How Does China Promote Integrated Care Development? A Policy Content Analysis

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Abstract

Background: Multiple countries' experiences have illustrated that integrated care is an ideal choice regarding improving the quality of health care. In China, the central government has enacted a large number of policies to promote the development of integrated care in recent years. Yet, no existing research has examined how these policies to support the development of integrated care. In this paper we seek to address that gap.

Methods: Document content analysis method was used in this paper. Data were collected by carrying out a review of integrated care policies (N=21) published from January 2015 to December 2020. The policy documents of integrated care issued by central governments are retrieved through the Internet. IHSDNSs (Integrated Health Service Delivery Networks)'s essential attributes framework was used to guide data analysis.

Results: The most commonly referenced principal domains of integrated care in China were model of care, there were 45 references to the organization and management, financial allocation and incentives was the least often referenced source of information. The main purpose of reference to information was to support the reform of integrated care decision-making.

Conclusions: A whole range of policies on integrated care were issued in a relatively short time. These policies propose a macro conceptual and operational framework for the development of integrated care. The development of integrated care has been mainly driven by the policy stimulus in China. However, the concrete measures still need clear negotiation and management by the local municipalities. Future policy should improve complementary policies such as financial allocation and financial incentive policy.

Highlights

• Twenty-one policies on Chinese integrated carewere analyzed through content analysis method.

• The first study to show a comprehensive national picture of integrated care.

• Essential attributes of integrated care in China are described according to the established framework developed by PAHO.

• The challenges of China' s integrated care faced are discussed and potential policy responses are proposed.

• A possible area for future research is introduced.

1 Background

With the burgeoning and expanding development, integrated care is considered to be an essential condition for improving the health outcomes[1, 2]. As an effective framework to provide coordinating

health care service, it is attracting considerable attention in China[3]. China's health service system is experiencing the increasing cost, the waste of health resources which caused by fragmentation. Since the reform and opening up in 1978, China has experienced a huge transition from centralization to decentralization, which makes their health care system change dramatically in a short time[4]. China's health care system has transformed from a centrally planned system into a market-oriented one[5, 6]. Government is not the only providers, many private hospitals swarmed into the medical service market and become the providers. There was a reliance on the private financing to provide public health services. As a result, the public hospitals seek economic instead of value-based service. The changes make a decentralization, disorder, and fragmentation health system. Experience to date shows that excessive fragmentation cause difficulties in access to services, irrational and inefficient use of available resources, unnecessary increases in production costs, delivery of services of poor technical quality, and low user satisfaction with services received[1, 7].

The Chinese government is trying to achieve the goal of "universal access to basic health care services"[5]. However, the inequality of the distribution of health care resources in China is the biggest obstacle[8]. To change this phenomenon, China needs to strengthen both the vertical and horizontal connections between its public health service organizations[9, 10]. The integrated care-with a full-featured, hierarchical and resource-sharing structure has been proposed[11].

The coordination of health service delivery has long ranked high on the health care agenda[12]. Premier Li Keqiang emphasized that China should launch pilot of integrated care in the government work report in 2017. In addition, the latest "Guiding Opinions of the General Office of the State Council on Promoting the Construction and Development of Integrated care ", enacted in April, 2017 by General Office of the State Council, will serve as the general guidance of integrated care through the next few years that includes the current situation, overall requirements, key tasks, and its supporting measures. It indicated that the development of integrated care has risen from self-practice to national policy. It is also a signal that China would put integrated care at the center of the health reform. The presence of a national government-led policies for integrated care has been suggested as an important driver of the development of integrated care.

A clear understanding of China's integrated care policies will benefit the development of health care cause. Meanwhile, it's meaningful to deep analysis how China uses policies to promote the development of integrated care, which can contribute 'China wisdom' to global integrated care. There is no doubt that the integrated care has made enormous strides which is being driven by government policies. Considering the central government published a series of policies in relation to integrated care as a means for achieving improved the quality of public health service, it is now recognized that policy regarding the provision of integrated care should be interpretated by researchers. But to our knowledge such "decode" to integrated care policies documents have not been comprehensively carried out. To fill this gap, we undertook a document analysis study to elicit the essential attributes of key fundamental domains of integrated care, challenges and opportunities for the implementation of the national policies.

