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HAS THE SMART CITY PILOT POLICY AFFECTED THE SUPPLY LEVEL OF BASIC MEDICAL SERVICES? A QUASI-NATURAL EXPERIMENT IN CHINA

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Abstract. In the digital age, the implementation of smart city pilot policy has spurred the creation of new healthcare models and improved the supply level of basic medical services by the widespread application of modern information technology (IT). However, the impact of the smart city pilot policy on the supply level of basic medical services has yet to be examined. By constructing indicators for evaluating the supply level of basic medical services and applying entropy weight method, We collected basic medical service supply data across 208 Chinese prefecture-level cities from 2005 to 2019. While conducting a quasi-natural experiment based on the smart city pilot efforts of the Ministry of Housing and Urban–Rural Development of the People's Republic of China in 2012, we applied the difference-in-differences (DID) method to evaluate the effects of the smart city pilot policy on the supply level of basic medical services, explored the inherent mechanism, and further analyzed the heterogeneity of these effects. The findings indicate that the smart city pilot policy has enhanced the supply level of basic medical services through three paths: technological innovation, organizational support, and the driving force of the external environment. The effect of the policy is significantly stronger in central and western areas of China than in eastern and northeastern areas, and the effects of the policy are greater in provincial capital cities than in other cities. Recommendations for policy-making are proposed based on the findings of this study.

1. Introduction

Health is the foundation of human social progress and improve the supply of basic medical services and increasing the national health level have become critical goals of government work. In 2012, the Ministry of Housing and Urban–Rural Development of the People's Republic of China released the National Pilot Indicators for Smart Cities/Districts/Town (Trial), which calls for improving basic public health services by applying information technology (IT) in public services. The indicators fall into three levels: smart management and services, basic public services and medical and health services. The National New Urbanization Plan (2014–2020), explicitly states that smart cities are a national strategic development goal. This policy document designates "easy-to-access public services" as an element of smart

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city development and calls for innovation in service models for education, employment, social security, elderly care, healthcare, and culture in cities by leveraging IT. In these policy documents, bacis medical services are considered necessary indicator for evaluating the effects of the smart city pilot policy. These measures have been internalized in the goals and processes of the smart city pilot policy and represent important directions and applications in developing smart cities. Smart city strategies are often promoted as a panacea for current urban planning challenges. Though governments worldwide are increasingly advocating for smart city initiatives, their impact remains largely unexplored [2]. After more than ten years of smart city policy implementation, what is the level of the current supply of basic medical services in China? Has the smart city pilot policy affected the supply level of basic medical services, and if so, how? There is an urgent need to conduct a scientific evaluation of the relationship between these two aspects, explore the internal impact mechanisms, provide theoretical support for enhancing the design of future smart city policy and improve the basic medical services.

2. Literature review

In the age of information, networking, and intelligence, the smart city pilot policy has affected various fields. Some researchers have evaluated the effects of smart cities on employment, income, social security, green economic development and regional innovation [13, 14, 21]. Smart cities with information and communication technology (ICT) at the core are applied to medical and health services, spawning novel smart medical services such as e-health, internet + healthcare, mobile health, smart healthcare, and smart elderly care. Intelligent medical services have become an Significant part of smart city development.

2.1. **Studies on Smart Cities and the Supply of Public Services.** The smart city concept originated in Western countries and subsequently sparked a global craze. With the continuous deepening of research, there are two viewpoints on smart cities, namely, technology-oriented and people-oriented [4, 15]. The technology-oriented view refers to the applying of ICT to support city operations and to establish digital city infrastructure [3]. The people-oriented view emphasizes human capital and prioritizes citizens' needs, which is exactly what this paper focuses on.

