

Insights from the U.S. managed care system's primary healthcare framework for capacity building in Chinese community health service institutions — An examination based on comparative institutional analysis and empirical data

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Abstract

After two decades of development, China's community health service system has achieved the phased goal of achieving full institutional coverage; however, the issue of "capacity gaps" has become increasingly prominent. Over the course of four decades, managed care in the United States has evolved into a primary healthcare system centered on the "gatekeeper" model, per-capita payment, performance-based incentives, and clinical pathway management, serving as an important reference for primary healthcare systems worldwide. This paper conducts a multidimensional comparative analysis of the primary healthcare systems in China and the United States, supported by empirical data on healthcare investment, human resource allocation, and service efficiency in both countries. It further examines three representative cases—Kaiser Permanente in the U.S., Luohu District in Shenzhen, China, and Sanming City in Fujian Province, China—through in-depth analysis to explore the institutional logic underlying managed care and its implications for enhancing the capacity of China's community health service institutions. The paper proposes several policy recommendations: reshaping investment mechanisms through the "service procurement" approach; strengthening initial consultation capabilities via the "gatekeeper" function; stimulating endogenous motivation through payment method reforms; and empowering continuous care services through digital transformation.

Keywords

Managed Care; Community Health Services; Primary Healthcare; Comparative Analysis; Capacity Building; Case Study

I. Introduction

Since the launch of the new healthcare reform in 2009, China has made significant progress in building its community health service system. By the end of 2023, China had established 36,000 community health service centers (stations) and employed approximately 580,000 community health service personnel, achieving basic full coverage at both urban and rural primary care levels [1]. However, the persistent challenge of "having established the institutions but lacking corresponding capacity" remains. According to the 2023 China Health Statistics Yearbook, the number of outpatient visits to community health service centers accounted for only 15.7% of the total outpatient visits nationwide, representing a significant gap compared to the policy objective of "primary care first and tiered healthcare system" [2].

Meanwhile, U.S. Managed Care Organizations (MCOs) have established an integrated healthcare service system centered on primary care by combining financing, payment, and service functions. Despite the fundamental differences between China and the United States in terms of political systems, healthcare insurance frameworks, and healthcare systems, the institutional designs of managed care, particularly in strengthening primary care capabilities, controlling medical expenditures, and improving health outcomes, hold significant value for comparative research.

This article seeks to address the core question: How are the institutional arrangements of the primary healthcare system within the U.S. managed care system translated into actual service capacity? To what extent and under what conditions can this experience be applied within China's institutional context? And through which specific institutional pathways can the capacity of China's community health service institutions be enhanced?

II. Institutional Comparison: A Structural Analysis of Primary Healthcare Systems in the Two Countries

2.1. Institutional Differences in System Positioning

Primary care within the U.S. managed care system serves a clear "gatekeeper" function. Under the Health Maintenance Organization (HMO) model, insured individuals must select a Primary Care Physician (PCP), and all specialist services and hospitalizations must be referred by the PCP [3]. This institutional arrangement grants primary care physicians significant authority over resource allocation.

The role of community health service institutions in China has been legally defined as that of "health gatekeepers"; however, in practice, due to factors such as the entrenched habit of residents seeking medical care freely and the lack of mandatory constraints on medical insurance payments, the "gatekeeping" function of these institutions has been significantly weakened. A nationwide survey conducted in 2019 revealed that only 23.6% of residents would first turn to community health service institutions when ill [4].

2.2. Comparison of Financing and Payment Mechanisms

Comparison Dimension	U.S. Managed Care (HMO Model)	China Community Health Services
Funding Method	Primarily based on capitation	Pay-per-project + Government Subsidy
Risk assumption	The supplier bears the financial risk.	The supplier bears almost no risk.
Excitation mechanism	Control costs, improve health	Service Volume-Driven
Budget constraint	Hard budget constraint	soft budgetary restraints
Surplus Allocation	The surplus may be retained.	Separate accounting for revenues and expenditures

Table 1. Comparison of Financing and Payment Mechanisms in the Chinese and U.S. Healthcare Systems

The capitation-based payment mechanism under the U.S. managed care system provides primary care physicians with strong incentives to reduce unnecessary specialist and hospitalization services through preventive care, chronic disease management, and appropriate referral practices. In China, community health service institutions have long implemented a "separate revenue and expenditure management" system; while this approach ensures their public welfare nature, it also diminishes their intrinsic motivation to improve efficiency and control costs. In recent years, the "total budgeting with surplus retention" reform explored by cities such as Shenzhen and Xiamen represents a direct response to this issue.

