Original research

Early impact of an integrated healthcare model on stakeholders in China: a case study approach

Xueping Wang, Department of Laboratory Medicine, Collaborative Innovation Center for Cancer Medicine, Sun Yat-sen University Cancer Center, Guangzhou, China; School of Health Services Management, Southern Medical University, Guangzhou, China

Virgínia Trigo, Instituto Universitário de Lisboa, Lisbon, Portugal; School of Health Services Management, Southern Medical University, Guangzhou, China

Felipa de Mello-Sampayo, Instituto Universitário de Lisboa, Lisbon, Portugal; School of Health Services Management, Southern Medical University, Guangzhou, China

Wu Wei, Memorial Hospital, Sun Yat-sen University, Guangzhou, China

Nuno B Ferreira, Instituto Universitário de Lisboa, Lisbon, Portugal

Correspondence to: Felipa de Mello-Sampayo; fdmso@iscte-iul.pt

Submitted: 15 January 2024; accepted following double-blind peer review: 6 March 2024

Abstract

Background/Aims Since 2017, China has been implementing an integrated healthcare system, aiming to expand county hospitals, reduce patient expenses and deliver better care. This study aimed to evaluate the implementation of this model in Dancheng County, using stakeholder theory to analyse the views of all affected parties.

Methods Participants living and working in Dancheng County were recruited from several groups, including: government officials, heads of healthcare organisations, healthcare staff, patients and suppliers. Both public and private healthcare institutions were included. Semi-structured interviews were conducted to collect data on participants' experiences and views of the new model. Interviews were recorded, transcribed and analysed using content analysis.

Results Government officials and those working in public healthcare institutions were generally positive about the new model, reporting that it improved financial management, allowed more investment in county hospitals and reduced the profit-seeking behaviours of medical institutions. Patients noted good quality care at a reduced cost. However, private institutions and suppliers noted reduced income and increased supervision, which had negatively affected their profits.

Conclusions The integrated model has brought several benefits, particularly to public healthcare institutions, staff and patients. This model may help to reduce profit-seeking behaviours in medical institutions. However, further development is needed to assess and mitigate the negative impact on stakeholders.

Key words

Integrated care; Integrated health networks; Regional healthcare; Referral system; Stakeholders

Introduction

Despite recent improvements, healthcare delivery in China is characterised by fragmentation, a hospital-focused approach and limited collaboration between different services (Wang et al, 2018). Local healthcare centres often cannot meet patients' needs, leading to increased referrals to county-level hospitals, putting a strain on resources (Zhao et al, 2020; Zeng et al, 2021). Meanhile, there have been reports of over-treatment and over-medication, incentivised by the profit-seeking model of medical institutions (He and Ma, 2010; Wu, 2012; Li, 2014; Xie et al, 2015; Chen et al, 2016). To resolve some of these issues, the healthcare system in China is aiming to develop a more coherent referral system, with an emphasis on integrated care (Meng et al, 2019).

Integrated systems are known as integrated health networks and were launched as a pilot programme in 2017. As part of this, county-level integrated health organisations were created to integrate county hospitals and primary health institutions. This strategy was piloted in 2019 and aims to optimize regional healthcare by improving primary care, increasing cost efficiency and creating an organized referral system (NHC, 2019).

The present study aimed to explore the impact of an integrated healthcare organization model designed and implemented in stages between August 2016 and September 2018, with full implementation completed in October 2018 in Dancheng County, located in Henan, China. Underpinned by the stakeholder theory, the study evaluated how well the new healthcare system was being set up and managed before reaching the full implementation stage, focusing on three main areas:

- Establishment of a structured patient referral system across various tiers of healthcare
- Optimal allocation of medical resources for service delivery
- Efforts to curtail expenditure.

Methods

Study setting

Dancheng County is located in the central eastern area of China, with a developing economy and a total population of 1.37 million. Around 99.8% of residents have medical insurance (Health Committee of Dancheng County, 2019). By the end of 2017, Dancheng County had a total of 1070 medical and healthcare institutions at all levels, including four county-level hospitals, 20 local healthcare centres, three community health service centres, 907 village clinics, 30 hospitals funded by social capital and 106 clinics (Health Committee of Dancheng County, 2019). There are 4.2 beds, 1.08 doctors and 1.2 nurses per 1,000 permanent residents. This is lower than the national average of 4.95 hospital beds, 2.36 doctors and 3.27 nurses per 1000 people in 2020 (Organization for Economic Cooperation and Development, 2020).

