

- COVID-19 prevention and control in primary care •

Expert Recommendations for the Prevention and Control of COVID-19 Infections in Primary Care (First Edition)

*Chinese Thoracic Society, Chinese Society of General Practice,
Chinese Association of Chest Physician,
General Practitioners Sub-Association of Chinese Medical Doctor Association,
Chinese Society of Infectious Disease,
Chinese Alliance for Respiratory Diseases in Primary Care,
Expert Group of Expert Recommendations for the Prevention and Control of
COVID-19 Infections in Primary Care*

Corresponding authors:

Chi Chunhua, Department of General Practice, Peking University First Hospital, Beijing 100034, China, Email: chichunhua2012@163.com

Wang Chen, Chinese Academy of Engineering, Beijing 100088, China; Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing 100730, China; Department of Pulmonary and Critical Care Medicine, China-Japan Friendship Hospital, Beijing 100029, China; Email: wangchen@pumc.edu.cn

[Keywords] COVID-19; coronavirus infection; community health service center; primary care

The recommendations were first published in Chinese Journal of General Practitioners, 2020, 19(3):175-192. DOI: 10.3760/cma.j.issn.1671-7368.2020.03.002.<http://rs.yiigle.com/CN114798202003/1186160.htm>

Note: The Recommendations were published on March 4, 2020, and Chinese Medical Association holds the copyright. The Chinese Medical Journals Publishing House authorized IPCRG to translate it in English, and secured a grant from GSK to assist with this translation, and distribute. As the constant updating of research and knowledge about COVID-19 infections, please refer to the Guidelines on the COVID-19 Diagnosis and Treatment (7th Trial Edition) if you encounter any questions <http://en.nhc.gov.cn/publications.html>

Date of English edition 2020-04-24



• COVID-19 prevention and control in primary care •

China's National Health Commission incorporates the COVID-19 as a Class B infectious disease into the *Law of the People's Republic of China on Prevention and Treatment of Infectious Diseases*, asks to take prevention and control measures for Class A infectious diseases, and also includes this disease into the administration of quarantinable diseases as specified in the *Frontier Health and Quarantine Law of the People's Republic of China*. In order to protectively execute the joint prevention and control mechanism against COVID-19, the National Health Commission issued the *Notice on Strengthening of Community Prevention and Control of COVID-19* (No. FYJZF [2020]5) on February 12, 2020, and the *Guidelines on the COVID-19 Diagnosis and Treatment (7th Trial Edition)* on March 3, 2020. ^[1]

Under the guidance of the prevention and control sub-group of the National Health Commission frontline working group and the support of Chinese Thoracic Society, Chinese Society of General Practice, Chinese Association of Chest Physician, General Practitioners Sub-Association of Chinese Medical Doctor Association, Chinese Society of Infectious Disease, the *Expert Recommendations for the Prevention and Control of COVID-19 Infections in Primary Care (First Edition)* has been formulated by experts in respiratory, general practice, health care and other related fields led by Chinese Alliance for Respiratory Diseases in Primary Care. The Recommendations provide detailed prevention and control regulations for primary care institutions, general population, and special population, dissemination and education of science, IT applications and so on. The “primary care physicians” in the Recommendations referred to those who work in community health centers, health care centers in towns, and village clinics.

The Recommendations are intended to provide support for further strengthening the prevention and control of COVID-19 infections in primary care institutions. Local primary care institutions are advised to refer to relevant national regulations, and implement the prevention and control measures in light of local conditions.

Considering the constant updating of knowledge about COVID-19 infections, accumulation of practical experience in prevention and control, and tight schedule for compilation, there are still issues in this guide, so primary care physicians needs to actively practice, summarize and feedback them to facilitate further amendment.

Table of Contents

Part I Regulations on Prevention and Control of COVID-19 Infections in Primary Care

I. Key points for prevention of healthcare professionals in primary care institutions against COVID-19 infections

| | | |
|-------|---|---|
| (I) | Prevention training of all healthcare professionals..... | 5 |
| (II) | Principles of healthcare professionals' prevention | 5 |
| (III) | Risk assessment and classification and correct selection of protective equipment ^[2] | 5 |
| (IV) | Recommendations on protective equipment for primary healthcare professionals | 5 |
| (V) | Hand hygiene..... | 6 |
| (VI) | Management of diagnosis area..... | 6 |

II. Key points of disinfection against COVID-19 infections in primary care institutions and prevention and control of infections in hospitals

| | | |
|------|---|----|
| (I) | Disinfection against COVID-19 infections in primary care institutions | 7 |
| | 1. Scope of disinfection: | 8 |
| | 2. Key disinfection objects:..... | 8 |
| | 3. Disinfection methods: | 8 |
| (II) | Key points of prevention and control of COVID-19 infection in primary care institutions | 9 |
| | 1. Basic requirements: | 9 |
| | 2. Key department management:..... | 10 |
| | 3. Rigorous supervision and management, and implementation of accountability system..... | 10 |

III. Isolation and management of suspected cases of COVID-19 infection.....

| | | |
|-------|--|----|
| (I) | Key points of centralized isolation management of suspected cases..... | 10 |
| | 1. Setup of isolation areas:..... | 10 |
| | 2. Staffing and supplies in isolation areas: | 11 |
| | 3. Key points of management:..... | 11 |
| (II) | Management process of suspected cases | 11 |
| (III) | Isolation and management of asymptomatic patients of COVID-19 infection ^[4] | 12 |

IV. Home visits of COVID-19 patients discharged from hospital, and centralized or home isolation and management process of close contacts

| | | |
|--------|--|----|
| (I) | Classification of people subject to centralized isolation or isolation at home | 12 |
| (II) | Requirements for centralized isolation or isolation at home..... | 13 |
| (III) | Requirements for isolation at home ^[5] | 13 |
| (IV) | Requirements of family members..... | 13 |
| (V) | Disinfection in isolation at home for observation..... | 13 |
| (VI) | Observation of isolated people..... | 14 |
| (VII) | Protection of primary care physicians in follow-up visits | 14 |
| (VIII) | Handling of abnormalities during isolation | 15 |
| (IX) | Criteria for cancellation of medical observation..... | 15 |

V. Treatment of family aggregated infections with COVID-19^[1,7]

| | | |
|------|---|----|
| (I) | Case finding and treatment | 16 |
| (II) | Assist disease control department in epidemiological investigation..... | 17 |

| | | |
|--|---|-----------|
| (III) | Isolation of close contacts within family | 17 |
| (IV) | Mitigation of mental pressure and burden | 17 |
| VI. | Transfer process for suspected cases of COVID-19 infection in primary care institutions | 18 |
| (I) | Diagnosis criteria for suspected cases ^[1] | 18 |
| (II) | Transfer process for suspected patients | 18 |
| (III) | Transfer requirements | 19 |
| VII. | Basic criteria for management of domestic waste of residents | 19 |
| (I) | Classification of domestic waste | 19 |
| (II) | Disposal and transfer of general domestic waste | 20 |
| (III) | Disposal and transfer of epidemic-related domestic waste | 20 |
| (IV) | Work requirements | 22 |
| Part II Regulations for Prevention and Control of COVID-19 Infections in General Population | | 23 |
| I. | Scope of application | 23 |
| II. | Handling process for various populations | 23 |
| (I) | People from key regions and concerned regions | 23 |
| (II) | People from places other than key regions and concerned regions | 23 |
| (III) | Local healthy people | 23 |
| Part III Regulations for Prevention and Control of COVID-19 Infections in Special Populations | | 24 |
| I. | Epidemic prevention and management of the elderly and patients with chronic diseases at home | 24 |
| II. | Epidemic prevention and management of children and pregnant women at home | 25 |
| (I) | Prevention and management for infants and children at home | 25 |
| 1. | Child protection: | 25 |
| 2. | Student protection: | 26 |
| 3. | Suggestions on vaccination amid the epidemic of COVID-19: | 27 |
| i. | Postponement of vaccination is not recommended; | 27 |
| ii. | Vaccines to be supplemented with priority: | 27 |
| iii. | Suggestions on necessary vaccination in the near future: | 27 |
| iv. | Precautions of delay in vaccination: | 27 |
| (II) | Prevention and management of maternal women at home | 28 |
| Part IV Contents and Key Points of Community Publicity and Education about Scientific Prevention and Control of COVID-19 Infections | | 28 |
| Part V Prevention and Control by Fully Using IT Means in Primary Care | | 31 |
| I. | Advance checkpoint in prevention and control of COVID-19 infections by information and communications technology | 31 |
| (I) | Comprehensively register, screen and report community residents | 31 |
| (II) | Implement information registration and reporting of people isolated at home | 31 |
| (III) | Improve the efficiency of community health work with intelligent voice system | 31 |
| (IV) | Expand scope of medical services via “Internet +” | 31 |
| (V) | Guide public opinion and build an online science popularization platform | 32 |
| (VI) | Online education of primary healthcare professionals | 32 |

| | | |
|-------------|---|-----------|
| II. | Improve effectiveness in diagnosis and treatment of COVID-19 by information technology | 32 |
| (I) | Enable remote diagnosis and treatment | 32 |
| (II) | Promote multi-level linkage and interaction by “medical complex” | 32 |
| III. | Build a prevention and control platform | 32 |
| (I) | Screen suspected patients, transmission routes and super spreaders | 32 |
| (II) | Avoid the source of infection..... | 32 |
| | References | 35 |

Part I Regulations on Prevention and Control of COVID-19 Infections in Primary Care

I. Key points for prevention of healthcare professionals in primary care institutions against COVID-19 infections

(I) Prevention training of all healthcare professionals

Training contents: what is standard prevention; how to assess the risk of infection or exposure in diagnosis and treatment in relevant posts; how to select protective equipment against various risks; and how to put on and take off protective equipment according to the correct sequence and method.

(II) Principles of healthcare professionals' prevention

1. The diagnosis area should be kept ventilated, the *Regulations on Hand Hygiene of Healthcare Professionals* should be strictly implemented, and the surgical mask/medical protective mask and if necessary, latex gloves should be worn.
2. Protective measures such as droplet isolation, contact isolation and air isolation should be taken as appropriate.
3. The protective equipment used by healthcare professionals should meet relevant national standards.
4. Protective equipment such as surgical masks, medical protective masks, goggles and isolation gowns should be replaced in a timely manner if contaminated with patients' blood, body fluids and secretions.
5. Protective equipment should be used correctly in accordance with the Technical Specifications for Hospital Isolation. Wash hands before taking on the gloves and immediately with running water after taking off gloves or isolation gowns. The waste protective equipment should be put into special garbage bags as required, discarded with a "contaminant" mark, and further treated according to Regulations on Management of Medical Waste and the Procedures for Management of Medical Waste in Medical institutions.
6. Preventive measures against injuries caused by sharp objects should be implemented rigorously.
7. The medical devices and appliances used by patients should be cleaned and disinfected in accordance with the
8. Technical Specifications for Disinfection of Medical Institutions.

(III) Risk assessment and classification and correct selection of protective equipment^[2]

1. Low-risk operations: indirect contact with patients, such as consultation and prescription.
2. Selection of protective equipment: work clothes and isolation gowns, surgical masks, work caps, and hand hygiene products.
3. Moderate-risk operations: direct contact with patients, such as physical examination, injection, and puncture.
4. Selection of protective equipment: work clothes and isolation gowns, surgical masks/medical protective masks, work caps, goggles/face shields, gloves and hand hygiene products.
5. High-risk operations: action or operation involving splashing of blood, body fluids and secretions or potential aerosols, such as throat swab collection, sputum suction and oral care.
6. Selection of protective equipment: protective clothing, isolation gowns, medical protective masks, work caps, goggles/face shields, double-layer gloves, and hand hygiene products.

(IV) Recommendations on protective equipment for primary healthcare professionals

1. Pre-examination triage: Wear surgical masks, work caps, work clothes, universal isolation gowns, and latex gloves for examination. Healthcare professionals are not allowed to leave the diagnosis and treatment area with gloves. Wearing gloves cannot replace hand hygiene. Quick-drying hand disinfectants containing ingredients effectively killing COVID-19 must be available in the pre-examination triage area.

2. Clinical healthcare professionals: Wear surgical masks/medical protective masks, work caps and work clothes, and pay attention to hand hygiene. Risks should be assessed based on specific results of diagnosis and treatment, and isolation gowns, latex gloves and goggles may be worn as appropriate.

3. Door-to-door services for patients: The door-to-door services for patients should be minimized. The historical epidemiology should be surveyed in detail before door-to-door services if necessary.

Healthcare professionals can visit families without historical epidemiology in non-affected areas while wearing work clothes, work caps, surgical masks and disposable shoe covers, and attention should be paid to hand hygiene when they leave. For operations involving direct contact with patients, such as physical examination, dressing change, and stomach tube change, appropriate protective measures should be taken based on exposure risks, such as goggles, medical protective masks, disposable latex gloves, and disposable isolation gowns.

For affected areas and families with historical epidemiology, appropriate protective measures should be taken based on the fully assessment of risks.

It is recommended to make appointments for door-to-door services in different periods amid the epidemic, and make a schedule reasonably, in accordance with the principle of “one protective measure for one patient”.

(V) Hand hygiene

1. Medical institutions should be equipped with running water and hand disinfection facilities supporting diagnosis and treatment. When the conditions permit, non-hand-operated faucets, hand dryers or disposable tissues should be prepared in the diagnosis and treatment areas of medical institutions.

2. Indicators of hand washing and disinfection:

The hands contaminated visibly with blood or other body fluids should be washed.

The hands that are not visibly contaminated should be disinfected with quick-drying hand disinfectants.