2.3. Differences in Service Capability Development Pathways

In the United States, managed care systems implement rigorous qualification certification and continuous competency assessment frameworks for primary care physicians. PCPs are typically required to complete three years of residency training and pass certification examinations administered by the American Board of Internal Medicine (ABIM) or the American Board of Family Medicine (ABFM). Additionally, MCOs use tools such as clinical pathways, medication formularies, and quality reporting cards to standardize the clinical practice of PCPs [6].

The talent shortage issue in China's community health service institutions is particularly acute. Data from 2022 show that among practicing (or assistant) physicians at community health service centers, only 48.7% hold a bachelor's degree or higher, which is far below the 72.3% rate observed in hospitals. Although standardized training programs for general practitioners have been fully implemented, the phenomenon of "being unable to recruit or retain qualified professionals" remains widespread. In 2021, the application-to-admission ratio for general practitioner positions at community health service institutions in Shenzhen stood at just 0.8:1 [5].

III. Typical Case Analysis

3.1. US Case Study: Kaiser Permanente – A Benchmark for Integrated Managed Care

3.1.1. Organizational Structure and Operational Model

Kaiser Permanente (hereinafter referred to as KP) is the largest non-profit managed care organization in the United States. In 2022, it served 12.6 million members, employed over 23,000 physicians and more than 300,000 staff members, and generated annual operating revenue of over US\$95 billion [8]. KP's distinctive feature lies in its "trinity" organizational structure: the Kaiser Foundation Health Plan is responsible for financing and insurance operations; Kaiser Foundation Hospitals provides hospital-based care; and Permanente Medical Groups delivers physician services. These three entities are closely integrated through exclusive contractual arrangements, forming an integrated closed-loop system encompassing financing, payment, and care delivery.

Within the KP system, primary care plays an absolutely central role. Each member must designate one PCP as the entry point for their "Medical Home." On average, each KP PCP manages approximately 1,800 to 2,000 patients (below the industry average of 2,300 to 2,500 patients); each PCP is supported by 1 to 2 nurses and medical assistants, forming a physician-centered micro-team [9].

3.1.2. Key mechanisms for strengthening primary healthcare capacity building

3.1.2.1. A per-capita payment incentive structure

The KP's PCP compensation consists of three components: a base salary (approximately 60–70%), a per-capita performance bonus (approximately 20–25%), and quality indicator incentives (approximately 10–15%). Quality indicators encompass patient satisfaction, clinical quality metrics (e.g., HEDIS scores), and resource utilization efficiency (e.g.), specialist referral rate, emergency department utilization rate, among other dimensions. This design enables PCPs to strike a balance between cost control and quality assurance [10].

3.1.2.2. Clinical decision-making supported by information technology

In 2003, KP invested US\$4 billion to deploy the KP HealthConnect electronic health record (EHR) system, which was then the world's largest non-governmental EHR system. This system offers the following functionalities: first, real-time sharing of all clinical and diagnostic information across the entire system, enabling PCPs to instantly access their patients' medical records at any KP facility (including those located in other states); second, embedded clinical decision support features that automatically remind PCPs to perform screenings, administer vaccinations, and manage chronic conditions; third, real-time monitoring and feedback on PCPs' clinical practices, including assessments of medication appropriateness and the necessity of diagnostic tests.

3.1.2.3. Multidisciplinary team collaboration

The KP primary care team comprises not only PCPs and nurses but also integrates clinical pharmacists (responsible for complex medication reviews and patient education), behavioral health specialists (responsible for primary interventions for

psychological conditions such as depression and anxiety), health coaches (providing self-management support for patients with chronic conditions), and social workers (engaged in interventions addressing social determinants of health). This multidisciplinary team structure enables PCPs to focus their efforts on complex issues that require professional medical judgment [9].

3.1.3. Data-based evidence on the effectiveness of capacity building

KP demonstrates outstanding performance across multiple quality metrics. According to its 2021 Quality Report: the hypertension control rate (blood pressure <140/90 mmHg) reached 87.5%, significantly higher than the approximately 65% rate observed among the U.S. national commercial insurance population; the proportion of diabetic patients with HbA1c <9.0% was 91.2%; the breast cancer screening rate was 83.4%; and the colorectal cancer screening rate was 78.6% [8]. In terms of cost control, the average annual growth rate of per capita healthcare expenditure among KP members between 2010 and 2020 was approximately 1.8 percentage points lower than the national U.S. average, resulting in cumulative healthcare cost savings of approximately US\$30 billion [8].

These data demonstrate that KP, through its institutional design, has transformed primary healthcare from a "passive patient reception" model to an "active health management" approach, thereby systematically enhancing primary care service capacity.

