

Post-Print: Practice in Developing Clinical Diagnosis and Treatment Technologies through General-Specialist Integration in Shanghai Communities

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Abstract

Developing the “full-specialty collaboration” clinical diagnosis and treatment technology that integrates community general practice and specialty services is an important measure to enhance the comprehensive service capacity of community health service centers, promote more rational medical seeking order, and implement the tiered diagnosis and treatment system. Through analyzing documents from the Shanghai municipal government on community health development and published literature, combined with survey results on the status of full-specialty collaboration clinical diagnosis and treatment technology implementation in Shanghai’s community health institutions, this study found that most community health service centers in the city have already implemented full-specialty collaboration clinical diagnosis and treatment technology; focusing on common and frequent diseases in the community, combined with their own medical characteristics, and selecting advantageous disease categories to develop full-specialty collaboration clinical diagnosis and treatment technology services has become an important initiative for community health service centers to improve their clinical capabilities. However, in the development of community full-specialty collaboration clinical diagnosis and treatment technology, there exist difficulties such as a shortage of qualified personnel for implementing full-specialty collaboration clinical diagnosis and treatment technology in communities, insufficient understanding among some specialists regarding the development of specialty services in communities, dilemmas in on-the-job training for general practitioners, inadequate supply of specialty drugs in communities, and insufficient brand promotion of community characteristic technologies. The development of community full-specialty collaboration clinical diagnosis and treatment technology requires policy support from health administration departments. It is recommended that community health service cen-

ters conduct full-specialty collaboration capacity training in conjunction with the career development of general practitioners, increase the variety of specialty and disease-specific diagnosis and treatment medications, promote community characteristic technologies through multiple channels, and carry out innovative explorations of full-specialty collaboration service models.

Full Text

Construction and Practice of General Practice-Specialist Integrated Clinical Diagnosis and Treatment Technology in Shanghai Community Health Centers

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Abstract

Developing general practice-specialist integrated clinical diagnosis and treatment technology is a crucial measure for enhancing the comprehensive service capacity of community health centers (CHCs), promoting more rational medical seeking behavior, and implementing the hierarchical medical system. Through analysis of Shanghai municipal government documents on community health development and published literature, combined with survey results on the implementation of general practice-specialist integrated technologies in Shanghai community health institutions, this study found that most CHCs in the city have implemented such integrated clinical technologies. Focusing on common and frequently occurring diseases in the community and leveraging their own medical strengths to select advantageous disease types for developing integrated services has become an important strategy for CHCs to improve clinical capacity. However, several challenges persist, including a shortage of qualified personnel for implementing integrated technologies, insufficient understanding among some specialists about community-based specialized services, difficulties in continuing education for general practitioners (GPs), inadequate availability of specialized medications, and insufficient brand promotion of community

characteristic technologies. The development of general practice-specialist integrated clinical technologies requires policy support from health administrative departments. We recommend that CHCs conduct integrated capability training aligned with GPs' professional development, expand the variety of specialized and disease-specific medications, promote community characteristic technologies through multiple channels, and explore innovative service delivery models for general practice-specialist integration.

Keywords: General practice; Hospitals, specialized; General practice-specialist collaboration; Practice patterns, physicians' ; Community health services; Hierarchical diagnosis and treatment; Service capacity

1. Connotation and Necessity of General Practice-Specialist Integrated Clinical Technology in Communities

1.1 Connotation

Primary healthcare institutions provide residents with long-term, trustworthy chronic disease management and health services that must be both comprehensive and clinically proficient while demonstrating systematic and holistic characteristics of community medicine. Therefore, developing general practice-specialist integrated clinical technology in communities encompasses two dimensions:

First, developing specialized services on a general practice foundation. While maintaining comprehensive general practice services, primary healthcare institutions should focus on common, frequently occurring, and chronic diseases in the community, select appropriate specialized development directions based on local residents' healthcare needs, and gradually establish specialized services through training and guidance from higher-level hospital experts. For example, institutions may establish pediatrics, rehabilitation, ophthalmology, or other specialized departments according to actual needs.