Currently, an increasing number of people recognize that one of the important purposes of smart cities is to serve people indicated that a smart city aims to deliver services that boost citizen well-being, improve urban mobility, and augment public sector agility [19]. Governments deploy smart city plans to foster urbanization, enhance governance, address urban challenges, elevate life quality, and grow the digital economy. Smart cities not only relate to technology but are also more complex and human. Importantly, cities are human settlements, and cities are supposed to serve us [6]. That is, smart city strategies focus on people first and on technology second as a tool to serve citizens rather than as an end in itself [18]. In China, the service quality of smart cities is important for Chinese local governments, but the current research on smart city construction remains incomplete. In particular, the outcomes and efficacy of smart cities in public services are not well-defined. Therefore, scholars have constructed an evaluation model for the quality of smart city public management service based on the fuzzy analytic hierarchy process. As public services are a wide concept and include education, healthcare, elderly care, transportation and other aspects, studies have analyzed the application of technology in some specific public service projects, such as public transportation and public services for tourism in smart cities [16]. Finally, some studies have empirically evaluated effects of smart city pilot policy on public services in cities and the supply level of basic public services [5].

2.2. **Studies on the Supply of New Smart Medical Services.** In smart cities, many applications are designed for various fields, such as health management, which is one of the most important aspects for urban residents [17]. That is, smart cities have been increasingly linked to the achievement of public health objectives, such as improvements in well-being and quality of life [10]. Following Vienna, Singapore, and San Francisco' s practices, we've developed a comprehensive, strategic overview of SC services, establishing a scientific foundation for evaluating SC services and offering a modular toolkit for public managers to plan and design SCs.

Various information technologies have changed the models of basic medical services. Intelligent diagnosis, treatment, and healthcare management are aided by artificial intelligence [9]. The Internet of Medical Things, which is based on IT, is expected to guide the reform and development of healthcare models in the new era [20]. Cloud service platforms demonstrate noticeable advantages in integrating various healthcare resources and promoting the innovation of medical service models [12]. Pervasive mobile communication and computing have opened up significant opportunities for entities and governments to reassess their healthcare strategies, that is, mobile health within smart cities. However, We must concentrate on the key opportunities and challenges inherent in s-health [14] and emphasize the significance of healthcare security and privacy in smart city services and ideas [8]. These studies address the outstanding issues and future trends in smart healthcare [7].

Investigating specific public services such as healthcare in particular fields provides a window into the micro level to better understand the policy effects of smart cities on public services. However, the current academic literature that evaluates the effects of specific public services is not prolific. Medical health services are an experimental field in ICT. Technological applications have led to dramatic changes in the healthcare sector and innovations in medical and health management service models. Although some scholars [11] have empirically tested the impact of smart city policy on healthcare services, the specific explaining mechanism remains underdeveloped, which provides space for this paper.

3. Theoretical analysis and research hypotheses

3.1. **Smart City Pilot Policy and the Supply Level of basic medical services.** The basic logic behind the effects of the smart city pilot policy on the supply level of basic medical services is summarized below. First, to enhance medical resource investment and service supply, new medical policies and measures have been introduced intensively, and an enormous amount of government funding has been allocated to this field and the overall supply of basic medical services have increased.

Second, policies related to smart cities have introduced various enterprises and social investors into the healthcare industry. They have participated in the supply of medical and health services through privatization, government purchases, and cooperation between the government and social investors. This has resulted in a diverse range of service providers and methods of service provision. Third, to broaden the application scenarios of technology and accurately meet the needs of medical services, AI, big data, cloud computing, cloud platforms, and other technologies are used for remote consultation, aided diagnosis, and the sharing of electronic medical records. This effect can avoid situations in which medical resources remain idle in some hospitals while they are overused in other hospitals, improving national healthcare resource distribution and boosting basic service provision.

H1: Smart city pilot policy can increase the supply level of basic medical services.

3.2. **Working Mechanism of the Effects of Smart City pilot policy on the Supply Level of basic medical services.** The technology-organization-environment (TOE) framework is a theoretical framework widely used to understand the factors that influence technology innovation within organizations. It is a good fit for this research.

