

# GOALS AND HABITS: LOCAL MANAGEMENT MODEL CHOICE IN CHINA — COMPARATIVE ANALYSIS OF THE PREVENT CHOICE FOR THE COVID-19

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**Abstract:** Chinese administration exhibits a tension between inherent contradictions and effective management. When policy goals are rigid, as seen in COVID-19 prevention, local authorities often cannot rely on 'muddling through' strategies and must adopt campaign-style responses. However, cities like Shanghai developed precise, multi-target prevention models. This paper uses a framework of task attributes and management habits to analyze these differences across selected cities, finding that management habits are crucial in shaping responses when flexibility is limited. Localities with high specialization, autonomy, and coordination capacity tend to employ delegated management, balancing "political and professional responsibilities" to create targeted prevention mechanisms. In contrast, other areas resort to direct command and layered campaign-style responses. Overall, China's epidemic prevention reflects a feedback-adjustment process between central policy goals and local implementation outcomes.

**Keywords:** Management model; Task difficulty; Management habits; Precision prevention

## 1 INTRODUCTION

The COVID-19 pandemic has presented significant global challenges [1], prompting varied responses from public authorities. Some countries implemented strict containment measures immediately, while others opted for minimal intervention or herd immunity strategies [2]. Unlike many nations, China maintained a rigorous anti-contagion policy focused on achieving zero community transmission, reflecting its national policy and administrative structure.

China's National Health Commission divides its epidemic response into four stages. The first, "emergency containment," aimed at halting the spread at all costs, with national-level, campaign-style measures. The second, the "exploration of normalized prevention and control," focused on "preventing importation and internal rebound" through isolation and widespread PCR testing. In the third stage, "dynamic zeroing with precise control," regions began to integrate regular, targeted prevention with emergency responses [3]. Throughout, the goal of "zero transmission" has remained, evolving from a broad, static approach to a precise, dynamic model [4].

City vaccination practices show commonalities, with community- and grid-based management forming the foundation of epidemic prevention nationwide [5]. As the focus of prevention shifted to blocking external imports and controlling local spread, measures like isolation [6], health QR codes, and PCR testing were widely used to interrupt transmission. However, distinct local approaches have emerged. Most regions adhere to centralized leadership, mass mobilization, and stringent quarantine to achieve zero COVID at any cost. In contrast, cities like Shanghai use a precise model with rapid tracing, targeted testing, and limited closures around confirmed cases rather than extensive PCR testing and large-scale lockdowns. This precise, normalized approach is increasingly standardized in practice.

These observations reveal two key aspects of China's zero COVID-19 policy: the central administration's evolving targets across different stages, and the varied prevention models adopted by city public authorities. What, then, drives the shifts in national goals and the diverse local responses? The "black box" of China's COVID-19 response still warrants investigation, particularly concerning public sector operations and decision-making logic.

Recent research on public sector behavior and management has made significant progress, offering valuable insights for understanding China's management mechanisms [7]. This article aims to shed light on the "black box" of China's COVID-19 response by analyzing goal attributes and management habits within local policy implementation frameworks.

## 2 THEORETICAL FRAMEWORK

### 2.1 Patterns of Local management Behavior in Policy Implementation

In recent years, China's national management and local public sector behavior have become academic hotspots, with growing research enriching our understanding of management models.

This has resulted in a series of achievements such as "Pressure System" [8], "Tournament System" [9], "Administrative Contracting System" [10], "Campaign-style Management" [11], "Loose-coupling" [12] and so on. According to the distribution of "Control rights", Zhou and Lian categorized different management models into "Highly Connected", "Administratively Contracted", and "Loosely Connected" and observed that these three models alternated at different

