



Research on the Construction of Public Health Intelligent Prevention and Control System in China's Ports--Taking Wuhan as an Example

Hongrong Li ¹, Dan Chen ^{12*}, Xiao Cheng ¹², Sitong Zhou ¹, Ximeng Liu ¹

¹School of Management, Hubei University of Traditional Chinese Medicine Wuhan 430070, Hubei, China

²Hubei Key Research Base of Humanities and Social Sciences in Colleges and Universities; Research Centre for Development of Traditional Chinese Medicine Wuhan 430070, Hubei, China

*Corresponding author, 282685168@qq.com

Abstract. Purpose: In order to prevent respiratory infectious diseases from being introduced into the country through customs at the ports, which threatens the lives and health of Chinese citizens, it is urgent to establish an intelligent prevention and control detection system by following the law of steady forward development of the times and using advanced communication technology in the context of the ever-changing science and technology. METHODS: Through interviewing the staff of the corresponding departments of Wuhan Customs, conducting field visit surveys, and collecting relevant information on the Internet for analysis. Results: Through the field visit and investigation, combined with the experience of fighting against the new coronavirus infection since three years, certain experience of preventing and controlling respiratory infectious diseases was obtained, and the prevention and control of respiratory infectious diseases were improved through a sound prevention and control system and the use of intelligent means. Conclusion: Using visits and surveys, collecting and analysing the corresponding data, we have come to the conclusion that we should further establish a sound system for preventing and controlling the introduction of respiratory infectious diseases by drawing on the experience of preventing and controlling neocoronaviral infections, improve the intelligent prevention and control platform in many aspects, and construct an intelligent domestic system for preventing and controlling the introduction of respiratory infectious diseases to safeguard the national security of the country.

Keywords: Respiratory infectious diseases; intelligence; prevention and control system construction

1 Introduction

In the global environment, with the progress and rapid development of the times, transport is becoming more and more convenient and high-speed, and with the rapid

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changes in the disease spectrum brought about by the booming development of the transport industry and the new creations of science and technology, the possibility of the introduction of infectious diseases through the customs ports has further increased. All things in the universe, there are positive and negative sides, the development of the times increased the possibility of the introduction of infectious diseases, but the development of the times also promote the development of intelligence, intelligent soldiers, the rapid development of 5G information technology for the prevention of the introduction of infectious diseases added impetus to provide technical support. 21 February 1989, the Seventh National People's Congress Standing Committee Sixth Meeting of the Prevention and Control of Infectious Diseases. The Law of the People's Republic of China on Prevention and Control of Infectious Diseases, adopted at the meeting, has escorted the construction of concrete legalisation of the prevention and control of infectious diseases in China, which has played an indelible role in preventing, controlling and eradicating infectious disease epidemics, protecting the lives and properties of citizens, and fighting against and eradicating SARS epidemics. Times are changing rapidly, in the face of the continuous replacement of infectious diseases and the possibility of entry, infectious disease prevention and control of laws and regulations are also constantly improving and repairing, in the face of the onslaught of various types of infectious diseases, the original laws and regulations to a certain extent unable to meet the needs of the existing control of diseases, it can be seen that, to do a good job of preventing the importation of infectious diseases of the wisdom of the prevention and control system is imminent.

The reason why this paper chooses Wuhan as the field site for the construction of intelligent customs epidemic prevention system is that Wuhan, as the economic and geographic centre of China, is known as "the thoroughfare of nine provinces", is the largest inland land, water and air transportation hub and the shipping centre in the middle reaches of the Yangtze River, and its high-speed railway network radiates to half of China, and it is the only city in Central China that can have direct flights to all five continents. Therefore, Wuhan should seize the opportunities and challenges of the times, actively respond to the national policy call for the prevention and control of infectious disease importation, and strictly prevent the importation of infectious diseases, reflecting the responsibility and burden of a great nation. This paper adopts the research methods of literature analysis, data collection, field interviews, etc. The survey was conducted in February-March 2022, April-May 2022, June 2022, and July-August 2022 at Wuhan Customs Building, Yangluo Port Area of Wuhan Port and Wuhan Tianhe International Airport, and the interviewers were the staffs of the above mentioned organisations.

