



四川大学
SICHUAN UNIVERSITY

后疫情时代的公共卫生

Public Health in the Post-Epidemic Era

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1

认识公共卫生

Understanding public health

一、公共卫生定义及内涵

Definition and meaning of public health

什么是公共卫生？

What is public health?

世界上本没有公共卫生，公共卫生因人类病苦而诞生，为所有人健康而立命，在社会危难时刻壮大，这是公共卫生最简明的历史。公共卫生骨子里含着**利他主义精神**，从来都不是单纯的医学问题。

Public health was born out of human misery, was established for the health of all people, and grew in times of social distress – this is its most concise history. Public health has a spirit of altruism in its bones and has never been a purely medical issue.





中国公共卫生起源

Origin of public health in China

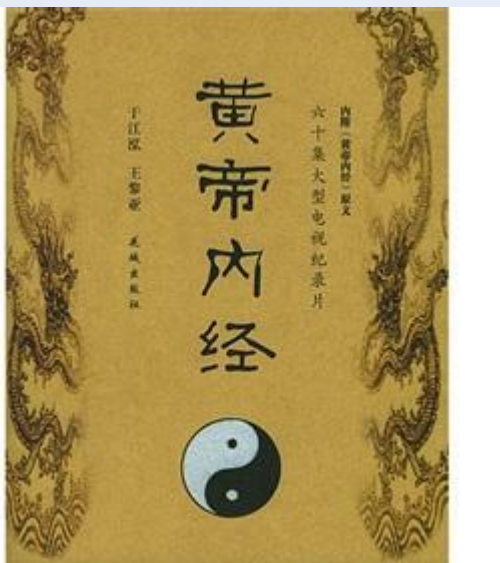
什么是公共卫生？ What is public health?

- 扁鹊见蔡恒公、魏文王
“君子治未病”

“The gentleman treats the sick before they get sick.”

中国上千年来就有了大医治未病、疾病预防在先的思想。

For thousands of years, China has had the idea of treating diseases before they are cured and disease prevention first.



——17世纪的欧洲，工业革命与城镇化，大量农民从乡村赶到了城市，散在的小作坊逐步演变为林立的大工厂。

In Europe in the 17th century, the industrial revolution and urbanisation saw the movement of large numbers of peasants from the countryside to the cities, and the gradual evolution of small, scattered workshops into large factories.



——大量人群集聚，居住密集，超时劳动，营养不良，粪便没有无害化处理，垃圾堆积如山，蚊蝇孳生，饮水污染。
Large crowds of people, dense housing, overtime work, malnutrition, untreated faeces, piles of rubbish, mosquitoes and flies and polluted drinking water.

——伤寒、霍乱、痢疾等疾病流行，肺结核等疾病蔓延。（19世纪至20世纪，发源于恒河三角洲的霍乱7次在全球流行，夺走了数百万人的生命，至今仍是部分发展中国家的健康“杀手”）

Epidemics of typhoid, cholera, dysentery and tuberculosis. (Between the 19th and 20th centuries, cholera, which originated in the Ganges Delta, was endemic worldwide seven times, claiming millions of lives, and remains a health 'killer' in some developing countries)

可见，疾病流行是工业化、城镇化加快所至。

Therefore, the disease epidemic is the result of accelerated industrialisation and urbanisation.

西方国家早期的公共卫生做了什么？

What did early public health in western countries do?

开始环境卫生整治：

改善居住和营养条件，净化消毒饮水，建立上、公水道，垃圾粪便处理，控制蚊蝇孳生。

Environmental sanitation improvement: To improve living and nutritional conditions, purify and disinfect drinking water, deal with garbage and feces, and control mosquitoes and flies.



公共卫生建立发展：

Establishment and development of public health:

与传染病斗争——流行病学，消毒、杀虫、灭鼠；发明疫苗；预防接种；检验检疫等。

Fight against infectious diseases — epidemiology, disinfection, insecticidal and deratization; Invention of vaccines; Vaccination; Inspection and quarantine, etc.

改善劳动条件、防治职业病发生——劳动卫生、职业卫生、职业医学。

Improve working conditions and prevent occupational diseases — labor health, occupational health and occupational medicine.