Second, developing disease-specific diagnostic and treatment technologies on a general practice foundation. While providing comprehensive general practice services, institutions should identify advantageous disease types based on their medical characteristics and the common chronic disease spectrum in their service area, then develop disease-specific clinics. Examples include specialized clinics for diabetes, hypertension, atrial fibrillation, osteoporosis, and traditional Chinese medicine (TCM) treatments.

1.2 Necessity of Developing General Practice-Specialist Integrated Clinical Technology

Providing comprehensive, convenient, and high-quality medical services to residents is the primary mission of primary healthcare institutions. Developing general practice-specialist integrated community clinical technology is an important measure to improve CHCs' diagnostic and treatment capabilities and address

residents' difficulties in accessing and affording healthcare. Currently, CHCs and general hospitals operate relatively independently, making seamless integration between general practice and specialist services difficult and constraining the development of continuous care. The development of general practitioners with special interests (GPwSI) helps optimize regional medical resource allocation, facilitates smoother communication between GPs and specialists, and promotes the hierarchical medical system.

General practice-specialist integrated community clinical technology offers three main advantages:

First, it aligns with the essential characteristics of primary healthcare. As a core element of general practice, the clinical thinking process emphasizes person-centered, holistic, and systematic care that integrates multidisciplinary technologies to provide comprehensive medical services and health care, including rehabilitation, psychological support, and nutrition. Accessibility is a fundamental requirement for residents, and CHC services should cover as many disease types and treatment technologies as possible, such as pediatrics, rehabilitation, ophthalmology, and gynecology. General practice services provided by GPs integrate clinical medicine, preventive medicine, rehabilitation medicine, and humanities and social sciences, representing long-term, accountable healthcare centered on health. High-quality primary healthcare is a strong guarantee for community residents' health and a key factor in implementing hierarchical diagnosis and treatment, effectively improving community first-contact care and precise referral efficiency.

Second, it meets patients' diagnostic and treatment needs. Patients generally desire high-quality "specialized" or "disease-specific" diagnostic and treatment technologies and hope to obtain clinical care comparable to that of secondary or tertiary hospitals within their community. This common psychological need highlights the necessity of developing clinical technologies at the primary level. By continuously developing specialized/disease-specific diagnostic and treatment technologies, community medical institutions can better meet residents' healthcare needs while providing comprehensive general practice services.

Third, it helps enhance GPs' professional competence. While GPs have broad knowledge coverage, most lack in-depth understanding of specialties. General practice-specialist integrated clinical services require communities to highlight specialized characteristics, which motivates GPs to continuously strengthen their theoretical foundation and standardize their practice, pay attention to clinical guidelines and literature, and stay informed about cutting-edge developments. By striving to provide service quality equivalent to higher-level hospitals, GPs can earn greater respect and trust from community residents, thereby promoting their professional development.

2. Development of General Practice-Specialist Integrated Clinical Technology in Shanghai Community Health

During the construction of Shanghai' s hierarchical medical system, the municipal government has issued a series of relevant documents (see Table 1) aimed at “improving primary healthcare service capacity and meeting residents’ diversified healthcare needs,” promoting the development of clinical technologies in phases, with general practice-specialist integration as a key initiative.

2.1 Policy Documents Promoting General Practice-Specialist Integration

2.1.1 Promoting Family Doctor Contracted Services and Hierarchical Diagnosis and Treatment Shanghai launched its “Family Doctor Contracted Services (Version 1.0)” program in 2011, followed by “Family Doctor Contracted Services (Version 2.0)” in 2015 (the “1+1+1” medical institution combination contracting model). With the continuous advancement of family doctor contracted services, CHCs across the city have generally established “point-to-point” collaborative relationships with higher-level hospitals within their regions, including inviting specialists from secondary and tertiary hospitals to practice at CHCs, establishing specialized or disease-specific clinics, and conducting ward rounds and teaching activities. This general practice-specialist integration model has promoted the implementation of integrated clinical technologies in CHCs.