2 Intelligent construction of entry information collection and customs declaration

The intelligence of customs declaration of entry information collection is a kind of conformity to the characteristics of the times shown by Wuhan Customs, so this part of the paper intends to analyse the intelligence of customs infectious disease epidemic

prevention and control information from the aspects of external information acquisition and information collection of multi-point triggering early warning mechanism, etc., so as to explain that the original old and simple rough information collection methods are not applicable to the modern customs entry and exit information collection, and the use of information collection means of higher technology can improve the efficiency of customs clearance and enhance the quality of information collection, which is conducive to the comprehensive and accurate collection of customs entry personnel and goods information to do a good job of preventing the import of infectious diseases from abroad. The use of higher-tech information collection means can improve the efficiency of customs clearance, enhance the quality of information collection, and is conducive to comprehensively and accurately collecting information on people and goods entering the customs territory, so as to do a good job in preventing the importation of infectious diseases from abroad as the first line of defence.

2.1 Establishment of a platform for external information access

2.1.1 Access to information.

The channel of information acquisition started from the application of computers by the Customs in the tax collection work of travellers' baggage articles in 1978, which marked the start of the informatisation process of the Chinese Customs [1]. In response to the explosive growth of information and massive resources [2] in the current era, intelligent information collection means such as big data and cloud computing are widely used in order to enable valuable information on the entry of people and goods to be collected in a timely manner. Wuhan Customs has three main sources of external intelligent information acquisition, which are website information, official notification information and global infectious disease epidemic information released by official public numbers. The three channels collect official information on infectious disease epidemics from various aspects. Acquiring information on infectious disease epidemics through the above channels is conducive to ensuring the accuracy of information acquisition, and at the same time, it is possible to carry out proofreading from multiple perspectives, which further guarantees the accuracy of information acquisition and helps in the subsequent management of the entry of people and goods.

(1) Website information, including relevant websites of the World Health Organisation, relevant national and regional websites and other relevant published information on the epidemic, involving 39 website platforms, and the distribution of workbooks within the working group. (2) Official notification information, including notification of epidemic information in bilateral collaboration, joint prevention and control mechanisms, and information on epidemics outside the country from embassies and consulates abroad. (3) Information on global infectious disease outbreaks released by official public numbers. Mainly, the working group of the General Administration of Customs collects information from websites in accordance with the division of responsibilities, manually selects, stuffs and translates it, and enters it into the intelligent health system within the Customs, where the information preliminary examiners review the entered information, and the scientific and technological research centre of the Chinese Customs conducts the final review of the information after the preliminary examination on

a daily basis, and pushes it into the large database to form the daily report of the information on the global infectious disease outbreaks.^①

2.1.2 Information collection for multi-point triggering of early warning mechanisms.

In order to protect the lives and properties of citizens and face the prevalence and occurrence of infectious diseases, the Central Disease Control System (CDC) has created a web-based direct reporting system for infectious disease outbreaks and public health emergencies in China, which can provide real-time information on individual cases, which is conducive to the detection of information and early warning of epidemics at all levels [3]. However, according to the current severe risk of infectious disease introduction, this mechanism can no longer meet the early warning needs of preventing the introduction of infectious diseases, therefore, it is necessary to establish a multi-point triggered early warning mechanism information collection. Accordingly, Wuhan Customs has established a multi-point early warning trigger mechanism in three modes. Firstly, in the face of the information on infectious disease outbreaks reported in the world environment, Wuhan Customs will quickly issue warning notices when it collects information on infectious disease outbreaks in other countries, prompting the ports to strengthen prevention. Secondly, Wuhan Customs also relies on daily health and quarantine information for early warning and forecasting, and immediately launches corresponding early warning work in the face of possible incoming infectious disease-related information. In addition, Wuhan Customs also relies on the personal information of people entering the country for early warning, and conducts stringent testing of the personal information and related symptoms of tourists with a history of living in key areas, so as to carry out early warning and prevent the introduction of infectious diseases from abroad.