2. Methods

This study employed a qualitative document analysis (QDA) approach of government policies. QDA has been defined as a technique for compressing many words of text into fewer content categories based on explicit encoding rules[13]. The most noteworthy feature of QDA is a systematic and replicable technique which enables researchers to rigorously and systematically analyze the text of policy documents. It also an approach commonly used in other policy analyses[14]. Like other qualitative methods in research, qualitative document analysis requires that data be examined and interpreted in order to gain elicit meaning, develop comprehensive understanding for the intention of policy makers and to verify the assumptions made before[15–17]. This method can be directly used to quantitatively and/or qualitatively describe explicit content in visual communication, verbal or written[18]. In this paper, the QDA process mainly entailed key steps: (a) date collection; (b) date analysis; (c) inter-rater analysis.

2.1. Data Collection

The ever-increasing digital textual data presents availability of opportunities to researchers[19]. To obtain comprehensive and representative policy documents is the is the premise of the study. We defined a policy as a document generated by the government to guide the planning, organization, delivery or improvement of integrated care service. The policy documents for the research were collected from national class government website. This research did not involve human subjects. We obtained data from publicly available material so informed consent was not needed and the academic ethics was complied with. Due to the large number of policy texts available, three selection criteria were used:

1) Source of policy. The documents used in this paper should come from the central government websites. Two research associates (XY, Z.S.) searched the Internet with Baidu to compile a list of government websites. For example, The General Office of the State Council, the Ministry of Agriculture and the General Office of the People's Government; which issued by central government and various ministries and commissions, including the State Council, the National Health Commission, National Development and Reform Commission, Ministry of Human Resources and Social security, the National Development and Reform Commission, National Administration Traditional Chinese Medicine, and other relevant ministries and commissions. For this study, we included national policies from China, the provincial documents are excluded. On those websites, XY and Z.S. identified eligible policies by searching with keywords.

2) Type of policy. Policies were labelled with a variety of terms[20], including laws, strategies, regulations, plans, opinions, guiding opinions, measures, announcements, and notices that directly reflect the government’s attitude towards integrated care. It is mentioned that the form of report, reply, approval, notification and industry standards were not included in this paper.

3) Content of policy. The content of the policy document should be relevant to the topic of integrated care. Policies were also included if they pertained to integrating of health resources. In order to conform to this criterion, each of the policy were scrutinized manually.

4) Time of the documents. Publications referred to publicly available government policies published in Chinese language after December 30, 2020.

we included 21 eligible policies of Chinese-language policies published in China from 2009 to 2020 on integrated care – that were identified on central government websites. All policy documents collected were printed and coded by hand. Each hyper-link within the policies was checked to ensure its information type and purpose was recorded accurately. Finally, the collected policy documents are sorted according to the time of promulgation. Extracted data are included in Additional file 1.

2.2 Coding principle

2.2.1 Categorization

Given the accumulated international experiences, the essential attributes of integrated care should be understood from the aspects of model of care, governance and strategy, organization and management, financial allocation and incentives. The mentioned essential attributes are put forward by the Pan American Health Organization (PAHO). From May to November 2008, PAHO (Pan American Health Organization) held a series of country consultations to discuss health services fragmentation and optimal solutions to address this problem[21]. It proposes essential attributes for further understanding the key essence of integrated care. Therefore, we used the essential attributes of IHSDNs as the framework of coding. The mentioned framework, which examines four interrelated components of model of care, governance and strategy, organization and management, financial allocation and incentives.

Texts were content analyzed using the priori framework assessing the published integrated care policies. Content analysis is an approach to the analysis of texts and documents that explores the quantify content in terms of pre-determined categories and in a replicable and systematic manner[22]. The relevant section of each strategy was read in detail by YX.

2.2.2 Coding process

All the policy texts are approximately 140,650 words. We divide the policy text into the smallest unit with each rule to explore the characteristics of policies on integrated care in China. The task of qualitative analysis takes a considerable amount of time, so it is necessary to make full use of software and avoid the waste of time[23, 24]. QSR-NVivo is a powerful tool that can facilitate presentation of findings through to the analysis of data[25]. If the QSR-NVivo used appropriately, it can facilitate the analysis of data, theoretical development and presentation of findings[25]. Therefore, this article continues to use NVivo 11 qualitative analysis software to further explore the content of each of collected documents to ensure the integrity of the research results. Each of collected document was analyzed by taking them apart to see what they described addressed or considered each of the identified ‘principal domains’ for integrated care (i.e. model of care).

2.3 Inter-rater analysis

To a comply with the code of research conduct, we organized all the member of this paper to take part in the coding activity. The members of this paper were divided into two groups to code independently. Percentage agreement and k-factor are the key indicator for the reliability analysis. By inviting another coder to extract one text from the coded policy texts, and then by re-encoding it using the code consistency check function in NVivo, the code is found to have high credibility. Finally, all authors reviewed summary data and assisted with interpreting study findings.