The hands should be washed and disinfected in the following cases: exposure to the blood, body fluid and secretions of patients suffering from infectious diseases, and the articles contaminated with infectious pathogenic microorganisms; and direct examination, treatment and care of patients suffering from infectious diseases, or treatment of the articles contaminated by these patients.

The hands should be washed, quickly dried and disinfected before and after direct contact with patients, after exposure to body fluids of patients, and also after contact with the areas and articles around patients.

(VI) Management of diagnosis area

1. Ventilation management: windows should be opened 2-3 times a day for ventilation and at least 30 min each time.

2. Cleaning and disinfection management of the diagnosis and treatment area: diagnosis rooms should be subjected to UV disinfection twice a day and 1 h at a time; and the surfaces and ground should be wiped and disinfected with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants 2-3 times a day and 30 min at a time.

3. Disinfection management of office supplies: office supplies should be wiped and disinfected with 200-500 mg/L chlorine-containing disinfectants and then wiped with clean water in 30 min, 2-3 times a day, in order to prevent corrosion.

4. Disinfection management of medical devices: universal diagnosis and treatment equipment (e.g. sphygmomanometer cuffs and stethoscopes) to be used in contact with the skin in the clinics of primary care institutions should be kept clean and if contaminated, immediately cleaned with detergents and water. The sphygmomanometer cuffs contaminated with the blood and body fluids should be soaked in disinfectants containing 250-500 mg/L available bromine or available chlorine for 30 min, and then cleaned and dried. Stethoscopes can be wiped and disinfected with 75% ethanol on the basis of cleaning. After each use, armpit thermometers should be soaked in 75% ethanol or dibromohydantoin containing 500-1,000 mg/L available bromine for 30 min or 1,000 mg/L peracetic acid for 10-30 min, wiped and dried for further use.

5. Personnel management: communications among departments should be minimized, and if necessary, communications should be performed at a distance of more than 1 m.

II. Key points of disinfection against COVID-19 infections in primary care institutions and prevention and control of infections in hospitals

(I) Disinfection against COVID-19 infections in primary care institutions

The management of ventilation in diagnosis and treatment areas should be strengthened in line with the *Regulations on Air Purification Management of Hospitals*. The environment, medical devices and patients' objects should be cleaned and disinfected in strict accordance with relevant documents such as the *Technical Specifications for Disinfection of Medical Institutions*, to effectively reduce the spread of epidemic in medical institutions, and guarantee the medical quality and safety. Refer to Table 1^[3] for environmental cleaning and disinfection of primary care institutions in daily life and after epidemic outbreak.

Table 1 List of Environmental Cleaning and Disinfection of Primary Care Institutions in Daily Life and after Epidemic Outbreak

| | | High-risk Area | | | | | Moderate-risk Area | | | | | Low-risk Area | | | |
|--|--|------------------------|----------------------|--------------|----------------|----------------------|---------------------------------------|----------|------------|---------------|--------|---------------|--------------|---------------------------|------------------------------------|
| Cleaning Scope/Method | | Pre-examination triage | Radiology department | Fever clinic | Isolation room | Emergency department | General department/medical laboratory | Pharmacy | Laboratory | Infusion room | Toilet | Office | Meeting room | Administrative department | Lounge for healthcare professional |
| Object surface | | | | | | | | | | | | | | | |
| Cleaning frequency | ≥2 times /d | - | ▲ | - | - | - | ▲ | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ |
| | ≥4 times /d | ▲ | - | ▲ | ▲ | ▲ | - | - | - | - | ▲ | - | - | - | - |
| | Disinfection in the event of any suspected case | ▲ | ▲ | ▲ | - | ▲ | ▲ | - | ▲ | ▲ | ▲ | - | - | - | - |
| Disinfection | Chlorine-containing disinfectant | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | - | - | - | ▲ |
| | Disinfecting wipes | △ | △ | △ | △ | △ | △ | △ | △ | △ | - | △ | △ | △ | △ |
| | Chlorine dioxide spraying | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ |
| Concentration of chlorine disinfectant | 500 mg/L | ▲ | ▲ | - | - | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| | 1,000 mg/L | △ | △ | ▲ | ▲ | △ | △ | △ | △ | △ | △ | - | - | - | - |
| | 2,000 mg/L | △ | △ | △ | △ | △ | △ | △ | △ | △ | △ | - | - | - | - |
| Ground | | | | | | | | | | | | | | | |
| Cleaning frequency | ≥2 times /d | - | ▲ | - | - | - | ▲ | ▲ | ▲ | △ | - | ▲ | ▲ | ▲ | ▲ |
| | ≥4 times /d | ▲ | - | ▲ | ▲ | ▲ | - | - | - | △ | ▲ | - | - | - | - |
| Concentration of chlorine disinfectant | 500 mg/L | ▲ | △ | - | - | ▲ | △ | △ | △ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| | 1,000 mg/L | △ | - | ▲ | ▲ | △ | △ | △ | △ | ▲ | △ | - | - | - | - |
| Air | | | | | | | | | | | | | | | |
| Disinfection | Ventilation through window | △ | - | △ | △ | ▲ | ▲ | ▲ | ▲ | △ | △ | ▲ | ▲ | ▲ | ▲ |
| | UV | - | △ | ▲ | ▲ | - | ▲ | ▲ | ▲ | ▲ | - | - | - | - | - |
| | Air disinfection machine | - | △ | △ | △ | △ | ▲ | | △ | △ | - | - | - | - | △ |
| | Hydrogen peroxide atomization/fumigation | △/★ | △/★ | △/★ | △/★ | △/★ | △ | △ | △ | △ | △/★ | - | - | - | - |
| | Peracetic acid atomization/spraying/fumigation | △/★ | △/★ | △/★ | △/★ | △/★ | △ | △ | △ | △ | △/★ | - | - | - | - |
| | Chlorine dioxide atomization/spraying/fumigation | △/★ | △/★ | △/★ | △/★ | △/★ | △ | △ | △ | △ | △/★ | - | - | - | - |
| Cleaning frequency | ≥2 times /d | - | ▲ | ▲ | ▲ | - | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Action time | ≥30 min | - | ▲ | - | - | - | ▲ | ▲ | ▲ | ▲ | - | ▲ | ▲ | ▲ | ▲ |
| | 1 h | ▲ | - | ▲ | ▲ | ▲ | - | - | - | △ | - | △ | △ | △ | △ |

Notes: 1. ▲: Required; △: Optional; ★: Final disinfection; -: None.

2. The concentration of disinfectant is dependent on the degree of contamination, and increased in the event of exposure to blood, body fluids and secretions.
3. Cleaning and disinfection should be implemented after treating each patient amid the spread of COVID-19. In addition to daily cleaning and disinfection, the frequency of cleaning and disinfection should be increased based on the number of patients and exposure to contaminants.
4. Except the disinfectant or concentration proved by supporting medical evidences to be ineffective, commonly used disinfectants and recommended disinfection methods are applicable. The recommended concentration of chlorine dioxide for disinfection is 400-600 mg/L.
5. For the concentrations of chemical disinfectants, refer to the GB27953-2011 “Hygienic Requirements of Disinfectant for Infectious Focus” or product manuals.
6. Cleaning and disinfection of all indoor environments and object surfaces: remove all mobile devices and furniture (including those in toilets) indoors, disinfect them by effective means, remove the waste, and organize the articles in accordance with the cleaning and disinfection criteria.

1. Scope of disinfection:

The pre-examination triage area and clinics without suspected cases should be subjected to preventive disinfection. The contaminants generated by suspected patients and the articles and places contaminated by suspected patients should be cleaned and disinfected in a timely manner. The fever clinic and isolation clinic should be subjected to final disinfection after daily work and departure of patients, respectively.

2. Key disinfection objects:

Sphygmomanometers, electrocardiographs and other related diagnosis and treatment devices, floors of outpatient clinics, triages, nurse stations, infusion rooms and operation rooms, surfaces of walls, desks, chairs and examination couches, air in these places, and hands of healthcare professionals.

3. Disinfection methods:

(1)Indoor air disinfection:

①Preventive and routine disinfection: all outpatient clinics and operation rooms should be ventilated as much as possible and if necessary, air disinfection should be carried out. Fever clinics and isolation clinics involving exposure to suspected patients should be subjected to air disinfection. Indoor disinfection should be performed through directional ventilation if there are people, and through UV radiation or chemical disinfectant aerosol spraying in the case of no people.

② Final disinfection: all the spaces should be disinfected with 2,000 mg/L peracetic acid or 30 g/L hydrogen peroxide solution based on the aerosol spraying volume of 10 ml/m³, kept confined for 60 min and then ventilated by opening the windows.

(2)Disinfection of medical environments and supplies:

①Disinfection of floors and walls: they should be disinfected after visible contaminants are thoroughly removed, and wiped or sprayed with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants (see the product manual for the mix ratio) in the case of no visible contaminants. Floors should be disinfected once from outside to inside, with a spray volume of 100-300 ml/m², and then once from inside to outside after indoor disinfection. The disinfection time should not be less than 30 min.

②Disinfection of object surfaces: the surfaces of diagnosis and treatment facilities, examination couches and door handles should be disinfected after visible contaminants is thoroughly removed, and by wiping, spraying or soaking with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants in the case of no visible contaminants, followed by wiping with clean water after 30 min.

(3) Disinfection of the skin and mucous membrane of healthcare professionals: healthcare professionals should pay attention to hand hygiene. If the skin is contaminated, contaminants should be removed immediately, and then the skin should be wiped for more than 3 min with the disposable absorbent material containing 0.5% iodophor disinfectant, chlorine-containing disinfectant or hydrogen peroxide disinfectant and flushed with clean water. The mucous membrane should be rinsed with plenty of saline or 0.05% iodophor.

(4) Deployment of disinfection personnel: routine and final disinfection of primary care institutions should be performed by trained personnel, personal protective equipment should be used, and the disease prevention and control institutions should provide technical guidance.

(II) Key points of prevention and control of COVID-19 infection in primary care institutions

1. Basic requirements:

(1) Formulate emergency plans and work flowcharts.

(2) Carry out training to all staff.

(3) Prevent healthcare professionals. Disinfection, isolation and prevention should be carried out in primary care institutions in accordance with relevant standards, and sufficient and qualified protective materials should be reserved. Based on the strict prevention as required, the prevention and control of spreading by contact, droplets and air should be strengthened. All healthcare professionals should not participate in consultations, academic exchanges and other activities except mandatory tasks and other special cases. Refer to Table 2 for the prevention of different healthcare professionals.

Table 2 Guidelines for Personal Prevention of Different healthcare professionals against COVID-19 Infections

| Order (from left to right) | | | | | | | | | | |
|---|--------------|----------|---------------|-------------------------|--------------|---------------------|---------------------------------------|----------------|---------------------|-------------------|
| Working Site | Hand hygiene | Work cap | Surgical mask | Medical protective mask | Work clothes | Protective clothing | Gloves | Isolation gown | Face shield/goggles | Shoe covers/boots |
| General department | ● | ○ | ● | - | ● | - | - | - | - | - |
| Pre-examination triage | ● | ● | ● | - | ● | - | ○ | - | - | - |
| Fever clinic | ● | ● | - | ● | ● | - | ○ | - | ○ | ○ |
| Suspected case diagnosis and treatment | ● | - | ● | ● | ● | Double-layer | - | - | ● | ● |
| Patient transfer/accompanying examination | ● | ● | - | ● | ● | ● | ● | - | ● | ● |
| Specimen collection of suspected case | ● | - | ● | ● | ● | Double-layer | - | - | ○ | ○ |
| Routine test in laboratory | ● | ● | ● | - | ● | - | ● | - | - | - |
| Environmental cleaning and disinfection | ● | ● | - | ● | ● | ● | ●+Long-sleeved Thick rubber gloves | - | ● | ○ |
| Administration | ● | - | ● | - | ○ | - | - | - | - | - |

Notes: ●: required; ○: dependent on exposure risks; -: none. Power-driven blowers and filtering respirators may be used as appropriate in the event of high exposure risks.

(4) Pay attention to the health of healthcare professionals. The human resources and shifts should be allocated reasonably to prevent healthcare professionals from overwork. Nutritious meals should be provided to enhance the immunity of healthcare professionals. Based on the job characteristics and risk assessment results, health monitoring should be performed proactively, including the body temperature and respiratory symptoms.

(5) Strengthen infection monitoring. Early warning and forecasting should be performed properly for identification of hidden dangers and timely improvements. Suspected COVID-19 infections should be reported within 2 h and dealt with properly.

(6) Carry out the cleaning and disinfection management (refer to Part I).

(7) Strengthen the management of patient visits. Patient visits should be properly managed in primary care institutions to minimize the congestion of patients. When a patient is suspected of being infected with COVID-19, measures for isolation or spreading control should be taken according to the laws and regulations, and the suspected patient should be guided to the isolation area by the appointed personnel along the designated route. In addition, medical observation and other necessary preventive measures should be implemented to the personnel accompanying the patient and others in close contact with the patient, in accordance with the regulations. In the case of insufficient treatment capabilities, the patient should be promptly transferred to a qualified medical institution for diagnosis and treatment.

(8) Strengthen the education of patients. The education of patients and their accompanying persons should be carried out proactively, to make them aware of the prevention against COVID-19. Patients should be instructed to correctly select and wear masks, and pay attention to cough etiquette and hand hygiene.

(9) Strengthen the management of medical waste. Medical waste should be disposed of according to the *Regulations on Management of Medical Waste* and the *Procedures for Management of Medical Waste in Medical institutions*.

