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China's COVID-19 pandemic response: A first anniversary assessment

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Abstract

The literature on crisis management reports that crises can be critical for organizations, including state and extra-state actors; they either break down or reinvent themselves. Successful organizations, those that do not break down, use situations of crisis to restructure themselves and improve their performance. Applicable to all crises, this reasoning is also valid for the COVID-19 pandemic and for government organizations in China. Drawing on documentary analysis, this article examines China's pandemic response from the social–political, technological and psychological perspectives using a holistic crisis management framework. It demonstrates that the Chinese state bureaucracy has assembled, expanded and strengthened its surveillance strategies to strive for comprehensive crisis response.

KEYWORDS
big data, China, COVID-19, crisis management, pandemic

1 | INTRODUCTION

On December 31, 2019, the People's Republic of China officially announced the outbreak of 'viral pneumonia' (*xinguan yiqing*) in the city of Wuhan, which quickly spread in China and abroad and was identified as COVID-19. The characterization of COVID-19 as a pandemic turned the spotlight on China. Some international news accounts focused on Beijing's diplomatic 'opportunism' (Panda, 2020), while others criticized the government's 'draconian' lockdown and the government's ability to mobilize resources (Gunia, 2020). Overall, such accounts emphasized the coercive aspects of governance, presenting China's pandemic response as President Xi Jinping's reaction to the threat of losing control and as an opportunity to reinforce an authoritarian governing style (McGregor, 2020). In contrast, we argue that there is more to China's pandemic response than Xi's quest for power. Our research considers China's previous shortcomings in controlling crises and we focus on how the Chinese Party-state used the COVID-19 global pandemic to introduce a comprehensive crisis management response. China's COVID-19 response included social–political, technological and psychological measures that tapped into big data and expanded the legitimacy of surveillance practices (i.e., data collection) in the name of collective well-being.

2 | CHINA'S CRISIS RESPONSE TO SARS AND SICHUAN EARTHQUAKE

In the last two decades, Chinese authorities have managed two large-scale crises that involved firm state intervention and nationwide mobilization of people and resources: the 2002/2003 severe acute respiratory syndrome (SARS) pandemic and the Sichuan earthquake in 2008. The former infected about 8000 people, while the latter destroyed 15 million buildings leaving 1.48 million people homeless.

To manage SARS, the Chinese government relied on a standardized and centralized approach that engaged laws from the late 1980s and early 1990s and disregarded regional needs and specificities (Lai, 2011). China's strong and centralized SARS response was considered broadly effective (Kapucu, 2011), but it also revealed numerous governance shortcomings. First, information sharing between departments was scarce. Second, the outbreak coincided with a politically sensitive change in the Communist Party of China's (CPC) leadership, which led the government to maintain silence about the virus' severity to avoid social instability by not sharing information about the spread of SARS (Wong & Zheng, 2004). Vague emergency healthcare guidelines resulted in infected patients being barred from hospitals, a lack of legal provisions for patients refusing to

quarantine and people without medical insurance reluctant to seek medical treatment until severely sick (Gu, 2004, p. 128; Zheng & Lye, 2004, p. 121).

The issues that the CPC experienced with its SARS response prompted significant organizational changes in China's epidemic management. Such changes include a system implemented in 2004 to report and gather statistical data on diseases (Wang et al., 2016) and the enactment of the 'Emergency Response Law' in November 2007 (Lai, 2011), which overhauled China's crisis response from the legal perspective. The Emergency Response Law held the State Council (i.e., China's executive branch) responsible for evaluating crisis severity and for designing a state response in collaboration with relevant national and provincial organizations. It also institutionalized the timely release of information, making it illegal for responsible officials to withhold information (Zhang, 2015). In 2004, the Chinese Ministry of Health started a 'Notifiable Disease Report and Statistical Management System' that was implemented nationally (Wang et al., 2016). The effectiveness of the early reporting system, including the promptness with which new diseases are disclosed, should be evaluated by future studies.

Despite surviving two crises, the Party-state missed the chance to transform the crisis into an opportunity to revitalize itself as an organization, instead of focusing on reactive measures of containment. The COVID-19 pandemic is the first national crisis to alter national systems of surveillance in China, despite remaining governance shortcomings.[1] By collating national, community and individual levels of surveillance, the pandemic response created multiple overlapping 'surveillant assemblages' for comprehensive crisis response (Haggerty & Ericson, 2000). For instance, the 'war' against COVID-19 (State Council, 2020a) has improved surveillance infrastructures, created classification systems and expedited the implementation of a national mental health policy. China's crisis response opens a new line of scholarly inquiry to analyze how such comprehensive assemblages gathering sensitive personal information will bear past the pandemic (Knight & Creemers, 2021).

3 | THEORETICAL FRAMEWORK FOR COMPREHENSIVE CRISIS MANAGEMENT

Drawing on Pearson and Clair's (1998) crisis management framework, which combines multiple disciples to study crisis management approaches using a systems approach, we move the spotlight to the comprehensive aspect of national-level crisis governance. Pearson and Clair's groundlaying framework is well established in crisis literature and has been used as a theoretical foundation to holistically study responses to COVID-19 (Ardito et al., 2021; Kraus et al., 2020). In addition, literature from surveillance studies assists in theorizing the implications of big data-led crisis response. We approach the Party-state as an 'organization' and the COVID-19 pandemic in China as an 'organizational crisis'. By viewing the state as an organization and collecting state data, we do not directly address the critiques of the state response—a limitation we further explain in the discussion.

Like their peers (Aliperti et al., 2019; Ha & Boynton, 2014; Lagadec, 1993; Pauchant & Mitroff, 1992), Pearson and Clair prescribed a holistic view for understanding how organizations react to crises, which they defined as low-probability, high-impact events threating the viability of the organization (Pearson & Clair, 1998, p. 60). However, they proposed that researchers jointly analyze crises from the technological, social–political and psychological perspectives (Pearson & Clair, 1998, p. 61), advancing the field. By offering a multidisciplinary analytical frame to study crisis situations, the framework provides a birds-eye view of China's state response to the pandemic. The framework is primarily focused on viewing crises as events, not processes, and organizations as units of analysis (Williams et al., 2017).

The social–political perspective views crisis as a potential breakdown in collective beliefs and sense-making (Pearson & Clair, 1998, p. 64). Such a breakdown usually threatens organizational leadership, triggering legitimacy issues where crisis subjects and those supportive of them can potentially withdraw support and loyalty from decision-makers. Effective communication of factual information is crucial for stopping crises from tearing the social fabric. The technological perspective considers the role that technologies (e.g., tools, machines, management procedures, policies, practices and routines) play in causing, avoiding, coping with or solving a crisis (Pearson & Clair, 1998, pp. 64–65). The psychological perspective focuses on the roles that individuals play in crises and crisis management; it is especially interested in understanding how individuals experience crises as actors (i.e., by creating or contributing to them) and/or as victims of physical and psychological injuries. In addition to offering a systematic and comprehensive toolkit for analyzing crises, Pearson and Clair's framework supposes that crises result from numerous, diverse, multidimensional and complex processes, none of which can be addressed in a completely effective or completely ineffective way (Pearson & Clair, 1998, p. 67). Positing that every crisis management process includes elements of success and failure (Pearson & Clair, 1998, p. 61), their framework overcomes the 'success-failure' dichotomy that marks the field of crisis management by treating success as a continuum (Pearson & Clair, 1998). For instance, organizations can fail to prevent technological issues from happening, while succeeding in mobilizing social–political resources that prevent the erosion of trust among crisis subjects. The interdisciplinarity of Pearson and Clair's framework allowed us to analyze both the coercive and co-optative (Xu, 2020) aspects of China's pandemic response in a comprehensive manner.

We tackle our objective with the following research question: *In what ways have surveillance strategies made China's State COVID-19 crisis response comprehensive in nature?* To answer this question, we analyzed a collection of policy documents issued by the State Council and National Health Commission (NHC) that guided China's pandemic response.

4 | METHODS

The data supporting this analysis comprise 109 policy documents issued by the State Council and its health agency, the NHC, between December 2, 2019, and September 29, 2020. To sample these

sources, we examined all policy documents issued by the two governmental structures in the study period (358 documents) and selected those addressing the coronavirus outbreak or the 'novel pneumonia' (n = 109), as it is referred to in Mandarin. Publicly available on the Internet,[2] these documents reflect the crisis management mandate of the State Council.

