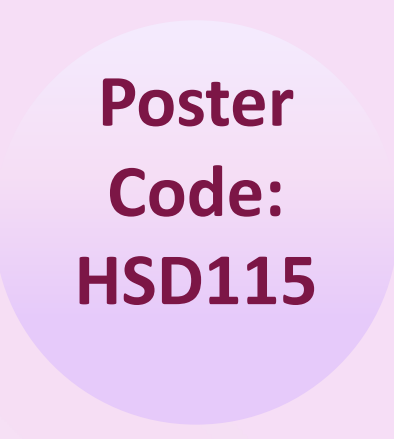




Comparison of Primary Care Quality among Rural, Urban, and Online Providers: Evidence from a Pooled Analysis of Standardized Patient Studies in China



Mian Huang^{1,2}, Scott Rozelle², Yiming Cao², Sean Sylvia³

¹ Dong Fureng Institute of Economic and Social Development, Wuhan University, Wuhan, China, ² Stanford Center on China's Economy and Institutions and Freeman Spogli Institute for International Studies, Stanford University, Stanford, USA, ³ Department of Health Policy and Management and the Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, USA

Introduction

- Primary health care serves as the cornerstone for high-performing health systems.
- In China, patients can access primary care from providers across regions and community levels, as there is no gatekeeping general practitioner system.
- It is vital for both the government and the public to comprehend the quality of care offered by each provider type.

Objectives:

- To compare primary care quality among five providers: rural clinics, county hospitals, migrant clinics, urban community health centers (CHCs), and online platforms.



Standardized Patients (SPs) simulate illnesses, allowing objective and accurate assessments of doctors and enabling quality comparisons across providers.



Image source: <https://www.wikihow.com/Describe-Medical-Symptoms-to-Your-Doctor>.

Results

Main Quality Outcomes Across Provider Types

- Serious deficits in overall quality.
- Higher-quality primary care in CHCs and online platforms.
- County hospitals outperformed rural clinics; migrant clinics poorest.
- Telemedicine drawback: high referral rates.
- SP outcomes consistent across disease cases, aligned with pooled results (details in the full study).

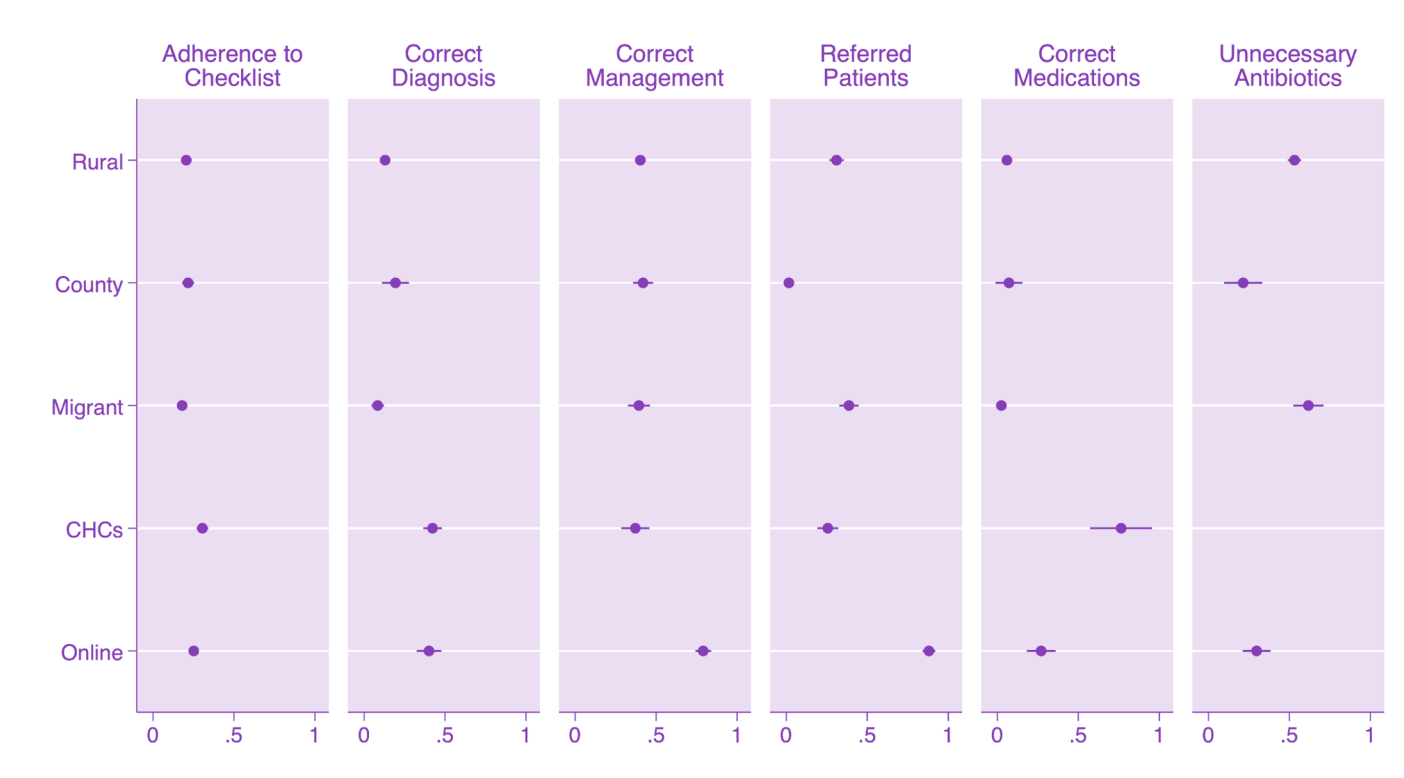


Figure shows mean quality outcomes across provider types and 95% CI.