2. Key department management:

(1) Implement the pre-examination triage system, guide fever patients to fever clinics, and develop, improve and strictly implement emergency plans for transfer and treatment of suspected patients.

(2) Reasonably set up isolation areas to meet the needs for local isolation and treatment of suspected patients.

(3) Healthcare professionals should take proper protective measures and manage the diagnosis and treatment areas.

(4) Keep diagnosis and treatment areas ventilated properly and cleaned and disinfected on a regular basis.

(5) Take effective measures such as the setup of waiting areas to avoid gathering.

3. Rigorous supervision and management, and implementation of accountability system

(1) All clinical departments should develop the system, work process and emergency plan for prevention and control of COVID-19 infections, and organize all departmental personnel to learn about these documents and perform their duties.

(2) Training, inspection and supervision should be strengthened.

(3) The leading group should perform irregular inspections and separate assessments by on-site inspection, staff inquiry, spot check and on-site questioning, especially hand hygiene, disinfection and isolation knowledge, and hospital infections.

III. Isolation and management of suspected cases of COVID-19 infection

(I) Key points of centralized isolation management of suspected cases

1. Setup of isolation areas:

(1) Centralized isolation areas for suspected cases should be set up in the designated medical institutions that meet isolation and protection conditions. Under special circumstances, relatively independent hotels and guesthouses that have little impact on the surrounding environment and meet the needs for water, electricity, gas, cleaning and sewage

drainage may be requisitioned by the governments at the county (district) level or above and rapidly transformed into centralized isolation areas.

(2) In principle, suspected patients should be isolated in separate rooms with appropriate and independent ventilation facilities and toilets.

2. Staffing and supplies in isolation areas:

(1) Healthcare professionals in isolation areas should be appointed by medical institutions based on their merits.

(2) Security and police personnel should be deployed to handle emergencies.

(3) Protective equipment for healthcare professionals should be allocated in accordance with the Technical Specification for Hospital Isolation.

(4) An appropriate number of testing and inspection facilities and diagnosis and treatment devices should be available, basically including electronic sphygmomanometers, electronic thermometers (guns), electrocardiographs, transcutaneous oxygen saturation detectors, and optional defibrillators. Stethoscopes, thermometers, sphygmomanometers and other devices should be used separately; and appropriate drugs for treatment should be prepared.

(5) Phones and other communication facilities should be provided to minimize the number of workers entering isolation wards.

3. Key points of management:

(1) Suspected patients should be escorted by special personnel and vehicles to the designated channels of isolation areas along the specified route. Healthcare professionals in isolation areas should verify the patient information, fill out transfer record forms, inform patients of precautions in isolation areas, and admit them for treatment. Transfer vehicles and escorting personnel should be subjected to final disinfection by the specified personnel in isolation areas.

(2) Patients should immediately change their clothes after entering wards. Their clothes should be disinfected in a unified manner in isolation areas and returned to patients when they leave isolation areas.

(3) Patients should be treated in conjunction with their actual conditions and according to the *Diagnosis and Treatment Plan for COVID-19 (6th Trial Edition)*.

(4) Healthcare professionals entering and leaving isolation wards should properly take measures for hand hygiene and wear and remove protective equipment, subject to Level 2 protection. Those engaged in aerosol operations should be subject to Level 3 protection.

(5) Health monitoring, including the body temperature and symptoms, should be carried out to healthcare professionals in isolation areas on a daily basis, and any abnormality should be immediately reported to hospital infection authorities.

(6) Isolation areas and wares should be disinfected in strict accordance with the *Technical Guidelines for Prevention and Control of COVID-19 Infections in Medical Institutions*.

(7) Medical waste and domestic waste related to suspected cases should be packed in double-layer bags and disposed of as medical waste, and should not be squeezed. They should be sealed with the mark “COVID-19 infection” and kept in temporary storage areas for medical waste. Specimens and preserving fluids containing pathogens should be sterilized with pressure steam or disinfected with chemicals, and then disposed as infectious waste.

(II) Management process of suspected cases

1. Once the condition of suspected patient is aggravated or he/she is diagnosed with COVID-19, suspected patient should be transported by special personnel and vehicles to the corresponding isolated treatment wards of the designated medical institutions

2. Suspected patients may be excluded from confirmed cases if the nucleic acid is negative in two consecutive tests of COVID-19 (by sampling at intervals of at least 24 hours), and the specific antibodies IgM and IgG against COVID-19 are still negative 7 days after the onset.

3. After the discharge of suspected cases, healthcare professionals should be notified by medical institutions (including disease control centers) to inform patients of further isolation at home for 14 days and report relevant information to corresponding sub-district offices and health centers (community health service centers). Healthcare professionals in community health service centers should be implement key points for isolation of suspected cases at home. Isolation may be canceled in the event of no abnormality after the expiration of required isolation at home.

Refer to Figure 1 for the management flowchart for suspected cases of COVID-19 infection.

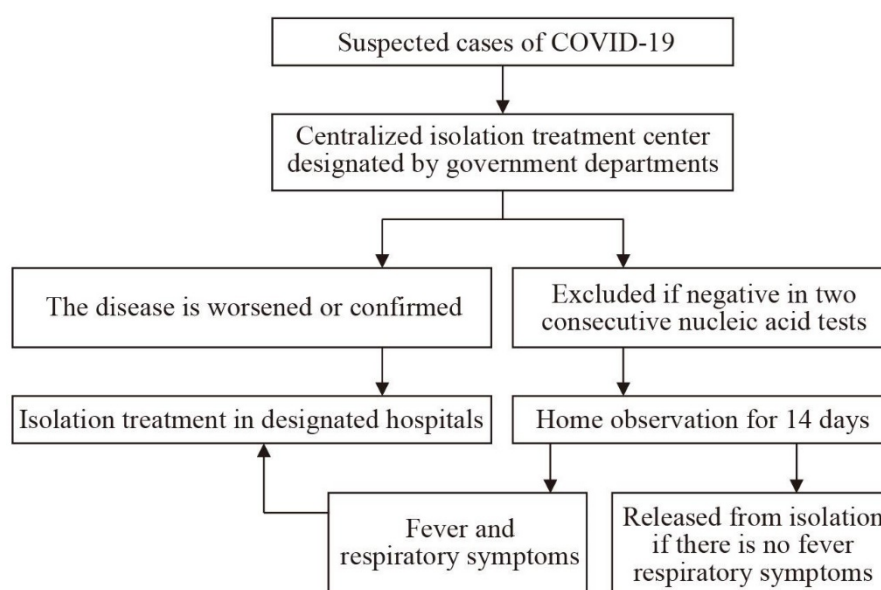


Figure 1 Management Flowchart for Suspected COVID-19 Infections

(III) Isolation and management of asymptomatic patients of COVID-19 infection ^[4]

(I) Definition

Asymptomatic patients of COVID-19 are those with no clinical symptoms but being positive in COVID-19 pathogen test such as respiratory tract test. Such patients are mainly found through the methods of aggregated epidemic investigations and tracing investigations of infection sources.

(II) Isolation and management

Asymptomatic patients should be isolated for 14 days. In principle, those who have tested negative for two consecutive tests (the sampling interval should be at least 24 hours) can be released from isolation, and those who are positive should continue to be isolated. After 7 days, those negative in nucleic acid test can be released from isolation; and those positive should continue to be isolated for 7 days, and then released from isolation if no symptoms of fever and respiratory tract infection are found.

IV. Home visits of COVID-19 patients discharged from hospital, and centralized or home isolation and management process of close contacts

(I) Classification of people subject to centralized isolation or isolation at home

1. Patients discharged after treatment of COVID-19: After discharge from the hospital, patients should stay at home for isolation or receive centralized medical observation for 14 days. Medical evaluations should be conducted by relevant medical institutions before releasing patients. In the next 2 weeks, such patients are recommended to stay at home for medical observation. If fever, respiratory system symptoms or other symptoms occur, the patients should

report to the community doctor in time, and wear a mask when going out. On the fourth weekend after discharge, the patients should revisit the hospital once.

2. Close contacts with confirmed cases of COVID-19: refer to the diagnosis criteria for close contacts in the Diagnosis and Treatment Plan for COVID-19 (6th Trial Edition) issued by the National Health Commission.

(II) Requirements for centralized isolation or isolation at home

1. Isolation areas for centralized medical observation: separate rooms should be provided, preferably with bathrooms. Isolation areas should be relatively independent to avoid exposure to other close contacts.
2. Isolation at home for medical observation: separate rooms (or single rooms) and meals should be provided and preferably in the downwind direction and avoid contact with co-residents.
3. The doors should be always kept closed, and central air conditioning should be avoided. Before the doors communicated with the rooms of other family members or roommates are opened, related windows should be opened for ventilation. In order to avoid cross infection, special supplies must be available in rooms, including garbage bins with lid, sealed garbage bags, multi-layer impervious paper towel for sputum cleanup, disinfectant wipes containing chlorine or alcohol, water glasses, water bottles, bedding and other daily necessities.

(III) Requirements for isolation at home ^[5]

1. It is not necessary to wear a mask in isolation rooms.
2. Going out of isolation rooms is not allowed without permission and if necessary, must be permitted by management personnel. People are required to wash hands or disinfect hands with quick-drying hand disinfectants and wear surgical masks before going out or leaving isolation rooms.
3. Try not to contact family members. Keep a distance of more than 1 m when necessary and if possible, stand in the downwind direction.
4. Attention should be paid to cough etiquette, and the mouth and nose should be covered with tissues in the case of occasional cough or sneeze. It is forbidden to spit anywhere. The used tissues and masks must be discarded into special garbage bins with lid.
5. Meals and necessities should be placed at the doors of isolation rooms by designated personnel.

(IV) Requirements of family members

1. A family member who is in good health and has no chronic diseases should be designated to take care the isolated person.
2. Try not to enter the isolation rooms. When it is necessary to enter isolation rooms, surgical masks or KN95/N95 particulate masks and above, disposable gloves and protective equipment (e.g. plastic aprons) should be worn in line with relevant standards. Masks should be tightly attached to the face, and must not be touched or adjusted in living spaces, and those that turn wet and dirty due to secretions must be replaced immediately. Both hands should be cleaned before using masks and gloves and after removing them.
3. Try not to contact isolated people and their supplies, including toothbrushes, cigarettes, tableware, meals, drinks, towels, bath towels, and bed sheets. Direct contact with those isolated at home should be avoided. Cleaning and disinfection should be performed in a timely manner in the event of direct contact.

(V) Disinfection in isolation at home for observation

1. Handling of tableware: the tableware used by those isolated at home for observation should be separately cleaned with detergents and water and disinfected in time by boiling for 30 min, or soaking for 30 min in chlorine-containing disinfectant (available chlorine: 500 mg/L) and rinsing with clean water.
2. Disinfection of floors and walls of isolation areas: they should be disinfected after visible contaminants are thoroughly removed, and wiped or sprayed with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants in the case of no visible contaminants. Floors should be disinfected once from outside to inside, with a spray volume

of 100-300 ml/m², and then once from inside to outside after indoor disinfection. The disinfection time should not be less than 30 min.

3. Disinfection of object surfaces in isolation areas: bedrails, bedside tables, furniture, door handles and household items should be disinfected after visible contaminants are thoroughly removed and by wiping, spraying or soaking with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants in the case of no visible contaminants, followed by wiping with clean water after 30 min. The surfaces in bathrooms and toilets should be disinfected at least once a day.

4. Disinfection of clothing, bedding and other textiles of people isolated at home: aerosols should be avoided during collection of these items. It is recommended to dispose of them by centralized incineration according to the requirements for medical waste. The items free of visible contaminants may be recycled after disinfection with circulating steam by boiling for 30 min, or soaking in 500 mg/L chlorine-containing disinfectant for 30 min and then cleaned as usual, or packing in water-soluble bags and direct washing and disinfection for 30 min in a washing machine (available chlorine: 500 mg/L). Valuable clothes may be disinfected with ethylene oxide.

5. Disposal of waste: the used gloves, tissues, masks and other wastes should be kept in special garbage bags in rooms where patients are isolated, and discarded with a “contaminant” mark.

(VI) Observation of isolated people

Primary care physicians should cooperate with the personnel of sub-district and district offices and neighborhood committees in management of epidemic prevention and control for the aforesaid people in related communities. For the people subject to forced isolation at home, centralized isolation, or self-isolation at home, healthcare professionals in community health service centers should perform medical observations by phone, SMS, WeChat, video, IT platform and other means, as instructed by disease control departments and other professional institutions ^[6].

1. Close contacts: primary care physicians should test body temperature of the observed people twice a day, and check for symptoms such as fever, cough, sputum, sore throat, diarrhea, and dyspnea. In the event of underlying diseases such as high blood pressure, diabetes, and chronic obstructive pulmonary disease, related symptoms or changes in examination indicators (e.g. blood glucose) should be inquired, necessary assistance and guidance should be provided in a timely manner, and the record forms for medical observations of close contacts should be filled out. Primary care physicians should also pay attention to psychological changes of the observed people, promptly respond to health inquiries raised by the aforesaid people to eliminate their worries, perform psychological counseling for these people, and foster a positive and scientific social atmosphere for epidemic prevention and monitoring.

2. Discharged patients: primary care institutions should keep contact with the designated hospitals, share medical records of discharged patients, promptly receive their information, and make efforts in business collaboration and sharing of information such as residents' health files, electronic medical records and follow-up files. Primary care physicians should carry out health guidance and monitoring to discharged patients, and provide community rehabilitation services or home rehabilitation guidance for mild and ordinary patients discharged from hospitals according to the needs.