2.1.2 Promoting Community Hospital Construction The “Shanghai Community Hospital Construction Work Plan” issued by Shanghai Municipal Health Commission in December 2020 explicitly stated that community hospital construction should be integrated into the city’ s long-term community health service development plan. By strengthening functions, consolidating connotations, and expanding services, the plan aims to comprehensively improve CHCs’ capacity to meet residents’ multi-level health service needs and gradually achieve standardized diagnosis and treatment protocols for common and frequently occurring diseases through close integration of medical resources up and down the system. The focus of community hospital construction lies in enhancing outpatient service capacity, strengthening general practice-specialist integrated service models, and developing community clinical technologies based on general practice as the primary form of basic diagnosis and treatment services, thereby promoting the sustainable development of specialized capabilities in CHCs.

2.1.3 Creating Community TCM Characteristic Diagnosis and Treatment Service Brands Shanghai is comprehensively developing community TCM services. In 2021, the Shanghai Municipal Health Commission and Shanghai Municipal Administration of Traditional Chinese Medicine reviewed and approved 20 community TCM characteristic diagnosis and treatment service brands, promoting the widespread application of TCM techniques in the pre-

vention and treatment of common community diseases, enabling residents to enjoy “TCM expertise” services at their doorstep. These community TCM characteristic service brands have further promoted the development of the general practice-specialist integrated clinical technology model. For example, the Lushi acupuncture treatment for stress urinary incontinence at Quyang Road Subdistrict Community Health Center and the characteristic acupuncture therapy for cervical spondylosis prevention and treatment at Hongqiao Subdistrict Community Health Center have become widely popular among patients due to their good efficacy, convenience, and practicality, gradually forming regional diagnostic and treatment brands.

2.1.4 Promoting High-Quality Development of Contracted Services

CHCs are important platforms for providing family doctor contracted services to community residents and implementing the hierarchical medical system. Based on residents’ needs, it is necessary to continuously enrich community health service content. In December 2022, ten departments including the Shanghai Municipal Health Commission and Shanghai Municipal Administration of Traditional Chinese Medicine proposed in the “Implementation Opinions on Promoting the High-Quality Development of Family Doctor Contracted Services in This City” that hierarchical and classified contracted services should be promoted, with equal emphasis on Chinese and Western medicine, continuously improving general practice-specialist integrated medical services and medical-preventive integrated health management capabilities, and facilitating contracted residents’ access to convenient, high-quality, and continuous healthcare services at their doorstep.

2.2 Implementation of General Practice-Specialist Integrated Clinical Technologies

2.2.1 Comprehensive Establishment of Pediatrics in CHCs

Shanghai began focusing on building a regional primary pediatric diagnosis and treatment service network in 2017, constructing five major pediatric medical consortia covering “east, west, south, north, and central” areas. Each pediatric consortium operates as a vertical resource integration model, with core hospitals providing technical guidance and conducting in-depth cooperation with secondary hospitals and CHCs to improve primary-level diagnosis and treatment capabilities and build talent teams, thereby comprehensively enhancing pediatric service capacity across consortium members. Through collaboration among medical institutions with different functional orientations, the consortia develop differentiated medical services with multi-level coverage and complementary advantages, improving the continuity, equity, and accessibility of medical services so that children in the region can receive safe and comprehensive pediatric care. Specialists from the consortia who practice in communities work alongside GPs or GPs who have participated in the “GP Pediatric Capacity Special Training Program” provide pediatric services through general practice clinics with standardized protocols, enabling residents to access homogeneous services from the

pediatric consortium in their communities. By the end of 2021, 244 CHCs in the city provided community pediatric services, achieving near-universal coverage, with some CHCs developing distinctive pediatric services that have become exemplary models of the general practice-specialist integrated clinical model. Simultaneously, CHCs have established remote medical collaboration networks with higher-level children's hospitals within the consortia, gradually forming a medical pattern of primary diagnosis and two-way referral for common pediatric diseases through the linkage of quality resources.

