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THE GOVERNMENT OF THE
REPUBLIC OF KOREA

Message from the Commissioner

As we reflect on the past three years of fighting against COVID-19 pandemic, we look to the future from a critical juncture. The world is adapting to a new reality and building on the lessons learned to prepare for what lies ahead.

The Republic of Korea's effective response to COVID-19, based on a comprehensive 3T strategy to manage the initial outbreak, has received international acclaim. Our success was not a matter of luck, but rather the result of insights gained from past experiences, including the 2015 MERS outbreak.

We should recognize that emerging health threats in the near future may surpass the scale of COVID-19. No matter how well we prepare, unexpected challenges will inevitably arise, and the recent pandemic has highlighted the need to strengthen our infrastructure and strategies for preparing and responding.

The pandemic has taught us valuable lessons that we need to build on our learnings to develop a comprehensive plan to respond to emerging infectious diseases. Recognizing this imperative, the Republic of Korea has announced the National Pandemic Preparedness and Response Plan (2023-2027). There are three strategic goals to fulfill the vision of this plan;

To realize a safe society through agile, collaborative, and resilient emergency response to pandemics.

- Secure essential medical countermeasures, including vaccines and therapeutics within 100 or 200 days.
- Strengthen and maintain high-level response capacity for sustainable pandemic management.
- Prioritize the health and safety of vulnerable populations to minimize health inequities.

COVID-19 has highlighted the importance for collaboration and adaptability in our response efforts. Each country has unique experiences and valuable insights, but by pooling our collective wisdom, we can accelerate our preparedness for future pandemics and minimize mistakes. In this spirit, the Republic of Korea is committed to sharing our insights and learning from the international community for the benefit of all.

Although the Public Health Emergency of International Concern (PHEIC) has ended, we are not free from the shadow of the COVID-19 pandemic. Risks persist, and we must maintain unwavering vigilance and preparedness. The Korea Disease Control and Prevention Agency (KDCA) will work closely with national and international partners to ensure the health and well-being of our people and the global community.

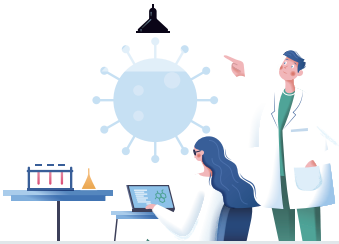
Youngmee Jee MD. PhD
Commissioner of the Korea Disease Control and Prevention Agency

Introduction

In recent decades, there has been a worrying increase in the emergence and resurgence of infectious diseases around the world. This evolving challenge has highlighted the critical need for unwavering pandemic preparedness. The Republic of Korea, ever vigilant in response, continuously strengthened pandemic preparedness and response capabilities to address imminent outbreaks. The ROK's existing pandemic response framework has evolved from lessons learned through historical experiences, notably the outbreaks of SARS in 2003, H1N1 influenza in 2009, MERS in 2015, and the COVID-19 pandemic that began in 2019. Each of these events provided invaluable insights, revealed areas of improvement, and led to subsequent enhancements in our public health framework.

However, the profound impact of the COVID-19 pandemic starkly highlights the urgent need for a fundamental shift in our pandemic response strategy. Despite the significant improvements we've achieved over the years, the scale of the recent crisis has made it undeniably evident that our existing capabilities are inadequate. The pandemic also underlines that its impact is not limited to health, but also poses a significant threat to national and societal security. This realization emphasizes that, in addition to addressing vulnerabilities in specific sectors, a comprehensive restructuring of the societal system is essential to ensure a strengthened defense against future potential pandemics.

In recognition of these imperatives, the Republic of Korea is introducing the National Pandemic Preparedness and Response Plan (2023-2027), which was developed from insights gained during the COVID-19 ordeal. This comprehensive plan comprises 24 tasks and 79 sub-tasks across five key areas, all aimed at safeguarding our society from the threats of infectious diseases. In this summary report, we highlight the 10 core tasks that require immediate and focused attention. Through undergoing these tasks, we will pave the way for a more resilient future to be better prepared to tackle major potential health threats ahead.



[Lessons from the COVID-19 Pandemic]

1. **Improve Surveillance & Laboratory Systems**: In our pursuit of enhanced pandemic preparedness, we must develop and implement a range of surveillance systems for earlier and more sensitive detection of outbreaks. In parallel, advances in laboratory techniques are essential to rapidly detect and respond to unanticipated diseases, often referred to as Disease X. In addition, strengthening the global surveillance network is vital for timely data exchanges, including genomic data and pathogens.