The Dancheng County integrated healthcare organisation incorporates four county-level integrated health organisations, including management and resources. Each county-level integrated health organisation is governed by a committee comprising members from local healthcare centres and county hospital and operated under the county health department. Local healthcare centres have maintained legal independence, but the executive directors of county hospitals often replace the legal representatives in local centres, centralizing authority within the county hospital. This hierarchical system means that management of referrals, preadmission tests and post-discharge follow up is done at the county hospital level. Patients are directed to seek treatment for minor illness and injuries at village clinics, common illnesses in local healthcare centres hospitals and major conditions in county hospitals.

Medical resources are shared across the system, including medical laboratories, electrocardiogram equipment and medical imaging centres. Additionally, a unified primary care information platform has been developed to facilitate the electronic sharing of medical records between county hospitals and their associated local healthcare centers.

The integrated model includes a reformed payment system for medical care, implementing a policy of covering the overall per capita budget. A risk-control fund is withdrawn from the medical insurance fund and the medical group is responsible for the reimbursement of medical expenses for residents in their area of jurisdiction. The reimbursement of out-of-county inpatients (including major disease insurance) is also budgeted. The fund is assessed by the county health administration and independently distributed to medical institutions at the county, local and village levels at a ratio of 5:3:2 (People's Government of Dancheng County, 2018). If more money is spent than the budgeted amount, the main hospital at the county level will bear the extra costs. The aim of this method is to streamline and standardise medical insurance payment methods, putting emphasis on budgeting per person and dividing responsibilities among local medical groups and institutions.

Private healthcare can be accessed through patient out-of-pocket payments, insurance, direct billing and government policies. The integrated model in the Dancheng County mandates that healthcare professionals at county-level hospitals supervise private hospital treatments to control for quality of care.

The remuneration of healthcare staff is affected by both their performance and the financial prosperity of the medical institution. Salary increases and incentives can be offered to staff who provide care that is deemed to be efficient and cost effective. If the organisation's financial status improves (either through government funding or efficient management), staff may receive increased pay and benefits, regardless of their individual performance.

Participants

This study used a stakeholder theory approach (Donaldson and Dunfee, 1994; Freidman and Miles, 2006; Guo, 2007; Wu, 2012; Jin et al, 2013). This theory has been used in previous healthcare studies, including those set in China (Jin et al, 2013; Qian, 2014; Jia et al, 2018).

This approach involves first identifying stakeholders, then classifying them in order of relevance to the study. In the present study, patients and medical insurance funds were regarded as primary stakeholders, as improved patient flow and medical insurance reform were key aims of the shift towards integrated care. The healthare organisations themselves were also considered an important stakeholder, as were healthcare staff, including those working in both public and private hospitals. Other identified stakeholders included government officials and suppliers of material, technical and logistical support for the normal operation of the healthcare system.

After all stakeholder groups were identified, stakeholders were stratified into categories based on their roles, interests and potential influence on or by the healthcare system, aiming to ensure consideration of all relevant viewpoints. To be included in the study, healthcare professionals, administrators and government officials needed to have worked in their field, with direct involvement in healthcare in Dancheng County, for at least 3 years. Those with less than 3 years of experience or with no direct involvement in the healthcare sector were excluded. Eligible patient participants had at least 3 years of experience using healthcare services in Dancheng County; those without this experience and those who were not currently residing in the county were excluded. The 3-year cut off was chosen to ensure that all participants had a sufficient experience of the healthcare system. There were no exclusion criteria based on demographic characteristics, professional role or area of healthcare (county, local or private), with the authors aiming for a diverse sample.

A strategic recruitment approach was then undertaken, including methods such as issuing direct invitations, public calls for participation and partnering with local entities to recruit participants from each stakeholder group. The selection process underwent a validation check by community leaders to ensure that no significant groups were overlooked. A combination of statistical calculations and practical considerations were used to determine the required sample size. For the whole sample, the authors considered a 95% confidence level, a 5% margin of error and a 50:50 response distribution to maximize variability. This approach provided a robust estimate of the overall sample size needed to ensure representativeness. For each stakeholder group, proportional stratified sampling was applied, ensuring that the sample size for each group reflected its proportion in the overall population. To capture diverse perspectives, strategic oversampling was used for smaller but critical stakeholder groups.