Correlation Between Physician Characteristics and Quality Outcomes

- Older male physicians were associated with lower-quality care.
- Higher-title physicians were associated with better care quality.

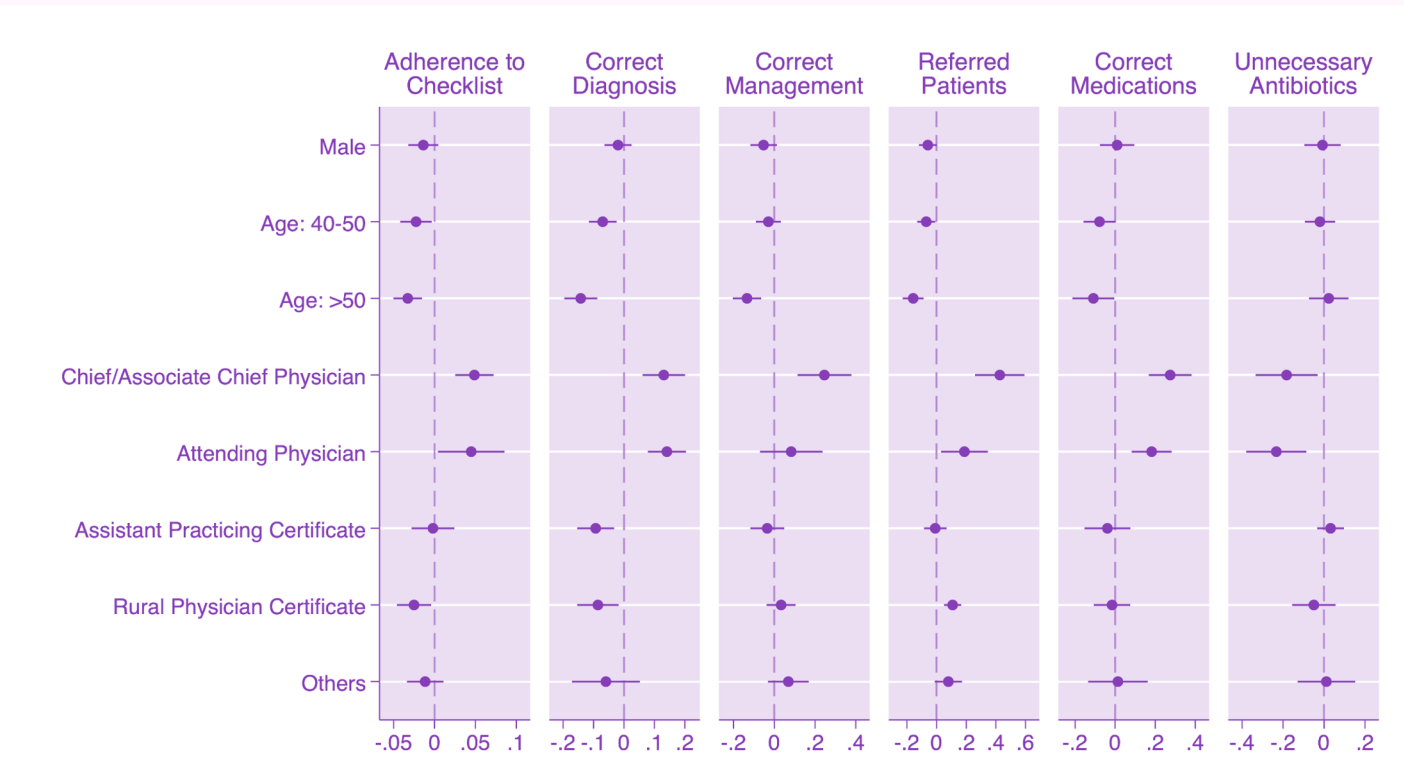


Figure shows marginal effects and 95% CI. Regressions control for disease case fixed effects. The reference groups are female, physician age younger than 40 years old, and resident physician.

Methods

- Sampling frame development.
- SP methodology for data collection.
- Variable standardization: physician characteristics, quality outcomes.
- Statistical analysis.