Primary care physicians should assist the designated hospitals in preparing the plans for return visits 2-4 weeks after discharge, and making appointments for return visits, and ask patients to focus on blood routine, biochemical and oxygen saturation reexamination in subsequent visits and if necessary, testing of COVID-19 pathogens. Patients suffering from COVID-19 should be reexamined by CT imaging to learn about the absorption of inflammation in the lungs of these patients.

Primary care physicians should keep abreast of patients' body temperature and respiratory symptoms in a timely manner, focusing on the monitoring of the elderly and discharged patients suffering from chronic underlying diseases such as hypertension and diabetes.

(VII) Protection of primary care physicians in follow-up visits

1. Visiting methods: the telephone, WeChat or video is preferred. If the conditions do not permit, household or spot visits may be performed for work needs.

2. Protection criteria for field visits:

(1) General visits: work caps, surgical masks, medical protective masks, work clothes, disposable isolation gowns and disposable shoe covers should be worn or used correctly. Isolation gowns should be replaced once a shift and

once contaminated or damaged. It is forbidden to repeatedly use surgical masks or medical protective masks, and the wet or contaminated masks should be replaced immediately.

(2) Physical examination and other close contacts: latex gloves should be worn in the case of close contact with the people isolated at home for medical observation. After examination is completed, the gloves should be removed, the hands should be disinfected, and disposal isolation gowns should be replaced.

(3) Collection of respiratory tract specimens: the personnel collecting respiratory tract specimens should wear the overall protective clothing, medical protective masks (instead of surgical masks), goggles or face shields, and double-layer latex gloves.

(4) Distance keeping: a distance of more than 1.5 m should be kept under normal circumstances from the people isolated at home for medical observation. The rooms should be ventilated as much as possible in follow-up visits and sampling, and the visit objects should be in the downwind direction.

(5) Enhanced disinfection protection: the door bells, handles and others that may be touched should be disinfected before home visits; and the hands should be wiped with alcohol-containing quick-drying hand disinfectants and dried or with 0.5% iodophor for 1-3 min before and after contact with visit objects, and after contact with possibly contaminated surfaces or leaving the rooms where visit objects live. It is forbidden to touch the skin, eyes, mouth or nose by hand, and hands must be disinfected before touching these parts.

(6) Carrying of necessary medical prevention and control materials: the personnel engaged in field visits should at least carry health education leaflets (mainly introducing cough etiquette and hand hygiene), quick-drying hand disinfectants, goggles or face shields, latex gloves, surgical masks/medical protective masks, disposable isolation gowns, and medical waste collection bags.

(7) Proper disposal of medical waste: the medical waste generated in field visits must be carried out from corresponding institutions and disposed of in accordance with relevant requirements for medical waste disposal.

(VIII) Handling of abnormalities during isolation

1. If suspected symptoms are found in close contacts isolated for observation, including fever, cough, sore throat, chest tightness, dyspnea, anorexia, fatigue, low spirits, nausea, vomiting, diarrhea, headache, palpitation, conjunctivitis, limb or waist or back muscle pains the personnel responsible for observation in isolation areas should be contacted immediately to suspend isolation at home and promptly seek medical help. Healthcare professionals in community health service centers should notify the neighborhood committee, and call 120 to transfer the observed person to the nearest fever clinic for medical help. The person that is excluded from suspected cases and not admitted in a hospital after the diagnosis in the fever clinic should be transferred by the vehicle arranged by the district (sub-district) office or neighborhood committee to the isolation area for further isolation. Primary care physicians should follow up referral results by phone.

2. If the observed person has no fever but suffers from serious symptoms of the original underlying diseases such as coronary heart disease and diabetes, primary care physicians should conduct inquiry by phone and determine whether it is necessary to transfer the observed person to a superior hospital for treatment. If referral is needed, the primary care physician should directly call 120 and inform healthcare professionals of the patient's historical epidemiology.

3. If the observed person has symptoms such as nasal congestion, runny nose, and diarrhea but no fever, primary care physicians should conduct inquiry by phone and instruct the observed person to take drug. The neighborhood committee is responsible for making up a prescription, delivering medicine to the patient, and always paying attention to changes in the patient's conditions.

(IX) Criteria for cancellation of medical observation

1. If the isolation period for the observed person expires (the medical observation period is 14 days as of the date of last contact with the suspected asymptomatic patient, free of effective protective measures), the examination result of the people in close contact with the confirmed cases and asymptomatic infected ones is "negative" in the medical observation period, observation should continue until the medical observation period expires. After the suspected case is excluded, medical observations of close contacts may be canceled [\[1\]](#). When the isolation period expires, a notice on health observation cancellation should be issued.

2. The observed person who has respiratory, fever, chill, fatigue, diarrhea, conjunctival congestion and other symptoms during isolation should be transferred to the fever clinic of the superior hospital for isolation and treatment.

3. The observed person should be transferred to a superior hospital for treatment in the case of other diseases. Refer to Figure 2 for the management flowchart for close contacts with COVID-19 patients.

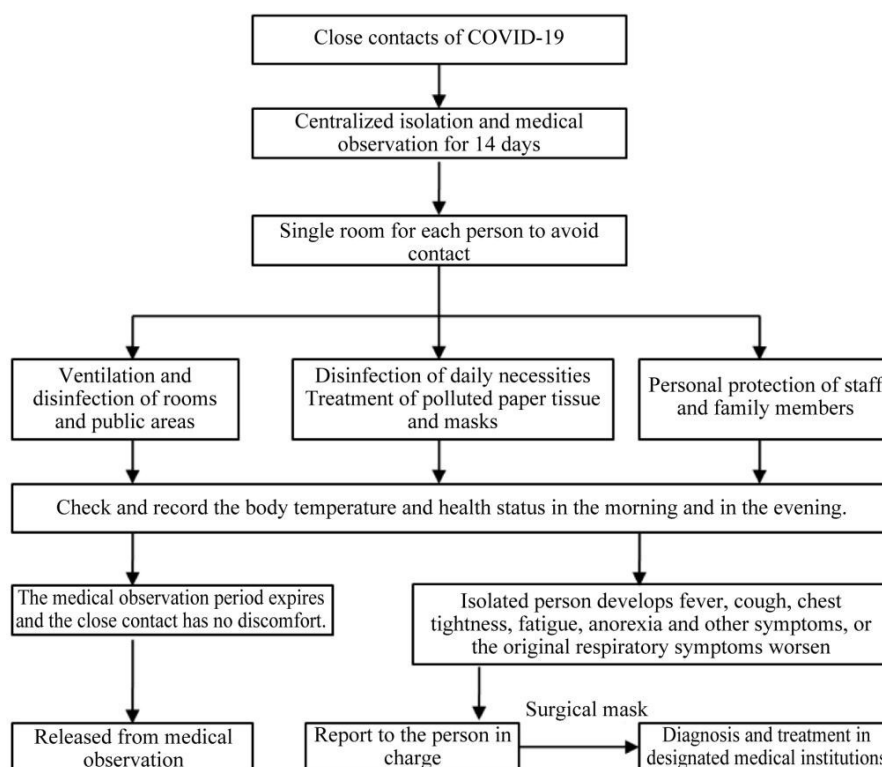


Figure 2 Management Flowchart for Close Contacts with COVID-19 Patients

V. Treatment of family aggregated infections with COVID-19^[1,7]

Aggregated outbreak is one of the important epidemiological features of COVID-19 infection. Aggregated outbreak refers to the occurrence of 2 or more cases with fever and / or respiratory symptoms in a small area (such as a family, office, school class, etc.) within 14 days. Aggregated epidemic refers to the identification of two confirmed cases or asymptomatic infected persons or more within a small range (e.g. a family, construction site or organization) within 14 d, with the possibility of interpersonal spreading due to close contacts or infection as a result of joint exposure. The most common type of aggregated epidemic is family aggregation. Primary care institutions play an important role in detecting and reporting the family aggregated outbreak.

(I) Case finding and treatment

1. Active case finding: the family members who return from the affected area should be visited on a daily basis, including temperature monitoring and symptom inquiry. When two cases of fever or other respiratory symptoms or more are found, attention should be paid to the symptom similarity, onset relationship, and time difference (14 days or not) of incidences of family members, and it is recommended to treat those engaged in aggregated incidences in the fever clinic of the designated hospital.

Upon the receipt of the notice on confirmed or suspected cases within the scope of jurisdiction of primary care institutions from disease control departments, relevant family members should be visited regularly, and those with symptoms should be treated in the designated hospitals as soon as possible to reduce the risk of further spreading.

2. Passive case finding: for the person treated in a primary care institution due to fever, dry cough, diarrhea and other symptoms, in addition to the inquiry about contacts with the people in the affected area and epidemic focus or with confirmed cases, attention should also be paid to the incidences of family members and their contacts with the people in the affected area and epidemic focus or with confirmed cases. An aggregated incidence can be identified if another family member is a confirmed case or more than one family member has similar symptoms, or the contacts of family members with the people in the affected area and epidemic focus or with confirmed cases are important epidemiological evidences. Once a person is diagnosed as a suspected case, the infectious disease report form for

suspected cases should be filled out and submitted to the corresponding disease control department within 2 h; or the patient should be transferred to the fever clinic of the designated hospital. The person that does not meet the criteria for suspected cases should be further hospitalized or treated at home based on specific conditions. For the person treated at home, primary healthcare professionals should further follow up changes, and that involving no improvement or suffering from deterioration is recommended to be reexamined in the fever clinic. Refer to Figure 3 for the specific flowchart.

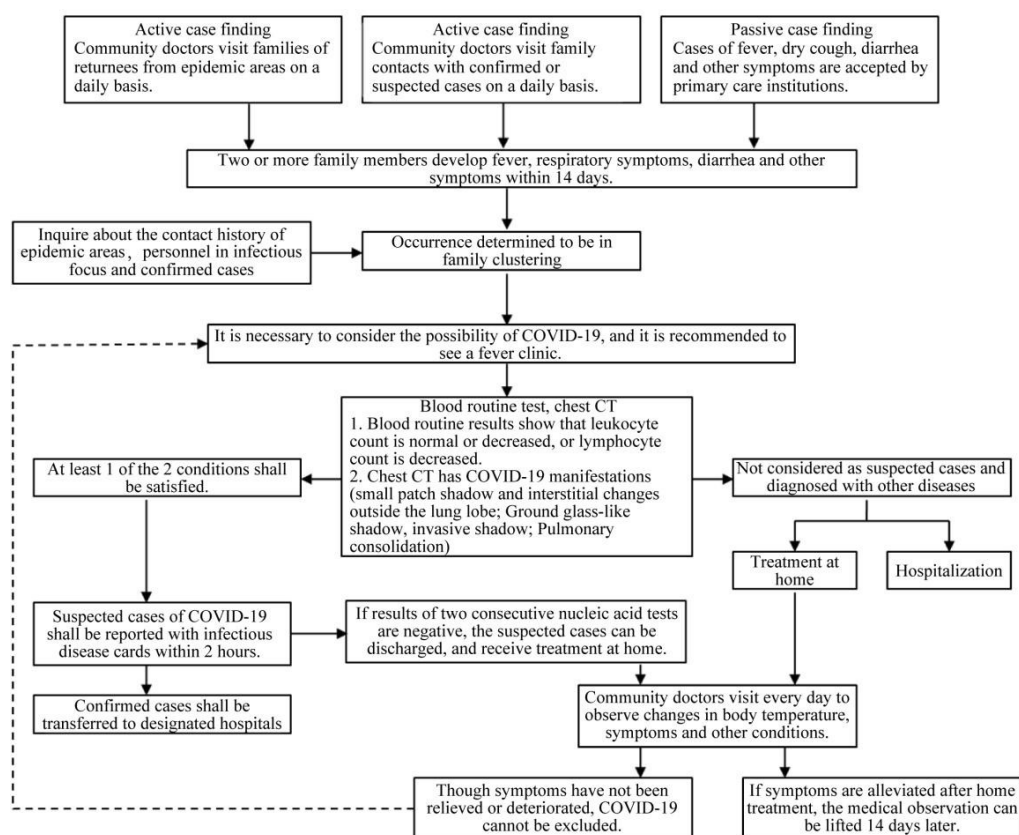


Figure 3 Treatment Flowchart for Family Aggregation of COVID-19 Infections

(II) Assist disease control department in epidemiological investigation

Primary care institutions should assist the disease control department in investigating the infection sources, close contacts, epidemiological links and spreading links of all cases, and fill in the basic information, preliminary investigation, progress and final results of incidents, according to the *National Regulations on Management of Relevant Information Reporting of Public Health Emergencies (Trial)*.

(III) Isolation of close contacts within family

The people (including those engaged in work, life and taking public transport means and healthcare professionals) who have been in contact with patients but without effective protective measures should be subject to medical isolation and observation once close contacts are determined. In the event of family aggregated incidence, medical observations of close contacts within the family should be strengthened particularly. Refer to the medical observation process for close contacts.

(IV) Mitigation of mental pressure and burden

Family aggregation often leads to huge ideological pressure and burden relevant family members. Primary care institutions may perform appropriate psychological counseling and spiritual encouragement. On one hand, the people in close contact with patients should be guided to be concerned about objective and correct epidemic information, without being adversely affected by negative information. On the other hand, medical assistance should be provided

in a timely manner, to reduce the panic caused by anxiety. A family aggregated incidence may also result in a panic in the concerned community, which should be correctly mitigated through propaganda.

VI. Transfer process for suspected cases of COVID-19 infection in primary care institutions

(I) Diagnosis criteria for suspected cases [\[1\]](#)

Refer to the diagnosis criteria for suspected cases in the *Diagnosis and Treatment Plan for COVID-19 (7th Trial Edition)* issued by the National Health Commission.