Data collection

Data were collected via interviews, conducted between August 2016 and September 2018, aligning with the early implementation phases of the Medical Treatment Combination Model. Group interviews were used for government officials, hospital managers and healthcare professionals, while individual interviews were used for patients and suppliers. Group sizes ranged from three to five participants, with one interviewer per group. Interviewers received training to reduce bias in question phrasing and enhance reliability. Interviews took place in person, in various locations, including participants' workplaces and hospitals, and last between 30 minute and 1 hour.

Demographic details (age, gender, socioeconomic status, professional background and geographical location) were collected through self-reported forms at the beginning of each interview session to ensure diversity across the stakeholder groups. All interviews were semi-structured, with the guide developed based on preliminary stakeholder analysis and local healthcare knowledge. Each interview included a set of standard questions tailored to the specific stakeholder group. The questions were designed to elicit participants’ perspectives on key topics, including their experiences with the integrated healthcare model, their expectations and the perceived impact on medical insurance and healthcare services.

Government officials

The interviews with government officials were conducted in two stages. First, key officials from the departments of medical insurance, health, and finance were interviewed to explore their roles in the planning, implementation and monitoring of healthcare reforms. Topics included policy development, budget allocation, regulatory oversight and coordination between different governmental departments. Second, the interviews focused on the impact of the healthcare reforms on the medical insurance funds. This included discussions on financial sustainability, risk management, allocation strategies and measures to prevent overspending of medical insurance funds. Officials were also asked about their perspectives on the long-term viability of the reforms and potential improvements to the healthcare payment system.

Heads of medical organisations

Interviews covered the integration of the healthcare systems. The heads of these organisations were asked to compare data on the types of medical conditions treated, bed occupancy and the distribution of diseases or health conditions seen in 2018 and 2019, as well as their views on how the integrated model impacted service delivery and management efficiency. The impact on medical service income was also explored to understand how the financial structures of public and private healthcare institutions were influenced by the integrated model.

Healthcare professionals

The impact of the integrated model on healthcare staff and their experiences of and attitudes toward the new model were explored, with a particular focus on the integration of services between public and private hospitals, as well as how the model affected their income and career development opportunities. The interviews also covered the integration of services across county hospitals, local healthcare centers and private hospitals, focusing on management, performance and the challenges faced by each type of institution. Participants were asked to reflect on whether their income from medical services had increased or decreased since the implementation of the model, how the changes affected their overall financial situation and whether they felt that the new model offered incentives for more efficient service delivery.

Patients

Interviews explored patients' experiences of seeking medical treatment, including increases or decreases in personal medical expenses, as well as the convenience and accessibility of medical treatment.

Suppliers

Interviews explored the impact of the integrated model on the efficiency of supplier activities.

Data analysis

Interviews were conducted in Chinese, recorded and transcribed verbatim by the Chinese members of the research team. Data were analysed using content analysis. Each interview transcript was meticulously reviewed to ensure accuracy, and participants were invited to review the transcripts to validate their responses before proceeding with the analysis. The authors then drew on recurrent themes and concepts from the discussions to create a 'codebook', which was used to systematically categorise data into themes. Once the thematic analysis was completed, the data were quantified by calculating the frequency of responses within each category. For example, participants' views on specific aspects of the integrated healthcare model (eg risk management, medical insurance, organisational changes) were categorized as positive, negative, or abstained, and the percentage of participants expressing each view was calculated.

Each stakeholder group was asked similar questions to allow for comparability across groups. The results were then expressed as percentages to reflect the proportion of participants within each group who held certain views or experienced specific outcomes. This approach allowed for both a qualitative exploration of participants' experiences and a quantitative summary of the overall trends within the data.

Ethical considerations

Formal ethical approval was not required for this study, as it was a service evaluation. However, informed consent was obtained verbally from all participants prior to the interviews. The study objectives and procedures were clearly explained to each participant, including the voluntary nature of their participation and their right to withdraw at any time. Participants were assured that their responses would remain confidential and that all data would be handled in accordance with privacy regulations.