The core of the first factor, technological innovation, lies in talent. Some scholars believe that the internal driving force behind the positive externality of smart cities is inseparable from scientific and technological progress and innovation, which makes it possible to develop many solutions and products aimed at realizing smart cities [1]. First, data integration based on technological innovation improves the targeted supply of basic medical services. Second, the reengineering of medical service processes based on technological innovation improves the efficiency of basic medical services. Finally, various technologies have enriched the "tool kit" of smart healthcare in the digital age and optimized the supply of basic medical services.

H2: Smart city pilot policy can improve the supply level of basic medical services through technological innovation.

The second factor is organizational support. Strong government policy safeguards have been indispensable for smart city pilot policy to boost basic healthcare provision. The volume of local smart city policies indicates governmental support, which aids in conserving medical resources and enhancing service levels. Related measures have helped to save medical resources and improve the supply level of basic medical services. Furthermore, the implementation of a smart city pilot policy by local governments has given rise to a derivative impact on the healthcare sector. Mobility, for example, is affected. The applications of intelligent transportation technology include intelligent navigation systems, intelligent traffic sign control systems, smart buses and smart parking in smart cities, which can directly reduce traffic congestion and improve road accessibility; this makes it easier to visit hospitals and affects the accessibility of medical services.

H3: Smart city pilot policy can improve the supply level of basic medical services through organizational support.

The third factor is the driving force of the external environment. Information infrastructure is not only the foundation for building smart cities but also a prerequisite for smart city pilot policy to improve the supply level of basic medical services.

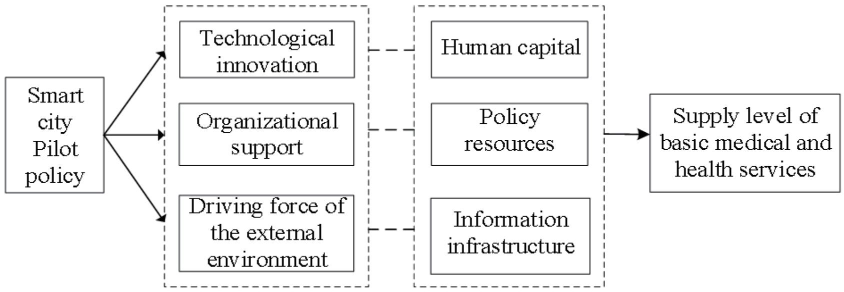

FIGURE 1. Mechanism of the effects of smart city pilot policy on the supply level of basic medical services

Information infrastructure encompasses information transmission systems such as wired broadband, wireless broadband, the Internet of Things, and the information sharing infrastructure for data storage and exchange, such as cloud computing platforms and information security service platforms, as well as roads, bridges, stations, airports, and other transportation facilities built or upgraded with intelligent capabilities. The Internet of Medical Things, data fusion, transmission, and sharing, cloud computing, and other technologies integrate the medical infrastructure with the IT infrastructure to create medical cloud data centers; this can help medical personnel make intelligent decisions, improve registration services, reduce patients' waiting time, increase access to consultations, and facilitate payment. As a result, doctors' performance in terms of diagnosis and hospital bed utilization is improved, thus, the basic medical service capacity is enhanced.

H4: Smart city pilot policy can increase the supply level of basic medical services through the external environment.

4. Research design

4.1. Model Specification. In this paper, the first batch of national pilot smart cities, designated by the Ministry of Housing and Urban–Rural Development of the People's Republic of China in 2012, is taken as an exogenous shock caused by the policies. The difference-in-differences (DID) method is used to access the impacts of smart city pilot policy on the supply level of basic medical services. This paper constructs two dummy variables based on the basic steps of the DID model. The group dummy variable (treated) indicates whether a city is a pilot smart city, taking the value of 0 for the control group and 1 for the treatment group. The time dummy variable (time) indicates when a city was designated a pilot smart city, taking the value of 0 for any year before 2012 and 1 for 2012 or any year thereafter. The interaction term coefficient (did) of the two dummy variables is used to estimate the pure impact of smart city pilot policy on the level of basic medical services. The econometric model constructed with the DID method is as follows:

$$\text{Pubser}_{it} = \alpha + \beta \text{Treated}_i \times \text{Time}_t + \gamma X_{it} + \delta_i + \eta_t + \varepsilon_{it}. \tag{4.1}$$

