International Journal of General Practice Nursing, 2026, Volume 4, Issue 1
https://ojs.bbwpublisher.com/index.php/IJGPN
ISSN Online: 2981-9423
ISSN Print: 2981-9415

Current Status and Influencing Factors of General Practitioners in Primary Medical Institutions: A Case Study of Xinyi City, China

Ying Zhuo[1], Liyuan Ge[1], Yan Feng[1], Tao Jiang[2], Meng Yuan[3], Lingmi Zhou[1,4]*

[1] School of Public Health, Guilin Medical University, Guilin 541199, Guangxi, China
[2] School of Humanities and Management, Guilin Medical University, Guilin 541199, Guangxi, China
[3]Xinyi Municipal Center for Disease Control and Prevention, Xinyi 221400, Jiangsu Province, China
[4] Guangxi Key Laboratory of Environmental Exposomics and Lifecycle Health, Guilin 541199, Guangxi, China

**Author to whom correspondence should be addressed.*

Abstract: To investigate the current status of general practitioners (GPs) in primary medical institutions in Xinyi City, China, identify challenges, and propose evidence-based recommendations for workforce development. A mixed-methods approach combined a questionnaire survey of 100 residents, semi-structured interviews with 28 healthcare professionals, and analysis of secondary data from the Xinyi Health Commission. GPs in Xinyi face low educational attainment (76% with secondary education), an imbalanced urban-rural distribution (6.8 per 100,000 population), a "new-old transition" workforce (79% aged 27–42), inadequate compensation (60% of county hospital physicians' income), and limited public awareness (only 25% familiar with GPs). Urgent comprehensive strategies are needed to strengthen GP training, improve incentives, enhance public awareness, and promote balanced distribution to build a stable, high-quality GP workforce for effective primary healthcare.

Keywords: General practitioners; Primary healthcare; Workforce development; Health policy; China

Online publication: March 12, 2026

1. Introduction

Primary healthcare services are accessible, affordable, comprehensive, and continuous care delivered within communities, covering prevention, treatment, rehabilitation, and health promotion. General practitioners (GPs) are recognized as the backbone of primary healthcare and are essential to China's healthcare reform. They play a pivotal role in the hierarchical medical system by rationalizing resource allocation, reducing costs, alleviating hospital burden, and addressing the persistent challenges of difficult and expensive access to healthcare [1]. However, many regions in China, including Xinyi City in Jiangsu Province with a population of 1.1 million, face

significant GP workforce shortages, uneven distribution, low quality, and high turnover. These issues threaten the sustainable development of primary care and require urgent investigation.

Internationally, countries have developed diverse GP training and incentive systems. The United Kingdom, a pioneer in GP systems, emphasizes financial incentives and performance evaluation, ensuring workforce stability through competitive remuneration [2]. British GPs receive income from basic services and extended hours, which enhances their social status. In the United States, family physicians serve as gatekeepers, with rigorous training including four years of medical school after undergraduate education, followed by three years of residency and supervised practice [3]. Australia focuses on lifelong learning: GPs undergo five years of medical school, three years of residency, and must participate annually in accredited continuing education to maintain licensure [4]. These international experiences highlight the importance of systematic training and incentives.

In China, general practice education began in the 1980s, but challenges persist in talent structure, faculty development, and training quality [5]. Low salaries, limited prescribing rights, and inadequate career advancement opportunities remain major barriers [6]. Studies have called for curriculum reform, strengthened faculty, and better integration of theory and practice [7–9]. However, most research has focused on national or provincial levels, leaving a gap in county-level analyses. This study addresses that gap by focusing on Xinyi City.

Therefore, this study aims to: (1) assess residents' awareness, healthcare-seeking preferences, and expectations regarding GPs; (2) analyze the demographic and professional characteristics of the existing GP workforce; (3) identify key problems; and (4) propose evidence-based recommendations for GP development in Xinyi.

2. Materials and methods

2.1. Study design

A mixed-methods design combining quantitative and qualitative approaches was employed to comprehensively understand GP development in Xinyi City. The study was conducted from March to May 2023.