points in time [13]. For example, in the areas of family planning, environmental protection, and stability maintenance, as the intensity of target setting, inspection and acceptance, and incentive design of higher authorities changes, local public authorities will loosen their policy implementation efforts under the "high-pressure posture", and policy implementation appears to alternate between the three different modes of management mentioned above [14]. Yao. et al. introduced the task attribute dimension to the "Control rights" analysis framework, and provided an analytical framework for the rational choice of static selection and dynamic transformation of management mode. According to its model, the management model depends on the difficulty of the task and assessment, and the intermediate public sector as the manager and the basic public sector of the executor will take consistent actions due to the optimal strategy when faced with the same task [15]. In fact, this is a common assumption of such studies. Normally, under the institutional structure of "pressure-based institutions" and "administrative contracting", management patterns appear as "loosely connected" patterns, and when the central administration is highly focused on specific goals and tasks, management patterns shift from "loosely connected" to "highly connected" patterns, often in the form of campaign management. When the central administration is highly focused on a specific goal, the management pattern shifts from "loosely connected" to a "highly connected" pattern, often in the form of campaign-based management. However, there is a contradiction between "unified system and effective management" in the requirement of unified task objectives [16]. Evans (2010) has noted that for employees, discretion can be seen as the extent of freedom he or she can exercise in a specific context [17]. Related to this, local public authorities have similar discretion to street-level bureaucrats when it comes to completing tasks given by the central administration [18-19], and the more difficult the task, the greater the possibility of policy alienation and "Muddling Through" [20-22]. The essence of policy alienation is the local administration's ambiguous treatment of "impossible tasks" and the policy implementation behavior of constantly adjusting between standardization and feasibility [23].

## 2.2 Institutions and Mechanisms for Emergency Management of Epidemic Prevention

Studies have been conducted to explain the effects and causes of fighting against COVID-19 in China from an emergency management perspective. Studies on total-control management consider it to be the result of the rapid downward shift of the center of gravity of social management and the innovation of grassroots social management, reflecting the unique institutional advantages of China's national management [24]. It is manifested in authorities were confident in their capacity to mobilize people and concentrate resources in the face of catastrophes characterized by suddenness, urgency, severity, unpredictability, and sociability [25].

Efficient implementation and group prevention and control are the characteristics and advantages of China's emergency management [26]. Grid-based and community-based closed management has "basic and coverage advantages" and has played a significant role in the management effectiveness of the community-based epidemic response system [27]. The grid-based management model is not a pre-determined part of China's emergency management system, but rather a control system that combines management and services by using institutional organizations and technology to reorganize disembedded individuals whose mobility properties are becoming more and more prominent. Grid-based management is the basic community management model in China, which is conducive to breaking down departmental barriers, subsuming the phenomenon of compartmentalization under the traditional section hierarchy, and building a seamless service-oriented public sector [28]. The main purpose is to ensure the top-down penetration of national public policy intentions with a three-dimensional section hierarchy, and to guarantee the unity, stability and standardization of grassroots operation, which played a fundamental institutional role during prevent COVID-19.

The province-city-district-community-grid management structure provides an organizational foundation for rapid, extensive, and cohesive social mobilization, enabling "wartime" readiness and effective epidemic control through localized closures and checkpoints [29]. This integrated urban emergency management system enhances grassroots management coordination, ensuring smooth information, resource, personnel, and technology exchange between municipal and district levels for operational synergy. Advanced technologies like data monitoring, communication systems, AI, and urban management platforms further enable the emergency management system to deeply penetrate metropolitan management.

The above study focuses on the all-pervasive prevention models and analyzes the mechanisms that make them effective. In terms of local management, these models can be categorized as campaign-based management. Campaign management is the usual local practice in the face of unconventional management, characterized by the process of special focus on certain emergencies by elevating special tasks to political tasks required by the leadership committee and public sector, and by breaking institutional, conventional, or professional boundaries to concentrate effective resources with comprehensive political mobilization [30]. This approach can solve social problems thoroughly and quickly by mobilizing available resources extensively and is the preferred tool for extraordinary management. Under the general situation of epidemic prevention and control, local public authorities, as responsible subjects, tend to choose the campaign mode of management based on path dependence for total prevention and control.

There are alternative to campaign-style public sector for epidemic prevention, and comprehensive control-style epidemic prevention has a negative impact on socioeconomic development. When rigid tasks like preventing epidemics, local public authorities must address several goals of epidemic prevention and control, as well as local development. Various management models may develop in different places depending on the characteristics of different policy aims, local economic conditions, and public sector capacity [31]. It has been found by scholars that there are differences in

policy measures and intensities across regions [32], and their formation mechanisms are dependent on time and space [33].

