

# Research Status and Development Trends of Contemporary Chinese Medical History and Environmental History in the Context of the Healthy China Strategy

Haoyang Xu<sup>1</sup>, Chong Li<sup>1</sup>, Guoni Liu<sup>2</sup>

<sup>1</sup> College of Urban and Environmental, Hubei Normal University, Huangshi 435002, China

<sup>2</sup> Xiangyang No.1 Middle School, Xiangyang, 415499, China

## Abstract

People's health is related to the health of the nation and social stability, and health is one of the ultimate goals pursued by all humanity. The study of medical geography is closely linked with the development of the living environment and is a core aspect of human geography in exploring the human-environment relationship. Currently, academia considers the history of medicine as part of environmental research and temporarily divides the study of medical and health history into four main categories: first, exploring the spatial and temporal distribution and evolutionary mechanisms of diseases in historical periods; second, examining the spread and prevention of diseases in historical periods; third, analyzing the relationship and mechanisms between diseases, ecological environment, and social changes; and fourth, focusing on the game relationship between humans and diseases in historical periods. This paper briefly outlines the representative scholars and their achievements in these four categories and uses CiteSpace software to conduct a literature analysis of contemporary Chinese medical geography, medical history, environmental history, and disaster history, outlining the development trajectory and research directions of contemporary Chinese medical environmental history.

## Keywords

History of Medicine; Environmental History; Historical Health Geography; CiteSpace.

## 1. Introduction

In the report of the 19th National Congress, Comrade Xi Jinping proposed a development strategy emphasizing that people's health is a significant marker of national prosperity and strength. It is essential to improve national health policies and provide comprehensive health services throughout all phases of life for the populace. Human health is closely related to diseases and medical care, as diseases and health services are direct indicators of well-being. Since the dawn of the 21st century, with the rising wave of research in environmental history, the study of medical history has also entered a new stage. Medical history uses the relationship between humans and diseases as a focal point, while the connection between diseases and the environment has always been inseparable; thus, academia considers medical history as part of environmental studies. The needs of societal development have also driven the research processes in environmental and medical history. Scholar Liu Cuirong has listed "Diseases and Environment" as one of the ten major issues in Chinese environmental history. [Liu Cuirong: "Interactions Between Nature and Humanity: Perspectives on Environmental History Research," [1]Xinbei: Taiwan Lianjing Publishing House, 2008.] American scholar Donald Hughes has further referred to "disease" as part of the forces of nature in his work "What is Environmental History?" [1] [Donald Hughes: "What is Environmental History?" Beijing: Peking University Press, 2008.] The relationship between diseases and the environment aligns with

the geographical investigation of "human-environment relationships." [2]Scholar Yu Xinzong believes that there is significant overlap in research objectives and content between health history and environmental history; thus, he posits that exploring the relationship between humans and nature from the perspective of environmental history presents an effective research pathway. Furthermore, introducing ecological awareness into the study of medical history can help uncover cultural and environmental factors related to human diseases and health. [3][Yu Xinzong: "Ecological Perspectives in Medical History Research," Humanities Journal, Issue 10, 2013.] Currently, the academic community generally categorizes the study of medical and health history into four main areas: 1) Exploring the spatial and temporal distribution and evolution mechanisms of epidemics in historical periods; 2) Examining the prevention and control of epidemics in historical contexts; 3) Analyzing the relationship and mechanisms between epidemics, ecological environments, and social changes; 4) Constructing the core of research around the interplay between humans and diseases throughout history.[4]

## **2. The Four Major Categories of Contemporary Medical and Environmental History Research and Cultural Transformation**

### **2.1. The Spatiotemporal Distribution and Evolutionary Mechanisms of Epidemics in Historical Periods**

The Spatiotemporal Distribution and Evolutionary Mechanisms of Epidemics in Historical Periods aims to explore the temporal and spatial distribution of diseases in Chinese history, seeking to uncover the spatial patterns and evolutionary mechanisms of historical diseases while revealing their intrinsic relationship with the environment. In this field, the team led by Gong Shengsheng has conducted systematic research, proposing that over the past 2,000 years, the distribution range of miasmatic diseases in China has exhibited a southward shift due to human and climatic factors. [5]Furthermore, from a long-term perspective, the occurrence of epidemic disasters shows a certain positive correlation with fluctuations in temperature. Additionally, historically, epidemic disasters have been more frequent in urban areas than in rural ones. Moreover, during regional development, the relationship between humans and the environment influences the outbreak of epidemics.[6]