(1) Relying on the epidemic surveillance information, at the end of May 2022, through the epidemic surveillance information, such as Europe and the United States have reported confirmed and suspected cases of monkeypox, will immediately trigger the early warning mechanism, the General Administration of Customs quickly issued to prevent the introduction of monkeypox epidemic into our country's warning notification, prompting the ports to focus on attention. (2) Relying on the daily health quarantine information, such as a year the country's multiple ports reported that people from a particular country in the port quarantine inspection have vomiting symptoms, confirmed by the laboratory is norovirus, the Customs Department will quickly trigger the early warning mechanism, to carry out the relevant preventive and quarantine work. (3) Relying on personal information, such as during the Ebola epidemic in 2019, the Customs internal through the information deployment control on the focus of attention to the relevant travel history of the personnel, and prompted the ports of entry to the travel history of the place of travellers focus on the health declaration of the inquiries, the

^① Interviewee: Head of the Health Inspection Division, female, interviewed on 29 July 2022; place of interview: Wuhan Customs Building

passengers with symptoms to carry out a targeted epidemiological scientific investigation.^②

2.2 Construction of information integration platform

As an intermediate bridge between the completion of information collection and information transmission, whether to have a perfect information integration platform is related to the collected information can be used correctly, so as to achieve the goal of intelligent quarantine use. Information collection and integration is the frontier of the success of intelligent prevention and control, good information integration, can greatly improve the efficiency of information use, is a strong support for information analysis to check the gaps and fill in the gaps, and at the same time can also check whether the information is incorrect, to improve the accuracy of the use of information.

2.2.1 Development of the General Customs Administration platform.

In recent years, with the development of science and technology and the needs of reality, Shanghai, Dalian, Xiamen and other ports have used the wisdom of the means to establish a port information disclosure platform [4], however, due to the port information disclosure platform of the public integration of the information is relatively large, can not be specifically for the use of infectious disease epidemiological information of the Customs ports, so the Wuhan General Administration of Customs has developed a wisdom of the sanitary and quarantine prevention and control system.

This system was independently developed by Wuhan General Administration of Customs and is mainly used for reporting statistics of epidemic prevention and control data of new coronavirus infections at ports and information entry of positive cases, for the entry and integration of information of new coronavirus-positive persons to form a large database. In the new coronavirus infection in our country in the state of Category B A control to maximise its role. After the data is transferred to the large database, it can be analysed and counted in the background, paving the way for information for the next step of management.

(1) Wuhan Customs has developed its own system: the Wuhan Customs sanitary and quarantine operation information platform. It integrates the functions of the General Administration of Customs' intelligent sanitary and quarantine system and the passenger clearance system to achieve the collection, inspection and statistics of information on all persons entering and leaving the port.^③

^② Interviewee: Head of the Health Inspection Division, female, interviewed on 29 July 2022; place of interview: Wuhan Customs Building

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2.2.2 Health declaration for inbound travellers.

Based on the independent research and development of the independent health declaration system for incoming and outgoing passengers at Futian Port in Shenzhen in 2009, which can read out personal information and enter contact numbers in 3 seconds, Wuhan Customs has also set up a passenger clearance system on the basis of its predecessor. Wuhan's passenger clearance system mainly collects information on health declaration of entry and exit passengers, and issues instructions for deployment and inspection, and guides the frontline of the port to carry out health quarantine and inspection work. The intelligent information-based passenger information collection and integration has replaced the paper-based collection of personal information on passenger health in the past, realising the intelligent collection of information in the customs area, and through the "Wuhan War Epidemic" applet on WeChat and Alipay, it can quickly and conveniently collect the personal information of travellers and realise the flow of travellers.

3 Construction of information processing quarantine intelligence

The development of the times brings the risk of infectious disease transmission, due to the rapid development of transport, more and more frequent exchanges between countries, overseas travellers, international students and so on are returning to their home countries increasingly [5], increasing the risk of infectious diseases through the entry of people and goods imported from the ports. Based on the current development goal of China's foreign affairs and the establishment of a more open communication and sharing of the world environment, more convenient, accurate and efficient quarantine system construction has become a new trend. The old quarantine system is no longer applicable to the quarantine work under the requirements of the new era. Taking the prevention and control of the new coronavirus epidemic as an example, in order to accurately map the health status of incoming personnel, Wuhan Customs has strengthened the implementation of the supervision and management of incoming personnel, and strictly enforced the system of three inspections, three rows and one transshipment. Strictly prevent the importation of the new coronavirus pneumonia epidemic, the information collected will be shared with the local joint monitoring, the implementation of joint prevention and control with the local community, to take the customs and the local close co-operation, through information and communication technology to form a perfect closed-loop chain, greatly reducing the risk of epidemic transmission. During the ravages of the new coronavirus infection in 2020, the approach not only defended the lives and health safety of nationals, but also won the praise of the World Health Organisation, greatly promoting the country's reputation and increasing its international influence. The construction of intelligent quarantine prevention and control of incoming persons and goods can do a good job of prevention, greatly reduce the risk of the introduction of infectious diseases, improve the effectiveness of customs work, and protect people's lives and property safety. The intelligent construction of quarantine of inbound

persons and articles is the mainstay of Wuhan Customs' prevention and control of infectious diseases.