改善营养不良和营养缺乏症——营养与食品卫生。

Improve malnutrition and nutritional deficiencies — nutrition and food hygiene.

以人为本，全方位研究关怀生老病死——预防保健、围产医学、妇幼保健、学校卫生、老年保健等。

Lifecourse researches—Preventive health care, perinatal medicine, maternal and child health care, school health, elderly health care, etc.



1920年，耶鲁大学教授温思络（Winslow）定义，公共卫生是通过有组织的社区努力来预防疾病、延长寿命、促进健康和提高效益的科学和艺术：

In 1920, Yale University Professor Winslow defined public health as the science and art of preventing disease, prolonging life, promoting health and improving efficiency through organized community efforts.

（1）公共卫生的使命在于？ 疾病未发生时如何预防，疾病已经发生时如何尽早发现、尽早治疗、尽快康复，无论是否发生疾病，提高生命每一天的质量。

What is the mission of public health? How to prevent disease when it has not yet occurred and how to detect it early, treat it early and recover as quickly as possible when it has already occurred, improving the quality of life every day, whether or not it occurs.

（2）公共卫生所有的实践都要有科学证据的支持。证据从哪来？ 从公共卫生研究来，从对疾病的认知和对危险因素的判断来。

All practice in public health has to be supported by scientific evidence. Where does the evidence come from? Public health research, knowledge of disease and judgement of risk factors.

（3）公共卫生强调全社会群体作战。

Public health emphasises whole society group combat.

(4) 对公共卫生职能的思索：2002年世界卫生组织提出, 过去的公共卫生系统基本上是为应付传染病设立的, 已不能满足当前的需要。

Rethinking the public health: In 2002, the WHO suggested that the public health system, which had been set up essentially to deal with infectious diseases, was no longer adequate to meet current needs.

(5) 进入20世纪：随着公共卫生的发展和加强，急性传染病逐渐得到有效的控制甚至消灭，人群健康得以改善，寿命得以延长。随着物质生活的丰富和生产方式的改变，饮食结构改变，不良生活方式，各种环境污染，慢性病防治在公共卫生中所占比例逐渐增大。

In the 20th century: with the development and strengthening of public health, acute infectious diseases were gradually and effectively controlled or even eliminated, the health of the population improved and life expectancy increased. With the enrichment of material life and changes in production methods, dietary changes, poor lifestyles and various environmental pollutions, the prevention and control of chronic diseases gradually took on a larger proportion of public health.



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美国卫生研究所的定义，1988

Definition of Public health, the American Institute of health in 1988

- 公共卫生就是我们作为一个社会为保障人人健康的各种条件所采取的集体行动.
- Public health is the collective action we take as a society to secure the conditions of health for all.



现代公共卫生的职能(美国)1995

The function of modern public health (USA) in 1995

公共卫生部门履行三个公共卫生的职能和十项必需的服务

The public health department performs three public health functions and ten necessary services

评估 (assessment)

1) 监控卫生状况, 鉴别社会的卫生问题

Monitor health status and identify social health problems

2) 诊断和研究社会的卫生问题和卫生危害

Diagnose and study social health problems and health hazards

发展卫生政策
(development)

3) 告知和教育人们有关的卫生问题

Inform and educate people about health issues

4) 动员社会成员鉴别和解决卫生问题

Mobilize social members to identify and solve health problems

5) 制订政策和计划, 支持个人和社区的成员为健康而努力

Develop policies and plans to support individuals and community members in their efforts for health.

保证 (assurance)

6) 执行法律和规章, 保护健康, 保证安全

Implement laws and regulations, protect health and ensure safety.

7) 保证提供综合卫生服务

Ensure the provision of comprehensive health services.

8) 保障合格的公共卫生和医疗服务的人力资源

Secure qualified human resources for public health and medical services.

9) 评估个体和群体的卫生服务的效率、可及性和质量

Assess the efficiency, accessibility and quality of individuals and group health services.

10) 研究和创新解决卫生问题的方法

Research and innovate methods to solve health problems.