The local context of the policy implementer in a given field is crucial for understanding the logic of policy implementation [34]. When faced with high task pressures, local-specific contexts not only lead local public authorities to develop adaptable behaviors, but also make it form different task execution modes, and the task attributes and local context jointly affect the local task execution mode [35].

### 3 GOALS AND HABITS: AN ANALYTICAL FRAMEWORK FOR LOCAL PUBLIC SECTOREPIDEMIC PREVENTION MODELS

Under the Pressure System, local public sector behavior is shaped by both policy mandates and local contexts. Most studies on policy adaptation focus on negative behaviors under "command-resistance," with Maynard-Moody identifying discretion as a key factor in policy deviations [36]. Increasing top-down mandates have limited bottom-up adaptation, leading instead to proactive grassroots adaptations [37]. In epidemic prevention, local public authorities face clear targets and accountability, with minimal discretion, making effective adaptation to local contexts essential [38]. Epidemic control, a core element of emergency management, depends on the administration's institutional management capacity, with differences in strategy reflecting variations in local management during normalization [39].

This management style can be defined as a management habits. Management habits are the institutional methods wherein cities are managed on a regular basis, causing the formation of management habits over time.

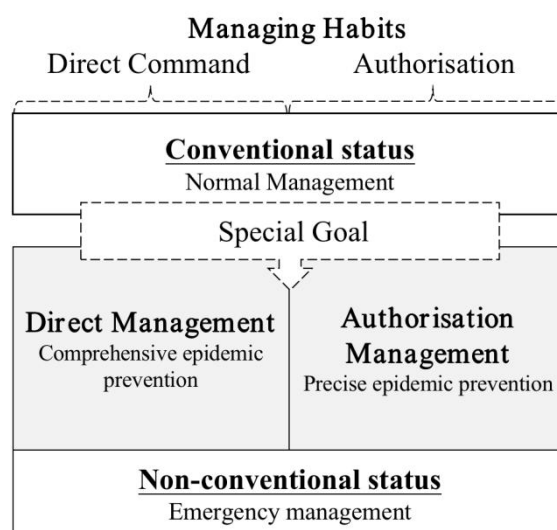
Gao notes that Shanghai's precise epidemic prevention reflects its urban management system and the modernization of management capacity, classifying the system into proactive, scientific, and accurate prevention models, and defining modernization as leadership, execution, smart management, and adaptability [40]. Shanghai's model derives from the city's established management concepts and the competencies of its civil servants. This suggests that Shanghai's routine management mechanisms support its distinctive, precise prevention approach [41]. While Chinese cities share similar management structures, differences in decision-making, implementation, and resources lead to varied modernization capacities, resulting in diverse local responses to crises.

China's public sector structure exhibits a high degree of uniformity in functions, responsibilities, and organization across different levels, known as "isomorphic responsibility" [42]. The professional sector brings specialized expertise, while the administrative sector oversees regional development, managing and coordinating broadly [43]. This interplay between professionalism and administration presents a common challenge for modern public authorities, as they must balance adherence to professional standards with administrative pressures. Local public authorities, as duty bearers, face political evaluations and must decide whether to rely on the professional sector or delegate specific management tasks [44].

The intricate relationship between the administration and the professional sectors is reflected in the configuration of supervising and being supervised, controlling and being controlled, assisting and cooperating. Liu et al. quantitatively examine the professional background of the Health Commission's leadership and organizational structure to determine the role of insider leadership in epidemic prevention and control [45], suggesting that professional sector are the primary decision. When it comes to special tasks, such as the prevention and control of epidemics, however, the municipal leader bears main duty, and the specialist leader's professional role is contingent on the authorization of his or her special department by the executive branch.

Wilson notes that public authorities with a high capacity for moderation are more flexible in their behavior, more likely to delegate authority in professional matters to professional departments acting in accordance with professional concepts and technical norms, more likely to believe in the effectiveness of their management than in the autocratic command of the executive branch, and more likely to embrace the risk of accountability [46]. With clear authorities and responsibilities and a standard operating procedure, the former can develop delegated management practices. It is rule-based, discretionary, and professional, with a strict distinction of functions and authority. While the latter expresses itself in the approaches of unified control and direct command, the administration keeps on doing tasks that should be performed through administrative and professional work divisions. The division of functions is unclear, as are the authorities and responsibilities, and there is a lack of understanding of regulations and management autonomy, and uses political campaigns to enhance enforcement [47].