3.1 Health quarantine surveillance of incoming personnel

3.1.1 Mobile vehicle-mounted integrated square chamber testing laboratory.

In order to detect the information related to inbound persons and goods in a timely manner, shorten the time for customs clearance and improve the efficiency of customs clearance. Wuhan Customs established a mobile vehicle-mounted all-in-one square chamber detection room. The convenient testing room with the qualification in April 2021, is the first qualified mobile vehicle-mounted enhanced level II biosafety level II laboratory in Hubei Province, in line with the requirements of clinical gene amplification laboratory, protective clothing, N95 masks and other personal protective equipment to meet the standard of biosafety personal level III protection, the main application of the detection of the new coronavirus infections, in line with the National Health Commission of the new coronavirus nucleic acid test Technical requirements.

(1) Samples are normally sent to specialised testing facilities for six to eight hours, but now they can be tested directly in the mobile capsule laboratory, which can greatly reduce the time and risk of sending samples. The cabin laboratory is 16 metres long and 3.2 metres wide, and all the equipment and testing techniques in it meet the requirements for testing new coronavirus infections. The testing capacity of the laboratory is not static and can be adjusted according to the content of the business. The items to be tested and the time for the results to be issued are all specified by the Customs, and everything is carried out in accordance with the regulations, so that the process is standardised and procedural, and the testing requirements can be completed with higher quality.^④

3.2 Quarantine detection of articles and vectors

Imported and exported articles refer to baggage articles brought in and out of the country by individuals, and articles sent in and out of the country by post. The Customs has strict regulations on the quarantine of inbound and outbound articles. In addition to proper quarantine of inbound personnel, good vector detection of inbound goods and within 400 metres of customs ports is also a top priority in preventing the entry of infectious diseases. The establishment of an efficient and convenient intelligent vector detection system for incoming goods and within 400 metres of the port of entry can add bricks and mortar to the intelligent quarantine construction for preventing the entry of infectious diseases, which can be mirrored by the intelligent quarantine, prevention and control construction of incoming personnel, to firmly build the security of the national gates and to guard the life and health safety of the people.

^④ Interviewee: Head of the Health Inspection Division, female, interviewed on 29 July 2022; place of interview: Wuhan Customs Building

3.2.1 Detection of non-cold chain items.

The National Health Commission issued the Circular on Further Optimising the Prevention and Control of New Coronavirus-Infected Pneumonia in Imported Items on 15 July 2022, which calls for the implementation of hierarchical classification management of imported non-cold-chained items, and for the implementation of preventive and control measures against epidemics. For the detection of non-cold chain items, Wuhan Customs strictly abides by the national regulations, conducts random inspections in accordance with the deployment and control of the General Administration of Customs, and supervises the operating units to carry out disinfection of the items. Wuhan Customs does a good job of testing non-cold chain items in strict accordance with the requirements of the higher level, strictly follows the standardised process, and reduces the risk of infectious diseases being introduced into the country through non-cold chain items.

3.2.2 Vector monitoring.

Vector organisms such as rats, mosquitoes, flies, etc. are important vectors of many kinds of infectious diseases, and good monitoring of vector organisms is an important element in the prevention and control of infectious diseases [6]. Wuhan General Administration proposed in the 14th Five-Year Plan, requiring the construction of one system, two libraries and one platform. One system, two libraries and one platform are aimed at realising the visualisation of the vector monitoring network points at the ports, grasping the results of the vector monitoring in time, collecting and analysing the monitoring data automatically in order to solve the problems of shortage of manpower and inefficiency in vector monitoring at the ports, inability of monitoring equipment to follow up in real time, and incompleteness of the data.