### **2.2. Historical Periods of Disease Spread and Prevention**

Research in this field mainly focuses on the history of disease spread and prevention, with most researchers being professionals in the medical and public health sectors. Among them, Yu Yongyan examined the development history of traditional Chinese ophthalmology and laryngology, as well as the prevention and treatment history of scarlet fever.[7,8,9] Other scholars, such as Zhan Shaochen, studied the plague in Fujian, [10]while Zhan Xinru and Wang Wenhua summarized the epidemiological history of human plague originating from infected Tibetan sheep in Qinghai Province. [11]Xu Jianyun provided an overview of the history of variolation for smallpox.[12]These contributions highlight the significance of historical experiences in contemporary disease prevention and control, yet they often neglect the interplay between natural environments and social change. Lai Wen and Li Yongchen have made commendable attempts to analyze these aspects from an environmental perspective, utilizing modern epidemiology and relevant literature. [13]They linked the climate shift to cooler conditions during the late Eastern Han Dynasty to infer that the epidemic was likely caused by a cold-related pathogen, positing that the epidemics during the Jian'an period were influenza outbreaks. Furthermore, they explored the spread of epidemics in Lingnan during the Qing Dynasty in relation to local societal factors, including population growth, wars, economic structures, and international interactions.[14]Fu Youfeng discussed research methods and

values of traditional epidemic historical texts, evaluating the status and influence of traditional Chinese medicine in the world.<sup>[15]</sup>

### **2.3. Exploring the Relationship and Mechanisms between Epidemics, Ecological Environment, and Social Change**

Yu Xinzong's book *Plagues and Society in Jiangnan during the Qing Dynasty* provides a detailed examination of the social and ecological background of plagues in Jiangnan, their temporal and spatial distribution patterns, and societal responses.<sup>[16]</sup> This research organically links epidemic studies with social changes.<sup>[17]</sup> Cao Shujii and Li Yushang have conducted in-depth studies of the plague since the Ming and Qing dynasties, becoming exemplars in this field.<sup>[18]</sup> Li Yushang investigated the mechanisms for responding to the plague in modern China, with case studies from Yunnan, Guangdong, and Fujian.<sup>[19]</sup> He also explored the observations and naming of the plague by the public and physicians, as well as population diseases and deaths in the northwest during the Republic of China era.<sup>[20]</sup> Cao Shujii analyzed the major plague outbreaks in North China during the Ming Dynasty's Wanli and Chongzhen eras, exploring their relationship with ecological environments, population changes, and integrating the transformations of the biosphere with social shifts of late Ming North China.<sup>[21]</sup> He also examined plague spread during peaceful and wartime periods from the perspectives of population and social environmental changes, positing that war significantly disrupts ecological environments and accelerates plague transmission, emphasizing that war itself constitutes an "ecological disaster."<sup>[21]</sup> Li Yushang further scrutinized the patterns of plague in specific regions and the changes in official and civilian prevention measures. Du Jiajin studied the impacts and prevention of smallpox among the imperial family in the Qing Dynasty.<sup>[22]</sup> Finally, Zhang Daqing systematically reviewed the history of disease transmission and social prevention in modern China.<sup>[23]</sup>

### **2.4. Constructing the Gambit Relationship between Humanity and Disease in Historical Contexts**

This direction focuses on the history of hygiene as a theme of research regarding humanity's struggle against disease, with a time frame primarily concentrated around the late Qing Dynasty and early modern period. The abundance of preserved materials from this era, along with the application of modern governance theories in this field of study, has led to a focus on grassroots public health and citizens' daily lives. Cao Shujii notably examined public health issues early on, compiling information from the *Shenbao* newspaper regarding the epidemic prevention and health administration during the Hong Kong plague of 1894. He further analyzed the public health conditions of the time through a series of government responses during the 1918 Shanxi plague incident.<sup>[24]</sup> Hu Cheng centered his work on event history, providing a socio-cultural and political historical interpretation of the development of public health in various regions during modern times.<sup>[25]</sup> Yu Xinzong approached the subject from a social governance perspective, conducting specialized studies on issues such as health concepts, environmental sanitation, water hygiene, waste disposal, health quarantine, health administration, and bodily control in the Qing Dynasty.<sup>[26]</sup> Du Lihong examined the changes in Beijing's public health system from the late Qing to the Republican period and its relationship with people's daily lives, specifically addressing topics such as drinking water safety, garbage disposal, and excrement management.<sup>[27,28]</sup> Zhang Zhongmin systematically reviewed the publication status of "hygiene" books during the late Qing Dynasty from the perspectives of book history and reading history, exploring the relationship between publishing and cultural politics, as well as the formation of late Qing political culture.<sup>[29]</sup>