In this model, i indicates a prefecture-level city, and t indicates time. Pubser_{it} is a dependent variable that represents the supply level of basic medical services in city

TABLE 1. Description of the variables

Variable type	Variable name	Variable symbol	Specific indicator	Unit
Dependent variable	Supply level of basic medical services	Pubser	Calculated with the entropy weight method by constructing evaluation indicators	-
Independent variable	Pilot smart city	did	Interaction term between the group dummy variable "treated" and the time dummy variable "time"	-
Control variables	Industry mix Scale of local government Investment level Population density	ind3 gov inve dens	Proportion of the tertiary sector in GDP Ratio of government expenditure to GDP Ratio of fixed asset investment to GDP Resident population/land area at the end of the year	% % % Persons/square kilometer
Mechanism variables	Technological innovation Organizational support Driving force of the environment	Technology Organization Environment	Human capital level Number of smart city policies Information infrastructure Mobile phone subscribers / Internet subscribers	Persons Policies Subscribers/ 10,000 people

i at time t. $\text{Treated}_i \times \text{Time}_t$ is an independent variable that indicates whether city i is a designated pilot smart city in year t. If yes, then the value of $\text{Treated}_i \times \text{Time}_t$ is 1; otherwise, the value of $\text{Treated}_i \times \text{Time}_t$ is 0. X_{it} represents a series of control variables, and δ_i and η_t signify the fixed effects. ε_{it} is a random disturbance term. β is the core parameter of this paper.

4.2. **Description of the Variables.** Formula (4.1) shows that the dependent variable is the supply level of basic medical services, the independent variable is the interaction term formed by the implementation of smart city pilot policy in 2012 (namely, $\text{Treated}_i \times \text{Time}_t$), and the control variables include the scale of the local government, the level of development of the tertiary sector, the investment level, and population density, as shown in Table 1.

Dependent variable: The supply level of basic medical services (Pubser) is obtained by constructing an indicator evaluation system and applying the entropy weight method for calculation. After constructing an indicator evaluation system, the entropy weight method was applied to obtain the comprehensive scores for each city's basic medical and health service provision levels.

Independent variable: Pilot smart city ($\text{reated}_i \times \text{Time}_t$) is an interaction term of the group dummy variable and the time dummy variable and indicates whether city i was designated a pilot smart city in year t. The β coefficient in the formula reflects the size and direction of the policy effect.

Control variables: Other factors that possibly exert an influence are controlled for any time that data are available. The first factor is the scale of local government (gov) represented by the ratio of local government expenditure to local GDP. The second factor is the level of development of the tertiary sector (ind3), which is represented by the proportion of the tertiary sector in local GDP. The third factor is the investment level (inve), which is represented by the ratio of fixed asset investment to local GDP. The fourth factor is population density, which is represented by the ratio of the resident population to the land area.

Mechanism variables: The first such variable is technological innovation (Technology), whose core is talent. The human capital level (humr) is represented by the number of college students. The second mechanism variable is organizational support (Organization), which is represented by the number of dedicated policies related to smart cities (org). The third mechanism variable is the external environment (Environment). This paper uses information infrastructure (infra) to reflect the external environment, this is represented by the number of mobile phone subscribers (infra1) and the number of internet subscribers (infra2).

4.3. **Sample Selection and Data Sources.** The data are from the municipal districts in the 2006 through 2020 editions of the China City Statistical Yearbook (the edition of the book lags one year behind). In this paper, the data come from official and authoritative documents and are compared with other supporting materials. For individual cities, data missing for several years are added via interpolation. The specific cities in the treatment and control groups are not displayed here due to space limitations.