(1) Customs is responsible for vector biomonitoring tasks, mainly vector biomonitoring in port areas and vector biomonitoring of imported vectors, one within the boundaries of the ports and the other imported by means of transport or other means. The scope of vectorial surveillance at ports of entry is the national border ports and the surrounding environment of 400 metres, and the targets of surveillance include rodents and their body parasites, mosquitoes, flies, cockroaches, ticks and midges, so as to provide early warnings of the development of infectious diseases through the monitoring data of the ports of entry in the whole country, including the types of infectious diseases, distribution of the number of infectious diseases and seasonal growth and development, so as to do a good job of preventing and controlling the diseases. The scope of imported vector surveillance is for inbound vehicles, including ships, aircrafts and trains. In addition to ships and aircraft, containers, cargoes, express mail and parcels may also carry infectious viruses in the Wuhan customs area, which has a relatively large number of pathogenic organisms to monitor, including rats, mosquitoes, flies, cockroaches, fleas, ticks, midges, bedbugs, whiteflies, bugs, bedbugs and lice.^⑤

^⑤ Interviewee: Head of the Health Inspection Division, female, interviewed on 29 July 2022; place of interview: Wuhan Customs Building

3.3 Quarantine and testing of imported and exported foodstuffs and related workers

Food for the people, food safety first, import and export of food and related staff quarantine detection is also an important part of the prevention and control of infectious diseases imported. In order to strengthen the supervision and protection of food processing in Wuhan and port areas, improve the quality of food safety, prevent infectious diseases from entering the country through food, and protect the health of the people and entry and exit staff [7], therefore, it is particularly important to establish a good quarantine detection and prevention and control system for imported food with intelligence.

3.3.1 Supervisory and risk-based sampling.

Wuhan Customs' supervision and sampling of imported and exported food and risk monitoring are mainly based on the provisions of the Food Safety Law, and in accordance with the State's establishment of a food safety risk monitoring system to monitor food-borne illnesses, food contamination, and toxic and harmful substances in food. The results of supervision and sampling are the basis for conformity assessment and are used as the basis for the release of goods. Risk monitoring, on the other hand, collects monitoring data and relevant information on toxic and harmful factors in food and cosmetics. It should be noted that the results of risk monitoring can not be fully used as a basis for the release of goods after importation. Due to the important role played by surveillance and risk sampling in inbound food testing, the importance of establishing intelligent surveillance and risk sampling is self-evident.

3.3.2 Cold chain food testing and prevention and control.

In terms of detection and prevention and control of cold chain food, the source prevention and control adopted by Wuhan Customs is divided into two main aspects. On the one hand, a risk assessment team has been set up to collect daily information on the epidemic for assessment and judgement; on the other hand, neocoronavirus testing and preventive disinfection of cold-chain foodstuffs are carried out at the port supervision level, and different countermeasures are taken according to the different test results. However, due to China's adjustment of the management measures for new coronavirus under the trend of new coronavirus transmission characteristics and development of the international environment, the General Administration of Customs has issued a notice to abolish the measures such as nucleic acid monitoring and testing of all imported cold-chained food and non-cold-chained items at the port link for new coronavirus from 8 January 2023 onwards. The link may face adjustments. However, this measure, i.e. the corresponding virus testing and preventive disinfection of cold chain food that may carry infectious agents, is of strong reference significance for the prevention of other infectious diseases that may emerge in the future, and can prepare for the introduction of other infectious diseases in the future and accumulate corresponding response experience. In addition, Wuhan Customs has also developed an imported food supervision and traceability system, which can completely and clearly record the customs clearance

process of imported food ports, realise visual operation, and support online querying of relevant laws and regulations, which facilitates better law enforcement by the staff, and at the same time enriches their own professional qualities and improves their professional skills.

3.3.3 Monitoring and management of personnel working in cold chain food-related roles.

As staff working with cold-chained foods are exposed to more exposure factors and have a higher risk of contracting infectious diseases, Wuhan Customs pays attention to the quarantine and inspection of cold-chained foods, as well as to the monitoring and management of personnel engaged in related work. In the face of the new coronavirus infection prevention response, the corresponding staff of the customs agency in addition to the routine closed management, nucleic acid testing, Wuhan Customs in order to improve the practical working ability of the relevant personnel, carried out a number of pre-service simulation exercises in the entire customs area to carry out a comprehensive capacity of the port business hands-on training from a practical point of view, in order to pragmatic work attitude and style of work to effectively improve the professionalism of the staff, and to prevent the transmission of infectious diseases at the port of entry. To prevent the introduction of infectious diseases into the port to provide personnel protection.