时任国务院副总理兼卫生部部长吴仪提出：

Wu Yi, Vice Premier of the State Council and Minister of health, proposed:

公共卫生：是组织社会共同努力，改善环境卫生条件，预防控制传染病和其他疾病流行，培养良好卫生习惯和文明生活方式，提供医疗服务，达到预防疾病，促进人民身体健康的目的。

Public health is to organize society to make joint efforts to improve environmental health conditions, prevent and control the prevalence of infectious diseases and other diseases, cultivate good health habits and civilized lifestyle, and provide medical services to prevent diseases and promote people's health.

公共卫生目标：始终没有改变，仍是减少疾病、早死和因病所致的伤残。

The goal of public health remains unchanged and remains to reduce disease, early death and disability caused by diseases.

非典后疫情期的公共卫生 Public health in Post SARS epidemic period

公共卫生基本任务 Basic tasks of public health

——预防控制疾病和伤残 、应对突发公共卫生事件、应对长期存在的公共卫生问题。

Prevent and control diseases and disabilities, respond to public health emergencies and long-standing public health problems.

——改善与健康相关的自然和社会环境。

Improve the health-related natural and social environment.

——提供预防保健与必要的医疗服务、常规的预防保健服务 、对特殊人群和弱势群体提供的预防保健服务、必要的医疗服务。

Provide preventive health care and necessary medical services, routine preventive health care services, preventive health care services for special and vulnerable groups, and necessary medical services.

——培养公众健康素养、伦理、知识、行为、价值观。

Cultivate public health literacy, ethics, knowledge, behavior and values.

---公共事业相关的属性：公有、公用、公益

Attributes related to public utilities: public owned, public used and public welfare

---对政治的敏感性：双刃剑

Sensitivity to politics: a double-edged sword

---对科学的依赖性：自然科学 & 社会科学

Dependence on science: Natural Science & Social Science

---对公众参与的需求性：公开、透明、广泛参与

Demand for public participation: open, transparent and extensive participation

结论

Conclusion

公共卫生产生的原因是：健康的影响因素众多，涉及社会制度、经济、文化、法律、卫生状况、以及个人心理、行为习惯等多个方面，因此需要调动社会力量、发挥群体优势，就产生公共卫生学和公共卫生工作。

The reason for the emergence of public health is that there are many influencing factors of health, including social system, economy, culture, law, health status, personal psychology and behavior habits. Therefore, it is necessary to mobilize social forces and give full play to group advantages to produce public health and public health work.

公共卫生基本任务就是维护公众群体健康。

The basic task of public health is to maintain the health of public groups.

它的建立发展： --与传染病斗争，消毒、杀虫、灭鼠；预防接种；检验检疫等
To fight infectious diseases, disinfect, kill insects and rats; Vaccination; Inspection and quarantine, etc.

--改善劳动条件，防治职业病发生：劳动卫生、职业卫生、职业医学
Improve working conditions and prevent occupational diseases: labor health, occupational health and occupational medicine

--改善营养不良和营养缺乏症：营养与食品卫生
Improving malnutrition and malnutrition: nutrition and food hygiene

--以人为本，全方位研究关怀生老病死：预防保健、围产医学、妇幼保健、学校卫生、老年保健等等
Lifecourse researches: preventive health care, perinatal medicine, maternal and child health care, school health, elderly health care, etc

《中国公共卫生》定义 Definition of public health in China

公共卫生是以保障和促进公众健康为宗旨的公共事业。

Public health is a public undertaking aimed at ensuring and promoting public health.

通过国家和社会共同努力，以实现：

Achieve through the joint efforts of countries and society:

- 预防和控制疾病与伤残
- Prevention and control of disease and disability
- 改善与健康相关的自然和社会环境
- Improving the health-related natural and social environment
- 提供预防保健与必要的医疗服务
- Provide preventive health care and necessary medical services
- 培养公众健康素养
- Cultivate public health literacy
- 创建人人享有健康的社会
- Creating a healthy society for all

公共卫生安全：即是保障公众生命健康不受威胁和侵害

Public health safety: that is to ensure that public life and health are not threatened and infringed.