Faced with demanding and difficult tasks such as epidemic prevention and control (Chinese dynamic zero-Covid policy), public authorities with authorised management practices respect the professionalism of the functionaries and develop initiatives for epidemic prevention based on professional studies and varying levels of social mobilization. Local public authorities, habituated to administrative centralization, are path-dependent on political campaigns, in which administration forms an emergency hub to give direct commands, optimize mobilization of all forces to achieve particular, and demonstrate progress is being made.



**Figure 1** A Double Constraint Model of Local Public sector Epidemic Prevention Model Choice in China

A dual constraint model for local public sector epidemic preparedness in China can be outlined (see Figure 1). When COVID-19 control becomes a central strategy, the primary focus of local management shifts to effective epidemic prevention. This leads to two distinct management models: one combines regular and emergency management without disrupting normal institutional functions, while the other adopts a political campaign approach, where specialist departments serve only in advisory roles.

#### 4 CASE STUDY: TOTAL CONTROL VERSUS PRECISION VACCINATION MODELS

This study compares two epidemic prevention models in China post-normalization, focusing on Shanghai's precision approach and using other regions for comparison. Nanjing and Shaoxing, which implemented multiple rounds of universal PCR testing, are compared with Tonghua, Manzhouli, and Xi'an, where city-wide lockdowns were enforced.

##### 4.1 Task: Two Modalities of Positive Behavior Prevention

The political campaign and precision models of epidemic prevention both stem from local public authorities' proactive responses to policy challenges. The key differences lie in: first, whether epidemic prevention goals are balanced with social development objectives, and second, the scope and intensity of control measures (such as lockdowns, PCR tests, and personnel restrictions).

The political campaign model focuses heavily on epidemic prevention, with multiple rounds of universal PCR testing, widespread closures, and lockdowns becoming central to urban development. Even with the classification of risk zones, cities maintain universal PCR testing to meet the "dynamic zero" target. In cities like Xi'an and Tonghua, once case numbers reach a few hundred, entire districts are sealed off, halting city traffic and market activities, severely disrupting the economy and daily life.

On 18 January 2021, nearly 400,000 people were quarantined at home for 36 days throughout the city of Tonghua ; a total of 836 industrial enterprises were shut down in Shangyu District and Yuecheng District of Shaoxing City, Zhejiang Province on 8 December 2021 due to epidemic prevention and control after the outbreak; the city of Xi'an was closed in December 2021 and 13 million people were quarantined at home in the city; in 19 December 2022, there were still cities such as Yinchuan and Xining that were still fully closed due to the epidemic [48].

Shanghai, despite its high risk of importation from internationally and strong population movements, has maintained normal socioeconomic order till March 2022 without any control measures such as city closure, state of war declaration, or universal screening [49]. Based on flow survey data, it restricted the blockade region to high-risk neighborhoods, buildings, etc., in order to maximize the scope, reduce the duration, and minimize the socioeconomic impact.

##### 4.2 Mechanism Distinctions between Two Epidemic Prevention Models

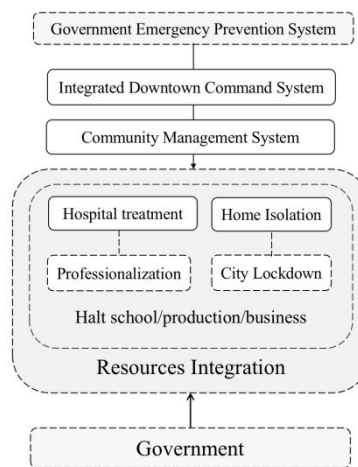
In terms of similarities among the two epidemic prevention models, the multi-level public sector management structure provides the institutional foundation for the construction of a three-dimensional epidemic prevention and control system as part of a comprehensive emergency response to the COVID-19 outbreak, and the advancement of technological advances has facilitated joint epidemic prevention and control in different regions.