2.2. Questionnaire survey

A structured questionnaire was administered to 100 residents selected through stratified random sampling based on geographic area and economic level. The questionnaire covered sociodemographics, healthcare-seeking behaviors, GP awareness, expectations, and willingness to accept contract services and health records. Data were analyzed using descriptive statistics in Microsoft Excel.

2.3. Interview survey

Semi-structured interviews were conducted with 28 healthcare professionals from five community health centers purposively selected to represent different areas. Interviewees included GPs, nurses, and other primary care workers. The interview guide explored work content, training, compensation, perceptions of GP development, and suggestions. Thematic analysis was used to identify recurring themes.

2.4. Secondary data and analysis

GP demographic data (gender, education, age) were obtained from the Xinyi Health Commission's physician electronic registration system as of May 2023. These data were analyzed to describe the current GP workforce

structure. All quantitative data were processed using descriptive statistics, and qualitative findings were triangulated with survey results.

3. Results

3.1. Resident survey

Among 100 respondents, 37% were aged 21–30, 29% had high school education, and 35% earned 3001–4500 RMB monthly (**Table 1**). Only 28% had visited community health centers in the past year, and 22% would choose them as the first option. Main considerations for choosing community centers were treatment level (70%), convenience (63%), and cost (61%); reasons for not choosing were similar (convenience 62%, treatment level 61%, cost 52%) (**Figure 1**). GP awareness was low: 25% "very familiar", 23% "somewhat familiar", 39% "generally aware", 13% "unaware" (**Figure 2**). Preferred GP qualifications: 68% favored standardized training, 69% favored job-transfer training (**Figure 3**). Desired services: health education (64%), outpatient care (57%), referral (55%) (**Figure 4**). Contract service acceptance: 43% willing, with main concerns being technical level (30%) and restricted choice (27%). Health record acceptance: 35% willing, with privacy concerns (27%) and hassle (25%) as main barriers (**Figure 5**).

Table 1. Sociodemographic characteristics of survey respondents

Characteristic	Category	%
Age	≤20 years	23
	21–30 years	37
	31–40 years	27
	41–50 years	11
	>50 years	2
Education	Primary school or below	7
	Junior high school	15
	High school / Secondary	29
	Associate degree	24
	Bachelor's degree or above	25
Monthly income (RMB)	≤1500	10
	1501–3000	18
	3001–4500	35
	4501–5000	19
	>5000	18

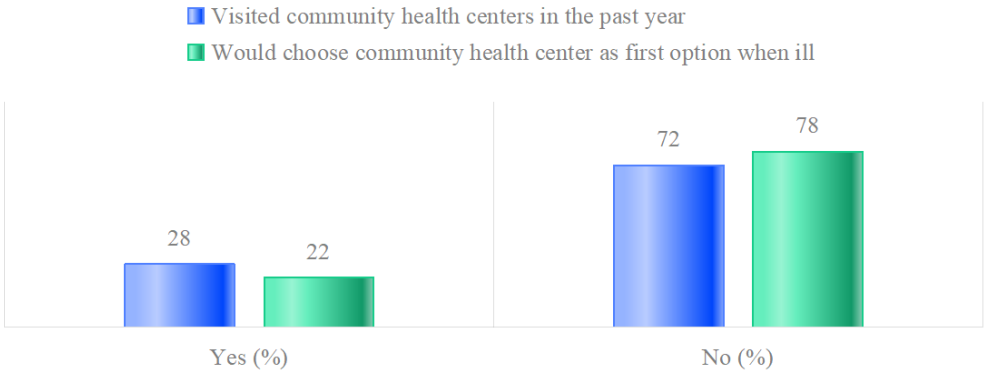

Figure 1. Residents' healthcare-seeking behaviors regarding community health centers. Data source: Resident survey (N=100)