## 2.5. Research Background of Epidemic History from the Perspective of Cultural History

Epidemics are considered a type of secondary disaster. Historically, most academic research on epidemics has focused on natural science perspectives and materialistic ideologies. As a result, the cultural attributes connecting epidemics to humanity and living spaces have not been fully explored. When epidemics broke out in ancient times, the government and community responses to these crises were marked by cultural imprints reflective of their era.

The deconstruction of cultural aspects can be carried out from three dimensions. The first dimension is the institutional level, which includes exemptions, relief efforts, adjustments in food distribution, peacekeeping measures, and administrative district reorganization. The second dimension pertains to the spiritual level, which can be summarized as prayers and folk beliefs related to epidemic rituals and protective practices. The third dimension is the material level, encompassing advancements in medical technology and pest eradication efforts. Professor Zhou Qiong, in her article "Cultural Turn in Disaster History Research," defines the connotation of disaster culture and argues that disaster history research must break from reliance on established paths and thought inertia. She emphasizes the importance of re-examining and reflecting on disaster history and its inherent meanings from the cultural origins and the motivations of disaster prevention, mitigation, and avoidance.<sup>[30]</sup> Professor Fang Xiuqi, in his work "Historical Continuity of Disaster Culture," posits that historical continuity is one of the characteristics of disaster culture and reflects its long-term impact. He asserts that disaster culture is part of the socio-cultural space and is an essential component of social ecological resilience.<sup>[31]</sup> Professor Xia Mingfang, in "Continuing the Past and Opening Up the Future: A Discussion on the Paradigm Shift in Disaster Narratives in Contemporary China," argues that there is an inherent academic dilemma in the study of China's disaster history. He calls for a more inclusive new paradigm—a narrative of ecological history of disasters, asserting that the humanistic spirit is central to disaster narratives.<sup>[32]</sup> Professor Yu Xinzong, in "An Exploration of Disaster Culture in Traditional Chinese Epidemic Narratives," observes that traditional narratives about epidemics in China consist of two types: narratives about the epidemics themselves and narratives concerning responses to the epidemics.<sup>[33]</sup> The focus of disaster culture is on the reactions and responses to epidemics, emphasizing that humanity should avoid reckless behaviors to lessen the impact of diseases. Professor Ma Junya, in "The 'Difference Order' under the Perspective of Disaster Culture," suggests that disaster culture manifests a hierarchical order determined by blood relations, which results in a lack of dynamism and vitality in society. He posits that the bag-like structure reflects a mode of interpersonal interaction characterized by the survival of the fittest, leading to a more disorderly state of society. A multifaceted observation is necessary to gain a comprehensive understanding of ancient Chinese society.<sup>[34]</sup>

## 3. Overview of Medical Environmental History Research based on CiteSpace Analysis

### 3.1. Data Source and Processing

Due to the differences in the documentation methods of ancient and modern literature, large-scale and collective outbreaks of infectious diseases in ancient times are mostly recorded in the literature with "plague" as a keyword. Using CiteSpace as a bibliometric analysis software and conducting keyword searches through the China National Knowledge Infrastructure (CNKI), ten research themes were defined: "ancient disasters, ancient epidemics, disasters in the Ming Dynasty, epidemics in the Ming Dynasty, epidemics in the Qing Dynasty, disasters in modern times, epidemics in modern times, disasters during the Ming and Qing Dynasties, and epidemics during the Ming and Qing Dynasties."