In the first phase, we applied open coding (Babbie & Roberts, 2018) to organize the documents, creating a 32-code scheme using MS Excel; each code reflected a specific topic and accompanied a description (i.e., codebook) to facilitate coding consistency. Then, we applied axial coding (Babbie & Roberts, 2018) to classify the codes in our scheme into the three themes that underpin crisis responses according to Pearson and Clair (1998) (e.g., social–political, technological-structural and psychological). About a third of the documents discussed, among other topics, nationalism, scientific knowledge, social–spatial classification systems, family and community; we assigned under the theme 'social–political'. More than half of the documents referred to the theme 'technology'. They explored, among other topics, big data, IT applications for delivering government services (e.g., 'Internet + Health' and 'Internet + Government'), grid management, tracking of COVID-19 patients, students, travellers, foodstuffs and informatization. The remaining documents related to the psychological aspects of the pandemic response; they discussed counselling services, hotlines and the practical implementation of psychological services. In our analysis, we prioritized the recurrent topics under each theme, articulating their manifest and latent content into a higher-order pattern of connections among codes.

Although our goal was to analyze China's pandemic response from the policy perspective, we also drew on news media coverage from Wuhan City and other cities in Hubei province. We attempted to search for newspaper articles via the China Academic Journals Database. Despite Hubei province being the initial pandemic epicentre, few articles were available and by conducting an open media search on a popular search engine Baidu, we identified examples of implementation on each of the content analysis themes, a total of 52 media articles. Media reports from this area helped us clarify the practical dimension of the policies we examined and supplement our analysis.

5 | SOCIAL–POLITICAL ASPECTS

Crises usually correlate with a failure to produce and commit to collective meanings, interests and bonds; people tend to act on 'atomized individualism' (Pearson & Clair, 1998) and question the authority of decision-makers, also triggering a crisis of legitimacy. The questioning of authority often accompanies the questioning of the social structure and institutions, which can contribute to making society ungovernable (Habermas, 1975; Pearson & Clair, 1998). To be successful, crisis management needs to include coping mechanisms to prevent the collapse of shared meanings and the belief in leadership—elements that are an old governance practice in China

(Shrivastava et al., 1988; Weick, 1988, 1993). Throughout the Mao era (1949–1976), the Party used nationwide mass mobilization campaigns to create shared meanings and ensure its legitimacy as the ruling party (Perry, 2011; Whyte, 1993). Deng Xiaoping declared the era of mass mobilization over (O'Brien & Li, 1999; Perry, 2011; Whyte, 1993), however, the Chinese Party-state never stopped using campaign methods to enlist mass participation to implement specific policies and manage crises (Kleinman & Watson, 2006; Mosher, 1983; Zhao et al., 2019). China's pandemic response included the 'patriotic health movement' (aiguo weisheng yundong; henceforth 'PHM'), which started in the 1950s and was institutionalized in the 1970s (Zhao et al., 2019).

The PHM represents a flexible and innovative health 'governance mechanism' (Zhao et al., 2019) that benefits from the Party-state's highly hierarchical structure, particularly its ability to guide populations toward public health goals. The State Council prioritizes health agendas and pushes its implementation through the National Patriotic Health Movement Committee. To deliver Beijing's vision, the Committee, connected to more than 30 ministries, commissions and departments in Beijing (China Daily, 2014), relies on its political and administrative capillarity. Such capillarity gives the Committee flexibility and agility in allocating resources and articulating the needs of the population at the grassroots level. The PHM allowed the Chinese government to provide a war-like response to the COVID-19 pandemic (He et al., 2020; State Council, 2020g) that included mobilization of local governments, grassroots organizations, families and individuals on a national level.

5.1 | Self-regulation and mutual surveillance amidst state-planning

The State Council tied the PHM to the COVID-19 fight in mid-February, conflated the health of communities and families with the health of the country, calling 'all organizations and masses' to 'work together' to combat the virus through an announcement issued by the NHC (NHC, 2020h) ('February Notice'). This conflation underpinned not only people's sense of unity and nationalist feelings. A news article titled '"Wuhan is Red', let patriotism rise!' equated love for the motherland with love for the CPC, doing so indirectly, by alluding to the five-star of the Chinese flag, which symbolizes the people and the Party (Fan, 2020). The February Notice requested the population to avoid gatherings and clean workplaces, communal areas in residential communities, markets, and 'key areas,' which referred to high-traffic areas such as airports, bus stations and subway systems (NHC, 2020h). Despite its collectivist dimension, the February Notice also guided populations to self-manage, reconciling collective and individual interests, as well as state-planning and individual autonomy. For instance, the Announcement asked everyone to develop 'civilized' hygienic habits and a 'healthy lifestyle' that included washing hands, ventilating closed environments and 'not overeating' wild animals, and encouraged individuals to improve their 'awareness of prevention and control'. In addition to promoting

self-surveillance, the Announcement encouraged mutual surveillance, a governing strategy from time immemorial in China (Dutton, 1992).

The February Notice was not the only tool working to prevent the collapse of shared meanings and the belief in leadership during the pandemic. About a month later, the Chinese government re-emphasized the use of the PHM in the pandemic response through two initiatives that were published 2 days apart. We refer to them as the 'March Notice' (State Council, 2020b) and the 'March Proposal' (NHC, 2020a).

The March Notice declared the 2020 'Patriotic Health Month', which is celebrated in April annually since 1989, as an opportunity to 'lay a solid foundation to win the "battle" against the virus comprehensively' (State Council, 2020b). In addition to inviting everyone in society to participate in the activities of the Patriotic Health Month, the Announcement highlighted the importance of uniting society through the PHM to 'improve the collective health;' 'declare a war on unsanitary and uncivilized eating habits' and promote a 'harmonious mind frame and happy life (State Council, 2020b). Meanwhile, the Proposal, which was issued by the NHC, called for everyone to 'actively participate' in the 32nd Patriotic Health Month (NHC, 2020h). This campaign entailed asking volunteers to teach people about social distancing, masks and other strategies to mitigate contagion risks (Wenming, 2020). In China's case, opponents of the battle against a devastating virus, including the collective values that inspired the 'people's war' against the pandemic, could risk being labelled opponents (Maxey, 2015; State Council, 2020g).

Once the invitation to participate in the PHM was established, the Proposal conflated the PHM with values that have shaped the construction of the Chinese identity since the Communist Revolution in 1949 (Kinmond, 1957), locking participation in the health movement with love for the country and family, patriotism and mutual help on the discursive and concrete levels (NHC, 2020a, 2020i). The Proposal ends with the government resorting structuring people's action, as it invites readers to self-manage and develop a sense of accountability to 'share a healthy China' (NHC, 2020a).

5.2 | Responsibility and flexibility at the grassroots level

The State Council's use of the PHM against the COVID-19 pandemic also appears to have strengthened China's grassroots, or community, governance in urban and rural areas. At the turn of the century, residential communities had become basic units of urban governance and were deployed in pandemic control (Bray, 2006). The February Notice discussed earlier directed resident committees and village organizations to mobilize the 'masses', against COVID-19, 'starting from the family unit'. The government also expected residents' committees to support campaigns that disseminated scientific knowledge of COVID-19 and educated the masses on epidemic control measures (NHC, 2020l, 2020h), prioritizing 'key areas, places, units, and populations' (NHC, 2020b), which were defined by the residents' committees themselves. The government encouraged

grassroots organizations to 'imperceptibly form health behaviors in the process of fighting the pandemic' (NHC, 2020b), holding such organizations accountable for fostering voluntary compliance, as opposed to compliance by coercion, in society.

In addition to intending to foster autonomy and responsibility among grassroots organizations, the February Notice also required local governments to encourage residents' committees to adopt a 'grid system' (i.e., organize themselves into geographic units) and classify themselves according to risk levels (NHC, 2020h; State Council, 2020e). As we clarify in the next section, the grid system offered the statistical foundation to quantify and qualify the evolution of the pandemic. The State Council used grassroots mobilization to both guide prevention measures on the local level and gather detailed pandemic data. The limited literature available (Wei et al., 2020) demonstrates that the engagement of residents' committees was effective in controlling the pandemic. The image of grid leaders and volunteers screening grid residents at checkpoints, sterilizing public spaces and delivering daily necessities to the elderly became a common feature in the Chinese media between February and April (Zhou & Liu, 2020). Regardless of its actual effectiveness, the engagement of territorial/kinship governance in the fight against COVID-19 aimed to increase the Party-state's ability to preserve social order throughout the crisis.

