

Literature Review: Is Physician Gender Associated with the Patient Recovery Time?

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1 Introduction

Health, as one of the human capital([Grossman, 1999](#)), plays an important role in driving economic growth. Physician, as the provider of medical treatment, almost determined the patients' health status due to asymmetric information. As China is undergoing a comprehensive medical reform, the study on medical quality is urgently needed. In this paper, based on the 2333 questionnaires collected from hospitals in three provinces and cities, I will investigate the relationship between the physician attributes (age, gender, title, etc.) and the patient medical experience (recovery time, satisfactory, etc.) and furthermore, I will estimate the effects of physician gender difference on the patient recovery time.

2 Main Body

Across the literature, many studies on the related topic have been done. Bertakis compare patient health status, patient satisfaction, and physician practice style between family practice and internal medicine. They randomly assigned 509 new adult patients to family practice or internal medicine clinics at a university medical center and followed for 1 year of care. They found that there were significant differences in practice styles between family physicians and internists due to the physician's behavior. They suggest physician improve psychosocial aspects of care, which was

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predictive of improvements in patient health status. They also suggested a practice style emphasizing patient activation which was predictive of improvements in patient satisfaction(Bertakis et al., 1998). Hajjaj summarized in his review that non-clinical influences on clinical decision-making profoundly affect medical decisions. These influences include patient-related factors such as socioeconomic status, quality of life and patient’s expectations and wishes, physician-related factors such as personal characteristics and interaction with their professional community, and features of clinical practice such as private versus public practice as well as local management policies(Hajjaj et al., 2010). Persai conducted two cross-sectional surveys were administered among patients and physicians working in primary health care facilities in 12 districts of two states in India and used multivariable logistic regression to investigate associations between individual components of 5As interventions and patients’ satisfaction with the counseling services. They found that incorporating 5As interventions in the delivery of primary care would likely increase patients’ satisfaction with physicians’ delivered counseling services. That is to say, patients’ recommendation of counseling services will aid in demand generation for cessation services in primary care(Persai et al., 2014). Santiago use the patient satisfaction and communication scores collected during the academic year 20152016 were obtained for 369 physicians at Indiana University Health system, and finds that median and mean of scores were lower for women physicians and underrepresented physicians(Sotto-Santiago et al., 2019).

Among all those influential factors researched by other scholars, this paper will focus on uncovering the physician personal characteristics that influence the treatment and trying to answer the question of how to improve the medical experience. Physician’s gender, age and ethnicity may play a role in decision-making. For example, female physicians were more likely than male physicians to be influenced by the patient’s psychosocial factors and expectations when making decisions(Tracy et al., 2005). Younger physicians order more tests than older physicians(McKinlay et al., 2002). Female physicians spend more time with their patients, and the consultation is usually longer when there is gender concordance between the physician and

the patient(Franks and Bertakis, 2003). Female physicians spend more consultation time on disease-preventive services and counseling than male physicians, and male physicians usually spend more time on technical practical issues and discussion of substance abuse(Bertakis et al., 2003).

Furthermore, the recognition of the relevance of sex and gender differences in medicine has significantly increased in the last 20 years. Nonetheless, the implementation of these aspects into clinical practice still needs future work. Based on the survey data, some literature trying to address the problem by estimating the effects of physician gender difference on the patient medical quality. Bertakis randomly assigned 118 male and 132 female adult new patients, having no stated preference for a specific physician, were randomly assigned to university hospital primary care residents, and their initial encounters were videotaped. They found that the difference between male and female physicians in total time spent with patients was small and statistically insignificant, and diminished further when controlling for patient gender and health status. Female physicians, however, were observed to engage in more preventive services and to communicate differently with their patients(Bertakis et al., 1995). Kim examined the association between the gender of primary care physicians and the quality of diabetes care they provided to their patients participating in the Translating Research Into Action for Diabetes study, and found that patients of female physicians received a similar quality of care compared with patients of male physicians(Kim et al., 2005). Bertakis reuse the data in Bertakis et al. (1998) and indicate that there are significant differences in the practice style behaviors of female and male doctors. Female doctors provide more preventive services and psychosocial counseling; male doctors spend more time on technical practice behaviors, such as medical history taking and physical examination(Bertakis, 2009). Prigione invited all members of the German Society for General and Abdominal Surgery to participate in an online-based survey to determine the relevance and incorporation of sex and gender aspects in gastrointestinal medicine and surgery. In this survey, more than 50% of the participants reported including sex and gender aspects into consultation, diagnosis, and management at least occasionally. However, 44% reported no knowl-

edge of the formal definition of 'gender medicine', suggesting potential differences in the perception of the notion of gender(Oertelt-Prigione et al., 2014). Jefferson investigated the effect of physician gender on consultation length in UK hospital outpatient clinics and compared this, through meta-analysis, with previous studies outside the UK. There are a total of 174 observations of outpatient consultations with 10 hospital specialists (consultants) from different specialties in two UK hospital trusts. They found no statistically significant difference in the length of consultations for male and female doctors in these UK hospital settings. When pooled with existing studies, consultations with women doctors were found to be approximately two minutes longer than with men(Jefferson et al., 2015).

3 Conclusion

From above reviews, although many studies have answered similar questions that what's relationship between the physical attributes and the patient medical experience, not much literature has studied situations in Chinas medical environment. Whats more, in other literature, the effect of physician gender on medical quality is ambiguous and needs further research. Therefore, I will utilize the data and try to identify the effects of physician gender difference on the patient recovery time. In this paper, I will use the survey data collected from Shanxi Province, Heilongjiang Province and Beijing in 2017, in total 2333 samples after data cleaning. This data hasn't gone public so there is literature based on this dataset. There are some papers use the similar survey or questionnaire data ((Bertakis et al., 1995), (Bertakis, 2009), (Oertelt-Prigione et al., 2014)). As for the models or methods, logistic regression and meta-analysis is mostly used. In my paper, I will use multi-nominal logistic regression for identification. In terms of contribution, I am trying to identify the area of improvement for current medical practice and generate policy implications for the undergoing medical reforms.

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