Firstly, the combination of a public sector management system with a grid-based community management model provides the rapid construction of a wide-coverage, seamless, and unified social mobilization system in addition to the severance of the virus transmission chain through obligatory social isolation. The community grid management model is

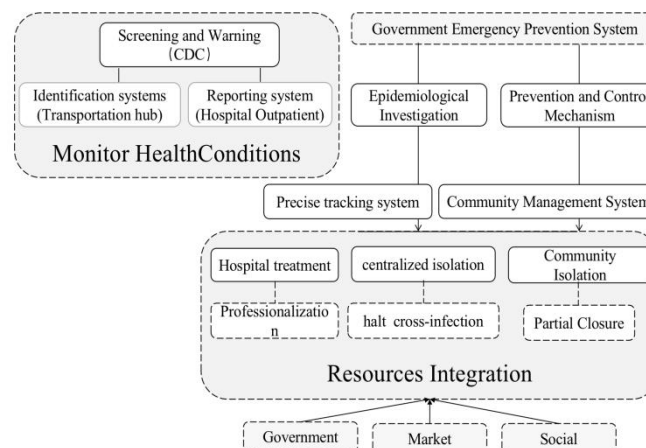
the institutional fundamental basis for the public sector to obtain personal information, and the netting and carpeting of health conditions improves the effectiveness of tracing the chain of infection and tracing the close contacts, isolating or treating the detected cases in time to prevent the spread of the epidemic within the community.

Additionally, the technological advancement has facilitated the unified prevention and control of epidemics in various cities. Basic technical measures for epidemic control, such as controlling the population by color classification using health QR code, conducting epidemiological surveys and tracing utilizing communication big data localize, trip codes, and place codes, and conducting universal PCR tests, have been implemented with incredible ripening [50].

The main distinction among the two models of epidemic prevention measures is whether the contact tracing is utilized as the primary method. The comprehensive prevention and control model is based on China's "Level 1 response to major public health emergencies" in which society is transformed from a normal state to an emergency state concentrating on epidemic prevention, with specialty epidemiological investigations playing a supporting role. The normal protocol is to declare an emergency situation as soon as a case is discovered in a city, with centralized management and unified command by the administration, and to interrupt the chain of transmission of the virus through mass suspension of work and schooling, total control of population movement, and closure of neighborhoods through grid-based management, as well as multiple rounds of universal PCR tests. In essence, the goal was to achieve a speedy zero number of confirmed cases through a disease-prevention political campaign (see Figure 2).



**Figure 2** Comprehensive Epidemic Prevention



**Figure 3** Precision Epidemic Prevention Model

Three characteristics distinguish the Shanghai precision vaccination model. The first is proactive detection, which creates a defense line against the epidemic before it occurs. Through proactive screening of critical populations in a hospital, a number of confirmed cases were reported in Shanghai at the beginning of 2021. Second, quick reaction. Once a new confirmed case is identified, the emergency management method identifies sites, cases, and identifiers. Third, exact and organized. The public health system scientifically identifies the three levels of close contacts, sub-close contacts, and high-risk groups and enforces closed-loop management strategies to prevent simplification and expansion. Three elements are required for effective implementation of the precision prevention model (see Figure 3). Firstly, a system for sensitive and exhaustive information collection and early warning. Epidemic prevention will be most efficient once identified, reported, managed, and treated early. In Shanghai, 127 fever clinics in hospitals, 225 in community health service centers, screening of high-risk personnel, food cold chain monitoring, and pharmacy monitoring of

high-risk drug consumers (those who buy cold or fever-reducing medication are considered to be at risk of a confirmed COVID-19) create a traceable monitoring and tracking system [51].

Secondly, a technological epidemiological investigation and traceability system supports accurate epidemic prevention. Shanghai has over 3,100 epidemiologists with structured operating methods to quickly identify and target the right population and environment in the event of an epidemic using professional testing technology. In Shanghai, epidemiological investigations follow the "2+4+24" principle: a flow investigation team comes within 2 hours and conducts rapid sampling and testing; core information, including close contacts and sub-close contacts, is distributed; temporary control measures are implemented within 4 hours; track checks, personnel control, and premises cleaning are finished within 24 hours; and a flow investigation report is completed. Then, a press conference is organized to inform the community with official relevant information [52].