6 | TECHNOLOGICAL–STRUCTURAL ASPECTS

Digital technology has revolutionized the accessibility, scope and speed of data collection and processing practices (i.e., population monitoring, surveillance), offering crisis management solutions for over a decade (Gilbert et al., 2019; Pearson & Clair, 1998, p. 65; Qadir et al., 2016). Data-driven technological solutions allow crisis management actors to create individual-level applications that target only the populations at risk. Flexible, big data applications are usually more effective than generalized crisis containment efforts, such as mass quarantines (Ferretti et al., 2020), because they avoid interventions and disruptions of life. In China, such solutions were digitizing and sharing medical records, tracking contacts via mobile applications, developing an infection risk matrix, and using a pass system based on people's health status (i.e., health codes) to control geographic mobility. These solutions led people to self-surveil and self-regulate behaviours and routines, such as checking their 'health code' (*jiankang ma*) on a smartphone before leaving home and using the app to determine a safer travel itinerary.

While most countries relied on massive quarantine and lockdown measures, China used broad population surveillance (i.e., national, community, and individual level of big data collection) to avoid imposing indiscriminate containment measures and to allocate medical resources when and where needed. This approach significantly differed from countries that did not use big data-informed approaches for disease surveillance, and some limitations inhibited the use of big data. Wu and associates (2020) identified issues with data use and

sharing, such as overreliance on data visualization for risk assessment, as well as data collection, such as individuals concealing information when verifying their health codes or lack of uniformity of data input between platforms. Practically, these issues could cause misidentification of a person's risk level. Despite these shortcomings, the use of big data collection for epidemic monitoring characterized the technological aspect of COVID-19 management in China.

The State Council gathered comprehensive geospatial and health data on populations to inform policies and guide practices, linking the technological aspects of crisis management to structural features of organizational management (Pearson & Clair, 1998, p. 65). Three strategies used to organize, collect, and process big data played an important role in the management of the pandemic—the 'Grid Management System; (wanggehua guanli xitong; henceforth; grid system;), Internet+ (hulianwang+) and the health codes.

6.1 | The grid system and Internet+: Towards a Comprehensive management system of a health crisis

Grid management refers to the division of neighbourhoods into geographic areas identified as 'grids', which are core units of social governance. These grids are connected to an information management system that allows more comprehensive and thorough community governance (Peng & Wei, 2011). With the pandemic, the Chinese government, via the State Council, gave grids the responsibility to organize public health and regulate geographic mobility by ordering urban and rural local governments and grassroots organizations to enforce the system. On February 3, 2020, Xi Jinping publicized his speech that called for local Party committees and governments to be responsible and strengthen the grid management system to 'implement carpet-style [community] inspections,[3] and adopt stricter, more targeted and effective measures to prevent the spread of the epidemic' (Xi, 2020).

Localities organized their populations according to, among other variables, medical needs and availability of medical resources (State Council, 2020f). By incorporating health variables into the grid organization, the government transformed grids into units of health governance: 'through community grid-based big data reporting, the government can realize a comprehensive and systematic understanding and analysis of the epidemic' (Xiang, 2020). As such, grids tied people's health information to their residential address, which allowed the government to classify neighbourhoods according to their infection risk level and control geographic mobility on the microlevel.

The grid governance of public health also allowed the government to incorporate both high-tech and human surveillance (Brodeur, 1983). Technologically supported capabilities, such as automated processing of big data supported intensive physical regulation of daily routines using human resources, such as physical checks of security gates and temperature checks. Thus, grids became the units of analysis for both automated processing of epidemic big data and grassroots efforts to implement and monitor public health

measures. For example, Wuhan city implemented a smartphone application 'Wuhan Micro Neighborhood' (wuhan weishequ), which illustrates that dynamic. The application was used by more than 90% of Wuhan's 1475 residential communities (Yidian, 2020). 'Micro Neighborhood' provided a digital channel of communication for residential community members in each grid and connected residents to services they may need during isolation, such as food and medical supplies, self-reporting of COVID-19 infection status or psychological counselling. The dual strategy of technological and physical surveillance dependent on human labour was the key aspect in ensuring that the community surveillance efforts could work.

While grid management served as the backbone to organizing pandemic surveillance, Internet+ allowed the government to integrate massive datasets into a centralized, cloud-based platform. First introduced in 2015, Internet+ is a set of government initiatives that refers to the government collection of big data for the purpose of online governance (Trauth-Goik & Bernot, 2021). On February 5, 2020, the NHC and the State Council published a notice that required private and public organizations, including all big technology companies operating in China, to contribute their data to control the pandemic within the legal framework of 'Frontier Health and Quarantine Law', published earlier, in January (State Council, 2020a). Under the Frontier Law, Internet+ collected data on COVID-19 infections and people's mobility information in a centralized government platform. The platform also linked health services for online diagnosis and treatment, internet hospitals, telehealth and psychological service provision, thus enabling 'digital epidemic prevention' (shuzi fangyi) (NHC, 2020e). Internet+, combined with grid management, achieved automated data-driven governance of the COVID-19 epidemic in China: data flows to and from grids were quick, assigning and re-assigning COVID-19 containment priorities (e.g., hospital allocations, quarantine measures). Smartphone apps became an effective point of data collection and mobility control through big data feeding, thus operationalizing the comprehensive monitoring platform.

6.2 | Health codes: The practical side of China's health crisis management system

To regulate people's geographic mobility, apps, especially WeChat and Alipay, assigned users with a classification based on their grid risk status (i.e., infectious status), geographic mobility partners and contact network; all information was updated daily on the user's and government's side (Mozur et al., 2020). More specifically, the apps determined individual exposure to risk based on travel history, time spent in high- or medium-risk areas, connections to confirmed COVID-19 cases. The application also verified personal identity information—national ID number, face ID and phone number (Liang, 2020; Zhu et al., 2020). Displayed as a QR code and indicated whether people had to self-isolate for seven or 14 days. Also, to leave their communities, access public transportation and most public places, users had to scan their health codes at controlled checkpoints,

which also allowed other parties to collect data on populations (Liang, 2020; Pan, 2020; State Council, 2020a). Having such a code was not enforced individually, but without it, living in the pandemic was severely restricted. For instance, when the pandemic abated in Wuhan at the end of March, only green code holders could leave the province of Hubei (State Council, 2020a). According to the State Council (2020a, p. 43), 'the codes and records provide a base for travel control and differentiated response measures, which has made risk identification and targeted control possible'. Health codes connected big data to individual-level control (Pan, 2020).

Health Codes were introduced at the beginning of February when infection numbers were spiralling. By March 2020, more than 200 cities had implemented health codes (Mozur et al., 2020). An important point of contestation was the lack of transparency about the algorithm behind health codes, reported to have erroneously assigned some strict quarantine measures (Mozur et al., 2020). Lack of transparency about the collection, storage and processing of data remain important social–political points of contestation. Referred to as China's 'digital defense line' (*shuzi fangxian*) by law enforcement (Hangzhou Public Security, 2020), health codes were a key element in China's pandemic management. They also helped reconcile personal regulation by enlisting autonomous decision making, such as a person deciding on what means of transportation is safer to take to work (Siqueira Cassiano et al., 2021). Health codes integrated national set of big data health statistics between people and the government, including law enforcement, in a 'closed loop' of compliance monitoring (Hangzhou Public Security, 2020; Hubei Daily, 2020a).

7 | PSYCHOLOGICAL ASPECTS

On January 27, 2020, when most countries were still learning about COVID-19's severity, China's NHC announced a comprehensive emergency plan to address the 'psychological crisis' (*xinli weiji*) that accompanied new pneumonia, still considered an epidemic at that time (NHC, 2020d). Titled 'Guiding Principles for Emergency Psychological Crisis Intervention in the Novel Coronavirus Pneumonia Outbreak' (NHC, 2020d), the plan ('January Guidelines') drew on the assumption that crises 'victimize' people from the psychological perspective, consensual with the crisis management literature (Pearson & Clair, 1998; Watson et al., 2020).

The January Guidelines' concern for how people experienced the pandemic was reflected in its 'basic principles'. The first principle acknowledged that health crises have psychological consequences by calling localities to incorporate psychological crisis intervention into the pandemic response. The Guidelines assumed that psychological harm could risk the country's stability (NHC, 2020d). The second principle offered insights into the deployment of the psychological intervention, recommending a system to classify crisis subjects according to the severity of their infection. This principle also advised that both the 'caregiver' and the 'care recipient' were subjected to 're-trauma'. With these two principles, the NHC's plan rapidly embedded structured psychological services in the country's pandemic response.