3.2. China Case Study 1: Shenzhen Luohu Hospital Group – Activating Primary-Level Capacities Through a "Total Contracted Amount and Surplus Retention" Approach

3.2.1. Reform Background and Institutional Design

In 2015, Luohu District in Shenzhen consolidated five district-level hospitals and 23 community health service centers (Community Health Centers) to establish the Luohu Hospital Group, making it one of the earliest tightly integrated urban healthcare groups in China. The core rationale behind this reform was to allocate the medical insurance funds of the district's insured residents to the Luohu Hospital Group under a "total budgetary allocation" model where "surplus funds were retained and overruns were shared," thereby compelling the hospital group to shift its focus from "treating illnesses to generate revenue" to "preventing diseases to save costs" [11].

Within this institutional framework, the role of community health centers (equivalent to community-based healthcare service providers) has undergone a fundamental transformation: they have shifted from being "cost centers" to "value creation centers." This change stems from the hospital group's realization that only when community health centers effectively manage residents' health, thereby reducing unnecessary hospital admissions and specialized medical services, can

there be a surplus in the medical insurance funds for insured residents.

3.2.2. Specific Capacity Building Measures

3.2.2.1. Resource Deployment to Primary Healthcare Facilities

Hospital resources are directed toward community health centers. Luohu Hospital Group has explicitly stipulated that hospital specialists must provide outpatient services at these community health centers, and this requirement has been incorporated into the professional title promotion evaluation system. As of 2022, Luohu Hospital Group had deployed specialists to community health centers for outpatient services more than 100,000 times in total. Additionally, the Group has uniformly equipped these community health centers with medical devices such as CT scanners, DR systems, and color Doppler ultrasound machines; it has also aligned the medication formularies of these community health centers with those of the main hospital, expanding the range of available medications from over 400 to more than 1,300, thereby resolving the issue of residents being unable to obtain prescriptions at community health centers.

3.2.2.2. Talent Incentives

Significantly increasing the income of healthcare professionals working in community health centers. Luohu Hospital Group has lifted the restrictions imposed by the "separate revenue and expenditure management system" on the income of community health center staff by implementing an "equal pay for equal work" policy, and even adopting a compensation policy that favors frontline practitioners. Data from 2022 show that the average annual income of general practitioners at the Luohu Community Health Centers ranged from RMB 250,000 to RMB 300,000; not only exceeding the average income level for community health centers across Shenzhen (approximately RMB 180,000 to RMB 220,000) but also approaching the income level of physicians at hospitals under the Luohu District Government at the same tier. As a result, the application-to-admission ratio for recruiting general practitioners to join community health centers rose from 0.8:1 in 2015 to 3.5:1 in 2022 [7].

3.2.2.3. Intelligent Empowerment

Even primary care settings can become "smart." Luohu Hospital Group has deployed a unified intelligent auxiliary diagnosis and treatment system across its community health centers. Trained on 3 million electronic medical records from the region, this system can provide real-time differential diagnosis recommendations, medication safety alerts, and referral suggestions to general practitioners during patient consultations. A 2021 evaluation showed that following the implementation of this system, the diagnostic accuracy rate at the community health centers increased from 78.3% to 89.1%, and the appropriate antibiotic use rate rose from 65.4% to 82.7% [13].

3.2.3. Reform Outcomes

The effectiveness of the Luohu District healthcare reform is evident across multiple dimensions. In terms of primary care capacity, the proportion of outpatient and inpatient visits handled by community health centers relative to the Group's total number of such visits increased from 28.5% in 2015 to 51.2% in 2022, marking the first time this figure exceeded that of hospital-based care. Regarding health outcomes, the hypertension control rate among enrolled residents rose from 38.7% in 2016 to 57.3% in 2022, while the standardized diabetes management rate increased from 42.1% to 63.8%. In terms of cost control, the annual growth rate of per capita medical expenditure among insured residents in Luohu District declined from 12.4% in 2015 to 5.6% in 2022, which is approximately 2 percentage points below the average rate for Shenzhen [12].

The LuoHu case offers an important insight: when the medical insurance payment system shifts from "motivating treatment" to "motivating health," the service capacity of primary healthcare institutions is not inherently limited, but rather a variable that can be activated through institutional measures.

3.3. China Case Study II: Sanming City, Fujian Province – Reshaping Primary Healthcare Capacity within the County-Level Medical Consortium Framework

3.3.1. Reform Background

Sanming City is a mountainous prefecture-level city located in the northwestern part of Fujian Province; its total economic output ranks among the lowest in the province. In 2011, its urban employee medical insurance fund recorded a deficit of RMB 210 million, placing it at risk of "collapse." Against this backdrop, Sanming launched a healthcare reform initiative in 2012, shifting its approach from "remedying disorder and curbing waste" to "establishing policies and systems." Since 2018, the city has focused on advancing the development of county-level healthcare consortiums and strengthening primary-level healthcare capacity.