2.2.2 Establishment of Rehabilitation Departments in CHCs With accelerated urban aging, residents' demand for rehabilitation medicine is increasing. The March 2021 notice "On Promoting the Construction of Community Rehabilitation Centers in This City's Community Health Service Institutions" issued by Shanghai Municipal Health Commission required the establishment of standardized community rehabilitation centers based on CHCs, with clear functional positioning, enriched service items, and a strengthened community rehabilitation network. In recent years, an increasing number of CHCs in Shanghai have bridged the "last mile" for rehabilitation services. By the end of 2022, the total number of demonstration community rehabilitation centers in the city reached 91, enabling residents with rehabilitation needs to receive convenient, quality rehabilitation services at their doorstep. For example, the rehabilitation center at Pengpu Town Second Community Health Center in Jing'an District has established rehabilitation medicine departments at both the center and its six sub-centers, basically meeting patients' "rehabilitation back to community" needs. Through medical consortium projects, residents can also receive timely guidance from municipal hospital rehabilitation experts. The "cardiac disease community rehabilitation" program at Xujiahui Subdistrict Community Health Center in Shanghai's Xuhui District utilizes the different advantages of specialists and GPs to manage patients with cardiac rehabilitation needs, effectively improving patient compliance and community rehabilitation outcomes.

2.2.3 Establishment of Dermatology in CHCs Skin diseases are highly prevalent, and improving GPs' capacity to diagnose and treat common and frequently occurring dermatological conditions such as eczema, tinea manus and pedis, and herpes zoster is valuable for CHCs. For instance, Jiangchuan, Xinzhuang, Zhuanqiao, Pujiang, Malu, and Wujing Community Health Centers in Minhang District have all established dermatology clinics with good results, gradually attracting more patients to community dermatology services. Some CHCs have developed characteristic dermatology services, such as the distinctive TCM vitiligo and alopecia clinics at Songnan Town Community Health Center in Shanghai's Baoshan District, which have been designated as Shanghai community TCM characteristic projects and Baoshan District intangible cultural heritage TCM projects. These clinics have a 46-year history and have treated over 300,000 vitiligo and alopecia patients.

2.2.4 Establishment of Neurology in CHCs Cerebrovascular disease is a common condition in neurology and a frequent chronic disease in communities that seriously threatens residents' health. Primary and secondary prevention of cerebrovascular disease plays a crucial role in its prevention and treatment, with GPs playing a key role. Some CHCs have established neurology clinics to achieve standardized whole-process management of stroke, establishing effective two-way referral channels and improving comprehensive prevention and control capabilities for cerebrovascular disease.

2.2.5 Establishment of TCM Gynecology in CHCs TCM has a long history of treating gynecological diseases. Menstrual irregularities, perimenopausal syndrome, gynecological inflammation, and dysmenorrhea are common gynecological conditions in communities. Currently, TCM treatment for menstrual irregularities shows significant efficacy and is more suitable for community practice. Perimenopausal syndrome is a common condition among middle-aged women, with symptoms including hot flashes, irritability, mood instability, palpitations, and insomnia. Without timely prevention or treatment, it can seriously affect women's physical and mental health, marital harmony, and family stability. Some CHCs have developed unique TCM gynecology therapies, such as the Haipai Chen's Gynecological Baogeng Decoction at Jing'an Temple Subdistrict Community Health Center and the Xi's Qinggeng Anshen Formula for perimenopausal syndrome at Malu Town Community Health Center. Both treatments have demonstrated significant efficacy and successfully passed the Shanghai Community TCM Characteristic Diagnosis and Treatment Service Brand certification, establishing reputations for specialized services in CHCs.