Practically, the January Guidelines ordered local health departments to work with 'experts' in 'postdisaster psychological crisis intervention' and implement mental health services across the country. Such services included 'rescue medical teams', with psychiatrists, clinical psychologists and psychiatric nurses, and twenty-four by seven 'psychological assistance hotlines'. On the same day that the Guidelines were published, the Wuhan Federation of Social Work started recruiting professionals to provide online group counselling to medical staff in Wuhan (Zhong, 2020). Staffed with mental health professionals and trained volunteers, the hotlines received remarkable attention from the NHC, which released policies to regulate their quality and privacy issues (e.g., informed consent and confidentiality) (NHC, 2020g, 2020m). According to the media and reports from key informants in China (Hubei Daily, 2020b), the hotlines were used by thousands of people in distress.

To target, count, and prioritize those in need of mental healthcare, the January Guidelines organized the population into 'target groups' classified into a 'four-tier' system according to the severity of sickness. In addition to organizing and prioritizing the population potentially receiving mental health care, the plan included a typology that associated target groups to a specific 'mind frame', 'intervention measures' and 'service principles', recommending specific medical practices (NHC, 2020d). Particularly, the typology recommended medical care providers to 'be prepared in advance' to deal with angry, fearful, anxious, depressed, disappointed and aggressive patients, acknowledging, that emotions are a 'normal stress response' during crises. The idea of protecting the patient's well-being appeared again when the typology required healthcare providers to not 'discriminate against people who are sick or suspected of illness'. The emphasis on patient respect and wellbeing also appeared as an orientation for professionals to communicate with patients in a 'flexible' manner (NHC, 2020d).

Further, the principle guiding services to critically ill patients required medical workers to 'treat patients with tolerance', stressing the need to address psychological experiences as a site of care. In addition to embracing the patient's emotions, the January Guidelines promoted a positive outlook of the crisis by encouraging patients to be confident about their recovery, find a 'positive meaning in adversity' and 'cooperate with all aspects of treatment'. In a nutshell, the typology revealed a type of health governance that normalizes people's emotional response to crises, including aggressiveness, anger, anxiety and depression (NHC, 2020d), in agreement with the crisis management literature (Coombs & Holladay, 2010; Pearson & Clair, 1998). By accounting for the patient's emotions, instead of suppressing them, the government created a new site of governance that was communicated back to the government through big data systems, increasing its capacity to regulate people's lives.

7.1 | Scientific knowledge as a tool to "Persuade" (not force) crisis subjects

Information dissemination represents a core outcome in crisis management. While too much information can create distress, too little

can fuel rumours and cause distrust (Pearson & Clair, 1998). A core element permeating most policies analyzed in this section refers to 'science popularization and dissemination' (NHC, 2020b, 2020n). To obtain the patient's confidence and cooperation, the January Guidelines relied on the communication of scientific knowledge about COVID-19.

The Guidelines required healthcare providers to improve communication with patients, particularly to assist patients in developing scientific knowledge of the virus and pneumonia. The intervention measures for confirmed patients with mild symptoms include helping them to develop 'true and reliable information and knowledge' of COVID-19 that result from 'trusted scientific and medical authoritative materials'. The Guidelines recommend a similar measure to patients undergoing isolation: 'Objectively and truthfully explain the condition of the disease and the external epidemic situation, so that the patient can understand'. The Guidelines' recommendation to ensure patients obtain scientific knowledge of their health condition reflects the assumption that crises limit people's capacity to process information (Pearson & Clair, 1998, p. 62). The Guidelines from January also proposed applying 'knowledge' to eliminate people's fear of treatment, mitigating the risk of treatment refusal.

To disseminate scientific knowledge of the virus in a timely and accurate fashion, the State Council encouraged the 'full use' of media, including social media platforms as WeChat and Weibo, which have about 500 million and 1.2 billion monthly users respectively, in February 2020 (Borak, 2020; Weibo, 2020). By encouraging people to use social media, especially WeChat groups (NHC, 2020g), to spread official information, the government penetrated kinship and other social networks (Zhu et al., 2020). The actions deployed during the pandemic paved the way for the state bureaucracy to regulate people's lives, particularly emotions, on a more intimate and national scale.

7.2 | The family as a medium of crisis management

The NHC's psychological crisis response had always included the family. However, the institution of the family became central in China's psychological crisis response in March, when President Xi Jinping called society to improve the psychological counselling and intervention services for, among others, the family members of alive and deceased patients (NHC, 2020a). His personal interference triggered the NHC to release a complementary plan that specifically addressed counselling and paid special attention to the family unit. Titled 'Psychological Counseling Work Plan for the Novel Coronavirus Pneumonia' (NHC, 2020c), this plan ('March Plan') designated residents' committees as primarily responsible for 'strengthening' counselling to patients and their families. Practically, the NHC called residents' committees to develop, among other services, an 'online + offline' (NHC, 2020e) 'social work service network' to support persons in quarantine (NHC, 2020f), which at that time included virtually all citizens. The NHC's reliance on such committees, which are self-governing grassroots organizations run by families

living in the neighbourhoods, transformed the family into both a subject and a provider of psychological services.

Family appears as a cause of concern specially among frontline medical workers. The January Guidelines warned healthcare providers that the mind frame of 'medical and related personnel' may include concerns about their families and their family members concerns about them (NHC, 2020d), in addition to other feelings. To counter this mind frame, the Guidelines instructed healthcare providers to lead frontline medical workers to keep in contact with their families, using kinship as a safety net (NHC, 2020d). Cognizant of the frontline workers' preoccupation with their family members, particularly elderly parents, the State Council guided society to take immediate action to form volunteer groups to assist those individuals with their basic daily needs (NHC, 2020j; State Council, 2020d). The NHC's summary tied the effectiveness of the pandemic response to helping frontline workers with their caregiving responsibilities. Overall, the NHC aligned the order of society with the order of the family, a strategy that dates from time immemorial (Dutton, 1992). Such an alignment worked as a tool to manage the psychological crisis intervention and motivate populations to comply with the government's pandemic response.

The NHC's psychological crisis intervention strategies received considerable criticism. Researchers questioned their effectiveness, arguing that online-based psychological services have a low-utilization rate in China and are inaccessible to those who need them the most, particularly low socioeconomic status populations (Yao et al., 2020); however, it disregards the offline side of China's 'online + offline' approach to psychological health (NHC, 2020e). Although more research is needed to understand the concrete consequences and effects of the NHC's psychological crisis intervention, the January Guidelines, the March Plan, and their complementary policies advanced a mental health service framework that is likely to outlast the pandemic to become a permanent infrastructure. Indeed, many of the actions listed in the NHC's pandemic response coincide with a national government initiative, piloted since 2019, to construct a 'National Social Psychological Service System' that includes the creation of grassroots psychological service platforms, networks, and hotlines (State Council, 2020c). Our findings indicate that the most important legacy of China's psychological response to the pandemic refers to the transformation of mental health into a site of governance.

8 | DISCUSSION

The policies we analyzed suggest that the State Council pandemic response was more than a 'draconian lockdown' (Gunia, 2020). Despite the failure of the early warning system,[4] the State Council promoted a comprehensive crisis response that consisted of the implementation of a set of clearly defined policies, structures and processes. These policies, structures and processes created a comprehensive system for control and prevention of COVID-19, merging physical and big data strategies of mass surveillance. As Pearson and

Clair (1998) suggest in their crisis management framework, China's crisis response contained multidisciplinary and integrated elements of crisis response.