### 3.2. Data Analysis and Presentation of Literature Statistical Results

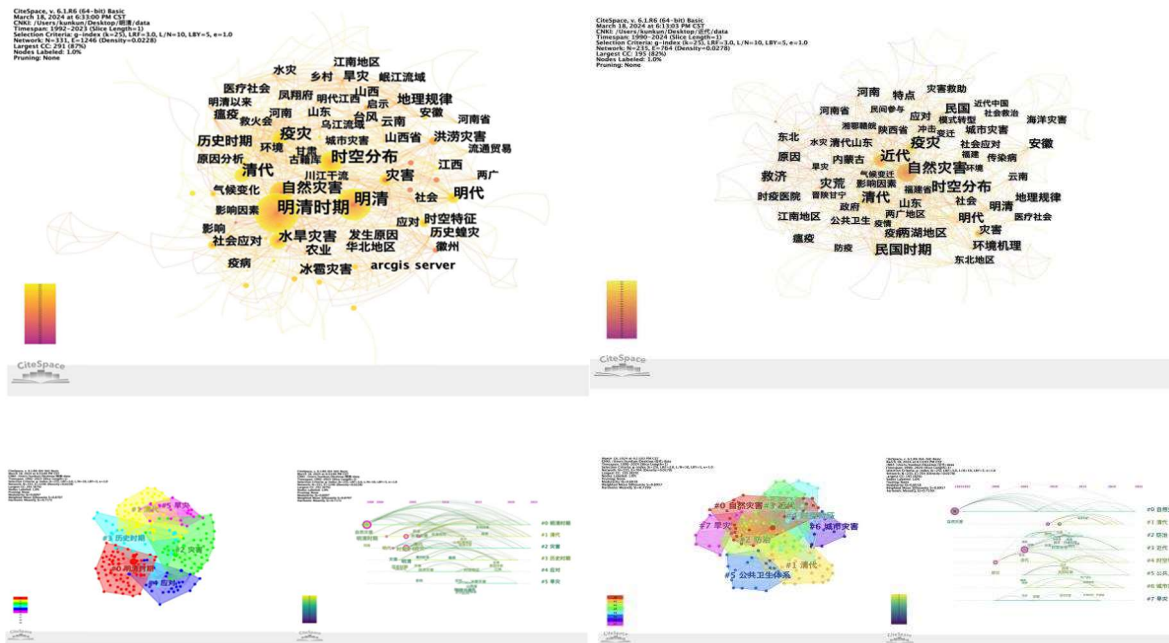


Figure 1. Visual Representation of the Research Situation on Disease Disasters in Chinese Ancient History and Modern History

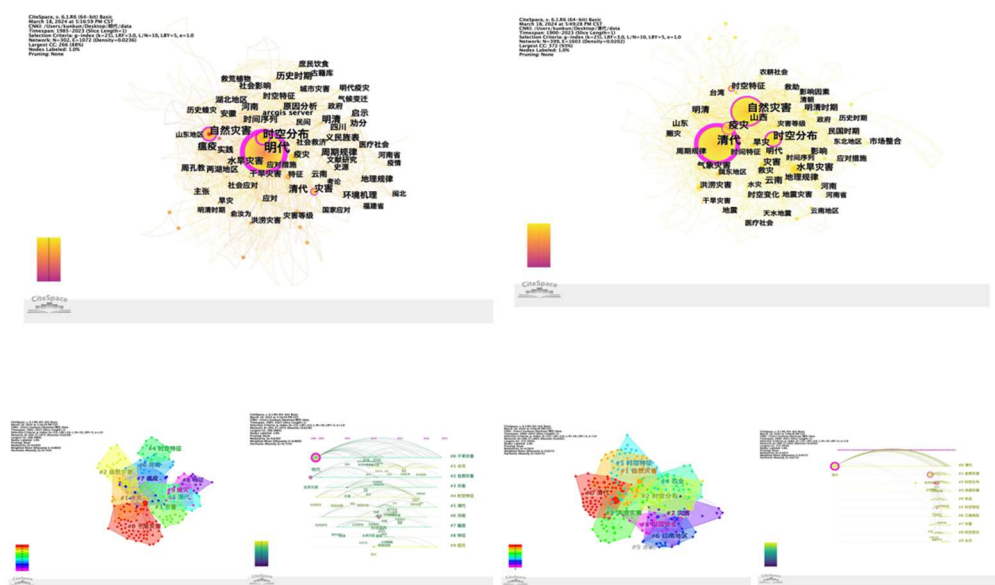


Figure 2. Visual Representation of the Research Situation on Disease Disasters During the Ming and Qing Dynasties