2. **Prioritize Agile & Proactive Initial Outbreak Management**: The rapid spread of emerging infectious diseases, epitomized by COVID-19, underscores the importance of rapid and proactive actions. By continuously improving our initial response strategy, in particular the 3T (Testing - Tracing – Treatment) strategy, we are enhancing our ability to control spread and reduce impact, even before medical countermeasures such as vaccines are introduced.

3. **Bolster Health System Resilience**: In the wake of COVID-19, which strained our health systems with the unprecedented number of cases, it became clear that we need a robust health and medical infrastructure that is ready and equipped to face even larger epidemics.

4. **Refine Governance & Legal Foundations**: Effective outbreak response requires a collective effort from all sectors of society to work together seamlessly. Only by continuously improving our governance systems and legal frameworks can we facilitate the level of cooperation needed to arm ourselves against the complexities of impending pandemics.

5. **Promote Socioeconomic Measures & Foster Public Trust**: Epidemics like COVID-19 cast long shadows and have far-reaching societal impacts, especially on our most vulnerable populations. In the face of these challenges, we must reinforce the social, economic, and welfare framework, safeguarding those at risk and diminishing inequaliities. Additionally, transparent and evidence-informed risk communication should stand at the forefront of building and retaining public trust.

6. **Champion R&D Investments**: Strategic investment in basic and applied research is critical in our fight against emerging infectious diseases. This commitment paves the way for transformative solutions, such as mRNA vaccines, which ultimately contribute to reducing the impact and duration of health crises.

Strategic Framework for Pandemic Preparedness and Response

VISION · GOALS

Realizing a Safe Society through Agile, Collaborative, and Resilient Emergency Response to Pandemics

- Secure essential medical countermeasures, including vaccines and therapeutics, within 100 or 200 days
- Strengthen and maintain high-level response capacity for sustainable pandemic management
- Prioritize the health and safety of vulnerable populations to minimize health inequities

BASIC PRINCIPLES

- Evidence-based decision making
- Proactive measures
- Scalable risk management
- A Whole-of-society approach

Ten Core Tasks

[Area 1] Surveillance and Prevention	1 Developing comprehensive surveillance systems for early infectious disease outbreaks detection
	2 Strengthening global health security through multilevel collaborations
[Area 2] Preparedness and Response	3 Implementing effective measures for a swift initial response to control and limit the spread of the epidemic
	4 Enhancing healthcare systems, including ICU beds and isolation rooms
	5 Reinforcing the medical and public health workforce to address large-scale, prolonged epidemics
	6 Improving infection prevention and control in long-term care facilities to safeguard vulnerable populations
[Area 3] Infrastructure	7 Establishing robust governance mechanisms and legal frameworks designed to enhance intersectoral collaboration
	8 Creating an advanced information system and big data platform to improve decision-making process
[Area 4] Resolution	9 Optimizing financial and welfare support systems to minimize damage and hasten economic revival
[Area 5] Research and Development	10 Reforming the R&D support system to expedite the development of vaccines and therapeutics

01 Developing comprehensive surveillance systems for early infectious disease outbreaks detection

01 Enhance Existing Surveillance Systems

- Expand Event-Based Surveillance (EBS) for global outbreaks by incorporating resources, including the WHO's Epidemic Intelligence from Open Sources (EIOS) and a variety of sources of non-English origin.
- Strengthen sentinel surveillance for respiratory infections, such as ILI, ARI, and SARI, by increasing institutional participation and ensuring broader geographical coverage.
  * ILI: Influenza-like Illnesses, ARI: Acute Respiratory Infections, SARI: Severe Acute Respiratory Infections
- Enhance pathogen and genomic surveillance to enable timely detection of novel or variant pathogens and implement syndromic surveillance within both emergency and inpatient settings.

02 Implement Complementary Surveillance Methods for Enhanced Detection

- Expand wastewater surveillance coverage to encompass a larger part of the population and initiate a pilot project specifically targeting wastewater monitoring at airports and seaports.
- Collaboration with relevant organizations (National Health Insurance Service etc.) to establish a cooperative framework for mortality statistics
- Intensify investigations at the human-animal interface and strengthen the One Health surveillance system to effectively address zoonotic spillover incidents.