3 Results

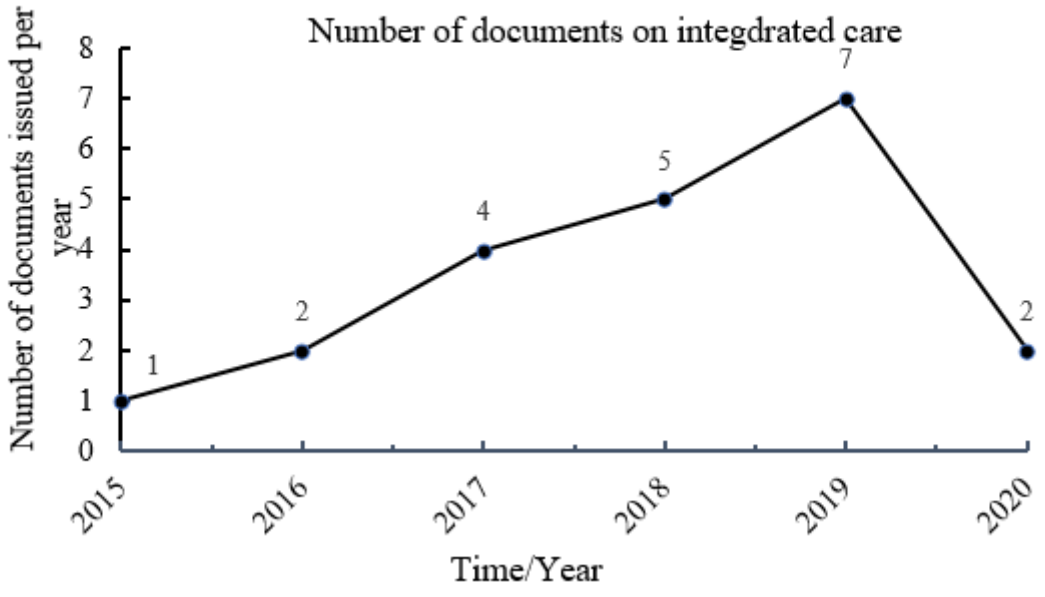
3.1. Policy characteristics

In this section, descriptive statistical analysis of the number of policies per year and the form of policy were performed. In total, 21 documents were identified (As shown additional file 1). The toll of 21 documents on integrated care comprised a total of 95,835 words. Before 2015 years, there is very hard to find a special policy to outline the development paths of integrated care. China's integrated care policy was relatively scarce until 2015, as shown in **1**.

From the beginning of 2015 to the end of 2017, the number of policy documents on integrated care in China has shown a slower growth trend, continuing until nowadays. These documents guideline the feature of integrated care in China and present the core actions to promote the development of integrated care.

3.2. Essential attributes of integrated care

Although there was some variability across different policy documents, very similar declarations of principal domains were observed in the reviewed policy documents (Table 1).



With respect to essential attributes, 7 (8.33%) pertained to model of care, 21(25.00%) were specific to governance and strategy, 45 (53.57%) were specific to organization and management, and 11 (13.09%) were specific to financial allocation and incentives. No policies included content for the domain of organization and management.

Table 1
Proportion of documents declaring essential attributes of integrated care

Principal domains	Frequency (% total) of reference to information	N (%) policies that reference in information
Model of care	7(8.33%)	4
Governance and strategy	21(25.00%)	13
Organization and management	45(53.57%)	16
Financial allocation and incentives	11(13.09%)	7

4 Discussion

4.1 Overview of integrated care policies

Overall, the development of integrated care in China has gone through a long-term and step-by-step process. In 2013, Chen Zhu, the minister of the Ministry of Health pointed out that the next step of health care reform is to establish integrated care at the National Health Conference. The concept of “integrated care” beginning to enter the public vision. At this stage, the idea of integrated care is still in an embryonic stage. The concept of integrated care that was first described in official documents could date back to 2015. In May 2015, The General Office of the State Council issued Opinion on Pilot Comprehensive Reform of Urban Public Hospitals (Guoban fa 2015, No.38) suggests the implementation of division and coordination mechanisms (for example, integrated care). The document encourages to accelerate coordination between different types of medical institutions by partnerships. At this moments, integrated care was considered as a strategy to improve the delivery, efficiency, client outcomes and satisfaction rates of health care[26], but its deeper meanings still lack of fully explained. In December 2016, the State Health and Family Planning Commission (formerly NHC) issued the Guiding Opinions on the Pilot Work of the Construction of integrated care (Guo Wei Yi Fa 2016, No.75). The general requirements, basic principles and practice models are outlined. Integrated care has been high on the agenda of Chinese medical service organizational reform since 2017. In April 2017, the State Council issued the “Guiding Opinions on Promoting the Construction and Development of Integrated care”, which laid the “blueprint” for China's integrated care. This nationwide policy on integrated care are catalysts for initiating integrated care development. The goal of the reform is to construct a graded diagnosis model. For the next two years, extensive relevant policies were constantly introduced and improved by the NHC.