➤ N01. 疫苗的发现 and 扩大使用

近10年来，通过增加麻疹疫苗、脊髓灰质炎疫苗和百白破疫苗的覆盖率，估计每年使250万名5岁以下儿童免于死亡。2000~2008年，麻疹疫苗覆盖率的扩大使得麻疹死亡率下降78%；仍有脊髓灰质炎流行的国家由20个减少到4个，2010年报告的病例数不到1,500例。

N01. Discovery and expanded use of vaccines

In the past 10 years, by increasing the coverage of measles vaccine, polio vaccine and DPT vaccine, it is estimated that 2.5 million children under the age of 5 have been saved from death every year. From 2000 to 2008, the expansion of measles vaccine coverage reduced measles mortality by 78%; The number of polio endemic countries decreased from 20 to 4, and the number of cases reported in 2010 was less than 1500.

爱德华·詹纳

从一位患有牛痘的挤奶女工身上取下疱液，接种到一个8岁男孩的手臂上，然后再让他接种天花胞液，结果男孩并未感染天花。
发现了牛痘！



No. 2 减少儿童死亡

5岁以下儿童的死亡率是一个国家卫生和发展水平的重要标志。这一人群的死亡68%由感染性疾病所致，尤其是腹泻、肺炎、疟疾和艾滋病。儿童死亡率下降主要是由于对儿童感染性疾病的防治加强。

No. 2 Reducing children' s mortality:

The mortality rate of children under 5 years old is an important indicator of a country' s health and development level. 68% of the deaths were caused by infectious diseases, especially diarrhea, pneumonia, malaria and AIDS. The decrease in child mortality is mainly due to the strengthening of prevention and treatment of infectious diseases in children.

No. 3 确保饮水安全

每年发生约25亿例次饮水相关性腹泻，居全球儿童死亡原因的第2位。2000~2008年，但能获得清洁饮水的人口比例增加更快，由83%增至87%。居住环境安全卫生的人口比例亦由58%增至61%。

No.3 ensure drinking water safety:

About 2.5 billion cases of drinking water-related diarrhea occur every year, resulting in 1.5 million deaths of children under the age of 5, ranking the second cause of death of children in the world. From 2000 to 2008, the proportion of people with access to clean drinking water increased faster, from 83% to 87%. The proportion of the population living in a safe and hygienic environment also increased from 58% to 61%.

No. 4 预防控制疟疾

疟疾在全球感染性疾病死亡中居第5位，在非洲则仅次于艾滋病。过去10年间，全球疟疾病例由高峰(2005年)时的2.44亿例减少至2009年的2.25亿例，疟疾死亡例数由98.5万减至78.1万。

No. 4 Malaria prevention and control:

Malaria ranks fifth among the world 's leading infectious diseases, while Africa ranks second only to AIDS. Over the past 10 years, global malaria cases have decreased from 244 million at the peak (2005) to 225 million in 2009, and the number of malaria deaths has decreased from 985,000 to 781,000.

No.5 防控艾滋病

HIV流行仍是重要的全球公共卫生问题，90%的发现，90%的抗病毒治疗和90%治疗成功率有效减少艾滋病的传播。上述改善与提供初步HIV检测和咨询、预防母婴传播、使用避孕套、确保输血安全和抗逆转录病毒治疗等有密切关系。

No. 5 prevention and control of AIDS:

The prevalence of HIV is still an important global public health problem. 90% of the findings show that 90% of antiviral treatment and 90% treatment success rate effectively reduce the spread of AIDS. These improvements are closely related to the provision of initial HIV testing and counseling, the prevention of mother to child transmission, the use of condoms, ensuring the safety of blood transfusion, and antiretroviral treatment.

No. 6 控制结核

2015年，全球结核病死亡例数将比1990年减少50%。世界卫生组织(WHO)倡导的直接观察、短程治疗(DOTS)策略在控制结核病方面发挥了重要作用，且具有很好的成本效益比。

No. 6 tuberculosis control:

In 2015, the number of deaths from TB worldwide will be reduced by 50% over 1990. The direct observation and short range treatment (DOTS) strategy advocated by WHO has played an important role in the control of tuberculosis and has a good cost-effectiveness ratio.

No. 7 控制热带病

全球约有10亿人受到常被忽视的热带病的威胁，其中3种已被列为消灭对象：龙线虫病(几内亚线虫病)、盘尾丝虫病(河盲症)和淋巴丝虫病。

No. 7 control of tropical diseases:

About 1 billion people around the world are threatened by often neglected tropical diseases, three of which have been listed as eradication targets: dracunculiasis (Guinea nematode disease), onchocerciasis (river blindness) and lymphatic filariasis.