Sample	Facilities included	SP program	Year of data collection	Location	Number of interactions	Cases
Rural	209 VCs 209 THC	3-Provinces SP Program	2015	3 prefectures in Shaanxi, Sichuan, Anhui	909	diarrhea, unstable angina, TB
County	21 county hospitals					
Migrant	48 migrant clinics	Migrant SP Program	2015	one prefecture in Shaanxi	155	diarrhea, unstable angina, TB
Urban	63 CHCs	Xi'an CHCs SP Program	2017	urban Xi'an, Shaanxi	78	unstable angina
Online	36 identified DTC telemedicine platforms	Online SP Program	2019	online	177	diarrhea, unstable angina, TB

Results

Physician Characteristics Across Provider Types

- Lower male proportion in CHCs and online.
- Higher title levels for online platform and CHC Physicians.

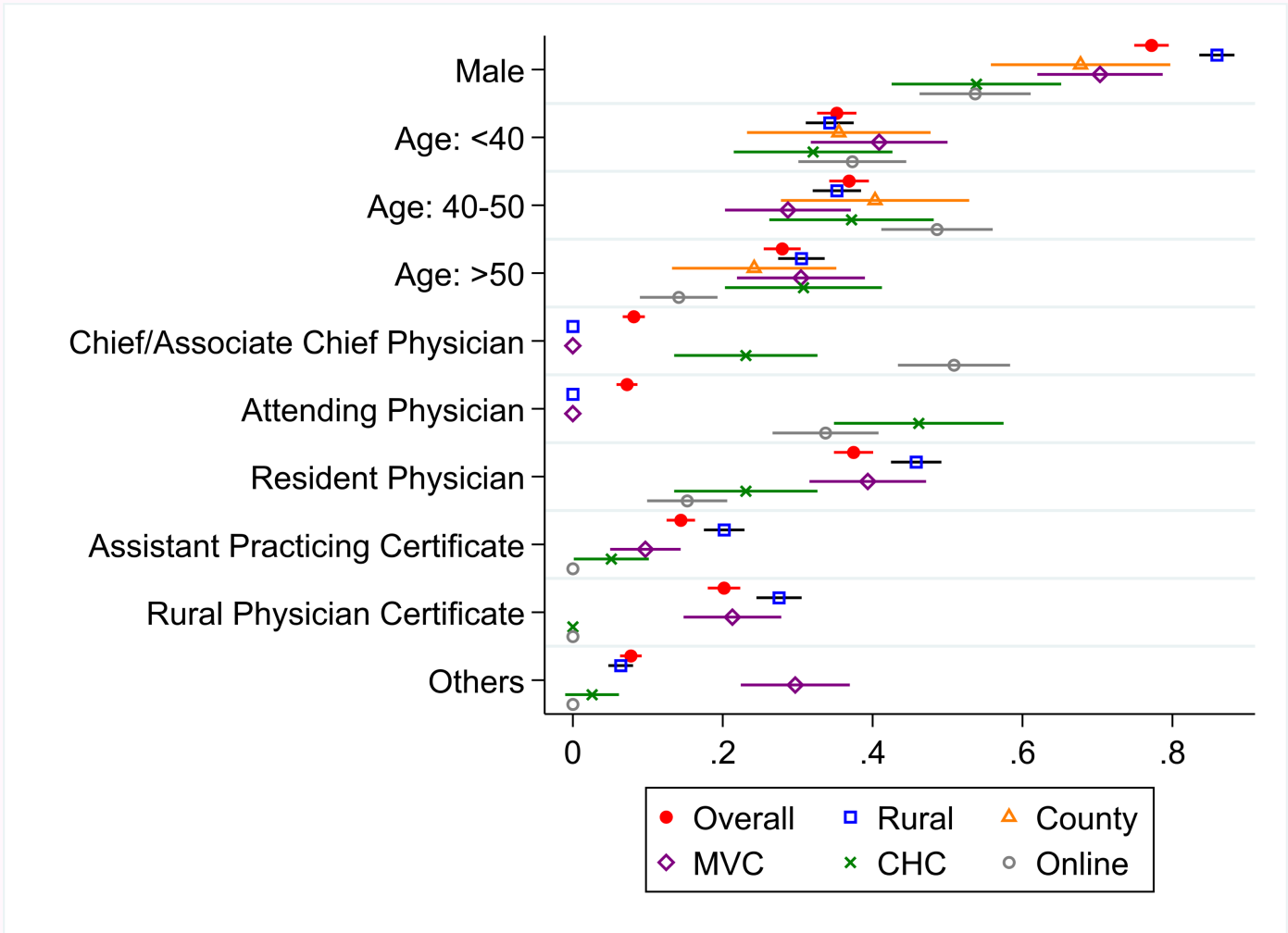


Figure shows mean physician characteristics across provider types and 95% CI.

Discussions

- China's primary care quality remains inadequate.
- Three major gaps: (1) rural-urban; (2) rural institutions (VCs and THCs) vs. county hospitals; (3) online-offline.
- Physician qualification disparities contribute to these gaps.
- Recommendations: (1) enhance primary care quality for equitable access; (2) promote telemedicine platforms; (3) address physician title gap.

Mia (Mian) Huang
Email: mian.jc@whu.edu.cn