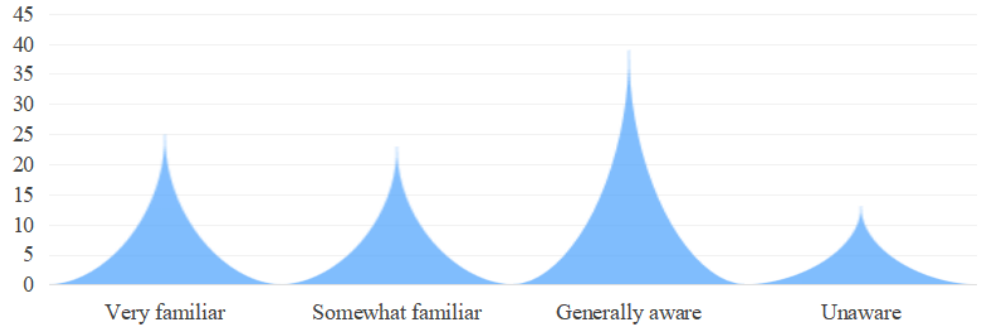

Figure 2. Residents' awareness and knowledge of general practitioners

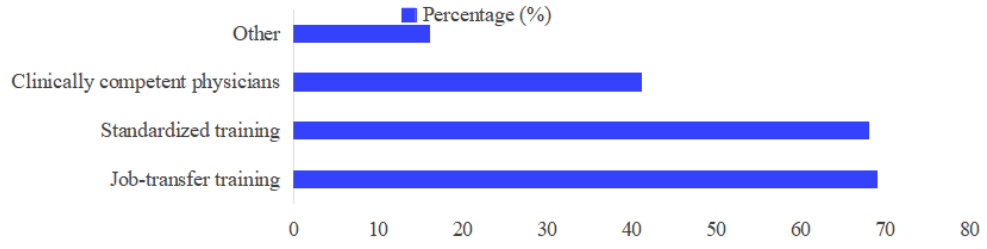

Figure 3. Residents' expectations of general practitioners' qualifications

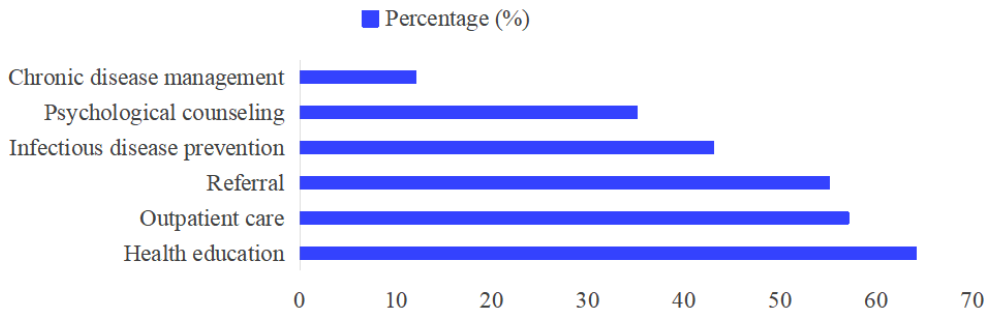

Figure 4. Residents' desired services from general practitioners

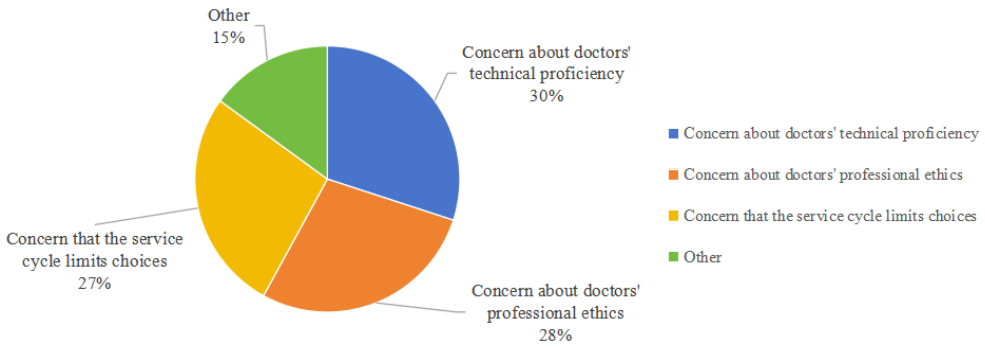

Figure 5. Reasons for refusing contract services and health records

3.2. Interview findings

Interviewees (13 male, 15 female) had mostly secondary (13) or associate (11) degrees, few bachelor's (2) (**Table 2**). They reported limited diagnostic capacity, inadequate equipment and drugs, and frequent referral of complex cases. Income was generally low with minimal incentives; one GP noted, "Our income is still average, no incentives, and insurance is far behind large hospitals." GP numbers were insufficient, especially during peak seasons. Training opportunities were rare, unsystematic, and lacked subsidies; older doctors found training less effective. Barriers included insufficient GP numbers, lack of training systems, poor public recognition, and insurance integration issues. Respondents desired comprehensive training lasting 1–2 years with monthly sessions and subsidies.