No.8 控烟

2019年，控烟行动被纳入健康中国15个专项行动中。“全面无烟法规”保护的人口比例增至11.33%。

No.8 tobacco control:

In 2019, tobacco control action was included in 15 special actions of healthy China “ The proportion of the population protected by the “comprehensive smoke-free regulations” increased to 11.33%.

No.9 加强道路安全

每年全球仍有约130万人死于交通事故(每天3,000人)，其中90%发生在中低收入国家。道路交通安全改进包括道路和车辆设计、速度控制、安全带和安全帽的使用、改善公共交通、遏制酒后驾车等。

No.9 strengthening road safety:

About 1.3 million people still die in traffic accidents worldwide every year (3000 per day), 90% of which occur in low - and middle-income countries. Road traffic safety improvement includes road and vehicle design, speed control, the use of safety belts and helmets, improving public transport, curbing drunk driving, etc.



公共卫生的意义 Significance of public health

公共卫生上游筑坝

Damming upstream of public health

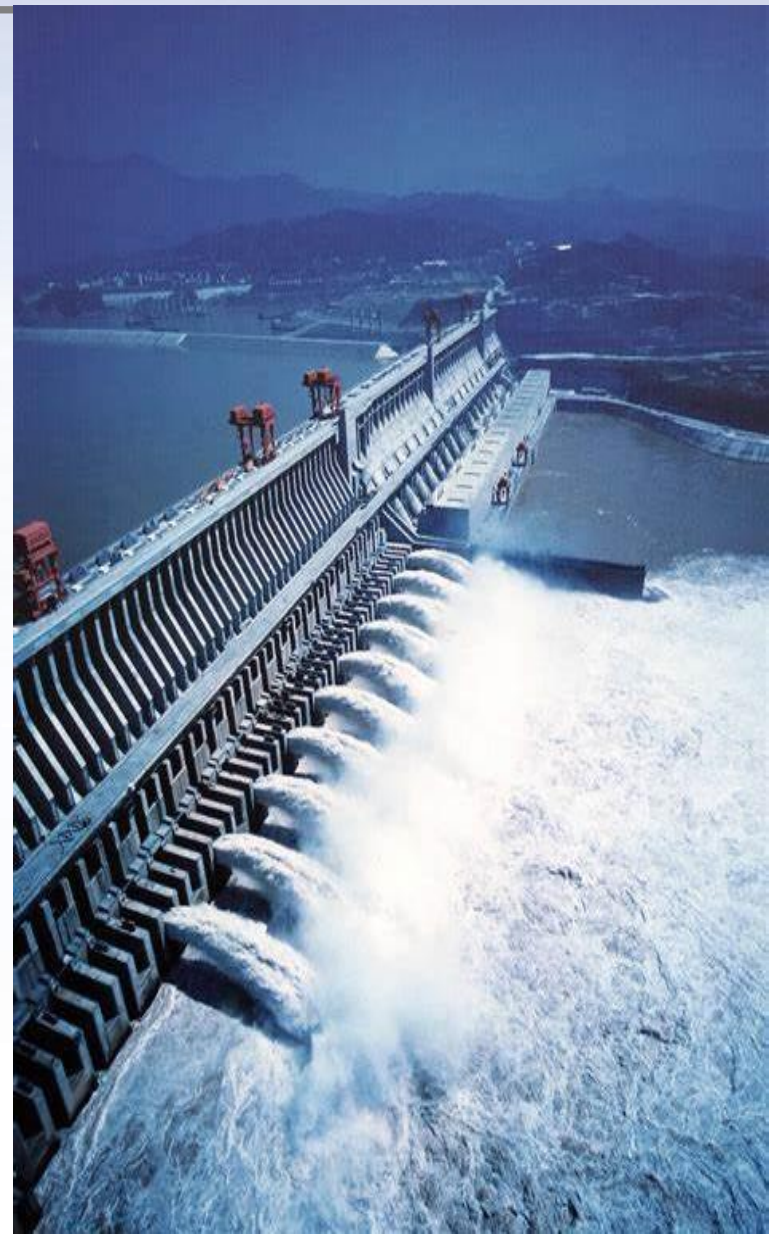
- 从源头控制健康危险因素
- Control health risk factors from the source
- 减少发病、延缓重病
- Reduce morbidity and delay serious diseases
- 增加上游健康人群，减少下游疾病人群
- Increase the upstream healthy population and reduce the downstream disease population