Results

A total of 104 stakeholders were interviewed during the study period, including six government officials, 18 heads of healthcare organisations, 20 healthcare staff members, 50 patients and 10 suppliers. The average age across the whole sample was 38.3 years (±6.2 years). Average ages in each stakeholder group were 44.8 years (±4.0 years) for heads of healthcare organisations, 36.3 years (±5.6 years) for healthcare staff, 36.9 years (±5.4 years) for patients, 35.6 years (±7.7 years) for suppliers and 41.8 years (±3.2 years) for government officials. Other sample characteristics are shown in Table 1. Nearly two-thirds of participants were men and most were either university or junior college graduates.

Table 1. Participant characteristics

Characteristic		***n***	**Percentage**
Gender (*n*=104)	Male	66	63.5
	Female	38	36.5
Academic qualification (*n*=104)	Master's degree	16	15.4
	Bachelor's degree	42	40.4
	Junior college graduate	45	43.3
	High school graduate	1	0.9
Place of work: heads of healthcare organizations (*n*=18)	County hospital	4	22.2
	Local healthcare centre	10	55.6
	Private hospital	4	22.2
Place of work: healthcare staff (*n*=20)	County hospital	8	40.0
	Local healthcare centre	8	40.0
	Private hospital	4	20.0
Job role: healthcare staff (*n*=20)	Doctor	17	85.0
	Nurse	3	15.0
Occupation: patients (*n*=50)	Worker	9	18.0
	Farmer	10	20.0
	Teacher	8	16.0
	Technician	7	14.0
	Bank clerk	4	8.0
	Businessman	5	10.0
	Waiter	7	14.0

Job type: government officials (n=6)	Secretary of Dancheng County	1	16.7
	Head of Dancheng County	1	16.7
	Deputy Head of Dancheng County	1	16.7
	Minister of Dancheng County health commission	1	16.7
	Director of Dancheng County healthcare security bureau	1	16.7
	Director of Dancheng County finance bureau	1	16.7
Supply type: suppliers (n=10)	Pharmaceuticals	3	30.0
	Consumables	3	30.0
	Equipment	4	40.0

Table 2 shows the basic content analysis of the interviews with each stakeholder group. It underscores the generally positive reception of the integrated model across various stakeholders, although the mixed responses from private hospitals and suppliers indicate that some areas may require improvement.

Table 2. Content analysis of interview data

Stakeholder group	**Focus**	**Content category**	**Results**
Government officials (*n*=6)	Medical insurance fund	Control of overspending risk	100% positive
		Risk management	83.3% positive, 16.7% abstained
	Government departments	Views of the integrated model	83.3% positive, 16.7% negative
		Government credibility	100% positive
Heads of healthcare organisations (*n*=18)	Healthcare organisations	Integrated model for county hospitals	88.9% positive, 11.1% abstained
		Integrated model for local healthcare centres	88.9% positive, 11.1% abstained
		Integrated model for private hospitals	55.6% positive, 44.4% negative
Healthcare staff (*n*=20)	Healthcare staff	Perception of integrated model	85% positive, 5% negative, 10% abstained
		Impact on staff income	85% increase, 15% decrease
		Impact on career development	85% positive, 10% negative, 5% abstained
Patients (*n*=50)	Patients	Satisfaction with medical services	96% higher satisfaction, 4% lower satisfaction
		Burden of medical expenses	90% reduced, 2% increased, 8% unchanged

		Convenience and availability	94% positive, 6% negative
		Preference for primary medical treatment	90% local, 10% county hospitals
Suppliers (*n*=10)	Suppliers	Enterprise benefit from integrated model	50% positive, 30% negative, 20% abstained
		View of integrated model	50% positive, 40% negative, 10% abstained

Government officials

The government officials interviewed were generally positive about the new model, particularly in terms of the impact on the spending of medical insurance funds. There was unanimous agreement that the model represents a considerable improvement compared to the earlier model. Statements included:

'The new model has greatly improved our ability to control overspending and manage the medical insurance funds more effectively.'

'We are now seeing more efficient use of funds, which helps to stabilize the healthcare system.'

Heads of healthcare organisations

The heads of county-level hospitals were generally positive about the new model, particularly its role in reducing the profit-seeking behavior of medical institutions. One commented:

'This model reverses the profit-driven mentality and shifts our focus toward rational drug use and controlling unreasonable medical expenses.'

Another participant highlighted the model's influence on the behavior of healthcare professionals:

'It motivates us to be more conscious about the costs we impose on patients, which has improved our overall performance.'

The heads of local healthcare centres discussed the substantial changes they have observed since the implementation of the new model. One stated:

'There has been a notable increase in the number of patients seeking care at our center compared to before.'