Due to the relatively fragmented research directions in this field, the available data is quite limited and scarce. Therefore, when conducting CiteSpace analysis, it is necessary to merge themes. Among the ten themes mentioned, "ancient disasters, ancient epidemics, disasters during the Ming and Qing Dynasties, and epidemics during the Ming and Qing Dynasties" are categorized as the first classification and designated as the Ancient Period. The themes "epidemics in the Ming Dynasty" and "disasters in the Ming Dynasty" are categorized as the second classification and designated as the Ming Dynasty Period. The themes "disasters in the Qing Dynasty" and "epidemics in the Qing Dynasty" constitute the third classification and are

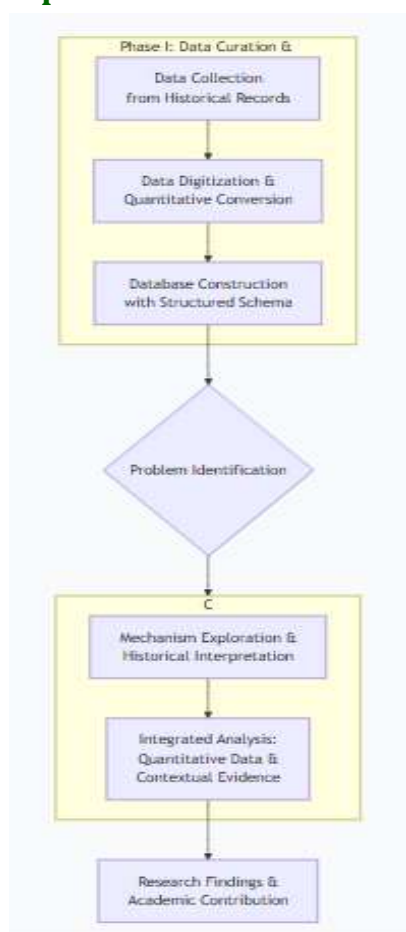
categorized as the Qing Dynasty Period. Finally, "modern disasters" and "modern epidemics" are categorized as the fourth classification and designated as the Modern Period. Subsequently, the analysis will proceed with keyword co-occurrence, keyword clustering, and the creation of timelines.

### 3.3. Brief Overview of the Bibliometric Statistical Results

From the first classification, "Ancient Period," it can be observed that the academic focus is predominantly concentrated on the Ming and Qing Dynasties, with most related issues primarily centered around the characteristics of disasters themselves. In contrast, the second classification, "Modern Period," reveals that the current academic focus has expanded compared to ancient times; in addition to the natural attributes of disasters, there are increased interests in public health prevention and relief mechanisms. Analysis of the Ming and Qing Dynasties indicates that scholars are primarily concerned with the natural attributes of disasters during this period, with few discussions on their social attributes. This situation is closely tied to the detailed nature of historical documentation. The further back in time, the scarcer and less comprehensive the historical records become, which directly constrains contemporary reconstruction of the history of the ancient medical environment.

## 4. Prospects for Future Research on the History of Medical Environments in the Context of Interdisciplinary Integration

### 4.1. Research Perspectives on the History of Medical Environments from a Digital Humanities Perspective



**Figure 3.** Research Framework for Environmental History from a Digital Humanities Perspective

The preceding section has reviewed existing academic research on medical history, disease history, and disaster cultural history. With digital humanities methodologies being introduced across various domains of humanities research, computer-based approaches-particularly the digital analysis of historical texts-have injected new vitality into the development of medical history, disease history, health history, and cultural history studies. Based on current scholarly progress in medical history, disease history, and health history, there remains vast potential for further exploration in historical health geography, historical medical geography, historical disease geography, and historical cultural geography. Drawing on prior research, the author identifies two key developmental prospects:

"Enriching Research Content and Introducing Problem-Driven Inquiry" Previous studies have demonstrated that examining medical history, disease history, and health history from a spatial perspective often reveals issues that remain imperceptible without geographical context. By emphasizing spatial characteristics, diversifying research themes, and incorporating problem-oriented approaches, such studies align with historical geography's core objective: investigating spatiotemporal patterns within regional frameworks. "Strengthening Theoretical Foundations and Innovating Methodologies" Existing research on Chinese historical medical geography has largely relied on theories from traditional historical geography, modern geography, and related disciplines. While interdisciplinary integration is valuable, the field should also establish and refine its own research paradigms. Similarly, methodological approaches must evolve in response to disciplinary advancements and the demands of interdisciplinary studies. Research in medical-environmental history can elucidate the evolving trends of national healthcare and environmental issues in relation to socioeconomic productivity, thereby offering novel policy insights for China's Healthy China strategic initiatives.

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