(1) Practical drills are conducted in various aspects, such as wearing and taking off of biosafety protective equipment of sampling personnel, sampling and disinfection operation specifications, requirements for supporting facilities in sampling venues, records of safety and protection supervision, and evaluation of disinfection effect, so as to enhance the law enforcement capability of the supervisory personnel. Incoming personnel must participate in practical training and be assessed jointly by the Food Safety Department and the Health Inspection Department, and can only be inducted into their posts after passing the assessment, and the assessment standards for different professionals are consistent.^⑥ .

4 Information feedback mechanism intelligent construction

After collecting and processing the information and testing of inbound persons and goods, it is very important to provide timely and accurate feedback of the completed data and information to the next enforcement department. Doing a good job of data transmission and interaction of information between different departments can greatly improve the efficiency of customs monitoring, to avoid the occurrence of information leakage, misdirection, duplication of registration and processing, etc., and can effectively prevent the spread of infectious diseases, and strangle the spread of infectious

^⑥ Interviewee: Head of Food Safety Division, female, Interview date: 29 July 2022; Interview location: Wuhan Customs Building

diseases in the cradle. Visual intelligent operation in improving the efficiency of customs work at the same time can also be on the customs law enforcement process, "no authorisation can not do" situation to monitor. Doing a good job of information feedback intelligent construction can greatly improve the efficiency of customs work, enhance the sense of responsibility and sense of mission of law enforcement officers, to protect the credibility of customs operations, and enhance people's satisfaction.

4.1 Feedback processing of personnel and item detection data

4.1.1 Intelligent feedback mechanism for inbound personnel information to achieve one-to-one correspondence between sampling information and test results.

Entrants are required to fill in a health declaration when entering the country. Travellers fill in the health information truthfully according to their own health conditions, and if there are special health conditions such as fever or diarrhoea, the Customs will carry out individual sampling for travellers with special health conditions. After the laboratory has analysed the samples, the label number will be fed back to the laboratory system, and the Customs will make intelligent correlation between the number and the personal data, make full use of intelligent communication technology to correlate the basic personal information with the laboratory sampling results, make the laboratory results accurate to the individual, and then according to the data of the sampling and laboratory tests, implement the corresponding control measures in accordance with the "Sanitary and Quarantine at the State Border" and other laws and regulations in accordance with the usual regulations.

The above control measures have played a significant role in the response to the new coronavirus infection. In 2020-2022, when the new coronavirus is in Category B, Wuhan Customs will uniformly take throat swabs from incoming passengers, and then send the samples to the laboratory for testing; the laboratory will send the results of the samples back to Customs according to the barcode of the sample tubes, and Customs will correspond the data of the sample tubes with the individual travellers, and then isolate and control the positives.

(1) A throat swab is taken by Customs after an incoming person has completed an entry health declaration. Each traveller is issued with a sampling tube with a barcode attached to it, which is associated with the information declared by the individual. After collecting the oropharyngeal sample from the sampling tube, it will be sent to the laboratory. The data of the person concerned in the sampling tube is confidential to the laboratory, which is only responsible for the labelling. After the laboratory has analysed the data, the label number will be fed back to the laboratory system, and Customs will correlate the positive number with the personal data. As a result, customs and airports can know the positive personnel data, the whole data transmission process is intelligent, and to avoid the possibility of laboratory personnel to cover up the passenger data.^⑦

⑦ Interviewee: Head of the Supervision Division, male, Interview date: 29 July 2022; Interview location: Wuhan Customs Building

4.2 Feedback processing for job visualisation

4.2.1 Utilisation of Smart Singles.

The use of intelligent singletons innovative remote supervision, information feedback to achieve, urging customs officers to perform the basic inspection functions at the same time, to achieve the unity of law enforcement and inspection and inspection, to promote customs supervision in accordance with the law at the same time more intelligent.