From the social–political perspective, the pandemic response used multiple historical surveillance mechanisms (Bray, 2006; Kinmond, 1957; Whyte, 1993). In the name of an idea of nation, nationalist mass mobilization was coupled with Communist guidance, civility, family values, the motherland and individual interests. Among other values, mutual help, kinship connections and sense of geographic belonging appear to have justified the PHM's initiatives. By invoking such values, President Xi's administration invested the CPC's morality-based legal authority. Aligning legal and traditional forms of authority to manufacture consent has been a governance strategy since 1949, however, the Xi administration has been drawing on this alignment frequently since 2013 (Lin & Trevaskes, 2019). On the discourse level, those policies sought to create an environment that countered the potential collapse of shared values and reinforced collective beliefs while promoting people's interests in keeping themselves and their family members safe. The nationalism that the State Council policies to control COVID-19 aimed to reconcile collective ideas with individual values. Although disputed, China's low number of COVID-19 cases and its rapidness in controlling the pandemic suggest that the Chinese government to a significant degree avoided the social ruptures that typically affect societies during crisis both on the concrete and discursive levels. Attempting to understand individual perceptions of the legitimacy of the crisis response, Liu and Graham (2021) found that although individual perceptions of the crisis response changed over time and were dependent on social and cultural factors, the perceptions of the legitimacy of the Chinese authorities were strengthened as other countries failed at handling COVID-19 nationally and internationally. This was further confirmed by a study that surveyed 19,816 people in China finding that people's satisfaction with all government performance was higher than prepandemic, with the highest satisfaction expressed towards the national government and dropping at each level of government from provincial to village (Wu et al., 2021).

From the technological-structural perspective, the Chinese government made full use of big data, artificial intelligence, and automation to solve the crisis. By creating big data platforms for techno-social governance, big data transformed technology from a technological tool of crisis management into a means of governance through national, community and individual levels of response. The three-tiered response entailed multiple surveillant assemblages, all linking back to provincially and centrally collected, stored, and analyzed information. For example, geospatial monitoring tracked people's movements and assigned risk levels according to their predictive levels of exposure to COVID-19. The risk level was then translated to a Health Code, with a green code (no predicted exposure) required to access public spaces.

The State Council policies pertaining to information and technology merged three distinctive surveillance apparatuses—the grid system, Internet+ and health codes. While the grid system organized individuals and their family members into data collection units,

Internet+ transformed their information into big 'data flows" (Bauman & Lyon, 2013) and health codes closed the loop with individual behavior control. The coupling of these systems gave the State Council and the Ministry of Public Security an unseen capacity to associate and correlate people's behavior patterns in a detailed and totalized way, dramatically increasing the risk of 'surveillance creep' (Marx, 1988). Here, similarly to war periods, the crisis needs created a period of exemption for technologies to be trialed. This merging made possible the comprehensive oversight of the population and comprehensive popular self-policing (Lawson & Xu, 2007), and allowed government authorities scrutinize people's lives on an intimate level, oppressing undesirable behaviors (Bernot et al., 2021). The resulting practice of selective quarantine contrasted with practices in most countries where entire populations were ordered to self-isolate.

From the psychological perspective, the State Council normalized mental health issues as expected consequences from the COVID-19 crisis. This allowed local governments and grassroots organizations to deploy counselling services and psychological hotlines across the country, giving the field of psychology watershed attention. By normalizing mental health issues and creating intervention systems for mental health at a national scale, the Chinese government transformed emotions into an institutionalized site of governance. In doing so, the government brought awareness to health issues, leading individuals to self-assess and take action on their mental health. Such initiatives allowed to dissect people's mental health into data flows via online service delivery platforms for psychological support and within a broader system of pandemic surveillance.

Two limitations mark this article. First, we were unable to visit China and conduct interviews about people's perceptions of the government's pandemic response. Having the chance to conduct research in China would have helped us to address our second limitation, which refers to the negative implications of an automated system of surveillance being rapidly implemented on a national scale, such as its marginalizing effects. This is recommended as a direction for future research.

9 | CONCLUSION

The holistic framework of crisis management introduced by Pearson and Clair (1998) provides a comprehensive view of China's pandemic response, through analyzing its social–political, technological–structural and psychological measures. By including a surveillance studies angle, we recognize that the Party-state is developing a big data lens as a means of comprehensively managing the crisis. There are several key findings that stem from this macro analysis.

To manage the pandemic, the Chinese State Council adopted a novel logic based on predictive and deterministic algorithmic governance to monitor and control infections and crisis response. By plugging individual and community levels of surveillance to the national centralized government platforms, COVID-19 surveillance achieved a thorough and comprehensive level of health governance, modes of which are likely to extend past the pandemic. The

digitization of the pandemic through big data is in line with the broader socio-political context of securitizing the daily life in China: by combining the emerging governance logics of securitization and digitization the Party-state has been furthering the transparency of the individual and communities to the State. The end goal of multiple surveillant assemblages—physical and technological—was to create a comprehensive mode of crisis governance, creating a crisis discipline. The crisis discipline relied on high-tech surveillance systems to 'sort' people into categories and human labour to monitor compliance.

Big data approach instilled systems of surveillance at national, community and individual levels, thus combining numerous surveillant assemblages. Although it is too early to predict what exact implications these assemblages will have on people's lives postpandemic, it is evident that the crisis created a state of exception that allowed to combine multiple levels of governance on big data platforms, as well as habituate people to sharing sensitive personal information. This signals a new era of Chinese governance with technological systems of big data. By applying a multidisciplinary analytical lens to analyzing China's developing capacity to manage large scale crisis, we have demonstrated how the multimodal elements of the crisis were managed in a centralized way.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available via the State Council website, the National Health Commission website, and the media articles cited can be searched open source via the Baidu search engine or accessed via the URLs provided in the reference list. These data were derived from the following resources available in the public domain: http://www.gov.cn/, http://www.nhc.gov.cn/wjw/index.shtml, and https://www.baidu.com/.

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ENDNOTES

[1] Ang (2020) argues that while the Chinese State efforts were effective in containing the pandemic after it broke out, the local officials were afraid to report problems that could have stopped the spread of the virus during the first months of inaction. These concerns are echoed by Gu and Li (2020) who indicate that scientific and professional communities of health workers had not been granted sufficient autonomy to activate the early warning system.

[2] The State Council documents are available via http://www.gov.cn/ and the National Health Commission documents are available via http://www.nhc.gov.cn/wjw/index.shtml.

[3] 'Carpet style management' (*ditanshi guanli*) refers to a social governance style that is thorough and comprehensive.

[4] Along the continuum of the success-failure dichotomy (Pearson and Clair, 1998, p. 28), China's early warning system of infectious diseases remained ineffective (Ang, 2020; Gu & Li, 2020; Wang et al., 2016).

REFERENCES

Aliperti, G., Sandholz, S., Hagenlocher, M., Rizzi, F., Frey, M., & Garschagen, M. (2019). Tourism, crisis, disaster: An interdisciplinary approach. *Annals of Tourism Research*, 79, 102808. https://doi.org/10.1016/j.annals.2019.102808

Ang, Y. Y. (2020). When COVID-19 meets centralized, personalized power. *Nature Human Behaviour*, 4, 445–447. https://doi.org/10.1038/s41562-020-0872-3

Ardito, L., Coccia, M., & Petruzzelli, A. M. (2021). Technological exaptation and crisis management: Evidence from COVID-19 outbreaks. *R&D Management*, 51(4), 381–392. https://doi.org/10.1111/radm.12455

Babbie, E., & Roberts, L. W. (2018). Fundamentals of social research (4th Canadian ed.). Nelson.

Bauman, Z., & Lyon, D. (2013). *Liquid surveillance: A conversation*. John Wiley & Sons.

Bernot, A., Trauth-Goik, & Trevaskes, S. (2021). Handling COVID-19 with big data in China: Increasing 'governance capacity' or 'function creep'? *Australian Journal of International Affairs*, 75(5), 480–486. https://doi.org/10.1080/10357718.2021.1956430

Borak, M. (2020, May 14). WeChat now has over 1.2 billion users worldwide. *South China Morning Post*. https://www.scmp.com/abacus/news-bites/article/3084358/wechat-now-has-over-12-billion-users-worldwide

Bray, D. (2006). Building 'community': New strategies of governance in urban China. *Economy and Society*, 35(4), 530–549. https://doi.org/10.1080/03085140600960799

Brodeur, J.P. (1983). High policing and low policing: Remarks about the policing of political activities. *Social Problems*, 30(5), 507–520. https://doi.org/10.2307/8002

China Daily. (2014, July 15). An introduction to the Patriotic Health Work. *China Daily*. http://www.chinadaily.com.cn/m/chinahealth/2014-07/15/content_17786163.htm

Coombs, W. T., & Holladay, S. J. (2010). *The handbook of crisis communication*. Wiley-Blackwell. https://doi.org/10.1002/9781444314885

Dutton, M. R. (1992). *Policing and punishment in China: From patriarchy to "the people"*. Cambridge University Press.