Thirdly, an effective combination preventative and control mechanism is created. This broad coordination method includes daily precision prevention, localized epidemic emergency response, parallel disposal, and tidy reaction from multiple sectors. Precision prevention and control avoids authoritative resource allocation in a comprehensive control model and establishes a coordinated working model with a linkage system among actors. Shanghai's communication management and public security departments work with the CDC and flow investigation team to undertake virus tracing and close connection precision identification with full empowerment, multiple rounds, and high communication feedback frequency. These mechanisms have been modified and implemented in the city's daily process-based management system to prevent epidemics.

### 4.3 Managing Habits—the Formation of a Precise Vaccination Model in Shanghai

As was evident from the preceding analysis, the main distinction between the two models is whether to implement total disease prevention and control in the style of a campaign or regular and precise disease prevention when new instances occur. The construction of a permanent and standardized model of precision prevention involves coordination of the leaders, and it is the management philosophy and practice of all levels of Shanghai's public sector and administrations to let the professionals do their jobs. The separation of tasks between politics and professionals necessitates a clear definition of responsibility and professionalism, as well as the construction of an effective framework for cooperation and trust between the professional and administrative sectors. Therefore, precise pandemic prevention is a highly professional approach. Accurate epidemic prevention likewise necessitates an effective implementation mechanism, which is based on a regular management system and is reflected in a coordination mechanism with distinct authority and responsibility, each with specific responsibilities and compliance of regulations [53].

#### 4.3.1 Professional decision-making: scientific foundation for precise vaccination

Professionalism is the foundation of precise epidemic prevention, which requires both a plan based on scientific analysis into the characteristics of the virus and the progression of the epidemic and a professional team capable of utilizing big data and other technology means for rapid flow and detection. Shanghai helped contribute 66 public health experts and infectious disease control specialists to form two municipal expert groups for public health and medical treatment, with experts from the Centre for Disease Prevention and Control responsible for epidemic prevention. Both expert groups have dual team leaders, and clinical cases will be first discussed in the public health group, where specialists collaborate to create preventive actions [54]. Shanghai established a specialist consulting system. The mayor and related officials convened specialists and professional organizations to compile a situation report on epidemic prevention and control and hear expert research and recommendations [55]. The scope of the control area and the population, the disposal precautions, are determined by the expert after an in-depth evaluation and study based on the results of the epidemiology, and thus providing professional and technical support for the prevention of COVID-19 [56].

The emergence of Zhang Wenhong, a national network expert in epidemic prevention in Shanghai, is not entirely due to his ability, but to the way Shanghai treats its experts. The emergence of Zhang Wenhong, a national network expert in epidemic prevention in Shanghai, is not entirely due to his ability, but to the way Shanghai treats its experts [57]. He mentioned that "There are specialist groups in all of the province's cities, some of whose leaders are more specialized than I am. I am famous because they are in a different position than I am, and the way in which I communicate with the public is recognized by the public sector; yet, I am picked by society [58]. "The role of experts is contingent upon their autonomy, and, as indicated previously, the management techniques of responsible leadership and expert reliance are context-dependent. Between the tensions of administration and professionalism, a city with the philosophy of empowering specialists to execute professional tasks and trusting specialists will develop the habit of professional management. When it comes to unexpected events, professionals have a greater power of discourse, rather than leaders taking decisions instead of experts.

It has been a tradition for Shanghai to lean forward professionally and to emphasize the management practices of experts. When responding to SARS in 2003, the Shanghai group then built an expert advisory group led by the city's Health Bureau and consisting of 20 experts from the fields of infection, respiratory medicine, epidemiology and critical care emergencies [59]. The role of specialists is highly valued throughout the entire process of precision vaccination. They have constructed a flat Epidemic Prevention and Control Command that functions in the front and sinks down to the Center for Disease Control and Prevention, where the Command and experts work in the same space and make scientific decisions based on expert research.