This surge in patient volume was believed to have led to improved financial income, which had helped the local healthcare centres to develop further:

'The better financial situation has allowed us to offer salary increases to our staff, which has slowed down the brain drain that we were experiencing.'

However, despite these positive developments, the heads of local healthcare centres also expressed dissatisfaction with the integration of financial management:

'The centralization of financial management has restricted our financial autonomy, making it harder to manage funds flexibly.'

'It has increased bureaucracy, which has affected our enthusiasm for fully embracing the new model.'

The heads of private hospitals showed resistance to the new model because of the level of supervision they were required to have from county-level hospitals. One explained:

'The supervision from county-level hospitals puts immense pressure on us, as the supervisors are well-known experts in the county. We feel constantly scrutinized, which affects our ability to operate as we did before.'

This supervision had reportedly led to a significant reduction in both the number of patients and the financial income of private hospitals. They had also had to adapt their operations to meet the stricter standards imposed by the county-level hospital supervisors:

'Since the implementation of the new model, we've seen a sharp decline in patient numbers, which has drastically reduced our revenue. We are now being forced to completely revise our diagnosis and treatment policies to align with the new expectations.'

Healthcare staff

Most healthcare staff interviewed regarded the new model favourably, particularly those employed in public medical institutions:

'The new system is working well for us. We want it to keep going because it has improved both our work environment and the quality of care we provide.'

Participants saw the shift as reducing concerns about profit-driven practices that might lead to excessive diagnosis and treatment:

'The new model allows us to focus solely on our fundamental duty – treating illnesses and saving lives. We no longer have to think about profitability when making medical decisions.'

'Now, we can conduct purely scientific and effective treatments without the pressure to make money for the hospital, which reduces the risk of unethical practices.'

Participants also reported that their income had increased, while the increased investment in diagnostics and treatment had provided opportunities for development and promotion:

'Since the implementation of the new system, my income has improved, and this has really encouraged me to give my best effort at work.'

'With the hospital investing in new technology and training, we now have better platforms for skill development and career advancement. It's an exciting time for our professional development.'

Staff working in local healthcare centres reported that the higher number of patients accessing their services had increased their workload:

'*Our work schedule is much tighter now than it was in the past, and the number of patients we see has significantly increased.'*

Five participants working in county-level hospitals mentioned that the structure of the disease types of the patients treated has changed, with more complex cases. However, this was seen as enhancing the professionals capabilities of staff:

'We've seen a decrease in the number of patients with common diseases, but there has been a rise in difficult cases, which adds more pressure on our medical staff.'

'The challenge of dealing with more complex cases has pushed us to enhance our professional capabilities.'

Healthcare staff from private hospitals were less positive about the new model, reporting that the reward and punishment system in place for private hospitals had led to many staff being penalised for misdiagnosis:

'Under the private hospital's system, even small errors can result in penalties, and this has been very stressful.'

The decline in patients attending private institutions had also led to reduced salaries and opportunities for development among these staff members. The higher academic and skill levels required in public hospitals also meant that opportunities to change sector were limited:

'There's no platform for us to improve our skills or advance in our careers. Some of us are even considering leaving.'

'It's tough for those of us with lower qualifications to find jobs in public institutions.'

Private hospital staff expressed hope that management would intervene to improve the situation, or that the government would consider amending their policy:

'We really hope management can step in and fix these issues.'

'We need the government to consider our circumstances and give us more time to adjust to the changes.'

Patients

Patients reported several benefits of the new model, particularly in terms of reduced medical expenses and fewer repeated examinations:

'Since the implementation of the new model, my medical costs have decreased, and I no longer need to undergo multiple unnecessary tests.'

'The new system saves us both time and money because we aren't constantly repeating examinations.'

Despite these improvements, some patient participants expressed dissatisfactions with the restrictions on seeking medical treatment outside the county:

'I understand why the model limits us to local facilities, but I would prefer more flexibility in choosing where I receive treatment.'

Interviewees who had been referred from a local healthcare centre to a county hospital expressed satisfaction with the process, with one describing it as 'seamless'. Others stated:

'Before I even got to the county hospital, the receiving doctor already had my medical information, which made the process smoother.'

'The medical services in the [local healthcare] centre were just as good as in the county hospital, but my medical expenses were much lower.'