Fan, S. (2020, September 30). *"Wǔhàn hóngle" ràng àiguó zhǔyì jīngshén shēngténg Wénmíng wǎng píng* ["Wuhan is Red": Let patriotism rise]. [Civilization Review]. http://www.wenming.cn/wmpl_pd/msss/202009/t20200928_5803869.shtml

Ferretti, L., Wymant, C., Kendall, M., Zhao, L., Nurtay, A., Abeler-Dorner, L., Parker, M., Bonsall, D., & Fraser, C. (2020). Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. *Science (American Association for the Advancement of Science)*, 368(6491), 619. https://doi.org/10.1126/science.abb6936

Gilbert, G. L., Degeling, C., & Johnson, J. (2019). Communicable disease surveillance ethics in the age of big data and new technology. *Asian Bioethics Review*, 11(2), 173–187. https://doi.org/10.1007/s41649-019-00087-1

Gu, E., & Li, L. (2020). Crippled community governance and suppressed scientific/professional communities: A critical assessment of failed early warning for the COVID-19 outbreak in China. *Journal of Chinese Governance*, 5(2), 160–177. https://doi.org/10.1080/23812346.2020.1740468

Gu, X. (2004). Healthcare regime change and the SARS outbreak in China. In J. Wong, & Y. Zheng (Eds.), *The SARS epidemic: Challenges to China's crisis management* (pp. 123–156). World Scientific Publishing. https://doi.org/10.1142/5615

Gunia, A. (2020, March 13). China's draconian lockdown is getting credit for slowing Coronavirus. Would it work anywhere else? *Times*. https://time.com/5796425/china-coronavirus-lockdown/

Ha, J. H., & Boynton, L. (2014). Has crisis communication been studied using an interdisciplinary approach? A 20-year content analysis of communication journals. *International Journal of Strategic*

Communication, 8(1), 29–44. https://doi.org/10.1080/1553118X.2013.850694

Habermas, J. (1975). *Legitimation crisis*. Beacon Press.

Haggerty, K. D., & Ericson, R. V. (2000). The surveillant assemblage. *British Journal of Sociology, 51*(4), 605–622. https://doi.org/10.1080/00071310020015280

Hangzhou Public Security. (2020, February 15). *Fènzhàn "yì" xiàn, dǎngyuán zài háng dòn Hangzhou Public Security* [Party members in action fighting the epidemic defence line]. https://mp.weixin.qq.com/s/cXlYMcN-pP2oJqgwTYFweg

He, A. J., Shi, Y., & Liu, H. (2020). Crisis governance, Chinese style: Distinctive features of China's response to the Covid-19 pandemic. *Policy Design and Practice, 3*(3), 242–258. https://doi.org/10.1080/25741292.2020.1799911

Hubei Daily. (2020a, February 29). *Jiàn qiáng yòng hào dà shùjù xìtǒng tuīdòng yìqíng fáng kòng gèngjiā kēxué huà jīngxì huà zhìnéng huà Hubei Daily* [Building and utilizing big data systems to promote more scientific, refined and intelligent epidemic prevention and control]. http://cpc.people.com.cn/n1/2020/0229/c117005-31610772.html

Hubei Daily. (2020b, January 27). *Quánguó gèdì qiúzhù zhě dǎ jìn wǔhàn de xīnlǐ zīxún rèxiàn, xīnlǐ zhuānjiā: Zhèngshì yìqíng, jiāqiáng xīnlǐ shūdǎo Hubei Daily* [Help seekers from all over the country entered the psychological counseling hotline in Wuhan, psychologists comment: "Face the epidemic and strengthen psychological counseling"]. http://m.cnhubei.com/content/2020-01/27/content_12651866.html

Kapucu, N. (2011). Collaborative governance in international disasters: Nargis cyclone in Myanmar and Sichuan earthquake in China cases. *International Journal of Emergency Management, 8*(1), 1–25. https://doi.org/10.1504/IJEM.2011.040395

Kinmond, W. (1957). *No dogs in China*. Thomas Nelson & Sons.

Kleinman, A., & Watson, J. L. (2006). *SARS in China: Prelude to pandemic?*. Stanford University Press.

Knight, A., & Creemers, R. (2021). Going viral: The social credit system and COVID-19. *SSRN*. https://doi.org/10.2139/ssrn.3770208

Kraus, S., Clauss, T., Breier, M., Gast, J., Zardini, A., & Tiberius, V. (2020). The economics of COVID-19: Initial empirical evidence on how family firms in five European countries cope with the corona crisis. *International Journal of Entrepreneurial Behavior & Research, 26*(5), 1067–1092. https://doi.org/10.1108/IJEBR-04-2020-0214

Lagadec, P. (1993). *Preventing chaos in a crisis*. McGraw-Hill.

Lai, H. (2011). Managing epidemic/pandemic crises: Institutional setup and overhaul. In J. H. Chung (Ed.), *China's crisis management: China's crisis management* (pp. 87–107). World Scientific Publishing. https://doi.org/10.1142/5615

Lawson, J., & Xu, F. (2007). SARS in Canada and China: Two approaches to emergency health policy. *Governance, 20*(2), 209–232. https://doi.org/10.1111/j.1468-0491.2007.00354.x

Liang, F. (2020). COVID-19 and health code: How digital platforms tackle the pandemic in China. *Social Media + Society, 6*(3). https://doi.org/10.1177/2056305120947657

Lin, D., & Trevaskes, S. (2019). Creating a virtuous leviathan: The party, law, and socialist core values. *Asian Journal of Law & Society, 6*(1), 41–66. https://doi.org/10.1017/als.2018.41

Liu, C., & Graham, R. (2021). Making sense of algorithms: Relational perception of contact tracing and risk assessment during COVID-19. *Big Data & Society, 8*(1), 690204. https://doi.org/10.1177/2053951721995218

Marx, G. T. (1988). *Undercover: Police surveillance in America*. University of California Press. https://doi.org/10.1525/j.ctt1ppg2c

Maxey, R. (2015). The rise of the 'we' narrator in modern American fiction. *European Journal of American Studies, 10*(2), 1–16. https://doi.org/10.4000/ejas.11068

McGregor, R. (2020). China's deep state: The Communist Party and the coronavirus. The Lowy Institute. https://www.lowyinstitute.org/publications/china-s-deep-state-communist-party-and-coronavirus

Mosher, S. W. (1983). *Broken earth: The rural Chinese*. Free Press.

Mozur, P., Zhong, R., & Krolik, A. (2020, March 1). In coronavirus fight, China gives citizens a color code, with red flags. *The New York Times*. https://www.nytimes.com/2020/03/01/business/china-coronavirus-surveillance.html

National Health Commission. (2020a). *Dòngyuán guǎngdà qúnzhòng jījí cānyù àiguó wèishēng yùndòng de chàngyì shū* [Proposal to mobilize the masses to actively participate in the patriotic health campaign]. http://www.nhc.gov.cn/guihuaxxs/gongwen1/202003/bf7180d440cb49c5bbf6e563aba15cab.shtml

National Health Commission. (2020b). *Guānyú kāizhǎn xīnguān fèiyán fáng kòng kēpǔ xuānjiào huódòng de tōngzhī* [Notice on launching popular science education activities for the prevention and control of coronavirus]. www.nhc.gov.cn/jkj/s3577/202003/b31952bc767a4370961d0699a70878dd.shtml

National Health Commission.(2020c). *Guānyú yìnfā xīnguān fèiyán yìqíng xīnlǐ shūdǎo gōngzuò fāng'àn de tōngzhī* [Notice on the issuance of the psychological counseling work plan for coronavirus]. http://www.gov.cn/xinwen/2020-03/19/content_5493051.htm

National Health Commission.(2020d). *Guānyú yìnfā xīnxíng guānzhuàng bìngdú gǎnrǎn de fèiyán yìqíng jǐnjí xīnlǐ wéijī gānyù zhǐdǎo yuánzé de tōngzhī* [Notice on the issuance of guidelines for emergency psychological crisis intervention in the coronavirus epidemic]. http://www.nhc.gov.cn/jkj/s3577/202001/6adc08b966594253b2b791be5c3b9467.shtml