### 4.3.2 Integration and coordination: organizational foundation for precision immunization

Precise epidemic prevention also relies on clear responsibility, authority and coordinated management practices developed during regular management. This covers two aspects: on the one hand, daily monitoring and management of the epidemic, as well as testing the standardized and refined management strategy and normalized management's efficacy. Responsibility for the entire control of the epidemic lies with all levels of public sector, network and information centres, civil affairs, police, and transport authorities. The city has designed a "three-tier system" and a "five-pack system" at the level of the community. A "five packs and one grid" approach has been implemented in shopping malls, supermarkets, and vegetable farms, requiring grassroots staff to work in small groups and conduct daily inspections to assist communities with their inspection work.

On the other hand, it is the complementary management of precision vaccination that tests the daily management practices and effectiveness of co-ordination and individual responsibility. This requires not only the expertise of the public health system, but also the efficient cooperation of the regional integrated management and logistical support system, and the management of the post-tracking process necessarily requires the coordination of multisectoral resources, the coordinated distribution of materials, and the communication of information.

For example, on 25 January 2021, during the 10-hour closure of the Red House, the administration's logistics department quickly followed up by arranging marching beds for pregnant women and the elderly, distributing meals, bedding and rechargeable batteries, arranging shuttle buses to take patients home after the closure, and waiving parking fees for those who drove to the hospital. 31 October 2021 At 18:00, Shanghai received a notice from an out-of-town Disneyland with a close pick-up and arranged for 220 temporary shuttle buses to be on standby at the Disney West bus hub within four hours, and by 23:00, PCR tests for tens of thousands of people had been completed.

## 5 DISCUSSION AND CONCLUSIONS

This study extended further than the 'command-and-resist' viewpoint of the principal-agent model to analyze the strategies of public authorities when discretion is constrained. It develops a framework for analyzing task attributes and management practices, compares case studies of behavioral differences in epidemic prevention policy choices across Chinese cities, and responds to the reasons for the overall policy shift in practice and the emergence of two epidemic prevention models.

Firstly, in terms of the task, local public authorities must be proactive when faced with tasks such as epidemic prevention that have a high degree of accountability and limited discretion. Currently, local contexts demand distinct implementation strategies for local policies. In contrast, city public authorities with limited managerial capacity and a lack of autonomy tend to exert administrative power and adopt a direct command model when confronted with the tension between politics and professionalism, utilizing political campaigns for comprehensive control to achieve a zero community transmission policy through high payouts in the short term and to convey to the central public sector the importance that city leaders attach to epidemic prevention and to reduce the risk of being held accountable.

Secondly, if COVID-19 is a transient virus similar as SARS or if the mission is targeted at a natural disaster such as an earthquake, a "one-size-fits-all" campaign type of management could be deemed effective. The constant evolution of the COVID-19 variation necessitates that the public sector strike a balance between its goals of epidemic prevention, economic development, and social development, which is why precise epidemic prevention is gaining national recognition. It standardizes epidemic prevention and integrates it into the city's regular management process, establishing a combination of normal and emergency management mechanisms in response to alterations in the epidemic situation, and continually improving them.

In this framework, the attributes of the mandate are decisive, and the central mandate determines the boundaries of local discretion, like Shanghai's exploration of precise epidemic prevention cannot deviate from the strict criterion of "zero" without authorization. The mandate of the central public sector defines the boundaries of local autonomy. The pursuit of precise prevention cannot circumvent the strict constraints of zero community transmission policy without authorization, but the upward mobility of the Tiao/Kuai mechanism can drive the central public sector to adapt to the mandate's objectives.

As COVID-19 continues to mutate, the specific approach and efficacy of precision vaccination may be challenge [60], but the central vaccination policy and local vaccination models will be modified accordingly. As recent studies find that local public authorities in China, an authoritarian country, also exhibit a substantial level of responsiveness to local citizens' requests and concerns [61-62]. For instance, since 2022, the central administration has consistently expressed its opposition to "cascading," "one-size-fits-all," "city lockdown," and "traffic restrictions," and the new standards of the epidemic prevention strategy contain the phrases "precise" and "dynamic" being used more frequently [63]. This is precisely the type of policy fine-tuning that the central administration summarizes nationwide experience.

This continual interaction between goals and local discretion is both the foundation of China's policy for preventing COVID-19 and a mechanism for China's adaptive management [64-65]. Such a mechanism requires both a strong, binding central mandate and sufficient autonomy and modern management capacity for local public authorities.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.



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