3.3.2. Grassroots Capacity Building Measures

3.3.2.1. County-level medical insurance fund bundling payment system

Sanming City allocates the medical insurance funds (including basic medical insurance and public health funds) of insured residents within its county to the county-level healthcare consortium (General Hospital) on a per capita basis, which then centrally manages these funds. The rigid policy of "no additional funding for overruns, and retaining all surplus funds" forces the General Hospital to direct resources toward primary care settings, as only by "reducing the incidence of illness and hospitalizations" can surplus funds be generated.

3.3.2.2. Establish a three-tiered collaborative mechanism

A three-tiered collaborative mechanism comprising the central hospital, its branch

hospitals, and village health clinics. In Sanming City, township health centers and community health service centers serve as branch hospitals of the Central Hospital; the Central Hospital centrally manages all aspects of these facilities, including personnel, finance, pharmaceuticals, and medical devices, as well as clinical services. The Central Hospital regularly dispatches specialists to these branch hospitals for outpatient consultations, ward rounds, and medical mentoring; simultaneously, physicians from the branch hospitals may undertake free advanced training programs at the Central Hospital. As of 2022, Sanming City had dispatched a total of over 8,000 physicians to primary healthcare facilities, while over 2,000 primary healthcare workers had participated in advanced training programs at higher-level hospitals.

3.3.2.3. Primary-level compensation reform

Sanming City has implemented a "universal target annual salary system combined with an annual salary calculation based on a work points system," under which the annual salaries of primary-level healthcare workers are linked to factors such as workload, service quality, and resident satisfaction. In 2022, the average annual income of on-duty healthcare workers at township-level health centers (community health service centers) in Sanming City reached RMB 125,000, a nearly threefold increase compared to the RMB 42,000 earned before the reform in 2011, and is now roughly on par with the income levels of local civil servants and teachers.

3.3.3. Reform Outcomes

The primary care utilization rate in Sanming City increased from 42.3% in 2017 to 58.7% in 2022, while the in-county healthcare utilization rate exceeded 90%. In 2022, the average per capita medical expenditure among insured employees and residents in Sanming City was RMB 3,872 and RMB 2,156, respectively, both figures significantly below the national average. Notably, the health literacy level among residents of Sanming City rose from 5.6% in 2012 to 24.8% in 2022, surpassing the national average [14].

The unique value of the Sanming case lies in demonstrating that even in regions with lower levels of economic development, institutional innovation can effectively enhance primary healthcare service capabilities. Its comprehensive approach, comprising "bundled medical insurance payment systems + tightly integrated healthcare consortiums + primary healthcare workforce compensation reforms," provides a replicable model for the vast central and western regions of China.

IV. Data Empirical Analysis: A Comparative Study of Input-Output Relationships in Primary Healthcare Spending Between China and the United States

4.1. Comparison of Health Human Resource Allocation

Metric	United States (2021)	China (2022)
Number of general practitioners per 10,000 inhabitants	Approximately 12.5 people	3.2 people
The proportion of general practitioners among all physicians	Approximately 34%	Approximately 28%
Primary care physicians' average annual income	\$240,000 (approximately RMB 1,720,000)	Approximately RMB 120,000–180,000
Number of patients served per general practitioner	Approximately 800–1,000 people	Approximately 3,000–5,000 people

Table 2. Comparative Analysis of Medical Resource Investment Between China and the United States

Data sources: U.S. Bureau of Labor Statistics (BLS) 2021 Occupational Employment Statistics [16]; China Health Statistics Yearbook 2023 [2]; Implementation Evaluation Report on the "Opinions on Reforming and Improving the Incentive Mechanism for the Training and Utilization of General Practitioners" issued by the General Office of the State Council [17].

The above data reveal a key fact: the human resource input density in China's community health service institutions is significantly lower than that in the United States. The number of patients served per general practitioner is 3 to 5 times higher than in the U.S., yet their income level is only about one-tenth of that in the U.S. This "high-load, low-reward" work environment represents a deep-seated structural factor hindering the enhancement of primary healthcare capacity. However, the case studies of Luohu and Sanming demonstrate that by implementing healthcare insurance payment reforms and innovating compensation systems, the income gap can be narrowed without significantly increasing the fiscal burden.