National Health Commission.(2020e). *Guójiā wèishēng jiànkāng wěi bàngōng tīng guānyú tōngbào biǎoyáng "hùliánwǎng +yīliáo jiànkāng" fúwù diǎnxíng ànlì de tōngzhī* [Notice of the General Office of the National Health and Health Commission on Internet + medical and health services]. (Guó wèi bàn guīhuà hán (2020) 834 hào [National Health Office Planning Letter (2020) No. 834]). http://www.nhc.gov.cn/guihuaxxs/gongwen12/202010/ac2a621a3ecc43b18b55ee73d11f5cb5.shtml

National Health Commission.(2020f). *Xīnguān fèiyán huànzhě, gélí rényuán jí jiāshǔ xīnlǐ shūdǎo hé shèhuì gōngzuò fúwù fāng'àn jiědú cáiliào* [Interpretation of psychological counseling and social work service plans for patients with coronavirus, quarantine persons, and their families]. http://www.nhc.gov.cn/jkj/dongt/202004/454fcc437199467292064240f51dcc34.shtml

National Health Commission. (2020g). *Yī tú dú dǒng: Yìqíng fáng kòng qíjiān xīnlǐ yuánzhù rèxiàn gōngzuò zhǐnán* [Understand in one picture: Guidelines for psychological assistance hotline work during epidemic prevention and control]. http://www.nhc.gov.cn/jkj/s3578/202002/daa0732df97041e89a74c3673c637561.shtml

National Health Commission.(2020h). *Quánguó ài wèi bàn guānyú shēnrù kāizhǎn àiguó wèishēng yùndòng zuò hǎo xīnguān fèiyán yìqíng fáng kòng gōngzuò de tōngzhī* [Notice of the National Patriotic Health Office on in-depth development of patriotic health campaigns to prevent and control the coronavirus epidemic]. http://www.nhc.gov.cn/guihuaxxs/gongwen1/202002/a65f883cce644162a2a49b96f5073ae5.shtml

National Health Commission. (2020i). *Quánguó ài wèi bàn guānyú shēnrù kāizhǎn àiguó wèishēng yùndòng qiánghuà shìchǎng huánjìng zhěngzhì de tōngzhī" jiědú* [Announcement of the National Patriotic Health Office on the in-depth development of patriotic health campaigns and strengthening of market environment]. http://www.nhc.gov.cn/guihuaxxs/s7786/202006/9c47349cad3d4bed8567ecb8fed612d9.shtml

National Health Commission.(2020j). *Guānyú zuò hǎo lí jīng rényuán xīnguān fèiyán jiànkāng guǎnlǐ fúwù gōngzuò de tōngzhī" de jiědú* [Interpretation of the "Notice on coronavirus health management services for people leaving Beijing"]. http://www.nhc.gov.cn/jkj/s7915/202006/de24a5dfee2d452cbc3f7797814de5c4.shtml

National Health Commission.(2020k). *Guānyú zuò hǎo fángfàn yìqíng shūrù xiàng guān chéngshì xīnxíng guānzhuàng bìngdú jiǎncè gōngzuò de*

tōngzhī jiědú [Interpretation of the "Notice on preventing the import of coronavirus in cities"]. http://www.gov.cn/zhengce/2020-04/05/content_5499286.htm

National Health Commission. (2020l). *Guójiā wèishēng jiànkāng wěi jīcéng sī guānyú jìnyíbù zuò hǎo jīcéng yīliáo wèishēng jīgòu fáng kòng xīnxíng guānzhuàng bìngdú gǎnrǎn de fèiyán yìqíng gōngzuò de tōngzhī* [Notice by the Department of Health and Sanitation on grassroots medical and health organisations further supporting the work of control and prevention against the novel coronavirus epidemic]. http://www.nhc.gov.cn/jws/s3581/202001/a16388ffe4a04d59b7df8e202a8aab16.shtml

National Health Commission. (2020m). *Jiědú: "Xīnxíng guānzhuàng bìngdú fèiyán yìqíng fáng kòng qíjiān xīnlǐ yuánzhù rèxiàn gōngzuò zhǐnán"* [Interpretation of the "Guidelines for the Work of the Psychological Assistance Hotline During the Prevention and Control of the Novel Coronavirus Pneumonia"]. http://www.nhc.gov.cn/jkj/s3578/202002/7af79819925f4fb5842460d25bbe2c55.shtml

National Health Commission.(2020n). *Jiědú "xīnguān fèiyán yìqíng qíjiān zhòngdiǎn rénqún yíngyǎng jiànkāng zhǐdǎo jiànyì"* [Interpretation of the "Nutrition and health guidance recommendations for key populations during the coronavirus epidemic"]. http://www.nhc.gov.cn/jkj/s5899tg/202005/aa359e8f8e2648e7a474e7b38aacb4b0.shtml

O'Brien, K. J., & Li, L. (1999). Campaign nostalgia in the Chinese countryside. *Asian Survey*, 39(3), 375–393. https://doi.org/10.2307/3021204

Pan, X.-B. (2020). Application of personal-oriented digital technology in preventing transmission of COVID-19, China. *Irish Journal of Medical Science*, 189(4), 1145–1146. https://doi.org/10.1007/s11845-020-02215-5

Panda, A. (2020, May 27). China calls charges of pandemic opportunism in South China Sea 'sheer nonsense'. The Diplomat. https://thediplomat.com/2020/05/china-calls-charges-of-pandemic-opportunism-in-south-china-sea-sheer-nonsense/

Pauchant, T., & Mitroff, I. (1992). *Transforming the crisis-prone organization*. Jossey-Bass.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23(1), 59–76. https://doi.org/10.5465/AMR.1998.192960

Peng, L., & Wei, T. (2011). Wǒguó chéngshì wǎng gé huà guǎnlǐ de yánjiū yǔ zhǎnwàng [Research on Chinese urban grid management]. *Urban Studies*, 18(1), 4–6. https://www.ixueshu.com/document/b04f54d976005b9a9fdc0574a54bce96318947a18e7f9386.html

Perry, E. J. (2011). From mass campaigns to managed campaigns: "Constructing a new socialist countryside". In S. Heilmann, & E. J. Perry (Eds.), *Mao's invisible hand: The political foundations of adaptive governance in China* (pp. 30–61). Harvard University Asia Center.

Qadir, J., ur Rasool, R., Zwitter, A., Sathiaseelan, A., & Crowcroft, J. (2016). Crisis analytics: Big data-driven crisis response. *Journal of International Humanitarian Action*, 1(1), 1–21. https://doi.org/10.1186/s41018-016-0013-9

Shrivastava, P., Mitroff, I., Miller, D., & Miclani, A. (1988). Understanding industrial crises. *Journal of Management Studies*, 25(4), 285–303. https://doi.org/10.1111/j.1467-6486.1988.tb00038.x

Siqueira Cassiano, M., Haggerty, K. D., & Bernot, A. (2021). China's response to the Covid-19 pandemic: Surveillance and autonomy. *Surveillance and Society*, 19(1), 94–97. https://ojs.library.queensu.ca/index.php/surveillance-and-society/article/view/14550/9535

State Council. (2020a). *Fighting COVID-19 China in action*. http://english.www.gov.cn/news/topnews/202006/07/content_WS5edc559ac6d066592a449030.html

State Council. (2020b). *Guānyú kāizhǎn dì 32 gè àiguó wèishēng yuè huódòng wèi quánmiàn dǎ yíng xīnguān fèiyán yìqíng zǔjí zhàn yíngzào liánghǎo huánjìng de tōngzhī* [Notice on Carrying out the 32nd Patriotic Health Month to create a good environment to fully win the battle against coronavirus]. http://www.gov.cn/zhengce/zhengceku/2020-03/24/content_5494859.htm

State Council. (2020c). *Guānyú yìnfā quánguó shèhuì xīnlǐ fúwù tǐxì jiànshè shìdiǎn 2020 nián zhòngdiǎn gōngzuò rènwù jí zēngshè shìdiǎn de tōngzhī; Guó wèi bàn jí kòng hán (2020) 336 hào Wèishēng jiànkāng wěi wǎngzhàn* [Notice on the issuance of key tasks in 2020 and the establishment of additional pilots; CDC Letter (2020) No.336 of the National Health Office. [Health Commission website]. http://www.gov.cn/zhengce/zhengceku/2020-04/28/content_5507156.htm

State Council. (2020d). *Guānyú zuò hǎo xīnguān fèiyán yìqíng fáng kòng yīxiàn yīwù rényuán lǎonián qīnshǔ guān'ài fúwù gōngzuò de tōngzhī* [Notice on doing a good job in the care service for the elderly]. http://www.gov.cn/zhengce/2020-02/23/content_5482355.htm