2.3 Promoting the Construction of Community Disease-Specific Clinics

According to a 2021 survey of 247 CHCs in Shanghai conducted by the Shanghai General Practice Clinical Quality Control Center, 70% of CHCs have established general practice-specialist integrated disease-specific clinics, including diabetes clinics in 133 CHCs (53%), chronic obstructive pulmonary disease (COPD) clinics in 64 CHCs (25.9%), atrial fibrillation clinics in 56 CHCs (22.7%), hypertension clinics in 52 CHCs (21%), and osteoporosis and osteoarthritis clinics in 49 CHCs (19.8%).

2.3.1 Diabetes Disease-Specific Clinics Diabetes patients managed by CHCs are primarily elderly patients with type 2 diabetes who often have complications or multiple comorbidities. Diabetes management requires individualized treatment and lifelong care. Community diabetes disease-specific clinics emphasize individualized treatment, with doctors and patients jointly developing scientific, reasonable, standardized, and personalized treatment plans that meet the medical needs of the broad diabetes patient population. Following diagnosis and treatment, family doctor teams provide continuous health management for

patients, which helps delay complication onset and reduce patients' economic burden.

3. Development Models of General Practice-Specialist Integrated Clinical Technology

3.1 Collaboration Between Community General Practice and Secondary/Tertiary Hospital Specialists

CHCs rely on regional medical consortia to invite specialists from secondary and tertiary hospitals to practice disease-specific diagnostic and treatment technologies in communities. CHCs assign backbone GPs to partner with these experts, creating a general practice-specialist integrated clinical technology model through deep cooperation between GPs and specialists. This model was implemented early in CHCs with relatively mature operational mechanisms and represents an important approach to developing integrated clinical technologies, as exemplified by atrial fibrillation clinics.

3.2 Community GPs Learning and Developing Specialist Skills

CHCs send GPs to secondary and tertiary hospitals for specialist training. After systematic training, GPs master at least one specialist or disease-specific diagnostic and treatment skill in addition to their general practice capabilities, becoming GPs with specialist expertise. These GPs can then provide disease-specific services while performing general practice duties, demonstrating the “general practice with specialist expertise” clinical characteristic, as seen in disease-specific clinics for diabetes, hypertension, and osteoporosis.

3.3 Mining Technical Resources and Cultivating Clinical Technology Brands

CHCs and GPs should identify and cultivate existing clinical technologies with good treatment effects, established reputation, and local influence, such as alopecia treatment and TCM orthopedics techniques. By further researching and optimizing diagnostic and treatment levels and continuously promoting these services, they can gradually develop into community disease-specific characteristic brand technologies.

4. Effects of General Practice-Specialist Integrated Clinical Technology Development

4.1 Improving CHC Medical Service Capacity and Promoting Hierarchical Medical System Implementation

Although general practice can cover common and frequently occurring diseases, residents still have a psychological desire to consult famous doctors and experts

when seeking medical care, expecting better clinical outcomes. Whether residents are genuinely willing to accept medical services provided by CHCs is the “pain point” and obstacle to orderly hierarchical diagnosis and treatment, with the core issue being residents’ trust in GPs’ capabilities. Exploring new development paths and attempting to develop in peripheral disciplines to increase attractiveness to residents represents a positive practice for CHC development. An excellent GP needs more than just general medical knowledge; becoming a “specialized and multi-skilled” composite talent is more welcomed by residents.

4.2 Promoting Career Development for Community Doctors

After GPs formally practice in communities, their competence directly affects medical service quality. GPs primarily encounter common, frequently occurring, and stable-phase specialist diseases in their daily work, which cannot fully meet residents’ diverse medical needs. Currently, continuing professional development education for GPs in China has not been standardized, and some GPs have not fully recognized the importance of general practice-specialist integrated services, leading to a blind pursuit of training certificates and continuing education credits without improving their subspecialty medical service capabilities. During career development, CHCs should target actual residents’ medical service needs and combine them with clinical practice to purposefully enhance GPs’ subspecialty service capabilities. Cultivating GPs who are “comprehensive yet specialized” can not only meet the diverse demands of primary healthcare but also promote the homogenization of diagnostic and treatment levels between GPs and specialists.