4.2. Comparison of Service Efficiency and Health Outcomes

Table 3. Comparative Analysis of Healthcare Service Efficiency and Health Outcomes

Metric	U.S. Managed Care	Traditional Chinese community healthcare
Hypertension control rate	Approximately 87.5% (Kaiser Permanente)	Approximately 37% (among patients managed in community settings nationwide)
Diabetic patients' HbA1c target attainment rate	Approximately 60% (KP System)	Approximately 42% (among patients managed in community settings nationwide)
Avoided hospitalization rate	Significantly lower than the FFS model	Lack of systematic data
Residents' satisfaction with primary healthcare services	77% (NRC Health 2022)	Approximately 62% (patients seeking care at primary care facilities)

Data sources: Kaiser Permanente 2021 Annual Quality Report [8]; Chronic Disease Center, Chinese Center for Disease Control and Prevention, 2021 surveillance data [18]; Primary Healthcare Department, National Health Commission, 2022 Community Health Service Quality Assessment Bulletin [19].

It is important to interpret the aforementioned data with caution, as there are differences in statistical methodologies, population characteristics, and healthcare insurance coverage; therefore, they should not be directly equated or compared. However, a trend-based disparity does exist. Notably, in the Chinese case study, the hypertension control rates in pilot reform regions such as Luohu and Xiamen have reached 57.3% and 52.8%, respectively. Although these rates are still lower than the 87.5% observed in KP, they are significantly higher than the national average, indicating that institutional innovation is helping to narrow this gap.

4.3. Cost Control Effectiveness Comparison

Research conducted by the U.S. Congressional Budget Office (CBO) indicates that

enrollees under the HMO model incur approximately 13 to 17% lower medical expenses than those under the traditional Fee-for-Service (FFS) model [20]. Within the KP system, through enhanced primary care and preventive health services, the annual per capita medical expenditure growth rate among its members has consistently been approximately 1–2 percentage points lower than the national average.

The role of China's community health service institutions in cost control has not yet been fully realized. Research shows that between 2015 and 2020, the average annual growth rate of per-visit outpatient cost at community health service centers was 6.8%, which exceeded the national average annual growth rate of outpatient costs (5.9%) [21]. However, significant disparities exist among the pilot reform regions: the growth rate of per capita medical expenditure among insured residents in Luohu District declined from 12.4% in 2015 to 5.6% in 2022; in Sanming City, the per capita medical expenditure among insured employees in 2022 was only RMB 3,872, approximately 60% of the national average [12]. This demonstrates that, with appropriate institutional design, primary healthcare can fully serve as a "ballast" for cost control.

V. Comparative Case Studies and the Extraction of the Core Logic of Managed Care

5.1. Analysis of similarities and differences among the three case studies

Comparison Dimension	Kaiser Permanente (America)	Luohu Hospital Group (Shenzhen, China)	Sanming City (Fujian, China)
Tissue morphology	Integrated Financing–Payment–Service Model	Integrated Urban Healthcare Group	County-level Medical Consortium
Mode of payment	Per-head payment (prepaid system)	Total lump-sum contract with surplus retained	County-level medical insurance bundled payment system
Primary role	Gatekeeper + Health Manager	Health Guardian	Health Guardian
Information technology level	In-house system development – US\$4 billion investment	Intelligent Auxiliary Diagnosis and Treatment System	Regional Health Information Platform
Doctor's income level	High (\$240,000/year)	Mid-to-High (RMB 250,000–300,000 per year)	Medium (RMB 125,000 per year)
Primary care utilization rate	Approximately 90% of initial medical consultations take place at the primary care level.	51.2%	58.7%
Chronic disease management effectiveness	Excellent (Hypertension Control Rate: 87.5%)	Good (57.3%)	Above average (approximately 50%)

Table 4. Comparative Analysis of the Above Cases

5.2. Refining the Core Logic of Managed Care

By synthesizing the three aforementioned cases, the core logical framework for strengthening primary care capabilities through managed care can be identified:

Institutional incentives → Resource allocation → Capacity building → Health improvement → Cost savings → Institutional sustainability

Specifically: First, by reforming payment methods (e.g.), per-capita payment, or total budgetary arrangement, the incentive mechanism is adjusted so that

"maintaining health" becomes more economically advantageous than "treating diseases"; Second, these incentive changes drive the allocation of resources—such as human resources, equipment, medications, and information—to primary care settings; Third, the deployment of these resources, combined with supporting management measures (e.g.), compensation incentives, team building, and IT support, enhances the capacity of primary care services; Fourth, this improved capacity leads to better health outcomes and more effective cost control; Fifth, the cost savings reinforce the sustainability of the system, creating a positive feedback loop.

This logical chain has been validated to varying degrees in the KP, Luohu, and Sanming case studies, demonstrating its certain cross-institutional applicability.