03 Develop a Smart Information System for integrated analysis

- Develop a comprehensive data collection framework from various surveillance systems and multi-sectoral databases, encompassing human activities, environmental changes, healthcare system indicators, and more.
- Improve data analysis and risk assessment by leveraging high-performance computing and artificial intelligence capabilities.

[Integrated infectious disease surveillance framework]

	WORLDWIDE SURVEILLANCE	NATIONWIDE SURVEILLANCE
Types of Surveillance	Event-Based Surveillance (EBS) - WHO EIOS, etc.	• Indicator-based Surveillance (IBS) - Notifiable disease database, sentinel surveillance (including ILI, ARI, SARI), pathogen and genomic surveillance • Event-Based Surveillance (EBS) - Further investigation of outliers
Purpose	• Early dection of international outbreaks • Preparedness for potential incursion of overseas infectious diseases into the country	• Detection of outbreaks within the country • Monitoring disease trends • Measurement of disease burden • Early identification of unknown infectious diseases

HUMAN ACTIVITIES	ENVIRONMENT / ONE HEALTH	HEALTHCARE
Population movement / Aviation, Transportation	Wastewater surveillance / One health surveillance	National health insurance claims data / Medical records / Death certificates

▼

Improved risk assessment and early warning of outbreaks

02 Strengthening global health security through multilevel collaborations

01 Expand Technical Assistance and Financial Support to Low- and Middle-Income Countries

- Provide specialized technical assistance in critical areas such as infectious disease surveillance and laboratory diagnostics, with a focus on low- and middle-income countries, especially in the Asian and African regions.
- Enhance collaboration among key Official Development Assistance (ODA)-related agencies in the ROK, including the Korea International Cooperation Agency (KOICA) and the Korea Foundation for International Health (KOFIH), to facilitate strategic decision-making and streamline the ODA initiatives.

02 Reinforce Collaboration with Global Health Entities

- Strengthen the collective global response to emerging infectious disease outbreaks by making substantial contributions to initiatives such as the Global Outbreak Alert and Response Network (GOARN).
- Actively engage in international discussions on health emergency preparedness, including the revision of the International Health Regulations (IHR) and the development of a pandemic treaty.
- Enhance global health collaboration by promoting more frequent personnel exchanges with key entities at the international, regional, and national bodies, including the World Health Organization (WHO), the Centers for Disease and Control and Prevention (CDC), the European Centre for Disease Prevention and Control (ECDC), and various National Public Health Institutes (NPHIs).
- Advocate for health and medical institutions in the ROK to enhance their global health contributions, particularly by engaging more deeply with the WHO as collaborating centers.

03 Establish the Global Health Security (GHS) Coordination Office

- Establish a coordination office in the ROK, in alignment with the New Seoul Declaration, as adopted at the Global Health Security Agenda (GHSA) Ministerial Meeting in November 2022, and develop it as the central coordinating body for global health security.

03 Implementing effective measures for a swift initial response to control and limit the spread of the epidemic

01 Enhance Point of Entry (POE) Regulations for Travelers

- Reinforce the use of the quarantine information pre-entry system (Q-code) and consider making it mandatory during infectious disease pandemics.
- Foster inter-agency collaboration among Customs, Immigration, and Quarantine (C-I-Q) offices or units with the aim of improving border control, specifically for information sharing and integrated procedures.
- Update in-flight infection prevention and control (IPC) procedures in alignment with the latest standards outlined in the International Civil Aviation Organization (ICAO) Annex.

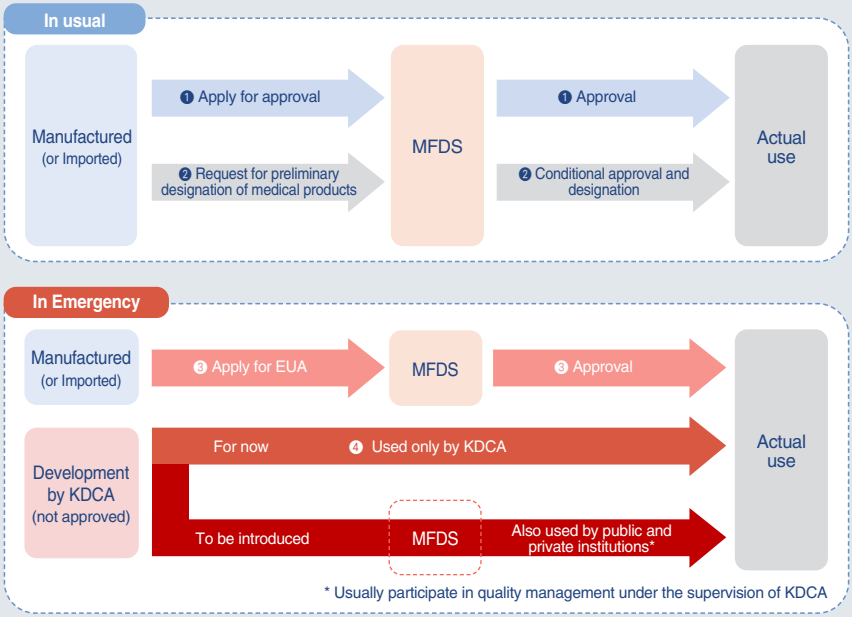
02 Integrate Technological Advancement for Early Disease Diagnosis, and Revise Approval Processes for Diagnostic Reagents