Table 2. Demographic characteristics of general practitioners in Xinyi City

Characteristic	Category	n	%
Gender	Male	420	54
	Female	357	46
Education	Secondary school	590	76
	Associate degree	148	19
	Bachelor's degree	31	4
	No formal degree	8	1
Age	27–42 years	614	79
	43–62 years	124	16
	63–84 years	39	5

Note: Data Source: Compiled and calculated from the Physician Electronic Registration System of the Medical Administration Section, Health Commission of Xinyi City (Data as of May 2023)

3.3. GP demographics

As of May 2023, Xinyi had 777 registered GPs (6.8 per 100,000 population). Gender: 54% male, 46% female. Education: 76% secondary school, 19% associate degree, 4% bachelor's, 1% no formal degree (mostly traditional medicine practitioners). Age: 79% aged 27–42, indicating a "new-old transition." Older GPs entered via job-transfer training and lacked systematic knowledge; younger ones had standardized training but limited experience. Distribution was urban-biased, with most trained GPs preferring city hospitals.

4. Discussion

4.1. Key problems

Xinyi's GP density (6.8 per 100,000) is far below China's 2030 target of 50 per 100,000, and GPs constitute only 26.5% of all physicians, much lower than the 30%–60% in developed countries [10]. Urban-rural imbalance exacerbates inequity. The "new-old transition" creates a knowledge-experience gap: older GPs lack comprehensive training, while younger ones lack practical skills [11]. Inadequate compensation (only 60% of county hospital physicians' income) undermines attraction and retention [12]. Low public awareness (25% familiar) and trust hinder primary care utilization.

4.2. Comparison with international and national studies

These findings align with national studies documenting GP shortages, low job satisfaction, and high turnover in China [13]. Compared to the UK's robust incentive system and Australia's lifelong learning, Xinyi lacks systematic training and financial motivation [2, 4]. The low public awareness mirrors findings from other Chinese regions, emphasizing the need for public education [14].

4.3. Strengths and limitations

This study's strength is its mixed-methods approach, providing both quantitative and qualitative insights. However, limitations include a small sample size (100 residents, 28 interviewees), reliance on self-reported data, and a cross-sectional design, limiting generalizability and causal inference. Future research should use larger samples and longitudinal designs.

4.4. Recommendations for improvement

To strengthen GP development, Xinyi should: (1) Enhance training systems by integrating clinical rotations in primary care, engaging experienced GPs as educators, and providing flexible continuing education with subsidies [15]. (2) Improve compensation through performance-based incentives, ensuring income parity with hospital physicians, and adjusting evaluation criteria to value practical skills. (3) Launch multi-channel public education campaigns using media and community outreach to boost awareness and trust. (4) Promote balanced distribution by improving rural infrastructure and living conditions, and standardizing service content with regular performance assessments.

5. Conclusion

Xinyi's GP development faces multifaceted challenges, including insufficient numbers, imbalanced distribution, low qualifications, inadequate compensation, and limited public awareness. Addressing these requires coordinated efforts in training, incentives, public engagement, and infrastructure. Building a competent, stable GP workforce is critical for strengthening primary healthcare and achieving universal health coverage in China.

Funding

This research was funded by the Guangxi University Young and Middle-aged Teachers' Basic Research Ability Improvement Project (No: 2024KY0528), the Guangxi Natural Science Foundation (No: 2025GXNSFHA069150),and the Guilin Scientific Research and Technology Development Program of the Guilin Science and Technology Bureau (No: 20210227-14).

Disclosure statement

The authors declare no conflict of interest.