(II) Transfer process for suspected patients

1. For the primary care institution with a fever clinic, the suspected patient should be directed into the isolation room and in-hospital consultation should be applied for. If the case is still suspected, the application form for transfer should be filled out and submitted to the medical department, the transfer process for suspected patients (Figure 4) should be launched, and online reporting should be completed within 2 h^[8].

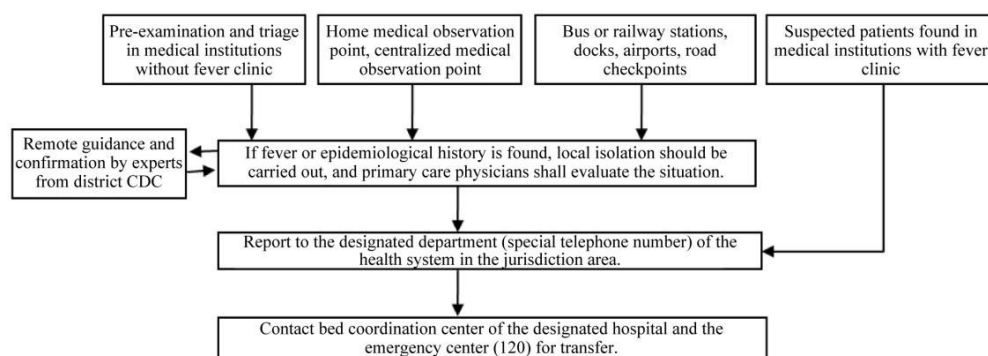


Figure 4 Transfer Process for Suspected Patients of COVID-19 Infection

2. In the medical institution without fever clinic, station, terminal, road pass, and investigation and centralized isolation area, the person found with historical epidemiology and accompanying symptoms such as fever, cough and shortness of breath should be directed to a temporary isolation area, evaluated by primary care physicians (with Level 2 protection in the case of face-to-face consultation), and reported to disease control experts. If the case is still suspected, the transfer process for suspected patients should be launched.

3. If the nucleic acid is negative in two consecutive tests, the patient should be transferred from the designated hospital by a special vehicle to the isolation area, followed by further medical observation to the prescribed expiration date. The person may go home after the expiration of medical observation, and the patient who still suffers from an underlying disease should be transferred to a specialized hospital with isolation measures for further treatment (Figure 5).

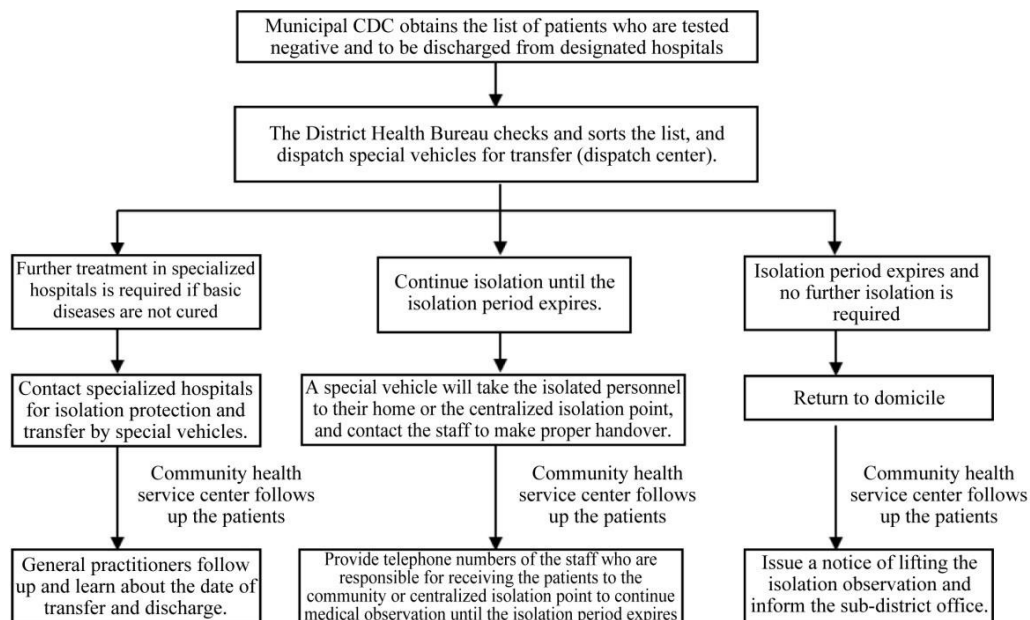


Figure 5 Transfer Process for Suspected Patient Tested Negative in Nucleic Acid Test of COVID-19 Infection

(III) Transfer requirements

1. Dedicated medical devices (including stretchers) should be used in the designated transfer ambulance, and the cabs and carriages should be strictly isolated. Special contaminant areas should be set up in these vehicles, including protective equipment, disinfectants and quick-drying hand disinfectants.
2. The healthcare professionals and drivers involved in transfer should wear work clothes, disposable gloves, disposable work caps, medical disposable protective clothing, medical protective masks, face shields/goggles, work shoes or boots, waterproof boot covers, and the like.
3. Healthcare professionals and drivers must replace the complete set of protective equipment after the transfer of patients.
4. The transfer ambulance should be equipped with basic facilities for transfer of patients suffering from respiratory infectious diseases, and negative-pressure ambulances should be used as much as possible. The transfer vehicle should be kept closed during transfer and disinfected after transfer. For severe cases, the transfer vehicle should be equipped with necessary life supporting facilities to prevent the patient's conditions from further deterioration during transfer.
5. The protection of healthcare professionals and drivers, disinfection of vehicles, medical supplies and devices and disposal of contaminated items should be in accordance with the Regulations on Management of Hospital Infections, Technical Specifications for Disinfection of Medical Institutions and related regulations.
6. Next patient must not be transferred without strict disinfection of the ambulance used.

VII. Basic criteria for management of domestic waste of residents

(I) Classification of domestic waste

During the epidemic prevention and control period, domestic waste is temporarily divided into general domestic waste and epidemic-related domestic waste (according to the disease prevention and control management regarding medical waste).

1. General domestic waste refers to the waste produced by healthy people and asymptomatic close contacts in daily life.

2. Epidemic-related domestic waste refers to the domestic waste produced by close contacts with confirmed cases, people with fever or respiratory symptoms, suspected cases and confirmed cases before centralized treatment.

(II) Disposal and transfer of general domestic waste

1. Preliminary handling:

(1) Domestic waste should be cleaned up in a timely manner every day and put into garbage bins of the community, and must not be stacked in corridors.

(2) The hands should be washed thoroughly or disinfected with disposable hand disinfectants after waste cleanup.

2. Transfer:

(1) Domestic waste should be removed on a daily basis by the domestic waste collection company entrusted by the community (street) service center or property management company, and disposed of in accordance with relevant requirements, to keep the living environment clean.

(2) Waste disposal personnel should wear personal protective equipment such as masks and gloves, and rinse the hands or disinfect the hands with alcohol-containing disinfectants immediately after waste disposal.

(3) Centralized water collection and transfer areas should be disinfected on a daily basis, especially those around crowded places and in key communities.

(4) Once suspected symptoms such as fever and dry cough are detected among close contacts, the domestic waste produced should be disposed of according to the requirements for domestic waste produced by suspected patients.

(III) Disposal and transfer of epidemic-related domestic waste

1. Preliminary handling:

(1) Separate garbage bins (with lid) containing a garbage bag should be provided in the resident area where waste is produced, and handled once in the morning and evening respectively. The person with fever or suspected patient needs to pay attention to hand hygiene when handling waste, but special protective measures are not required.

(2) Domestic waste should be handled by the person with fever or suspected patient wherever possible. Otherwise, the family member handling waste needs to wear the disposable gloves and surgical mask or protective mask against particulate matters or medical protective mask for self-protection.

(3) The garbage bags used should be sealed tightly and if necessary, double-layer garbage bags should be used. They should be kept in the area where the person with fever or suspected patient lives. Specific operations are as follows.

① Bag sealing. First of all, domestic waste should be put into universal leak-proof garbage bags, and the amount of waste should not exceed 3/4 of the bag capacity. Then, waste should be packed into special double-layer garbage bags (provided by local community health institutions).

② Spray disinfection. Disinfectant should be sprayed to domestic waste in the special bag (using a beverage bottle with holes through its lid in the case of no spray pot) until the domestic waste is fully wet with disinfectant, then the garbage bag should be sealed and kept for 30 min until the disinfectant takes effect. The disinfectant should be prepared as follows.

Use of Jianzhisu tablets: the required concentration is 1,000 mg/L, which is equivalent to 1,000 mL mineral water (equivalent to the volume of two 500 mL bottles) with four Jianzhisu tablets.

Use of 84 disinfectant: the disinfectant should be prepared in a beverage bottle, with 1,000 mL water (equivalent to the volume of two 500 mL bottles) and 84 stock solution equivalent to the volume of two bottle lids.

③ Sealing. The gooseneck type sealing method (Figure 6) should be applied to avoid the spillage of waste.

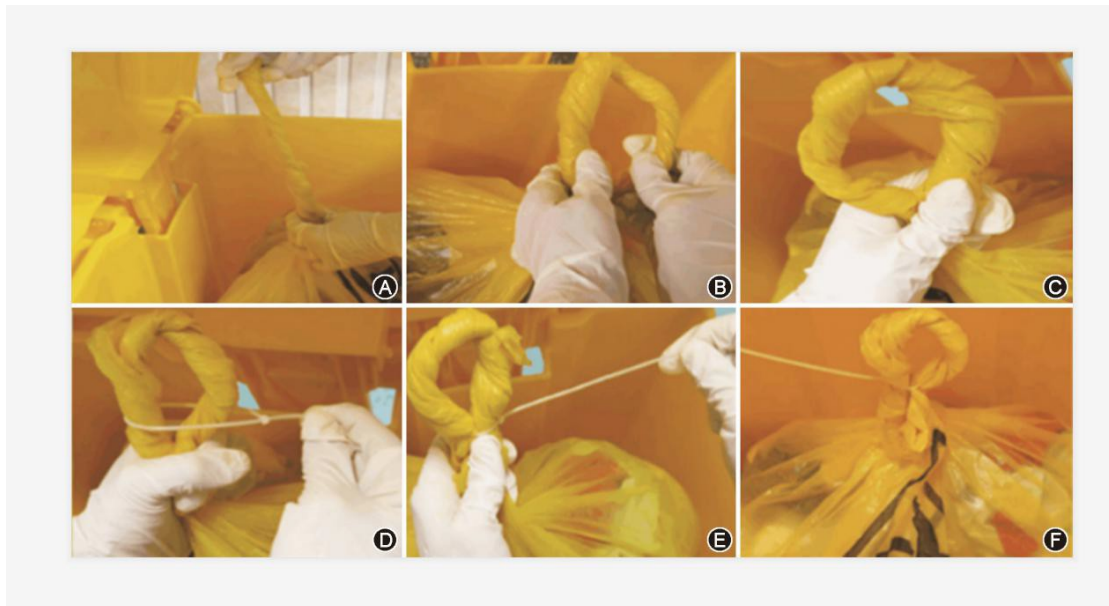


Figure 6 Flowchart of gooseneck sealing of medical waste bag. A. Seal the bag by twisting, with the waste amount equal to 3/4 of the bag volume. B. Twist and fold the opening securely. C. Hold the twisted part. D. Tie the strap to the lower part of the folded section of the medical waste bag. E. Tighten the strap for effective sealing. F. Sealed medical waste bag: “gooseneck tie”.

④ Sealing in box. The bag is packed and sealed in a disposable pressure-resistant carton and the box must not be opened. The mark “epidemic-related domestic waste” and waste disposal date should be indicated on the surface of the carton.

⑤ Keeping in an obvious position. Isolation personnel should temporarily put the handled waste at home, and call the home quarantine liaison officer to determine the specific time of collection. The liaison officer should inform relevant departments of door-to-door collection in a timely manner. Isolation personnel should put the packed waste in an obvious position outside the door in advance according to the predetermined time of collection.

(4) The hands should be thoroughly cleaned or disinfected with disposable hand disinfectants after waste cleanup.

2. Transfer:

(1) Waste should be collected in a unified manner by the designated personnel in the morning and evening each day, packed in the double-layer yellow plastic bag with a medical waste mark, and disposed of in accordance with the process of medical waste disposal.

(2) The personnel collecting waste should wear personal protective equipment (e.g. masks, gloves, goggles and protective clothing) and, before and after relevant work, promptly wash the hands, replace the mask and protective clothing, and spray disinfectant (with the same mixing ratio as above) to the outer package of waste. Waste should be transferred by special vehicles.

(3) Requirements for collection of carried items: spray pots with chlorine-containing disinfectant (concentration: 1,000 mg/L), rubber gloves, identifications, tapes, and record forms.

(4) Requirements for waste collection vehicles: designated vehicles and disinfectants. Irrelevant objects must not be put into (large and small) cartons in vehicles, and the chlorine-containing disinfectant (1,000 mg/L) should be sprayed after daily collection of waste, followed by wiping of clean water in 30 min and 30-min ventilation through open doors and windows. Disinfection records should be made.

(5) Requirements for the transportation route of waste collection vehicles: the transportation route (based on the principle of no repetition) should be determined with waste collection personnel and recorded before daily transportation.

(6) Requirements for waste collection and transfer records: the waste collection records should include the date, time, place, number of boxes, package status, disinfectant spraying, and signatures of waste collection and other relevant

personnel; and the transfer records should include the date, time, number of boxes, weight (kg), and signatures of the personnel of medical institutions and waste receiving personnel.