控制疾病增量，降低疾病负担

Control disease increment and reduce disease burden

医疗卫生体系减负、提质、增效

Reducing burden, improving quality and increasing efficiency of the medical and health system



• 第一级预防

• Primary prevention

◆ 指针对病因所采取的预防措施:

Refers to the preventive measures taken for the cause of disease:

◆ 改善环境措施

Environmental improvement measures

◆ 增进健康措施

Health promotion measures

- 保护生活环境
- Protect living environment
- 减少或消除生产环境危害
- Reduce or eliminate production environment hazards
- 创造并维护有益于身心健康的社会条件
- Create and maintain social conditions conducive to physical and mental health

- 开展健康教育，培养良好的行为与生活方式
- Carry out health education and cultivate good behavior and lifestyle
- 预防接种 Vaccination
- 预防遗传性疾病 Prevention of genetic diseases
- 做好人群保健工作 Do a good job in population health care





•第二级预防 •Secondary prevention

◆在疾病的临床前期做好早期发现、早期诊断、早期治疗（三早），以控制疾病的发展和恶化，防止疾病的复发或转化为慢性。

Do a good job in early detection, early diagnosis and early treatment (three early) in the early clinical stage of the disease, so as to control the development and deterioration of the disease and prevent the recurrence or transformation of the disease into chronic disease.

- 向群众进行健康教育，提高群众预防疾病的知识水平
- Carry out health education to the masses and improve their knowledge of disease prevention
- 加强医务人员的责任心，努力提高诊断水平
- Strengthen the sense of responsibility of medical staff and strive to improve the level of c
- 发展和研究疾病早期检测手段及技术
- Develop and study the means and technology of early detection of diseases
- 执行疾病报告制度
- Implement disease reporting system

•第三级预防

•Tertiary prevention

- 又称临床预防.

- The third level prevention is also called clinical prevention.

- 对已患某些病者，采取及时的、有效的治疗措施，防止病情恶化，预防并发症和伤残.

- Take timely and effective treatment measures for those who have suffered from some diseases to prevent the deterioration of the condition and prevent complications and disability.

- 对已丧失劳动能力或残废者，主要促使功能恢复、心理康复，进行家庭护理指导，使病人尽量恢复生活和劳动能力，并能参加社会活动及延长寿命.

For those who have lost their ability to work or are disabled, mainly promote functional recovery and psychological rehabilitation, and provide family nursing guidance, so that patients can restore their life and working ability as much as possible, participate in social activities and prolong their life.



2020年1月23日新冠肺炎疫情从反面证明公共卫生的价值

Covid-19 in January 23, 2020 confirms the value of public health from the negative side

• 对经济的影响包括:

- 治疗的直接成本,
- 政府, 社会和个人防疫的直接成本,
- 疫情导致的经济活动量下降而造成的经济损失,
- 疫情不稳定性造成交易成本上升,
- 人民生活质量下降的成本,
- 纠正偏离正常政治, 经济, 社会, 学习, 生活轨道的成本,
- 国家形象受损的成本。

The impact on the economy includes:

- The direct cost of treatment,
- The direct cost of government, society and personal epidemic prevention,
- Economic losses caused by the decline in economic activity caused by the epidemic,
- The instability of the epidemic has increased transaction costs,
- The cost of the decline in people's quality of life,
- Correct the cost of deviating from the normal political, economic, social, learning and life track,
- The cost of damaging the national image



公共卫生需要实现的目标和愿景

保障人民群众健康和维护国家
安全

Safeguard people's health and
national security

以人才建设为根本，以能力提升为核心，以科技创新为动力
Take talent construction as the foundation, ability improvement as the core and scientific and technological innovation as the driving force

建设成为机构职能清晰、部门协调顺畅、人才结构合理、机制运行高效，充分体现政府公共卫生职能和预防医学学科发展方向，适应中国特色社会主义新时代发展需要的国际一流疾控体系
Build a world-class disease control system with clear institutional functions, smooth departmental coordination, reasonable talent structure and efficient mechanism operation