5.3. U.S. Healthcare System Value Anchoring Operational Mechanism Flowchart

The following flowchart intuitively presents the full closed-loop logic of the U.S. private physician system and value-based anchoring mechanism, reflecting the whole-chain operation of incentive, service, quality control, collaboration, and optimization:

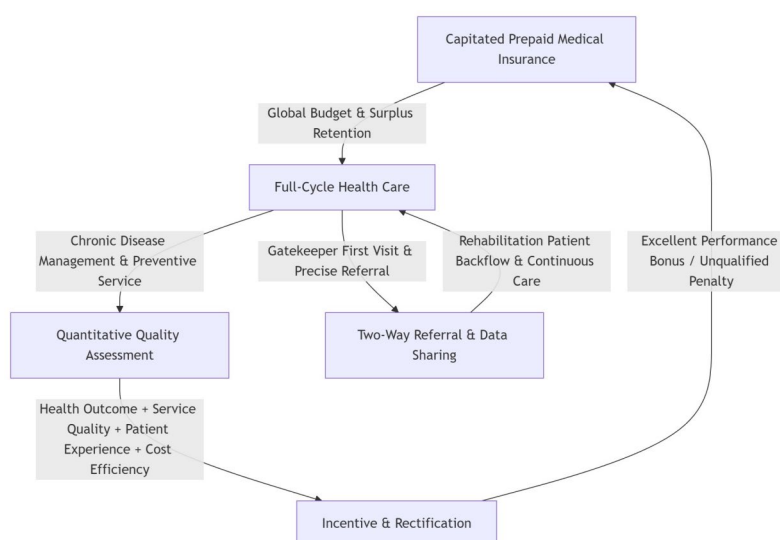


Figure 1. US Value Anchoring Operational Mechanism Flowchart

This flowchart reflects the core advantages of American primary care: taking value-based payment incentives as the source, forcing private physicians to actively provide high-quality health services, and forming a permanent closed-loop improvement through digital quality control and hierarchical medical collaboration, fundamentally avoiding the profit-driven tendency of quantity-based medical services.

VI. Feasibility Analysis of Institutional Transplantation: The Applicability and Limitations of Managed Care

6.1. Usable institutional elements

First, the capitation payment model and the total budgetary mechanism. The capitation payment approach under managed care is not merely a simple "fixed-sum" payment scheme; rather, it represents a "value-based payment" model linked to quality indicators, patient satisfaction, and health outcomes. The case studies of Luohu and Sanming have preliminarily demonstrated the feasibility of this mechanism in primary healthcare settings. Since Sanming City implemented a policy of allocating the county-level medical insurance fund as a single, fixed sum with any surplus retained in 2018, the rate of primary care utilization increased from 42.3% in 2017 to 58.7% in 2022 [15].

Second, a quality improvement system based on performance. HEDIS (Health Insurance Data and Information Set) is a widely used quality assessment tool in the U.S. managed care sector, covering more than 90 quality indicators. The "Guidelines for Evaluating Service Capacity of Community Health Service Centers" issued by China's National Health Commission in 2020 has aligned its indicator framework with international standards; however, it remains relatively weak in areas such as data collection, result utilization, and the linkage between performance and incentives/punishments [22]. The intelligent auxiliary diagnosis and treatment system developed by Luohu merits attention in this regard.

Third, the integrated team-based service model. The Patient-Centered Medical Home (PCMH) model emphasizes multidisciplinary team collaboration. KP's practice demonstrates that when the PCP receives support from clinical pharmacists, behavioral health specialists, and health coaches, their service capacity increases exponentially. The reforms implemented in Luohu and Sanming are also moving in this direction; however, there remains a gap in terms of the diversity of team members and the depth of collaboration [23].

6.2. Constraints on Institutional Transplantation

The absence of a legal foundation for initial care constraints. The "gatekeeper" system in U.S. managed care is grounded in insurance contract terms, under which insured individuals who violate referral regulations must bear the associated costs themselves. China currently lacks similar legal or contractual constraints, making the enforcement of mandatory primary care referral requirements challenging. Luohu and Sanming primarily use economic incentives (such as differentiated reimbursement rates) to guide rather than compel primary care referrals; this represents a gradual approach better suited to China's national context.

Differences in the institutional framework: In the United States, most MCOs are private nonprofit or for-profit organizations, where market pressures drive efficiency. In China, community health service providers are public institutions;

therefore, their management and personnel systems cannot be simply replicated using market-oriented management approaches. However, the Luohu case demonstrates that, within the framework of public institutions, adopting a "group-based model combined with bundled health insurance" can also generate incentive effects similar to those seen in managed care.

The vast disparity in purchasing power: per capita medical expenditure in the United States exceeds \$12,000 per year, while in China it is approximately RMB 5,000 per year, which represents a difference of about 17 times [24]. The intensive management required by managed care necessitates substantial financial support, which China currently finds difficult to sustain at an equivalent level of investment. However, the Sanming experience demonstrates that "spending less" does not necessarily imply "lower quality" and that through institutional innovation, it is possible to achieve better health outcomes with fewer resources.