(7) Requirements for the management of temporary storage areas for medical waste: the storage areas (with a mark) for epidemic-related domestic waste should be set up, and transfer record forms should be applied.

(8) Centralized waste collection and transfer areas should be disinfected every day, especially those around crowded places and in key communities.

(IV) Work requirements

1. The management of epidemic-related domestic waste should be strengthened, and such waste should be classified, collected, transferred and disposed of in strict accordance with the medical waste management procedures and related regulations. At the same time, monitoring of general domestic waste in hospitals, community health service centers and other institutions should be enhanced. It is forbidden to mix medical waste or epidemic-related domestic waste with general domestic waste in the collection and transfer system.

2. An accountability system should be developed for waste producing organizations, and epidemic-related domestic waste in special areas should be properly classified, collected, stored, disinfected and transported.

3. The temporary storage areas for epidemic-related domestic waste should be set up far away from medical areas, food processing areas, personnel activity areas and domestic waste storage areas, and equipped with obvious warning signs and safety measures against leakage, rodents, mosquitoes, cockroaches and thefts and out of the reach of children.

Figure 7 shows the transfer process for the domestic waste produced by patients suspected of COVID-19 infections.

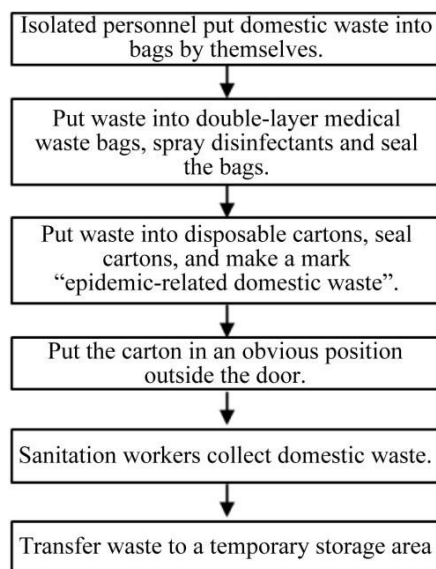


Figure 7 Transfer Process for Domestic Waste Produced by Patients Suspected of COVID-19 Infections

Part II Regulations for Prevention and Control of COVID-19 Infections in General Population

I. Scope of application

(I) People from key regions (Wuhan and surrounding cities) and important concerned areas (cities with persistent outbreak of COVID-19 outside Hubei Province).

(II) People from non-key regions and non-important concerned regions.

(III) Local healthy people.

II. Handling process for various populations

The only principle to control the spread of infectious diseases is to “control the source of infection, cut off transmission routes and protect susceptible people”. Taking preventive measures for people exposed to various infection risks is critical to control the spread of infectious diseases. As health “gatekeepers” for community residents, primary care physicians play an irreplaceable role in blocking the spread of infectious diseases. Medical observations in a centralized manner or by isolation at home may be carried out to people from other places based on respective conditions. People from key regions must be strictly isolated for 14 d medical observation.

(I) People from key regions and concerned regions

People from key regions and concerned regions should be strictly subjected to medical observation at home or in a centralized manner. Primary care physicians should cooperate with public security authorities, neighborhood committees or village committees in information collection and body temperature measurement. They should also take the initiative to strengthen the health propaganda and targeted guidance to the aforesaid personnel, send health reminders, self-protection knowledge and household disinfection and isolation knowledge by phone, SMS, WeChat and other means, and provide professional guidance for people isolated at home and their family members or roommates in infection prevention and control (Figure 8).

(II) People from places other than key regions and concerned regions

Isolation for 14 d at home is recommended for the aforesaid people, without going out in principle and personal protective equipment. Primary care physicians are mainly responsible for strengthening health education, publicizing personal protection knowledge and household disinfection tips, and assisting neighborhood committees in information collection and body temperature registration.

(III) Local healthy people

Local healthy people are advised to less go out and wear personal protective equipment while going out. Physical care physicians should actively send health reminders, self-protection knowledge and household disinfection and isolation knowledge to contracted residents, and carry out health publicity and guidance. In the event of respiratory symptoms or other discomforts, physical care physicians may perform inquiries by phone and WeChat and guide medication, or the people concerned may seek medical help in nearby medical institutions and take protective measures.

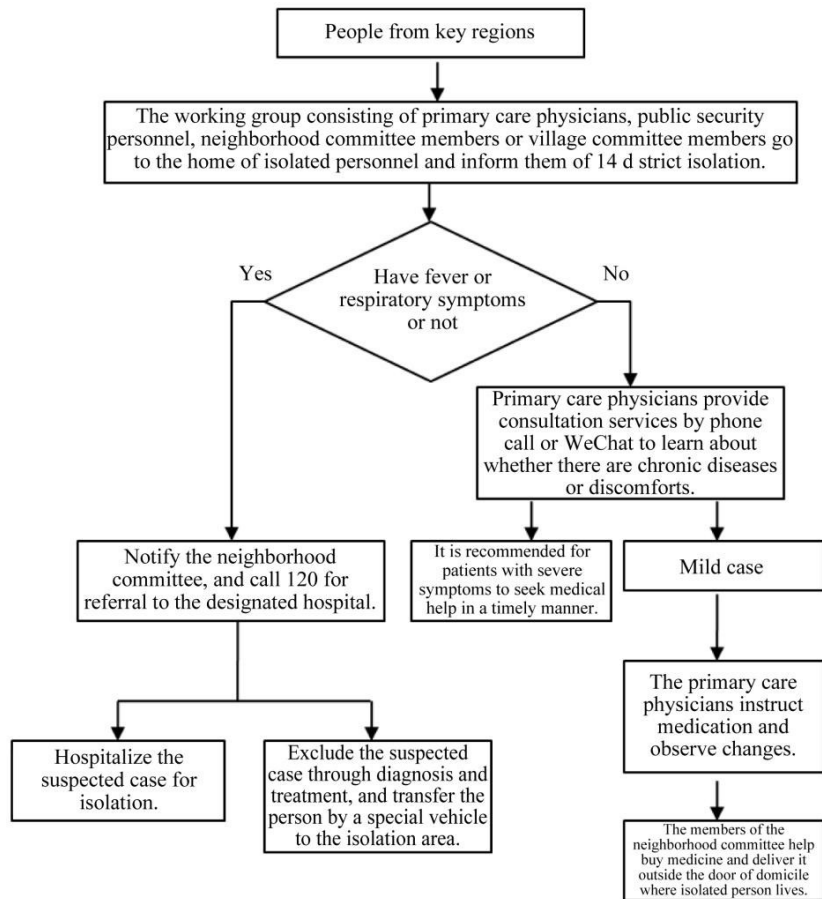


Figure 8 Management Process for People Infected with COVID-19 in Key Regions

Part III Regulations for Prevention and Control of COVID-19 Infections in Special Populations

I. Epidemic prevention and management of the elderly and patients with chronic diseases at home

Primary care institutions manage a large number of elderly people and people with chronic underlying diseases (cardio-cerebrovascular diseases, diabetes, chronic lung diseases and tumors) through contracted family doctors. The general population is susceptible to COVID-19. The elderly is subject to more serious hazards of COVID-19 due to the degeneration of physiological functions (e.g. breathing function and immunity) and chronic underlying diseases. The available evidences show that the elderly and the people infected with chronic underlying diseases are likely to have severe and critical symptoms and even die when infected with COVID-19. In addition, they generally have weaker capabilities in self-protection than the young people and those without chronic underlying diseases, and are usually independent on the accompanying and care of family members and the public. Once they are infected, potential routes of spreading may be added.

Primary care institutions must implement the effective and reasonable prevention and management among the elderly and patients with chronic underlying diseases.

1. Taking streets/villages as units, all relevant departments should jointly formulate plans and take special prevention and control measures to the patients with chronic diseases and elderly people in conjunction with local conditions.
2. Targeted health education should be carried out to elderly people and patients with chronic diseases. Outdoor activities should be reduced. The people staying at home should also pay attention to personal protection and hand hygiene and keep rooms clean. Some elderly people lack sufficient knowledge about epidemic prevention and

control, so relevant education should be strengthened and some measures in response to the physiological status of the elderly may be taken, such as printing of high-quality epidemic guideline brochures with large fonts and light colors. These brochures may be distributed with medicine to the patients with chronic underlying diseases.

3. People taking care of the elderly and people with chronic diseases, such as family members and nursing staff should be kept informed of relevant policies and measures. Take isolation and observation at home for example: such people are advised not to live with family members; family members need to communicate with the elderly on a daily basis. When they have to meet each other (such as meal delivery), family members and elderly people must wear masks and keep a distance of more than 1 m, and family members must wash the hands once going home. If they cannot live separately for various reasons, they must live in separate rooms. The family members concerned must go to public areas in different periods and must wear masks.

4. On the premise of ensuring the safety of medication for patients with chronic diseases, long-term prescriptions are preferred to reduce medical treatments. Members of the contracted family doctor team should provide follow-up guidance by phone to patients with chronic diseases for self-monitoring at home, and promptly perform intervention and return visits in the case of nonconformity to control requirements. The people with acute complications should be instructed for medical treatment in time. In special periods, medicines may be delivered home, and online consultations and medicine distribution may be performed if allowed by specific conditions.

5. Fever, cough and other related symptoms need to be distinguished from common cold and influenza. Consultations may be performed through the Internet or by phone. If necessary, medical help may be sought in hospitals.

6. For some elderly people living alone, without family care, attention may be paid to their health by phone. If necessary, door-to-door consultations may be carried out, and alarm systems may be installed at home for direct communication with primary care institutions.

7. Attention should be paid to the psychological status of the elderly and people with chronic underlying diseases, and communication with them should be strengthened to reduce their fear of the epidemic.

II. Epidemic prevention and management of children and pregnant women at home

(I) Prevention and management for infants and children at home

1. Child protection:

(1) Self-protection:

① Hand hygiene: washing the hands frequently and correctly. Elder children can wash their hands independently, while younger ones need the assisted of their parents. Parents should wash their hands first, then assist children in hand washing, and clean their hands again. The hands must be washed before eating, wearing masks, after defecation, removing masks, or even contacting with secretions.. Children should be instructed to avoid direct contact with human secretions, especially oral or respiratory secretions, urine and feces. It is forbidden to cover the mouth directly with a hand in sneezing or coughing.

② Correct using of masks: It is recommended to prevent children from going out as much as possible amid the epidemic. If they have to go out, they must wear masks correctly. The children who has over one year old must wear masks. It is recommended for children to wear N95 masks or disposable surgical masks in high-risk areas, and disposable masks can be used in other areas.

③ Personal hygiene: it is necessary to take baths, manicure the fingernails, change clothes frequently, and keep clothes clean and tidy. The mouth, nose and eyes must not be touched by hand. The head must be lowered or turned in sneezing or coughing in order not to affect surrounding people. Instead, the mouth and nose need to be covered with a tissue or the elbow part of clothing.

(2) Surveillance of symptoms of viral infections: since family members may be potentially infected, relevant symptoms related to viral infections at home need to be monitored. Elder children are able to express their discomforts, but infants and younger children are not able to express them accurately in time and need more attention from parents. The body temperature should be measured once in the morning and evening respectively during

isolation at home and always monitored if necessary. If family members are not infected at the end of the isolation period, children are unlikely to be infected.

The mental state, appetite changes, cough, diarrhea and other symptoms of children should be concerned and recorded during the monitoring. Medical assistance should be sought in nearby hospitals or professional online consultations in a timely manner when in the event of respiratory symptoms (e.g. fever, sneezing, runny nose and cough), gastrointestinal symptoms (e.g. vomiting, abdominal pain, and diarrhea) or poor mental state or appetite and drowsiness without inducing factors.

(3) Diet and living care: Children grow rapidly, so they need sufficient nutrients, high-quality protein-containing food, fresh fruits and vegetables and appropriate quantities of vitamins, minerals and cod liver oil, depending on specific conditions. Breastfeeding may be continued, while manual feeding should be performed after hand washing. All utensils must be disinfected.

Coronavirus is spread by various means such as contact and droplets. Intimate contact should be avoided during isolation at home. It is forbidden to kiss children, and the distance of more than 1 m should be kept during talking. People also need to go to bed and get up early to ensure adequate sleep and exercise properly at home to improve the immunity.

(4) Psychological intervention to children: Children's emotion feelings and emotions are on the base of their mental health. They are not only the bridge and link between the mind and body, but also closely related to children's immunity. Children's stable emotions, which is the most powerful barrier against viruses, must be attention. The most important things for parents are learning how to manage, counsel and intervene children's emotions symptomatically during protection against the epidemic at home.

① Loneliness: Children stay at home for a long-term without playmates due to the delay in beginning of the term, so they may demonstrate few words, inattention, daze, listlessness and no interest in anything. Suggestions on psychological intervention: parents need to communicate more and play some interesting and collaborative games with children to ease their loneliness.

② Restlessness: Extroverted children are prone to demonstrate upset, hyperactivity, impulsivity and violent temper due to long times stay at home. Suggestions on psychological intervention: family members and children are recommended to play games, carry out activities to ease emotions, such as poetry reading, painting, calligraphy, radio gymnastics or other recreational activities, and communicate with each other peacefully.

③ Upset: Children may demonstrate long-term depression, dullness, fewer actions and poor appetite due to small activity spaces at home. Suggestions on psychological intervention: parent-child interactions should be performed by make children "move", including sports games such as bubble blowing, shuttlecock kicking and ring tossing, and music-based activities such as singing and dancing.