5. Empirical analysis

5.1. **Regression Analysis.** Based on H1, the data from 208 prefecture-level cities spanning 2005 to 2019 are used for regression analysis with the model given in (4.1). Table 2 presents the DID results. Models (1) and (2) produce estimation results without and with the control variables, respectively.

Table 2. Regression results

	(1) Pubser	(2) Pubser
did	0.015**	0.012*
	(0.005)	(0.005)
gov		0.000**
		(0.000)
inve		0.000*
		(0.000)
dens		0.000*
		(0.000)
ind3		0.000***
		(0.000)
Control variable	No	Yes
Two-way fixed effects	Yes	Yes
_cons	0.053***	0.028***
	(0.000)	(0.005)
N	3120	3120

note: $*p < .01$, $**p < .05$, $***p < .001$.

In Model (1), we found that the estimated coefficient of did is positive and significant at the 5% level. After adding some control variables, the estimated coefficient of did is still positive and significant at the 10% level. It shows that smart city pilot policy notably improves the supply level of basic medical services regardless of whether the control variables are incorporated. Model (2) shows that various factors exert a significantly positive impact on the supply level of basic medical services, but there are differences in the effect size. The scale of local government (gov), the investment level (inve) and the level of development of the tertiary sector (ind3) affect the supply side, while population density (dens) reflects the pulling effect on the demand side. The forces of supply and demand both contribute to elevating the level of basic medical services. The analysis results discussed above support the notion that smart city pilot policy can enhance the provision of basic medical services. H1 is therefore confirmed.

5.2. **Parallel Trend Test.** The Parallel Trend Test reveals the differing trajectories in basic medical service supply levels between the treatment and control groups pre - and post - smart city pilot policy. Between 2005 and 2019, there was a general rise in basic medical service supply levels in both groups. Prior to 2012, before smart city pilot policy was implemented, the basic medical service supply levels for both the treatment and control groups showed a stable trend. After 2012, the supply level for the treatment group rose more rapidly than that for the control group. This indicates that the data supports the parallel trend assumption utilized in this study.

5.3. **PSM-DID Test.** This study employs a logit model to calculate propensity scores and utilizes nearest-neighbor matching with a caliper to pair the treatment and control groups. Post-matching, the standard deviations for both groups are notably decreased, with all matching variable standard deviation absolute values falling below 10%. After matching, it suggests that the balance test passes and that the propensity score matching and difference-in-differences (PSM-DID) method is appropriate and feasible. We also carry out a common support test. Only 27 samples in the control group are outside the common support area, and 256 samples fall within the common support area. The mismatched samples account for a small number compared with the total number of samples. Excluding the unmatched samples, the impact of the smart city pilot policy is re-calculated using the matched data. The estimated coefficients of did are strongly positive at the 1% level, irrespective of the inclusion of control variables.

5.4. **Other Robustness Tests.** Increased sample size. Tests were performed with an increased sample size. In terms of sample selection, this paper incorporates cities from the third batch of designated pilot smart cities from 2015. The sign and significance of did coefficient are the same as those discussed earlier, the results are strongly positive at the 1% level, suggesting that the paper's findings are quite robust. Analysis of the four control variables shows they significantly influence the supply level of basic medical services, albeit with minor variations in the magnitude and statistical significance of their effects.

Changes in the treatment group. Cities from the 2015 third batch of pilot smart cities are considered the treatment group. The coefficient of did is significantly positive at the 5% level, excluding control variables. After the third batch of pilot smart cities is used for a robustness test, the coefficient of did decreases. As mentioned above, smart city pilot policy had already been implemented in many cities across the country in 2015 when the third batch of smart city pilot policy was designated. This fact weakens the impact of smart city pilot policy to a certain extent.