References

[1] Chen DR, Xu PL, Ding L, et al., 2023, Current Status and Influencing Factors of Job Burnout among Grassroots General Practitioners in a City of Xinjiang. Occupation and Health, 39(2): 145–148. https://doi.org/10.13329/j.cnki.zyyjk.2023.0023

[2] Granja M, Correia S, Alves L, 2023, Access to General Practitioners during the Second Year of the COVID-19 Pandemic in Portugal: A Nationwide Survey of Doctors. BMC Primary Care, 24(1): 82. https://doi.org/10.1186/s12875-023-02028-4

[3] Phillips WR, Dai M, Frey JJ, et al., 2020, General Practitioners in US Medical Practice Compared with Family Physicians. Annals of Family Medicine, 18(2): 127–130. https://doi.org/10.1370/afm.2501

[4] Percival M, McMurray A, Freeman C, et al., 2023, A Collaborative Pharmacist Prescribing Model for Patients with Chronic Disease(s) Attending Australian General Practices: Patient and General Practitioner Perceptions. Exploratory Research in Clinical and Social Pharmacy, 2023(9): 100242. https://doi.org/10.1016/j.rcsop.2023.100242

[5] Wang ZX, Chen N, Liu Q, et al., 2019, Retrospect and Prospect of General Practice Research Development in China: Development History, Research Fields and Bottleneck Analysis. Chinese Journal of General Practice, 17(7): 1077–1080. https://doi.org/10.16766/j.cnki.issn.1674-4152.001106

[6] Fu QY, Tao CC, Xie QL, 2021, Analysis of Current Situation and Countermeasures of General Practitioner Training in China. Journal of Traditional Chinese Medicine Management, 29(3): 136–137. https://doi.org/10.16690/j.cnki.1007-9203.2021.03.068

[7] Zeng YX, Gao T, Ke DZ, 2023, Discussion on General Practice Talent Cultivation under the New Medical Background. Modern Medicine and Health, 39(1): 152–154 + 157. https://doi.org/10.3969/j.issn.1009-5519.2023.01.032

[8] Xing JL, Liang ZY, An GZ, et al., 2022, Thoughts and Suggestions on Improving the Training Strategy of General Practitioners in Higher Medical Colleges. Health Vocational Education, 40(18): 1–4. https://doi.org/10.3969/j.issn.1671-1246.2022.18.001

[9] Zhang Y, Han F, Liu L, 2022, Analysis on how Specialized Department Teachers in General Hospitals Cultivate Qualified General Practitioners. Continuing Medical Education, 36(1): 97–100. https://doi.org/10.3969/j.issn.1004-6763.2022.01.026

[10] Yan H, Li YT, Zhao L, 2021, Exploration of Current Situation of General Practitioner Training in Nanjing under Hierarchical Diagnosis and Treatment Construction. Continuing Medical Education, 35(7): 48–50. https://doi.org/10.3969/j.issn.1004-6763.2021.07.027

[11] Luo XN, Wang F, Zou XX, 2022, Discussion on Talent Training Strategies of Grassroots General Practitioners in Rural Areas under the Background of Rural Revitalization. Chinese Primary Health Care, 36(2): 9–12. https://doi.org/10.3969/j.issn.1001-568X.2022.02.0004

[12] Zhong ZH, 2022, Research on Sustainable Development Path of General Practitioners Based on Social Demand Orientation. Journal of Gannan Medical University, 42(7): 765–768 + 777. https://doi.org/10.3969/j.issn.1001-5779.2022.07.021

[13] Shen X, Feng J, Gan Y, et al., 2021, SWOT Analysis of Enhancing Professional Attractiveness of General Practitioners. Chinese Journal of General Practice, 24(22): 2845–2849. https://doi.org/10.12114/j.issn.1007-9572.2021.00.235

[14] Pan F, 2023, Strengthen the Construction of General Practitioners and Cultivate more Health "Gatekeepers" for the People. China Medical Herald, 20(10): 1–3. https://doi.org/10.20047/j.issn.1673-7210.2023.10.01

[15] Charlton R, Liu ZZ, 2022, Cultivation of Multiple Comprehensive Practical Skills of British General Practitioners (Continued). Chinese Journal of General Practice, 20(11): 1818–1819. https://doi.org/10.16766/j.cnki.issn.1674-4152.002732