Suppliers

Pharmaceutical suppliers had observed substantial changes following the implementation of the new model, particularly with the shift to centralized bidding. One supplier noted:

'The move to centralized bidding has lowered drug prices, which has been good for the hospitals but has reduced our profit margins.'

'Since the reform, we've had to cut back on our sales force as the need for aggressive marketing has decreased.'

However, they also recognized the benefits of faster capital turnover:

'With quicker payments, we no longer need to rely on bank loans as much.'

For consumable suppliers, the new model meant that hospitals required fewer inspections and non-essential items, which led to lower prices and profits:

'The hospitals are being more careful about what they purchase, so we've had to lower our prices and that's affecting our bottom line.'

'We've had to adapt our business model to survive in this new environment, where non-essential items are being used less frequently.'

Equipment suppliers were more positive about the model, noting that investment in upgraded equipment in healthcare facilities had led to increased demand for advanced technology:

'The demand for advanced technology has gone up, and we're seeing more orders for state-of-the-art equipment.'

However, they also faced challenges relating to low procurement prices and higher demands for after-sales service:

'We're selling more equipment, but the prices are lower and the expectations for after-sales service have risen, which is squeezing our profits.'

Discussion

The theory and practice of organisational design for an integrated system have been analysed across different healthcare systems (Nuño-Solinis, et al, 2013; Vargas, et al, 2015; Edwards, 2019; Steele Gray, et al, 2020; Laresgoiti and Nuño-Solinis, 2020; Jia, et al, 2021). Most integrated systems share common features, such as being government-led, vertical and population-based.

Studies of similar models in Hangzhou City (Qian et al, 2017), Zhejiang (Jia et al, 2021) and Shenzhen (Liang et al, 2020) in China, as well as the Basque Country (Nuño-Solinis et al, 2013) in Spain and Brazil (Vargas et al, 2015), reflect similar goals to the Dancheng County model, including improved service use, care coordination and cost control. These studies all highlighted the vital role of primary care integration and management of chronic conditions, noting that success is dependent on factors such as governance, organisational structure and resource allocation. Moreover, Vargas et al's (2015) insights into the need for clear integrated health networks configuration criteria and the identification of political barriers offer valuable lessons on the structural and political considerations necessary for the effective implementation of integrated care models.

The interviews conducted in this study suggested that the new model allowed better allocation of resources to public hospitals, with implications for staff and patients. This how delineating the roles of governmental entities and market forces can promote policies such as hierarchical diagnosis and treatment (Xie, et al, 2015; Chen et al, 2016). The results indicated that government officials, patients and those working in leadership or clinical roles in public hospitals generally had a positive view of the new model. However, results were less positive among private hospital staff and suppliers, many of whom felt that they had been negatively affected by the new model.

The interview data suggest that the new model has substantially reduced the profit-seeking behaviours of medical institutions, which in the past profited from diagnosis and a diversity of treatments such as examinations, medication and surgeries. Under this system, hospitals aimed to create a steady stream of income and attract more patients to obtain economic benefits (He and Ma, 2010). Such practices deviate from the key goals of healthcare institutions: to preserve life and provide care. The welfare of the population was thus an important value that drove the reform of the healthcare system (Chen et al, 2016). Under the new system, medical insurance is allocated in advance and medical institutions must complete the disease diagnosis and treatment before they can count the surplus as their income.

This study aligns with previous research showing that healthcare reforms can help to reduce unnecessary medical costs through financial policies, fee control and clear information sharing to manage hospital and medical practices (Yu and Leng, 2007; Feng, 2010; Yu et al, 2012; Yu, et al, 2015).

However, the persistence of patient volume issues, as shown by mixed responses among stakeholders, underscores the need for further adjustments (Satylganova, 2016; Al-Saddique, 2018). While the integrated model has brought some benefits, issues remain: some patients express dissatisfaction with restrictions on seeking care outside the county, private hospitals report reduced patient numbers and financial pressures, and healthcare professionals note an increased workload at local healthcare centres. These findings suggest that integration alone may not suffice; enhancing the functionality and appeal of local healthcare centres as primary care points could help to alleviate pressure on county hospitals and ensure a more balanced distribution of healthcare services.