State Council. (2020e). *Mínzhèng bù, guójiā wèishēng jiànkāng wěi guānyú yìnfā "xīnguān fèiyán yìqíng shèqū fáng kòng yǔ fúwù gōngzuò jīngzhǔn huà jīngxì huà zhǐdǎo fāng'àn" de tōngzhī mín fā 〔2020〕38 hào* [Notice of the Ministry of Civil Affairs and the National Health and Health Commission on issuing the "Precision and Refinement Guidance Plan for community prevention and control of the coronavirus epidemic situation and service work" Minfa (2020) No. 38]. http://www.gov.cn/zhengce/zhengceku/2020-04/16/content_5503261.htm

State Council. (2020f). *"Yīliáo liánhé tǐ guǎnlǐ bànfǎ (shìxíng)" jiědú* [Interpretation of the Medical Consortium management measures (Trial)]. http://www.nhc.gov.cn/yzygj/s3594r/202007/0f58f93e3f5a4a26ab9079f78bf2dca5.shtml

State Council. (2020g). *Zhōngyāng yìngduì xīnxíng guānzhuàng bìngdú gǎnrǎn fèiyán yìqíng gōngzuò lǐngdǎo xiǎozǔ guānyú jìnyíbù zuò hǎo yìqíng fáng kòng qíjiān kùnnán qúnzhòng dōudǐ bǎozhàng gōngzuò de tōngzhī* [The Leading Group of the Central Government's response to the coronavirus epidemic]. http://www.gov.cn/zhengce/content/2020-03/07/content_5488352.htm

Trauth-Goik, A., & Bernot, A. (2021). Decentralising data collection and centralising information in the People's Republic of China: Decentralise Manage and Service reforms. *Surveillance & Society*, 19(4), 518–553. http://dx.doi.org/10.24908/ss.v19i4.14371

Wang, X., Guo, Q., Zhang, C., Yu, M., & Su, X. (2016). *Guānfāng chuánrǎn bìng wǎngluò bàogào xìtǒng zhìliàng píngjià zhǐbiāo tǐ shèn tí jià* [Evaluation on quality index system for notifiable communicable diseases network reporting]. *Disease Surveillance*, 31(03), 240–245. https://doi.org/10.3784/j.issn.1003-9961.2016.03.014

Watson, M. F., Bacigalupe, G., Daneshpour, M., Han, W. J., & Parra-Cardona, R. (2020). COVID-19 interconnectedness: Health inequity, the climate crisis, and collective trauma. *Family Process*, 59(3), 832–846. https://doi.org/10.1111/famp.12572

Wei, Y., Ye, Z., Cui, M., & Wei, X. (2020). COVID-19 prevention and control in China: Grid governance. *Journal of Public Health*, 43(1), 175. https://doi.org/10.1093/pubmed/fdaa175

Weibo. (2020, September 28). *Weibo reports second quarter 2020 unaudited financial results*. Weibo Corporation. https://weibocorporation.gcs-web.com/news-releases/news-release-details/weibo-reports-second-quarter-2020-unaudited-financial-results

Weick, K. E. (1988). Enacted sensemaking in crisis situations. *Journal of Management Studies*, 25(4), 305–317. https://doi.org/10.1111/j.1467-6486.1988.tb00039.x

Weick, K. E. (1993). The Collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly*, 38(4), 628–652. https://doi.org/10.2307/2393339

Wenming. (2020, April 2). *Wǔhàn dì 32 gè àiguó wèishēng yuè huódòng qǐdòng "shí dà xíngdòng" zhùlì yìqíng fáng kòng* [The 32nd patriotic health month in Wuhan launches ten actions to help prevent and control the epidemic]. http://www.wenming.cn/dfcz/hb_1679/202004/t20200402_5508849.shtml

Whyte, M. K. (1993). Deng Xiaoping: The social reformer. *China Quarterly*, 135, 515–535. https://www.jstor.org/stable/654100

Williams, W. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals, 11*(2), 733–769. https://doi.org/10.5465/annals.2015.0134

Wong, J., & Zheng, Y. (2004). SARS and China's political system. In J. Wong, & Y. Zheng (Eds.), *The SARS epidemic: Challenges to China's crisis management*. World Scientific Publishing. Ltd. https://doi.org/10.1142/5615

Wu, C., Shi, Z., Wilkes, R., Wu, J., Gong, Z., He, N., Xiao, Z., Zhang, X., Lai, W., Zhou, D., Zhao, F., Yin, X., Xiong, P., Zhou, H., Chu, Q., Cao, L., Tian, R., Tan, Y., Yang, L., ... Nicola Giordano, G. (2021). Chinese citizen satisfaction with government performance during COVID-19. *Journal of Contemporary China, 30*(132), 930–944. https://doi.org/10.1080/10670564.2021.1893558

Wu, J., Wang, J., Nicholas, S., Maitland, E., & Fan, Q. (2020). Application of Big Data Technology for COVID-19 Prevention and Control in China: Lessons and Recommendations. *Journal of Medical Internet Research, 22*(10), e21980. https://doi.org/10.2196/21980

Xi, J. (2020). Zài zhōngyāng zhèngzhì jú chángwěi huì huìyì yánjiū yìngduì xīnxíng guānzhuàng bìngdú fèiyán yìqíng gōngzuò shí de jiǎnghuà Qiushi [Speech during the meeting of the Standing Committee of the Political Bureau of the CPC Central Committee to study the response to the coronavirus epidemic]. http://www.qstheory.cn/dukan/qs/2020-02/15/c_1125572832.htm

Xiang, C. (2020, February). *Yìqíng fáng kòng yào yòng hǎo shèqū wǎng gé huà guǎnlǐ Party School of the CPC* [Community grid management should be used for epidemic prevention and control]. https://www.ccps.gov.cn/dxsy/202002/t20200210_137936.shtml

Xu, X. (2020). To repress or to co-opt? Authoritarian control in the age of digital surveillance. *American Journal of Political Science, 65*(2), 309–325. https://doi.org/10.1111/ajps.12514

Yao, H., Chen, J.-H., & Xu, Y.-F. (2020). Rethinking online mental health services in China during the COVID-19 epidemic. *Asian Journal of Psychiatry, 50*, 102015. https://doi.org/10.1016/j.ajp.2020.102015

Yidian (2020, March 16). *"Wǔhàn·wēi línlǐ"—yìqíng zhōngxīn chéngshì de yīgè xìnxī huà yàngběnChina.com* [Wuhan Micro Neighbourhood: An informatized example from the pandemic epicenter]. https://tech.china.com/article/20200316/032020_480998.html

Zhang, L. (2015). *China: Legal responses to health emergencies.* Library of Congress. https://www.loc.gov/law/help/health-emergencies/china.php

Zhao, X., Yuan, B., Yu, Y., & Jian, W. (2019). Governance function analysis of the Patriotic Health Movement in China. *Global Health Research and Policy, 4*(34), 34. https://doi.org/10.1186/s41256-019-0126-y

Zheng, Y., & Lye, L. (2004). SARS and China's political system. In J. Wong, & Y. Zheng (Eds.), *The SARS Epidemic: Challenges to China's crisis management* (pp. 45–76). World Scientific Publishing. https://doi.org/10.1142/5615

Zhong, Y. (2020, January 25). *Wǔhàn zhāomù shègōng, cóng zǎoshang dào shēnyè wèi yīhù rényuán tígōng xiàn shàng xīnlǐ shūdǎo jiǎn yā The Paper* [Wuhan recruits social workers to provide online psychological counseling and decompression for medical staff from morning to late night]. https://www.thepaper.cn/newsDetail_forward_5635481

Zhou, L., & Liu, K. (2020, January 27). *Wǔhàn shèqū qún gàn jiānshǒu yīxiàn wǎng gé huà guǎnlǐ kàng yìqíng China Daily* [Wuhan community leaders stick at the front line of grid management to fight the epidemic]. https://cn.chinadaily.com.cn/a/202001/27/WS5e2e8cffa3107bb6b579bc85.html

Zhu, Y., Fu, K.-W., Grépin, K. A., Liang, H., & Fung, I. C.-H. (2020). Limited early warnings and public attention to Coronavirus disease 2019 in China, January–February, 2020: A longitudinal cohort of randomly sampled Weibo users. *Disaster Medicine and Public Health Preparedness, 14*(5), e24–e27. https://doi.org/10.1017/dmp.2020.68