4.2 Essential attributes of integrated care in China

A systematic review of a series of policies on integrated care provides insights into essential attributes, including model of care, governance and strategy, organization and management, financial allocation and incentives. The essential attributes of IHSDNs framework, which describes the essential attributes of integrated care as comprising four key components: model of care, governance and strategy, organization and management, financial allocation and incentives.

4.2.1 Model of care

Effective organization mode is the important condition for the sustainable development of integrated care and is regarded as the premise and basis for the development of integrated care networks. The model of integrated care has attracted considerable attention in China[12]. It is not surprising that most policies (N = 21) have mentioned the model of integrated care. In practice, different provinces and cities of China have also launched pilots and explored new service models[11]. e.g. hospital groups in urban areas in Luohu district of Shenzhen Municipality[27, 28]; medical associations in rural areas in Tianchang of Anhui province; cross-regional specialist alliances in Pediatric alliance of Beijing Children's Hospital and telecollaboration networks in China-Japan Friendship Hospital. This section aims to introduce the characteristics of four model of integrated care (See Table 2).

Table 2
Examples of model of integrated care content in include policies

Type of Model	Recognition of model
hospital groups in urban areas	It is often seen in cities, usually composed of Tertiary hospitals, Secondary Hospital and community health service centers.
medical associations in rural areas	Take county hospital as the leader, township hospitals as the hub, village clinics as the basic medical community.
cross-regional specialist alliances	Supported by a specialized institution with strong technical force, it is an alliance composed of specialized institutions at the grassroots level.
telecollaboration networks	Public hospitals provide telemedicine, teaching and training services for remote and underdeveloped areas.

Hospital groups in urban areas model can be seen in city. Usually, this model is led by a tertiary hospital and supported by a few secondary hospitals and several community health service centers. The tertiary hospital takes the main responsibility for promoting the process of integration[29]. Medical associations in rural areas (also known as County Integrated Healthcare Organization), is an innovative alliance of three-tier health service organization in modern rural China, led by a county hospital and composed of 2–3 township health centers and a number of village clinics[30, 31]. Medical associations in rural areas are a typical vertical integrated care which integrates the three-tier healthcare institutions[31]. Taking

advantage of professional technology, cross-regional specialist alliances have the characteristics of high degree of technical consistency, large span of regional coordination and strong coordination of network. Telecollaboration networks aims at providing health-related services and advice remotely for patient over the Internet. The public hospitals play the leading role in telecollaboration networks[32–34]. Telecollaboration networks aims to reduce the total costs of care by reducing unnecessary treatment and emergency hospital visits[35]. The multiplicity of model is a fundamental issue for integrated care and integrated care governance. All in all, the four types of integrated care model can reflect the nature of integration: one towards horizontal coordination and one towards vertical collaboration[36].

4.2.2 Governance and strategy

Designing an effective governance framework and adopting an overall strategy is one of the cornerstones to integrate health resources among different medical institutions in the limited region. In 2017, integrated care governance was implemented on a nation-wide scale as a major policy initiative to improve the quality of health care.

In a sense, governance creates ‘an environment for health organization-wide approach to effectively manage healthcare quality improvement systems’. Broadly, key elements of governance focus on guiding ideology, fundamental principle and job objective. The aim of governance and strategy is to bringing together organizations and services into an integrated health system through contractual relationships or networks. Governance needs to be diversified, ensuring representation from a variety of stakeholders, including grassroots medical institutions and patients [37]. Cross-departmental collaboration is regarded as a critical means for government to solve complex public issues[38]. Interaction among health organization is commonly observed in solving all kind of issues.

There is lack of unified governance and strategy have been developed due to the expansive territory and huge population. Nationwide in the healthcare sectors, new forms of governance and strategy have been developed as a response to the growing needs of integrated care. The practices show that bottom-up developments are running ahead of top-down guidance.

In general, each of the integrated care network has its own governance structure-network board. The network board is responsible for coordinating the supply of care assignments; choosing establishing referral agreements; developing an admission policy and so on. In short, the aim of network board is offering the widest possible range of medical services to be competitive with other hospitals in the region.