4.3 Improving Chronic Disease Management and Achieving Homogeneous Disease Management Within Medical Consortia

While providing diagnosis, treatment, and management for common, frequently occurring, and chronic diseases, CHCs also need to provide specialized services. Implementing homogeneous disease diagnosis and treatment and management within medical consortia through the general practice-specialist integrated clinical model can provide greater benefits to patients. If CHCs develop characteristic disease-specific services, residents can receive treatment nearby, saving travel time and the hardship of visiting large hospitals, thereby improving residents’ satisfaction with CHCs. For example, refractory hypertension accounts for a relatively large proportion of patients in community management. These patients have high disability and mortality rates and poor treatment compliance, highlighting the critical importance of general practice-specialist integrated clinical diagnosis and treatment. The integrated model for refractory hypertension management demonstrates better outcomes than traditional management models, helping improve patients’ blood pressure control rates.

4.4 Promoting Discipline Construction and Enhancing Comprehensive Service Capacity

Traditional collaboration models between general hospitals' specialties and community general practice are limited to one-way medical support, yielding minimal results in developing CHC specialties and improving talent cultivation. Breaking through cooperation models dominated by tertiary hospital interests and specialist-centered medicine, and establishing health collaboration practices with general practice discipline development as guidance and regional medical centers-CHC general practice-specialist team integration as the link, can truly benefit general practice development from multiple dimensions including medical care, scientific research, and talent cultivation. To better cultivate CHC GPs and meet residents' personalized health needs, the "1+X (General Practice + Subspecialty)" GP training program should be advanced through internal mobilization, resource allocation, and vertical linkage with higher-level hospitals. Through individualized full-time training models, more outstanding and "down-to-earth" GPs can be cultivated, gradually achieving the goal of GPs being "comprehensive yet specialized." For example, the Burn Department of Jianqiao Subdistrict Community Health Center in Hangzhou's Shangcheng District has become a burn treatment technology center in Hangzhou, a key medical discipline in Hangzhou, and a leading medical discipline at the county level in Zhejiang Province. The Rehabilitation Medicine Department of Fenglin Road Subdistrict Community Health Center in Shanghai's Xuhui District won the first prize of the 9th Shanghai Rehabilitation Medicine Science and Technology Award in 2019 and the second prize of China Rehabilitation Medicine Science and Technology Award in 2021. The level of discipline construction in CHCs directly reflects their overall medical service capacity, enhancing community residents' trust and even radiating to broader areas.

5. Challenges in Developing General Practice-Specialist Integrated Clinical Technology

5.1 Talent Shortage for Implementing Integrated Clinical Technology

The shortage of qualified personnel is a shortcoming for many CHCs in developing general practice-specialist integrated clinical technologies. Currently, some CHCs have established departments such as rehabilitation medicine, ENT, and pediatrics but struggle to conduct related business due to talent shortages. In terms of professional development awareness, some CHC managers and GPs have cognitive misconceptions, believing that community clinical services are solely general practice while specialist services mainly rely on secondary and tertiary hospitals, resulting in insufficient emphasis on cultivating general practice-specialist integrated talents.

5.2 Insufficient Support from Higher-Level Hospitals

Many specialists from higher-level hospitals who practice in communities believe their work focuses on clinical diagnosis, treatment, and referral—essentially directing patients to higher-level hospitals. They fail to recognize that developing disease-specific diagnostic and treatment technologies in communities enables residents to access professional care at the primary level. Simultaneously, these specialists neglect the cultivation and training of CHC GPs in disease-specific diagnostic and treatment skills, resulting in limited improvement in the clinical abilities of GPs who learn from them.

5.3 Dilemmas in GP Continuing Education

GPs have heavy workloads, leaving limited time for continuing education. Moreover, after participating in some health industry-specific training programs, GPs still cannot provide corresponding diagnostic and treatment services without permission from health administrative departments.

