broader scope of insurance covered indications were increasing, while that with limited scope were decreasing thereafter ($p < 0.05$). Before the insurance coverage, patients had to pay out-of-pocket 3.0-13.1 and 6.2-27.3 times of the provincial average disposable annual income per capita in urban and rural areas respectively. These numbers were reduced to 1.5-6.4 and 3.1-13.4 times for those entitled to the charity donation. After the insurance coverage, these numbers were further reduced to 0.6-2.1 and 1.6-4.5 times. By the end of 2016, the accumulative total insurance expenses of the 15 newly covered expensive medicines accounted 63.2% of the total amount of fundraising.

Interpretation: Government insurance coverage plays a great role in increasing patient access to high cost medicines. Findings of this study provide important directions for policy formation and financial risk management of the government insurance.

Biography

Yifan has been Graduated from Durham University, Public Policy and Global Health as Master of Science, with the specialties including Epidemiology, Biostatistics, Public health policy analysis. Presently, he has been studying as a doctoral candidate in Chinese Academy of Medical Science & Peking Union Medical College, Beijing, with subjects Epidemiology & Biostatistics.

y.diao@student.pumc.edu.cn