4.2.3 Organization and management

To integrate the care from multiple providers into a coherent client-focused service, a large number of agreements have to reached and activities have to be implemented. When viewed within the context of effective organization and management framework proposed in the documents, key managerial items of integrated care focus on human resources, information system, performance appraisal and services capacity in primary level.

The implementation of integrated care is crucially dependent on an adequate and well-functioning health workforce. The framework of organization and management has points out a way forward to align the human resource to the needs of integrated care. The main tasks in documents are building improving workforce competency for integrated care and reforming the compensation system to provide strong incentives for good performance.

Integrated care requires that healthcare professionals share information about - and with - patients at appropriate points in the care or treatment process[2]. Without a strong information management, professionals from different healthy organizations cannot work together effectively to provide comprehensive, consecutive, and integrate health care for their patients[2]. In recent years, more and more alliance members pay attention to information sharing, and they also deeply deem that it is the critical factor to success in supplying high quality health service.

Performance appraisal is the key in identifying strategic areas for improving health system performance[39]. The management of health Performance appraisal is an important for achieving and sustaining health improvement goals[40].

Involvement of both the public hospital system and grassroots medical institutions is important for a successful and sustainable integrated care program[41]. As a result, all secondary and tertiary hospitals have been funded using a global control approach[42]. A new medical classification system called the “Diagnosis Related Groups” (DRGs) was introduced in Chinese medical system[42–44].

China has laid emphasis on strengthening the construction of services capacity in primary level of health institutions and perfect the medical assistances system. General practitioners (GPs) also received much attention. More patients were guided to visit community health service centers and specialized hospitals first. The previous study shows that the greater the degree to which the various functions and activities are perceived to be coordinated across operating units, the more effectively these functions are perceived to be performed and the overall system is perceived to be more effective[45]. All in all, the level of integrated management of human resources, information system, performance appraisal and services are expected a greater improvement.

4.2.4 Financial allocation and incentives

Essential attributes related to financial allocation and incentives were least frequently *(n = 11)* found. Seven policies referred to adequate funding and financial incentives aligned with network goals [46]. Such a result would be essential to identify gaps with regard to financial allocation and incentives in policy recommendations.

The problem with traditional payment schemes is that they do not provide adequate financial incentives to the development of integrate care[47]. Like Singapore, differences in healthcare financing systems also limited the implementation of integrated care policy[50].There is no exception in China. Half of policies on integrated care in China did not mention implementation details how to integrate the benefit among

integrated care network; just 16% included financial incentives aligned with network goals and DRG program as a priority to stimulate the development of integrated care.

Financial incentives are powerful forces that drive providers' behavior, even for public hospitals and clinics[4, 49]. Hence, the most important thing is establishing an incentives mechanism to incentivize the major stakeholders involved in the integration of care. In practice, the bulk of financial allocation and incentives for integrated care is linked to the 'value-based' payment continuum and 'pay-for-coordination' [48].

5 Conclusion

Integrated care is an important strategy for increasing health system performance. The aim of integrated care is to decrease the fragmentation and deliver better outcomes of care on multiple dimensions[26]. In recent years, integrated care development has been popularized with the national policies. Despite its growing significance, detailed evidence on the essential attributes of integrated care remains vague and limited. Understanding the policy on integrated care provides an opportunity to identify how policies might be used to support integrated care development and contribute to improved health outcomes. Therefore, our study examined whether and how Chinese government health policies promoted, incentivized, or guided the development of integrated care to improve the health service capacity. This study is one of the first to examine the use of research evidence in existing China integrated care policy related to the essential attributes using rigorous quantitative methods.

Analysis of 21 government integrated care policies from China revealed that China begins to pay attention to issues the relevant policies and regulations to promote the development of integrated care. However, the results revealed the present policies are not strong enough to support the development of integrated network specifically and comprehensively.

To some extent, the absence of connection between policy objectives and intervention is concerning. These identified gaps represent opportunities by which government policies could be developed or strengthened to support the integrated care.

To effectively implement these policies, we recommend that China should take advantage of policy experimentation to mobilize bottom-up initiatives and encourage innovations[51].

Abbreviations

DRGs: Diagnosis Related Groups

GPs: General practitioners

PAHO: Pan American Health Organization

IHSDNSs: Integrated Health Service Delivery Networks

NHC: National Health Commission

Declarations

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Author Contributions

X.Y. conceived the idea of the study. X.Y., and Z.S. drafted the manuscript and contributed to the materials and analyses. Z.S. coordinated the documents collection and helped interpret the data. X.Y., Z.S. and L.L. revised the manuscript. All authors read and approved the final manuscript.

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Consent for publication

No applicable.

Competing interests

The authors declare that they have no competing interests.

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