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**POSTER ABSTRACT****How to strengthen institutional collaboration in a medical consortium based on patients' preference? A study in China's rural county**18<sup>th</sup> International Conference on Integrated Care, Utrecht, 23-25 May 2018Xin Wang<sup>1</sup>, Yixiang Huang<sup>1</sup>, Lijin Chen<sup>1</sup>, Stephen Birch<sup>2</sup>

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**Introduction:** After the collapse of the integrated three-tier health care system in rural China during the 1980s, patients could seek health care at their institution of choice without referral. This resulted in cost-escalation and inefficient use of health care resources. The government of Huangzhong county is trying to rebuild integrated health care systems by constructing a medical consortium and strengthening collaboration among institutions. But little evidence exists about which institution to collaborate with and the types of collaboration. This study aims to provide suggestions for constructing the medical consortium in Huangzhong county, by visualizing an inpatients readmission network based on patients' preference and analyzing institutional relationships' effects on it.

**Method:** Case-study methodology was employed to analyze health care utilization in Huangzhong county. Thirteen institutions, nine of them inside the county, four outside the county were included in the study. Information on between-institution relationships perceived patient referrals, population and patient information sharing, and joint training was collected using a modified version of Provan's instrument. Data about institution level township, county, city and province and location were collected by questionnaire. Over 20,000 records of inpatients who sought service in the thirteen institutions in 2013, were provided by the health insurance system. Among them, 255 were patients who attended a second or third institution for the same condition in the two week period following initial admission. Social network analysis was used to visualize the inpatient flow, and Quadratic Assignment Procedure correlation and regression were employed to identify factor determinants.

**Results:** The density of the inpatient flow network was 0.269. The proportion of the inpatient readmission flow from county hospitals to provincial hospitals was 57.3. Using a reclusion criteria of  $p < 0.05$ , perceived patient referrals, population and patient information sharing, big institutional level gaps and distance over 30kms were statistically significant. The R2 of the QAP regression was 0.245. Regression coefficients showed the greatest positive impact on inpatient flow was patient information sharing coefficient: +0.307, followed by perceived patient referrals coefficient: +0.200. The estimated coefficient of "distance over 30kms" is negative coefficient: -0.012.

**Conclusion:** Referral networks perceived by institution leaders, and hence based on trust, are strongly associated with inpatient readmission flow. Information sharing is also inpatients preferred collaboration among institutions. In addition, inpatients tend to readmitted to higher-level institutions within 30km.

**Lessons learned:** Besides township&county-level institutions inside of the county, hospitals in higher levels within 30km are also suggested to be adopted in the medical consortium. Moreover, it is necessary to promote trust and information sharing among institutions in the medical consortium.

**Limitations:** These conclusions for Huangzhong county cannot be generalised to other health care systems, but the case study methodology could be employed in other systems, to promote institutional collaboration and health care system integration.

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**Keywords:** medical consortium; institutional collaboration; inpatient readmission; social network analysis

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