2. Student protection:

(1) During winter vacation:

① Students who have lived or traveled in high-incidence areas (e.g. Wuhan) must be obedient to medical observation at home or in designated places for 14 d as of the date of departure from the aforesaid areas.

② Students everywhere should stay at home as much as possible, and reduce visiting to relatives and friends, gatherings for dine, or activities in crowded public places, especially poorly ventilated places.

③ It is recommended to monitor the health of students on a daily basis, and report to the designated responsible personnel of communities or schools in accordance with the requirements of communities or schools.

④ The students with no suspicious symptoms can return to school at the end of winter holidays, and those with suspicious symptoms should be reported to corresponding schools by themselves or their parents, and seek medical help in time, and must not return to school until they are cured.

(2) On the way back to school:

① Wear protective masks at all times while taking public transportation means.

② Protect hand hygiene and reduce contact with public items and parts within vehicles.

③ Monitor health during trips, and actively measure the body temperature in the event of fever.

- ④ Pay attention to the health of surrounding passengers and avoid close contacts with suspected cases.
- ⑤ In the situation of suspicious symptoms during trips, minimize contacts with others and promptly seek medical help as appropriate.
- ⑥ For the treatment in a medical institution during one trip, actively tell the doctor the information about travel or living in endemic areas, and cooperate with the doctor in relevant investigations.
- ⑦ Properly keep travel bills to cooperate with investigation of possible close contacts.

3. Suggestions on vaccination amid the epidemic of COVID-19:

i. Postponement of vaccination is not recommended;

- ① The first dose of hepatitis B vaccine and BCG vaccine for newborns must be vaccinated as soon as possible after birth, especially those mothers have the positive hepatitis B surface antigen HBsAg.
- ② Rabies and tetanus will lead to serious consequences and even life threatening. It is recommended to perform full vaccination in time in accordance with the vaccination procedures.

ii. Vaccines to be supplemented with priority:

- ① Once vaccination conditions are restored, priority will be given to children beyond the expiration of immunization.
- ② Priority should be given to measles-containing vaccines (e.g. leprosy vaccine and leprosy vaccine), hepatitis B vaccine (especially for the children whose mothers have positive surface antigens), polio vaccine, and DPT vaccine.
- ③ If the first dose of hepatitis B vaccine and BCG vaccine are not vaccinated at birth, and the conditions for simultaneous vaccination in other the immunization program, it is recommended to vaccinate multiple vaccines in the immunization program at the same time.

iii. Suggestions on necessary vaccination in the near future:

- ① When an organization have qualified for vaccination, a vaccination schedule should be prepared reasonably, and vaccination plans and appointments should be made for staggered peaks, in order to avoid gatherings. The vaccination site needs to be disinfected in strict accordance with relevant regulations, windows should be opened regularly for ventilation, and independent areas and special passages should be designated.
- ② The guardians accompanying the children to be vaccinated must wear personal protective equipment, and arrive at the vaccination site according to the appointment made with the health care provider.
- ③ Both guardians and children must not touch objects in public places, except those to be touched necessarily, and stay in clean and less crowded areas for 30 min after vaccination, but must not stay away from the vaccination clinic, in order to facilitate observation.

iv. Precautions of delay in vaccination:

- ① For the small-month-old infants who have not been vaccinated for the first hepatitis B, BCG, DPT vaccine, family members who has suspected of infection should be isolated to reduce the risks of infants in controllable diseases related to such vaccines.
- ② Health protection, publicity and education should be performed in the case of delay in vaccination.
- ③ The health of children and their family members should be monitored on a daily basis, including the measurement of body temperature. Family members with uncomfortable symptoms should be isolated and observed to avoid cross infection with infants and younger children.

(II) Prevention and management of maternal women at home

1. Primary women health care personnel should strengthen maternal health education, counseling and guidance by WeChat, APP, phone, video and online schools for pregnant women, and assist pregnant women in self-monitoring and protection at home.
2. Depending on specific conditions of pregnant woman, the prenatal examination schedule may be adjusted appropriately if necessary. High-risk pregnant women with pregnancy comorbidities and complications should be instructed to participate in prenatal examinations on time and seek medical help in the event of any abnormality.
3. Pregnant women should be instructed to correctly identify and respond to parturient signs and go to accouche institutions in time for delivery. The original filing authority should make reasonable arrangements as early as possible for the pregnant women in the designated hospital for treatment of COVID-19. For those who are about to give a birth, the prenatal examination and delivery hospital should be determined through coordination and relevant personnel should be notified in a timely manner to ensure safe delivery.
4. The pregnant women infected with COVID-19 must not perform breastfeeding until they are recovered after childbirth.
5. It is still unclear whether COVID-19 can be spread vertically through the placenta, so newborns must be isolated for at least 14 d. Since the high fever and hypoxemia of pregnant women are likely to cause fetal distress and premature birth and increase risks of apnea, newborns must be monitored closely. If there is any problem, child care physicians should be contacted in time and the newborn concerned should be promptly treated in a specialized hospital.
6. Physical exhaustion, blood loss and loss of a lot of water in delivery and disturbances in the body make women susceptible. Asymptomatic infected persons may have clinical symptoms in this period, such as puerperal fever. The possibility of respiratory infections (e.g. pneumonia, tuberculosis, and viral influenza) should be alerted after puerperal infection, breast swelling, mastitis and other obstetric conditions are excluded. At present, some women are found suffering from fever in 6-48 h after delivery, and those suspected of COVID-19 infections need to be confirmed by further pathogenic examination. When women are treated in a fever clinic due to fever after they are discharged from hospital, obstetrics and gynecology specialists should be invited to exclude the symptoms of obstetrics.

Part IV Contents and Key Points of Community Publicity and Education about Scientific Prevention and Control of COVID-19 Infections

In order to facilitate primary prevention and control, it is recommended to perform publicity and education in the following aspects (Table 3).

1. Knowledge about COVID-19 and infection: introduce the features and etiological characteristics of COVID-19. It should be emphasized that COVID-19 and SARS virus are different from each other although they are classified into the same category. In addition, COVID-19 can be killed efficiently by UV rays, 75% ethanol and chlorine-containing disinfectants or 56 °C for 30 min.
2. How to prevent the spread of COVID-19: Introducing main transmission patterns; emphasizing its general susceptibility; Publicizing the importance of home or mandatory quarantine, making residents understand and support quarantine policies, reducing their panic and anxiety; Popularizing the prevention measures for COVID-19, including hand hygiene, correct selection and use of masks, and household disinfection; Taking precautions at different life situation, such as taking an elevator or going out for shopping.
3. How to detect and treat relevant symptoms as early as possible: the early symptoms of COVID-19 infection should be publicized reasonably to the people who have once traveled or lived in key regions, those in close contact with confirmed or suspected patients, and those suffering from aggregative fever. The residents with related symptoms should be correctly instructed for medical treatment. All residents are encouraged to detect and treat COVID-19 infections as early as possible.
4. How to properly prevent COVID-19 infections: Enhancing self-immunity is essential to prevent diseases. Health advice can be recommended about nutrition tips and healthy exercise for different population, such as seniors, children, diabetes.

5. How to correctly understand the treatment of COVID-19: Although there are now no special antiviral drugs, most of patients infected with COVID-19 could be cured by supportive therapies. Trying to reduce the fear and anxiety of residents.

6. Psychological counseling and publicity among residences in the epidemic: Some people who are suspected patients, close contacts, and self-quarantine might have psychological problems such as anxiety, depression, fear and anger. Primary medical workers should find these symptoms and give some psychological counseling with keeping self safety.

Table 3 Contents and Key Points of Community Publicity and Education on Scientific Prevention and Control of COVID-19 Infections

| Main Item | Focus (examples of common questions) | Key Point |
|--|---|---|
| Knowledge about COVID-19 and its infection | 1. What is a COVID-19? 2. What is COVID-19? What does it have to do with “SARS”? 3. How to kill COVID-19? | Introduce etiological characteristics of COVID-19. Emphasize that COVID-19 and SARS virus are different from each other although they are classified into the same category. COVID-19 can be killed efficiently by UV rays, 75% ethanol and chlorine-containing disinfectants or at 56 °C for 30 min. |
| How to prevent the spread of COVID-19 | 1. What are the ways of spreading COVID-19? 2. How to define close contacts? 3. What is the purpose and significance of isolation at home? 4. What are main points to note during isolation at home? 5. What are the feasible disinfection methods at home? 6. How to choose and use the mask correctly? 7. How to prevent COVID-19 infections in confined spaces such as elevators? 8. How to wash hands to effectively avoid infections? 9. How to prevent infections when going out to purchase? 10. What should be noted after returning to home? 11. How often does home disinfection should be performed? | Introducing main transmission patterns; emphasizing its general susceptibility; Publicizing the importance of home or mandatory quarantine, making residents understand and support quarantine policies, reducing their panic and anxiety; Popularizing the prevention measures, including hand hygiene, correct selection and use of masks, and household disinfection; Taking precautions at different life situation, such as taking an elevator or going out for shopping. |

| Main Item | Focus (examples of common questions) | Key Point |
|--|---|--|
| How to detect and treat COVID-19 early | <ol style="list-style-type: none"> 1. How to identify the early symptoms of COVID-19 infection? 2. If there are suspicious symptoms, how to see a doctor in time? What are the procedures for visiting a doctor? 3. How to avoid cross infection during the consultation? | <p>Publicizing the early symptoms of COVID-19 infections, especially for the people who have travelled or lived in epidemic regions, close contacts with confirmed or suspected patients, and people with aggregative fever.</p> <p>Giving the medical advice for the residents with some related symptoms;</p> <p>Trying hard to diagnose and treat patients as soon as possible.</p> |
| How to correctly prevent COVID-19 infections | <ol style="list-style-type: none"> 1. Are there currently effective drugs to prevent COVID-19 infections? 2. How to prevent COVID-19 infections? 3. What should be noted in diets during the epidemic? | <p>Enhancing self-immunity is essential to prevent diseases. Health advice can be recommended about nutrition tips and healthy exercise for different population, such as seniors, children, diabetes.</p> |
| How to correctly understand the treatment of COVID-19 infections | <ol style="list-style-type: none"> 1. Are there special drugs for the treatment of COVID-19? 2. Is supportive treatment effective for COVID-19? | <p>Although there are now no special antiviral drugs, most of patients infected with COVID-19 could be cured by supportive therapies. Trying to reduce the fear and anxiety of residents.</p> |
| Psychological counselling of residents during the epidemic | <ol style="list-style-type: none"> 1. Is it necessary to go to a fever clinic if a person feels unwell but without the early symptoms of COVID-19 infection? 2. What should be done if a person feels uncomfortable but is still worried about being infected? 3. Will I get sick if I have been a close contact with a confirmed patient? Are my family members likely to be infected? 4. I am very resistant. It is impossible for me to be infected, so I don't need to wear a mask. 5. How to tell others that I am from the affected area without discrimination? Is the doctor likely to refuse me? 6. I dare not go out, as I think everyone is a source of infection. | <p>Some people who are suspected patients, close contacts, and self-quarantine might have psychological problems such as anxiety, depression, fear and anger. Primary medical workers should find these symptoms and give some psychological counselling with keeping self safety.</p> |

Part V Prevention and Control by Fully Using IT Means in Primary Care

I. Advance checkpoint in prevention and control of COVID-19 infections by information and communications technology

(I) Comprehensively register, screen and report community residents

Using online reporting, support the filling, reporting and level-by-level statistics of epidemic data, focusing on suspected and confirmed cases, and constantly improve the quality and efficiency of data reporting.

Register local residents' travel and health information by mobile APP, WeChat and other means, set up "High risk reminder" and other functions in the information system, and focus on "high-risk suspected people" in a timely manner, to dynamically learn about the general situation of prevention and control among community residents. ^[9]

Use the Internet information system in investigation, screening, pre-examination triage and outpatient registration of suspected patients with fever and other symptoms, immediately transfer suspected patients to the superior hospital with a fever clinic, and record.

(II) Implement information registration and reporting of people isolated at home

1. Patient management during the observation period: use online resources to help track and supervise the people who are from the affected area and isolated at home, and monitor their health in the medical observation period (14 d). For example, patients or their family members should promptly record changes in their physical conditions on a daily basis by WeChat, mobile APP, online registration or telephone in "electronic patient logs", and community health workers should conduct real-time detection and report abnormality in time.

2. Management of the elderly and people with underlying diseases: using the IT and communication means, gradually develop a "remote bed monitoring system" with "family beds" as the goal. Primary care physicians can use the Internet to strengthen online precision management and service, and carry out "online health management", focusing on the elderly and people with chronic diseases (e.g. hypertension and diabetes).

(III) Improve the efficiency of community health work with intelligent voice system

Where the conditions permit, the intelligent voice follow-up system can be used to assist in various kinds of anti-epidemic work, including medical and health information release (e.g. vaccination schedule and hospital visit information), fever screening and follow-up of key populations, health consultation and follow-up, guidance on health monitoring and protection at home, publicity of the knowledge about COVID-19, psychological counseling to residents, and cooperation with street offices, neighborhood committees or village committees in scientific, rapid and effective society-wide efforts to prevent and control the epidemic.

(IV) Expand scope of medical services via "Internet +"

1. Online consultation platform: establish online consultation platforms to provide consultation services to community residents^[10].

2. Online guidance for medical treatment: introduce local official registration platforms into the online platform, provide third-party services such as fever clinic consultation and online registration, and help residents to perform online self-assessment before fever diagnosis and consult the nearest fever clinic in the event of fever, thus providing consultation and treatment services earlier.