实现疾病事件的灵敏监测、病因的快速识别、健康影响的准确评价、防护措施的有效实施
Realize sensitive monitoring of disease events, rapid identification of etiology, accurate evaluation of health impact and effective implementation of protective measures

积极推动全球卫生治理

新冠肺炎疫情再次表明，人类是一个**休戚与共的命运共同体**。国际社会应该守望相助、同舟共济。我们愿同世界卫生组织及各国一道，为**维护全球公共卫生安全**作出贡献。

—3月26日习近平复信世界卫生组织总干事谭德塞

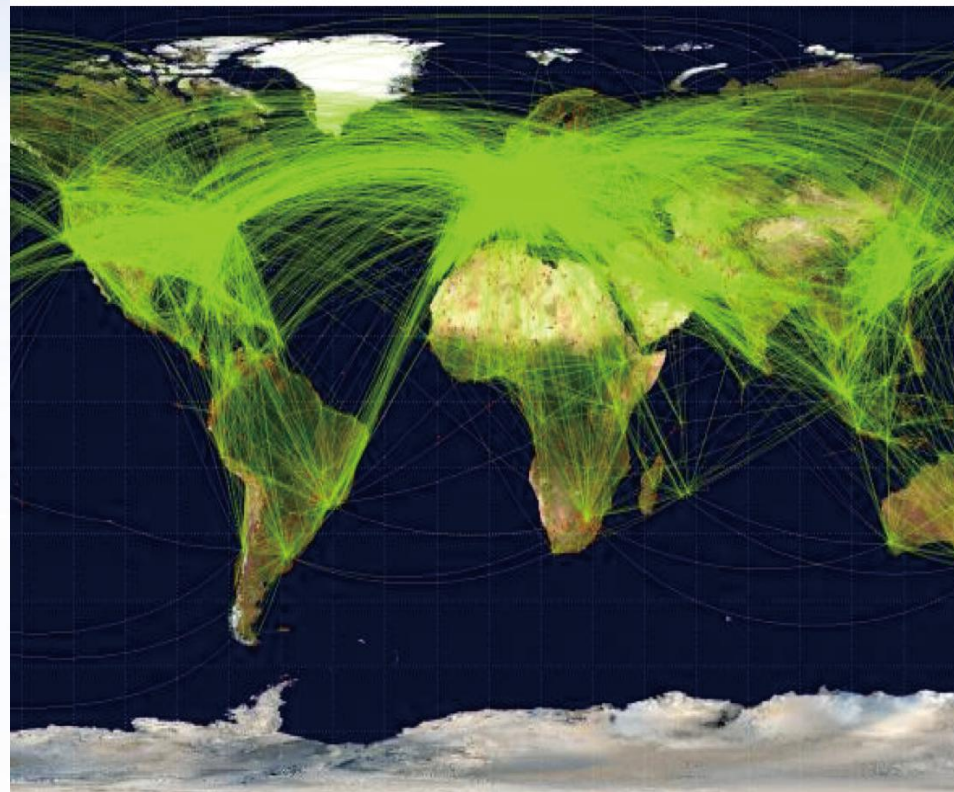
The COVID-19 epidemic situation once again shows that mankind is a community of common destiny. The international community should help each other and help each other in the same boat. We are willing to work with the World Health Organization and other countries to contribute to the maintenance of global public health security.

President Xi Jinping replied to WHO director general Tan Desai

全球新冠肺炎疫情的严峻形势，更加突显了加强全球公共卫生治理的重要性和紧迫性。

- 这既是维护我国的公共卫生安全
- to maintain China's public health security
- 也是维护我国在外公民健康安全
- To safeguard the health and safety of Chinese citizens abroad

Global air travel map, 2013



传染病无国界，世界上90%的地区在48小时内均可到达
Infectious diseases have no borders, and 90% of the world can be reached within 48 hours

时代将以新冠疫情划分：**疫情后时代**，**因为中国的公共卫生体系使得中国国际地位是上升了，中国离民族复兴的时间是更近了。**

The era will be divided by COVID-19: Post epidemic era, because China's public health system has made China's international status rise, and China is closer to national revival.





谢谢聆听！

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