4.2.2 Use of remote visualisation.

The remote visualisation of Wuhan Customs is divided into two main parts. The first part is that there are cameras connected to the command centre of the General Administration of Customs at the site of the control ports, and the cameras are turned on throughout the entire inspection process, so that the background of the General Administration of Customs can monitor the on-site operation. The second part is to cooperate with the handheld law enforcement recorder in the intelligent manpower operation system for remote supervision. Site-specific information can be directly uploaded to the cloud through the recorder, the entire law enforcement process is recorded by the law enforcement recorder, the language of the operation process, specific measures, hand-over, questioning, sampling and other content is also recorded. The two parts work together to realise the intelligent auditing of Wuhan Customs in the specific operation of the port, deepen the intelligent application of supervision equipment, and create a characteristic supervision mode with more intelligent and standardised supervision, tighter and more efficient on-site operation, and safer and more convenient customs clearance of goods.

4.3 Feedback Interaction Processing of Entry Information with the Health Commission and Other Departments

After Wuhan Customs enters the country and obtains information on the entry of people and goods, the information is mainly shared with the CDC, the CDC Division and the Emergency Response Office of the Provincial Health Commission, while information exchanges and sharing with the Municipal Health Commission are less frequent, so there is a lack of information interaction and feedback processing. Wuhan Customs, as a member of the municipal government, hopes that the direct reporting system of the Municipal Health Commission can be linked as permitted by policy and legal regulations, so as to avoid the adverse effects of information lag and information asymmetry.

5 Conclusion The Research Significance of Wuhan Customs Intelligent Epidemic Prevention Construction

As a result of the gradual strengthening of the global economy, China's interactions with other countries around the world have become increasingly close, making the quarantine of people and goods entering the country at customs ports much more difficult and demanding. According to the characteristics of the new coronavirus infection,

China's preventive and control measures against the new coronavirus infection have been gradually optimised, and the country's doors have been gradually opened. According to the latest announcement of the National Health Commission, starting from 8 January 2023, people coming to China will be tested for nucleic acid 48 hours before travelling, and those with negative results will be allowed to come to China; if they are positive, the relevant people should come back to China after turning negative, to promote the further resumption of work and production, business, studying abroad, and visiting relatives and friends and other foreigners coming to China. In order to cope with the sudden increase in the number of people and goods entering the country, to effectively prevent infectious diseases from entering the country and to guard the security of the homeland, it is very important to set up an intelligent entry quarantine prevention and control system and platform with a complete system and a simple process. A simple and efficient process of intelligent prevention and control platform, not only can kill the possibility of infectious diseases in the cradle, but also reflect the level of science and technology culture in our country, so that our country in the world's countries in the fight for uniqueness in the defence of the country and the people's lives and health and safety at the same time make the rest of the world to see our country's responsibility and commitment. The three-year fight against the epidemic not only defended people's lives and properties to a great extent, but also prompted Wuhan Customs to accumulate experience in dealing with sudden outbreaks of respiratory infectious diseases. The establishment of an intelligent prevention and control system, grasping the background of the era of information and communication technology and 5G booming development, can not only deal with the new crown disease virus infection, but also provide services for the long-term normalisation of respiratory disease detection and supervision, to establish a sound system of prevention and control of respiratory disease transmission, cut off the transmission pathway, and defend the security of the homeland. Science and technology is changing rapidly today, paper discussion of science and technology is not practical, Wuhan Customs should uphold the winds and waves of the times, in the country's support and assistance to grasp the opportunities given by the times, to seize the opportunity to promote their own development and conditions, to promote the wisdom of infectious disease quarantine technology process platform, the use of modern information and communication technology means to make infectious disease prevention and epidemic prevention system building towards the era of the new heights.

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of Hubei Provincial Health Commission (Construction of Infectious Disease Risk Identification and Governance System).

Author:

Li Hongrong(2002-), Female, Han, Bachelor's Degree

Chen Dan (1882-), female, Han nationality, Master's degree, Director of Management Foundation Teaching and Research Department, School of Management, Hubei University of Traditional Chinese Medicine, Associate Professor

Cheng Xiao (1981-), female, Han nationality, master's degree, teacher and associate professor of Marketing Department, School of Management, Hubei University of Traditional Chinese Medicine.

Zhou Sitong (2000-), Female, Master's Degree in Progress

Liu Ximeng (2002-), Female, Bachelor's Degree

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