Interviews also highlighted concerns about the integration of the financial management system, as this led to increased bureaucracy and reduced financial freedom. These concerns could negatively affect the efficiency and autonomy of healthcare institutions, so addressing these issues is essential to enhance the model's effectiveness and optimize stakeholder cooperation. Future iterations of the model should aim to balance financial oversight with institutional flexibility, ensuring that the system supports, rather than impedes, healthcare delivery and innovation.

Limitations

The data analysed in this study are subjective by nature, with a risk bias from the interviewees' experiences and views, possibly distorting the study's objectivity. Future research should consider a broader scope and more diverse interviewee pool to reduce bias and more accurately reflect the healthcare model's effects.

The reliance on qualitative data may have introduced interpretation biases during analysis, while the participant sampling method may have introduced selection bias, potentially missing critical perspectives. The focus on Dancheng County reduces the applicability of the findings to other areas, while the lack of long-term data prevents evaluation of the model's sustainability. Future studies should use quantitative methods and examine long-term effects to better assess the model's impact on costs, care quality and patient experience.

Conclusions

Following the implementation of the integrated healthcare model in Dancheng County in 2018, initial feedback from stakeholders shows promising signs, such as increased income in public hospital and reduced costs for patients. Challenges associated with the model were mainly experienced by private healthcare institutions and suppliers, who reported reduced income. However, it is important to acknowledge the limitations of drawing long-term conclusions at this stage.

Key points

- Improved Public Healthcare: The integrated healthcare model in Dancheng County was well received by government officials, patients, and public healthcare staff. It improved financial management, boosted investment in county hospitals, and reduced profit-driven practices in medical institutions.//
- Struggles for Private Hospitals and Suppliers: Private hospitals and suppliers struggled under the new model, with reduced income and tighter oversight from county hospitals, which impacted their ability to operate effectively.//
- Ongoing Issues with Patient Volume: Despite improvements, patient volume problems persist. Patients are frustrated by restrictions on seeking treatment outside the county, and local healthcare centres are facing increased pressure, indicating the need for further adjustments.//

Author contribution statement

Conceptualization XW, VT, FMS, WW
Data curation XW
Formal analysis XW
Funding acquisition FMS, VT, NBF
Investigation XW VT, FMS, WW
Methodology XW, VT, FMS, WW
Project administration XW, VT, FMS, WW
Resources
Software
SupervisionXW, VT, FMS, WW
Validation XW, VT, FMS, WW
VisualizationXW, VT, FMS, WW
Writing – original draft XW. VT, FMS, WW, NBF
Writing – review & editing FMS, VT

Conflicts of interest

The authors declare no conflict of interest.

Declaration of funding

Fundação para a Ciência e Tecnologia, under UIDB/00315/2020 grant is gratefully acknowledged. The funding body had no influence in the design of the study, collection, analysis, or interpretation of data, or in writing the manuscript.///

Data availability statement

The data and figures presented in this study are available on request from the corresponding author. The data are not publicly available because of privacy restrictions.

References

Al-Saddique A. Integrated delivery systems (IDSs) as a means of reducing costs and improving healthcare delivery. J Health Commun. 2018;3(1):19. https://doi.org/10.4172/2472-1654.100129

Chen L, Yu CY, Wei L, Liu S. A survey on the interests claims of member hospital staffs in regional medical union. China Med Herald. 2016;13(26):52–55

Donaldson T, Dunfee TW. Toward a unified conception of business ethics: integrative social contract theory. Acad Manage Rev. 1994;19(2):252–284. https://doi.org/10.2307/258705

Edwards N. Lessons from integrated care pilots in England. J Integr Care. 2019;28(1):2–6. https://doi.org/10.1108/JICA-10-2019-0044

Feng J. The characteristics and enlightenment of enterprise stakeholders. Modern Manag Sci. 2010;5:100–102

Freidman A, Miles S. Stakeholders theory and practice. Oxford: Oxford University Press; 2006

Guo Y. The Study on the relationship marketing performance appraisal based on stakeholders theory. World Standardization Qual Manag. 2007;9:48–50

Health Committee of Dancheng County. *Health statistics yearbook of Dancheng County. China:* Dancheng: People's Government of Dancheng County; 2019

He G, Ma J. Policy effectiveness and strategies in cost containment during health system reform process. Med Soc. 2010;23(10):60–62

Jia M, Wang F, Ma J et al. Implementation and early impacts of an integrated care pilot program in China: case study of county-level integrated health organizations in Zhejiang Province. Int J Integr Care. 2021;21(3):1–11. https://doi.org/10.5334/ijic.5605