VII. Insights and Recommendations

Based on the aforementioned comparative analysis and case studies, this paper proposes the following policy recommendations:

7.1. Reshaping the investment mechanism through the "Purchase of Services" approach

It is recommended to gradually shift from a model of "operating institutions and employing personnel" to one of "purchasing services and purchasing health," and to establish fiscal subsidy and medical insurance payment mechanisms oriented toward service volume, service quality, and health outcomes. The evaluation of community health service institutions should increase the weight assigned to outcome-based indicators, such as the hypertension control rate, the standardized diabetes management rate, and the satisfaction level of enrolled residents, and link the evaluation results to the determination of fiscal subsidies and the total amount of performance-based compensation. The practices implemented in Luohu and Sanming have demonstrated that when evaluation indicators shift from "how many patients were seen" to "how much health was effectively managed," primary-level healthcare practices undergo a fundamental transformation.

7.2. Substantial reinforcement of the "Gatekeeper" function

In the short term, differentiated medical insurance reimbursement rates can be used to incentivize primary care as the first point of care (for example, reducing the reimbursement rate by 20–30 percentage points for patients seeking treatment at tertiary hospitals without prior referral). In the medium to long term, efforts should be made to explore the establishment of a "mandatory first-contact" system for contracted residents within defined service scopes, and to grant family physicians substantive authority, which includes the right to mutually recognize examination

and laboratory results among contracted residents, to expand their prescribed medication lists, and to allocate a certain amount of medical insurance funds to these physicians. The KP's PCP holds "approval authority" over specialist referrals and diagnostic tests; this constitutes a key institutional safeguard for fulfilling their "gatekeeper" role.

7.3. Leveraging payment system reforms to stimulate endogenous motivation

Within the framework of county-level medical consortiums and urban healthcare groups, the medical insurance payment method based on "total budgeting, retention of surplus, and shared responsibility for overruns" should be promoted. The practices implemented in Sanming and Luohu have demonstrated that this mechanism exerts a significant behavioral incentive effect. It is recommended to further refine the rules governing the allocation of "surplus funds" to ensure that primary-level healthcare institutions receive a reasonable share commensurate with their contributions, thereby preventing such surplus funds from being "retained" by hospitals.

7.4. Empowering Continuous Services through Digital Transformation

Drawing on KP's experience in implementing the HealthConnect system, accelerate the interoperability of information systems between community healthcare service providers and higher-level hospitals. Focus on advancing three key applications: first, an intelligent assisted diagnosis and treatment system based on regional health big data (e.g.), the implementation in Luohu to address the limitations arising from the lack of clinical experience among primary care physicians; second, a resident health profiling and risk stratification system to help primary care providers accurately identify and manage high-risk populations; third, the real-time cross-institutional sharing of electronic health records for contracted residents to ensure continuous care delivery.

7.5. Establishing a talent support system for "Managed Primary Healthcare"

The PCP model is not practiced in isolation but is integrated into a robust multidisciplinary support network. It is recommended to deploy professionals, such as clinical pharmacists (responsible for medication review), health management specialists (responsible for follow-up care for high-risk populations), and psychological counselors at community health service facilities to establish a "1+N" family doctor team. Additionally, the standardized training curriculum for general practitioners should be shifted from a "specialized abbreviation version" to a community-oriented, integrated training approach. Sanming City's implementation of a compensation reform, which raised the income of primary care physicians to

match that of local civil servants, also provides a viable solution to the challenges of "difficulty in recruiting and retaining healthcare professionals."

VIII. Conclusion

The U.S. managed care system for primary healthcare is not a perfect model. It also faces challenges such as physician burnout, high administrative costs, and uneven access to services. However, its core institutional design logic of transforming the "prevention over treatment" principle into systematic service capabilities through payment incentives, organizational integration, and quality accountability holds significant reference value for Chinese community health service providers seeking to overcome their "capacity bottlenecks."

The KP case study demonstrates the high level of integration in primary healthcare under ideal conditions; the Luohu case illustrates how healthcare insurance payment reform can serve as the "key" to activating primary care capabilities in developed urban areas; while the Sanming case shows that even in less developed regions, institutional innovation can pave the way for building primary care capacity through an approach characterized by "lower cost and better outcomes."

The development of China's community health service system cannot simply replicate the U.S. model. However, creatively integrating into the Chinese context those elements of managed care that align with the local institutional environment, such as per-capita payment incentive mechanisms, performance-based quality management, and integrated services driven by multidisciplinary team collaboration, while fully incorporating the reform pilot experiences from regions like Luohu and Sanming, may represent a viable pathway to addressing the challenge of "weak primary care."