5.5. **Effect Mechanism Test.** Based on the previous theoretical analysis, it is assumed that the smart city pilot policy enhances the provision of basic medical services through three major effects: technological innovation, organizational support, and the driving force of the external environment, which need to be tested. In this work, the effect mechanism is tested through the regression of the intermediary variables on the independent variables. The test is focused on whether the independent variables impact the intermediate variables and thus affect the provision of basic medical services. This method supports the notion that the smart city pilot policy can affect the supply level of basic medical services through these mechanisms as long as the independent variables can significantly influence the mechanism variables. The mechanism test model constructed for this paper is as follows:

$$\mathrm{Humr}_{it} = \alpha_0 + \alpha_1 \,\mathrm{did_{it}} + \mu_\mathrm{i} + \gamma_\mathrm{t} + \varepsilon_\mathrm{it}, \tag{5.1}$$

$$\mathrm{org}_{it} = \alpha_0 + \alpha_1 \,\mathrm{did_{it}} + \mu_\mathrm{i} + \gamma_\mathrm{t} + \varepsilon_\mathrm{it}, \tag{5.2}$$

$$\mathrm{infra1}_{it} = \alpha_0 + \alpha_1 \,\mathrm{did_{it}} + \mu_\mathrm{i} + \gamma_\mathrm{t} + \varepsilon_\mathrm{it}, \tag{5.3}$$

$$\mathrm{infra2}_{it} = \alpha_0 + \alpha_1 \,\mathrm{did_{it}} + \mu_\mathrm{i} + \gamma_\mathrm{t} + \varepsilon_\mathrm{it}. \tag{5.4}$$

Table 3 displays the impact of the smart city pilot policy on human capital level, the number of policies, mobile phone subscribers, and internet subscribers. The results show that all regression coefficients, except for internet subscribers, are positive and significant at the 1% level except for the number of internet subscribers. These results suggest that the policy can significantly boosts the human capital level, number of policies, and number of mobile phone subscribers. Although the policy also increases the number of internet subscribers, the significance is less pronounced. In terms of the regression coefficients, human capital has the highest coefficient, followed by the number of internet subscribers and mobile phone subscribers, which represent information infrastructure, and then, by the number of policies. These results imply that the smart city pilot policy enhances urban basic medical service provision through three paths: technological innovation, organizational support, and the driving force of the external environment.

6. Heterogeneity analysis

6.1. **Regional Heterogeneity.** The cities in the sample are grouped into four areas. A regional variable is constructed, with values of 1, 2, 3 and 4 for cities in the eastern, central, western, and northeastern areas. The overall regression results are as follows: First, the coefficients of did in all four models are positive, which suggests that the policy improves the local basic medical services regardless of where the pilot smart cities are located. However, the policy's impact is more pronounced in central and western areas compared to the northeastern and eastern areas. Secondly, the smart city pilot policy exerts a significant effect on the basic medical service supply level in central and western areas at the 1% level, whereas its impact is not significant in the eastern and northeastern areas. Based on the empirical analysis results above, we suggest that the existence of a "ceiling effect" of the smart city pilot policy on basic medical services possibly explains why the

Table 3. Mechanism test

	(1) hum	(2) humr	(3) org	(4) org	(5) infra1	(6) infra1	(7) infra2	(8) infra2
did	36440.6***	30445.4***	0.623***	0.535***	4896.1***	3603.2***	5925.4*	6616.1*
	(3301.2)	(3350.6)	(0.046)	(0.045)	(304.0)	(282.7)	(17468.0)	(17545.0)
ind3		827.5***		0.014***		159.9***		-120.0
		(110.8)		(0.001)		(9.326)		(463.4)
gov		322.4**		0.004**		114.4***		67.91
		(106.1)		(0.001)		(8.945)		(502.9)
inve		-59.42**		-0.002***		0.674		346.1*
		(22.10)		(0.000)		(1.867)		(140.8)
dens		-0.699		-0.000		-0.071		1.727
		(0.540)		(0.000)		(0.0456)		(3.295)
_cons	74646.6***	37644.4***	0.157***	-0.401***	8358.2***	-392.8	8757.0	6598.3*
	(9849.0)	(9759.1)	(0.028)	(0.072)	(571.4)	(682.5)	(5003.6)	(23269.3)
N	3120	3120	3120	3120	3120	3120	3120	3120

note: $*p < .01$, $**p < .05$, $***p < .001$.