5.4 Insufficient Availability of Specialized/Disease-Specific Medications in CHCs

Affected by the essential medicines system, CHCs lack certain specialized/disease-specific medication varieties. Drug procurement must consider whether medications align with CHC formularies, restricting GPs' ability to prescribe when providing specialized/disease-specific services.

5.5 Inadequate Brand Promotion of Community Characteristic Technologies

Some managers and physicians have insufficient awareness and attention to developing characteristic disease-specific services in CHCs and inadequately promote these characteristic technologies, resulting in most surrounding residents being unaware of what specialized diagnostic and treatment services are available at their local CHC.

6. Implementation and Development Strategies for General Practice-Specialist Integrated Clinical Technology

6.1 Policy Support from Health Administrative Departments

For specialist talents urgently needed in communities, health administrative departments can provide policy support. Currently, CHCs generally lack rehabilitation medicine professionals and TCM appropriate technology talents. Health administrative departments could allow GPs who have completed rehabilitation medicine training to take rehabilitation medicine professional technical qualification examinations to expand the rehabilitation talent pool, and permit GPs trained in TCM appropriate technologies to provide designated TCM treatments.

6.2 Conducting GP General Practice-Specialist Integrated Capacity Training from a Career Development Perspective

Conducting general practice-specialist integrated capacity training for GPs early in their careers and cultivating application-oriented talents who meet community needs is beneficial for GP career development. Relying on municipal and district-level talent cultivation programs, backbone GP trainees should be selected for focused cultivation with senior mentors, using medium- to long-term flexible learning and characteristic community health service projects as entry points to develop them into GPs proficient in specific diseases.

6.3 Appropriately Expanding Specialized and Disease-Specific Medication Varieties

Expanding community drug varieties and appropriately extending specialized medication formularies in CHCs to demonstrate specialized medication characteristics, aligning them with higher-level hospitals within medical consortia, and basically unifying upper and lower drug catalogs while strengthening guidance on community specialized medication use can rationalize patients' medical visits and standardize medication use.

6.4 Multi-Channel and Multi-Method Promotion of Community Characteristic Technologies

Neglecting to promote characteristic disease-specific technologies makes it difficult to attract residents for consultation, let alone treatment. CHCs have diverse promotional tools such as public WeChat accounts and short video platforms, which are excellent channels for rapid information dissemination among similar populations and can increase social awareness of disease-specific characteristic technologies. For some mature characteristic technologies, applications can be submitted for clinical diagnosis and treatment technology brand certification to leverage brand advantages and influence to enhance overall CHC service connotations. For example, the Lushi acupuncture treatment for stress urinary incontinence at Quyang Road Subdistrict Community Health Center and the characteristic TCM treatment for vitiligo and alopecia at Songnan Town Community Health Center have earned high praise from patients and developed strong reputations.

6.5 Exploring Innovative General Practice-Specialist Integrated Service Delivery Models

Based on the rapid development of internet technology, we should explore remote general practice-specialist integrated live consultation models between medical consortium experts and community GPs. In this model, GPs conduct consultations at CHCs while higher-level hospital experts provide remote observation and guidance from their own institutions. For patients with diagnostic

challenges, GPs can schedule appointments in advance. During the actual consultation, patients can communicate face-to-face with GPs while also interacting directly with specialists via video to jointly determine treatment plans.

Conclusion

Through analysis of relevant literature and Shanghai municipal policy documents, general practice-specialist integrated clinical technology has played an important role in Shanghai's community health services, adapting to the community environment and residents' healthcare needs. As a clinical secondary comprehensive discipline, general practice discipline construction and GP career development both require diversification. GPs need to develop certain specialties appropriate for community practice on their general practice foundation. Currently, Shanghai is steadily promoting high-quality community health development, and CHCs now have better resource allocation, creating excellent conditions for developing GP subspecialties and community disease-specific services, enabling residents to access higher-quality, more accessible, and continuous medical and health services close to home.

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Note: Figure translations are in progress. See original paper for figures.

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