Jia X et al. Analysis on the operation of Yangzhou Maternal and Child Health Medical Association based on the stakeholder theory. Chin J Social Med. 2018;35(3):273–277

Jin Y, Lu S, Li S. Analysis of healthcare alliance based on stakeholders theory in China. Chin Hosp Manag. 2013;33(10):3–4

Laresgoiti M, Nuño-Solinis R. Integrated care innovations for patients with multimorbidity: a scoping review. Int J Healthc Manag. 2020;13(1):240–247

Li L. Views on major problems and strategies of referral system in current medical insurance system. Chin Remedies Clin. 2014;14(9):1297–1299

Liang D, Mei L, Chen Y et al. Building a people-centred integrated care model in urban China: a qualitative study of the health reform in Luohu. Int J Integr Care. 2020;20(1):9

Meng Q, Mills A, Wang L, Han Q. What can we learn from China's health system reform? BMJ. 2019;l2349. https://doi.org/10.1136/bmj.l2349

NHC. National Health Commission, Implementation plan for advanced county level integrated health organization. 2019. http://www.nhc.gov.cn/jws/s3580/201905/833cd709c8d346d79dcd774fe81f9d83.shtml (accessed 12 March 2024)

Nuño-Solinis R, Pérez P, Polanco N, Hernández-Quevedo C. Integrated care: the Basque perspective. Int J Healthc Manag. 2013;6(4):211–216. https://doi.org/10.1179/2047971913Y.0000000046

Organisation for Economic Co-operation and Development. OECD health statistics. 2020. https://www.oecd-ilibrary.org/social-issues-migration-health/data/oecd-health-statistics_health-data-en (accessed 9 October 2024)

People's Government of DC County. Health reform plan and implementation report. China: People's Government of DC County; 2018

Qian D. Analyzing the stakeholders in vertically integrated health service systems sampled with Zhenjiang City. Chin Health Service Manag. 2014;31(4):251–253

Qian Y, Hou Z, Wang W et al. Integrated care reform in urban China: a qualitative study on design, supporting environment and implementation. Int J Equity Health. 2017;16(1):185. https://doi.org/10.1186/s12939-017-0686-8

Satylganova A. Integrated care models: an overview. Copenhagen: World Health Organization Regional Office for Europe; 2016

Steele Gray C, Zonneveld N, Breton M et al. Comparing international models of integrated care: how can we learn across borders? Int J Integr Care. 2020;20(1):14. https://doi.org/10.5334/ijic.5413

Vargas I, Mogollón-Pérez A, Unger J et al. Regional-based integrated healthcare network policy in Brazil: from formulation to practice. J Health Policy. 2015;30(6):705–717. https://doi.org/10.1093/heapol/czu048

Wang X, Sun X, Birch S et al. People-centred integrated care in urban China. Bull World Health Organ. 2018;96(12): 843–852. https://doi.org/10.2471/BLT.18.214908

Wu T. Evaluation of medical consortia from parents' behaviour and cognition. Chin J Hosp Adminis. 2012;28(7):551–552

Xie T, Yang J, Feng D, Zhang L. Mechanism analysis on integration of health care services at county and township level: from the perspective of stakeholder theory. Chin J Health Policy. 2015;4:53–59

Yu T, Wu C, Li H, Ye M. Analysis of main restricting factors and countermeasures for smoothly developing multihospital system in Shanghai. J Shanghai Jiaotong Univ. 2015;35(2):248–252

Yu X, Leng H. Review of the studies of China's medical system problems in recent years. J Chongqing Technol Bus Univ (West Forum). 2007;17(1):10–12

Yu Y, Gao Y, Jiang M. Evaluation on satisfaction degree in public hospital from the point of view of stakeholder. Chin Med Ethics. 2012;25(2):174–176

Zeng Y, Wan Y, Yuan Z, Fang Y. Healthcare-seeking behavior among Chinese older adults: patterns and predictive factors. Int J Environ Res Public Health. 2021;18(6):2969. https://doi.org/10.3390/ijerph18062969

Zhao Y, Mao L, Lu J et al. Status and Factors associated with healthcare choices among older adults and children in an urbanized county: a cross-sectional study in Kunshan, China. Int J Environ Res Public Health. 2020;17(22):8697. https://doi.org/10.3390/ijerph17228697