policy effect in the eastern area is nonsignificant. The impact becomes weaker as the marginal effect decreases. In the eastern area, the economy is relatively developed, and the supply level of basic medical services is relatively high. This situation produces a ceiling effect; thus, the policy effect is overshadowed. In the northeastern area, the policy's impact is nonsignificant, considering its wide area, and the limited number of samples from this area also leads to nonsignificant results.

6.2. **Heterogeneity in the Administrative Rankings of Cities.** Now, analyze the smart city pilot policy's impact on the supply level of basic medical services in cities with different administrative rankings. The overall regression results of the two models are discussed as follows. The coefficients of did in both models are positive. The coefficient of provincial capital cities is 0.0472, which is much higher than that of other cities (0.0033). In provincial capital cities, the policy significantly affects the supply level of basic medical services at the 1% level, while this effect is nonsignificant in other cities. Accordingly, we believe that the smart city pilot policy has a positive effect on the supply level of basic medical services, but its effect is much greater in provincial capital cities than in other cities. One possible reason for this difference is that it is easier for most provincial capital cities in the sample to pool resources from other cities in their respective provinces and to accelerate local development with the support of the smart city pilot policy because of their unique political advantages and high levels of economic and social development in all aspects compared with other non-provincial cities in the provinces. Consequently, the enhancement in the supply level of basic medical services is more pronounced in provincial capitals cities.

7. Conclusion and discussion

The findings from this study are as follows. First, the smart city pilot policy has led to an enhancement in the provision of basic medical services; although the increase is modest, it is still statistically significant, and this finding holds after a series of robustness checks. Second, pilot smart city policy improved the provision of basic medical services through three mechanisms: technological innovation, organizational support, and the driving force of the external environment. Among them, technological innovation has the most prominent effect, followed by that of the external environment and then that of organizational support. Third, although the policy's impact varies across areas and cities with different administrative rankings, the policy has an active, positive effect on the provision of basic medical services. Smart city pilot policy exerts a more pronounced impact in central and western regions compared to other areas. Moreover, it has a more significant influence in non-provincial capital cities than in those that are provincial capitals.

Based on the conclusions, technological innovation should be leveraged to facilitate informatization in the field of medical services. Efforts should include applying advanced technologies like 5G, IoT, cloud computing, big data analytics, and artificial intelligence within the medical and healthcare sectors. Achieving innovations in the provision and management of basic medical services; and fully unleashing the power of technology in driving information sharing, resource sharing, service accessibility and efficiency improvement in the healthcare sector for every citizen to equally enjoy new medical and health services in the digital age. We should also adhere to the leading position of the government and optimize the design of smart city policy. The central government is expected to expedite the establishment of a cohesive national smart city standard framework, implement forward-looking and evidence-based policies, bolster the nationwide development of smart cities, and curb the proliferation of impractical smart city initiatives. Local governments should prepare local development plans based on actual conditions; foster synergy among departments; break down information barriers among levels, departments, and industries in the medical and health fields; and efficiently integrate medical and health data resources. Besides, efforts should be made to accelerate the implementation of broadband upgrading projects, 6G networks, and gigabit city construction, promote the full coverage of optical fiber networks in urban areas, and build high-speed information communication networks. Crafting tailored strategic plans for smart city development that align with local realities is crucial, as is gauging the efficacy of smart city policy by adhering to objective principles, taking into account regional specifics, and factoring in variables like geographical positioning and administrative levels. In the next phase, the authors plan to select several typical areas with notable smart city developments and explore in depth how smart city construction is embedded into basic medical services.

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