References

- [1] National Health Commission of the People's Republic of China. 2022 Statistical Bulletin on the Development of China's Health Care Sector [R]. Beijing: National Health Commission of the People's Republic of China, 2023.
- [2] National Health Commission of the People's Republic of China. China Health Statistics Yearbook 2023 [M]. Beijing: Peking Union Medical College Press, 2023.
- [3] Kongstvedt P R. Health Insurance and Managed Care: What They Are and How They Work[M]. 5th ed. Burlington, MA: Jones & Bartlett Learning, 2019.
- [4] Qin Jiangmei, Zhang Yanchun, Lin Chunmei, et al. Analysis of Chinese residents' willingness to seek primary care and the influencing factors [J]. Chinese General Practice, 2021,24(22):2761-2766.
- [5] Gu Xuefei, Xiang Guochun, Liu Xiaoqing. Reform of medical insurance payment methods and enhancement of primary healthcare service capacity [J]. China Health Policy Research, 2022,15(5):1-7.
- [6] Robinson J C, Casalino L P. Vertical integration and organizational networks in health care[J]. Health Affairs, 1996, 15(1): 7-22.
- [7] Shenzhen Municipal Health Commission. 2021 Shenzhen Health Human Resources Development Report [R]. Shenzhen, 2022.
- [8] Kaiser Permanente. Kaiser Permanente 2021 Annual Report: Quality and Service[R].

- Oakland, CA: Kaiser Foundation Health Plan, 2022.
- [9] Crosson F J. The delivery system matters[J]. *Health Affairs*, 2005, 24(6): 1543-1548.
 - [10] Pearl R.[10] Pearl R. Kaiser Permanente Northern California: current experiences with internet, mobile, and video technologies[J]. *Health Affairs*, 2014, 33(2): 251-257.
 - [11] Sun Xizhuo, Gong Fangfang, Lin Jinchun. Exploration and Practice of Comprehensive Reform in Public Hospitals in Luohu District, Shenzhen [J]. *China Hospital Management*, 2019,39(8):1-4.
 - [12] Luohu District Health Bureau. Progress Report on the Deepening of the Pharmaceutical and Healthcare System Reform in Luohu District, Shenzhen (2015-2022) [R]. Shenzhen, 2023.
 - [13] Luohu Hospital Group. Application Evaluation Report on the Intelligent Auxiliary Diagnosis and Treatment System in Community Health Service Centers [R]. Shenzhen, 2022.
 - [14] Zhan Jifu. Sanming Healthcare Reform: From "Tackling Chaos and Curbing Waste" to "Establishing Regulations and Systems" [J]. *China Health*, 2022(8):42-45.
 - [15] Sanming Municipal Healthcare Security Administration. Progress Report on the Deepening of the Pharmaceutical and Healthcare System Reform in Sanming City (2012-2022) [R]. Sanming, 2023.
 - [16] U.S. Bureau of Labor Statistics. Occupational Employment and Wage Statistics: 29-1215 Family Medicine Physicians[EB/OL]. (2022-03-31). <https://www.bls.gov/oes/>.
 - [17] General Office of the State Council. Assessment Report on the Implementation of the Opinions on Reforming and Improving the Training and Utilization Incentive Mechanism for General Practitioners [R]. Beijing, 2023.
 - [18] Center for the Prevention and Control of Chronic Non-communicable Diseases, Chinese Center for Disease Control and Prevention. China Chronic Disease and Its Risk Factors Surveillance Report 2021 [M]. Beijing: People's Medical Publishing House, 2022.
 - [19] Department of Primary Health Care, National Health Commission. Circular on the Results of the 2022 Community Health Service Quality Assessment [Z]. March 15,2023.
 - [20] Congressional Budget Office. Key Issues in Analyzing Major Health Insurance Proposals[R]. Washington, DC: CBO, 2008.
 - [21] Li Ling, Jiang Yu. Structural Analysis of the Growth in China's Medical Service Costs [J]. *Social Sciences in China*, 2023(3):141-163.
 - [22] National Health Commission of the People's Republic of China. Guidelines for the Evaluation of Service Capacity at Community Health Service Centers (2020 Edition) [S]. 2020.
 - [23] Du Xueping, Zhu Yuqin, Zhou Zhiheng. A comparative study on China's family doctor contract-based service model and the PCMH model [J]. *Chinese General Practice*, 2022,25(31):3845-3850.
 - [24] World Health Organization. Global Health Expenditure Database[EB/OL]. (2024-01-15). <https://apps.who.int/nha/database>.