3. Encourage primary care physicians to use "patented information sharing platform for prevention of COVID-19 infections" and other public information resources and services to participate in epidemic prevention and control research and improve the effectiveness of epidemic prevention and control.

(V) Guide public opinion and build an online science popularization platform

Strengthen the publicity of COVID-19 dynamics and related knowledge, and release and update local epidemic prevention and control policies and measures to realize the dynamic update of epidemic information through linking with relevant government departments' epidemic information release platforms. Support primary care physicians and related volunteers to release knowledge on community epidemic prevention and control, introduce knowledge on epidemic prevention and control, medical science and health science, and encourage community residents to interact with primary care physicians to obtain knowledge on prevention and control, and actively participate in community prevention and control consultation.

(VI) Online education of primary healthcare professionals

Through online lectures, video recording, text production and other methods, use the Internet, App, applet and other channels to provide primary care physicians with professional knowledge of epidemic prevention and control, diagnosis, treatment and disinfection. Help the primary care personnel to understand the latest policies and local developments, enhance their awareness of the harmfulness of COVID-19, and improve their abilities to prevent and control the outbreak ^[11]

II. Improve effectiveness in diagnosis and treatment of COVID-19 by information technology

(I) Enable remote diagnosis and treatment

Take advantage of the resources of large hospitals, and build a multi-level interactive service platform for diagnosis and treatment. Provide remote consultation, prevention and guidance services in major hospitals, including designated provincial hospitals for treatment, and deploy expert resources by IT means, to improve the capabilities of primary and community care institutions in dealing with the epidemic, mitigate the pressure on diagnosis and treatment in designated hospitals, and reduce the risks of trans-regional spreading. Develop digital images for remote diagnosis and treatment, and a routine process of “remote consultation of suspected cases”^[12].

(II) Promote multi-level linkage and interaction by “medical complex”

Using the “Internet +” information platform to form a medical complex consisting of Level 3 and 2 hospitals, community hospitals and township health centers in the same district, and strengthen the information exchange and sharing between primary care institutions and superior medical authorities.

Make full use of the “patented information sharing platform for prevention of COVID-19 infections” built by the State, to promote the effective linkage of medical institutions at various levels. Make full use of the regional population health information platform and big data platform in various regions, give full play to the advantages of Internet hospitals and Internet diagnosis and treatment, encourage the online review of common diseases and chronic diseases, as well as drug distribution function, so as to reduce the risk of cross-infection among patients during offline visits ^[13].

III. Build a prevention and control platform

(I) Screen suspected patients, transmission routes and super spreaders

Build this platform so that immigrants in the affected area can upload the time of arrival at the affected area, people in contact in the affected area and after departure from the affected area, places visited, and other information related to the spreading of this virus, as well as the health status, including suspicious symptoms such as fever, cough, sputum, fatigue, and diarrhea. Screen suspected patients, transmission routes and superior spreaders based on those data, which is significant for precision prevention and control of the epidemic.

(II) Avoid the source of infection

By real-time positioning of suspected and confirmed patients, help residents to actively avoid the source of infection and stop spreading based on the epidemic map.

Guided by: Prevention and Control Sub-group of the Working Group under the National Health Commission

Expert Group formulating the *Expert Recommendations for the Prevention and Control of COVID-19 Infections in Primary Care (First Edition)*

Director members of the academic committee: Wang Chen (Chinese Academy of Engineering, Chinese Academy of Medical Sciences & Peking Union Medical College, China-Japan Friendship Hospital)

Deputy director members: Chi Chunhua (Peking University First Hospital); Qu Jieming (Shanghai Jiaotong University School of Medicine Ruijin Hospital)

General Secretary: Wu Hao (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Yang Ting (China-Japan Friendship Hospital)

Members of the academic committee (in alphabetical order of surnames): Chen Yahong (Peking University Third Hospital); Chi Chunhua (Peking University First Hospital); Ding Jing (Yuetan Community Health Service Center of Fuxing Hospital of Capital Medical University); Du Xueping (Yuetan Community Health Service Center of Fuxing Hospital of Capital Medical University); Fang Lizheng (Sir Run Run Shaw Hospital affiliated to Zhejiang University School of Medicine); Hu Yiping (Huashi Community Health Service Center, Shipai Street, Tianhe District, Guangzhou); Huang Kewu (Beijing Chaoyang Hospital affiliated to Capital Medical University); Jie Zhijun (Shanghai Fifth Hospital affiliated to Fudan University); Li Haichao (Peking University First Hospital); Li Xiaonan (Community Health Service Center of Huazhong University of Science and Technology); Li Yazhi (Institute of Medical Information, Chinese Academy of Medical Sciences); Liu Xiaoju (First Hospital of Lanzhou University); Lu Zuxun (Huazhong University of Science and Technology); Luo Fengming (West China Hospital, Sichuan University); Mao Zongfu (Global Health Institute of Wuhan University); Qu Jieming (Shanghai Jiaotong University School of Medicine Ruijin Hospital); Tan Wei (Qingling Street Community Health Service Center in Wuhan); Wang Chen (Chinese Academy of Engineering , Department of Pulmonary and Critical Care Medicine, China-Japan Friendship Hospital); Wang Guiqiang (Peking University First Hospital); Wang Xianjun (Yubei Road Community Health Service Center, Shapingba District, Chongqing); Wang Wei (China Medical University First Hospital); Wu Hao (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Xu Yongjun (Institute of Environmental and Health Related Product Safety, Chinese Center for Disease Control and Prevention); Yang Ting (China-Japan Friendship Hospital); Yi Chuntao (Fenglin Community Health Service Center in Xuhui District, Shanghai); Yu Xiaosong (China Medical University); Zhan Qingyuan (China-Japan Friendship Hospital); Zhao Jianping (Tongji Hospital affiliated to Huazhong University of Science & Technology); Zheng Jiaqiang (University of Birmingham in UK); Zheng Yanling (Shouyi Road Community Health Service Center in Wuhan); Zheng Zeguang (First Affiliated Hospital of Guangzhou Medical University and Guangzhou Respiratory Health Research Institute)

List of compilation experts (in alphabetical order of surnames): Chen Yahong (Peking University Third Hospital); Chi Chunhua (Peking University First Hospital); Cui Xiaojing (China-Japan Friendship Hospital); Ding Jing (Yuetan Community Health Service Center of Fuxing Hospital of Capital Medical University); Ge Caiying (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Guo Yun (Huayang Community Health Service Center, Tianfu New District, Chengdu); Hu Fang (Sijiqing Street Community Health Service Center, Jianggan District, Hangzhou, Zhejiang Province); Huang Kewu (Beijing Chaoyang Hospital affiliated to Capital Medical University); Huang Wanyi (First Affiliated Hospital of Guangzhou Medical University and Guangzhou Respiratory Health Research Institute); Jie Zhijun (Shanghai Fifth Hospital affiliated to Fudan University); Kong Min (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Li Zhili (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Liu Xiaoju (First Hospital of Lanzhou University); Liu Yuchun (Yuetan Community Health Service Center of Fuxing Hospital of Capital Medical University); Luo Fengming (West China Hospital, Sichuan University); Wang Li (Beijing Fengtai Fangzhuang Community Health Service Center of Beijing University of Chinese Medicine); Wang Wei (China Medical University First Hospital); Wei Xuejuan (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Wu Hao (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Yang Hongyan (Beijing Haidian Beitapingzhuang Community Health Service Center); Yang Ting (China-Japan Friendship Hospital); Yao Mi (University of Birmingham in UK); Yu Xiaoyi (Beijing Fengtai Fangzhuang Community Health Service Center of Capital Medical University); Zhao Jianping (Tongji Hospital affiliated to Huazhong University of Science & Technology); Zhao Liang (Zhuanqiao Community Health Service Center, Minhang District, Shanghai); Zheng Zeguang (First Affiliated Hospital of Guangzhou Medical University and Guangzhou Respiratory Health Research Institute)

Proofreading experts: Wu Hao, Yang Ting, Chi Chunhua and Wang Chen

Secretaries: Gao Chang (Peking University First Hospital); Liao Jiping (Peking University First Hospital); Chen Jie (Yuetan Community Health Service Center of Fuxing Hospital of Capital Medical University)

Translators (in alphabetical order of surnames): Chen Jie, Chen Yahong, Chi Chunhua, Ding Jing, Fang Lizheng, Gao Chang, Huang Ke, Huang Kewu, Jie Zhijun, Liao Jiping, Liu Xiaojun, Luo Fengming, Wang Wei, Yang Ting, Yao Mi, Zhao Jianping, Zheng Zeguang

Conflict of interest: All authors declare that there is no conflict of interest.

Support: This translation is funded by GlaxoSmithKline (China) Investment Co., Ltd. The funder has no influence on the translation content.

References

- [1] National Health Commission. Notice on Printing and Issuing of the Diagnosis and Treatment Plan for COVID-19 (7th Trial Edition). [EB/OL].(2020-03-04)[2020-03-04].<http://www.nhc.gov.cn/yzygj/s7653p/202003/46c9294a7dfe4cef80dc7f5912eb1989.shtml>.
- [2] National Health Commission. Guidelines for Protection of Different Risks of COVID-19 Infections [EB/OL].(2020-01-30)[2020-02-19].<http://www.nhc.gov.cn/jkj/s7916/202001/a3a261dabfcf4c3fa365d4eb07ddab34.shtml>.
- [3] National Health Commission. Notice of the General Office of the National Health Commission on Printing and Issuing of Technical Guidelines (1st Edition) for Prevention and Control of COVID-19 Infections in Medical Institutions [EB/OL].(2020-01-22)[2020-02-19].<http://www.nhc.gov.cn/yzygj/s7659/202001/b91fab7c304431eb082d67847d27e14.shtml>.
- [4] General Office of National Health Commission. Notice of the General Office of the National Health Commission on Printing and Issuing of the Prevention and Control Plan of COVID-19 Infections (6th Edition) [EB/OL].(2020-03-07)[2020-03-07].<http://www.nhc.gov.cn/jkj/s3577/202003/4856d5b0458141fa9f376853224d41d7.shtml>.
- [5] National Health Commission. Guidelines for Home Isolation and Medical Observation in Prevention and Control of COVID-19 (Trial) [EB/OL].(2020-02-04)[2020-02-19]. <http://www.nhc.gov.cn/yzygj/s7659/202002/cf80b05048584f8da9b4a54871c44b26.shtml>.
- [6] National Health Commission. Notice of the Primary Care Department of the National Health Commission on Further Prevention and Control of COVID-19 in Primary Care Institutions [EB/OL].(2020-01-31) [2020-02-19].<http://www.nhc.gov.cn/jws/s3581/202001/a16388ffe4a04d59b7df8e202a8aab16.shtml>.
- [7] National Health Commission. Diagnosis and Treatment Plan for COVID-19 (6th Trial Edition) [EB/OL].(2020-02-18)[2020-02-19].<http://www.nhc.gov.cn/yzygj/s7653p/202002/8334a8326dd94d329df351d7da8aefc2.shtml>.
- [8] National Health Commission. Work Plan for Transfer of COVID-19 Patients (Trial) [EB/OL].(2020-01-27)[2020-02-19].<http://www.nhc.gov.cn/yzygj/s7653p/202001/ccee6ec0942a42a18df8e5ce6329b6f5.shtml>.
- [9] The General Office of the Ministry of Civil Affairs, the Secretariat of the Central Network Information Office, the General Office of the Ministry of Industry and Information Technology, etc. Notice on the Printing and Issuance of the "Guidelines for the Construction and Application of the Informationization of COVID-19 Community Prevention and Control [EB / OL]. (2020-03-02)[2020-03-07]. <http://www.nhc.gov.cn/jkj/s3577/202003/4856d5b0458141fa9f376853224d41d7.shtml>.
- [10] General Office of National Health Commission. Notice of the General Office of the National Health Commission on Notice of the General Office of the National Health and Health Commission on Internet Diagnosis and Consulting Services in COVID-19 Prevention and Control [EB/OL].(2020-02-06) [2020-02-22]. <http://www.nhc.gov.cn/yzygj/s7653p/202002/ec5e345814e744398c2adef17b657fb8.shtml>.
- [11] Department of Primary Health of the National Health Commission. Notice of the Department of Primary Health of the National Health Commission on Further Strengthening of Preventing and Controlling COVID-19 Outbreak by Primary Medical and Health Institutions [EB/OL].(2020-01-31)[2020-02-22]. <http://www.nhc.gov.cn/jws/s3581/202001/a16388ffe4a04d59b7df8e202a8aab16.shtml>.
- [12] General Office of National Health Commission. Notice of the General Office of the National Health Commission on the National Teleconsultation of COVID-19 Severe and Critical Patients at the National Telemedicine and Connected Health Center [EB/OL].(2020-02-21)[2020-02-22]. <http://www.nhc.gov.cn/yzygj/s7658/202002/69b24672365043eebc379c8bab30c90d.shtml>.
- [13] General Office of National Health Commission. Notice of the General Office of the National Health Commission on Strengthening Informationization to Support the Prevention and Control of COVID-19 Outbreak [EB/OL]. (2020-02-03) [2020-02-22]. <http://www.nhc.gov.cn/guihuaxxs/gon11/202002/5ea1b9fca8b04225bbaad5978a91f49f.shtml>.

Notes

The Recommendations was published on March 4, 2020, and Chinese Medical Association holds the copyright. The Chinese Medical Journals Publishing House authorized IPCRG to translate it in English. As the constant updating of research and knowledge about COVID-19 infections, please refer to the Guidelines on the COVID-19 Diagnosis and Treatment (7th Trial Edition) if you encounter any questions.