- Promote the development and application of advanced technologies, such as syndromic multiplex panels based on NGS and Pan-viral group PCR, to accelerate the rapid identification of novel infectious diseases.

  * NGS : Next-generation sequencing
  * PCR : Polymerase Chain Reaction

- Refine the regulatory framework of the Ministry of Food and Drug Safety (MFDS) to allow both public and private laboratories to utilize reagents developed by the Korea Disease Control and Prevention Agency (KDCA) when MFDS-approved reagents are not available.

[MDFS's approval process for reagents]



At present, reagents developed by KDCA are solely used within the agency itself. For a rapid scale-up of diagnostic capacity in the event of outbreak, regulatory refinements are necessary to permit both public and private hospitals and laboratories to utilize these reagents during public health emergencies without awaiting MDFS's authorization.

03 Accelerate the Rapid Identification of Epidemiological and Clinical Features

- Implement the First Few Cases (FFX) investigation protocol to identify key epidemiological and clinical features within a short time.
- Simulate various epidemic scenarios in advance to enable prompt adaptation of response strategies.
- Incorporate advanced data science and high-performance tools to enhance the accuracy of epidemic forecasting models.

04 Enhancing of healthcare system capacity, including ICU beds and isolation rooms

01 Optimize Healthcare Infrastructure with an Emphasis on Intensive Care

- Secure an adequate number of intensive care unit (ICU) beds to ensure a robust response to large-scale epidemics. Approximately 3,500 ICU beds will be designated for the early response, considering a potential scenario with more confirmed cases than those witnessed during the COVID-19 pandemic.

02 Establish an Efficient Medical Service Delivery System

- Develop a decentralized response system, capable of independently satisfying the demand for medical services within each region, positioning infectious disease hospitals as central hubs for the diagnosis and treatment of major infectious diseases.
- Implement a tiered (Central-Regional-Local) medical service delivery system to foster seamless cooperation and coordination at all three levels.
- Formulate an information-sharing system among hospitals to optimize the utilization of medical capacities, including hospital beds, workforce, and equipment.

  * The system aims to enable hospitals to exchange clinical data (e.g. symptom onset dates, underlying diseases) and resource availability data (e.g. beds, equipments).

03 Enhance Capacity Evaluation for Infection Prevention and Control (IPC) with Effective Incentives

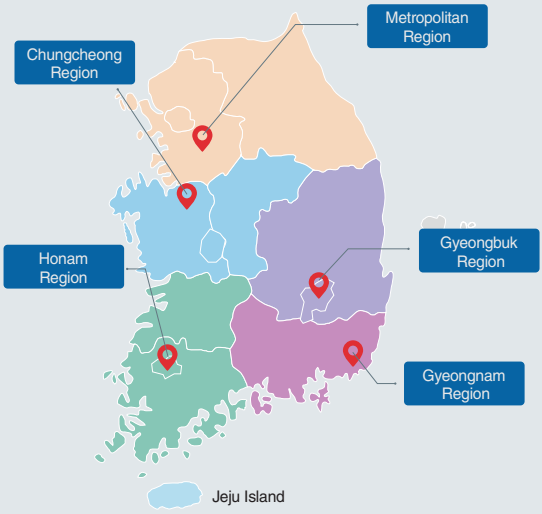
- Strengthen the evaluation of hospitals' Infection Prevention and Control (IPC) activities and provide incentives, such as higher health insurance reimbursement rates to hospitals with excellent evaluations.
- Allocate operating costs for nationally designated infectious disease hospitals and negative pressure isolation rooms (NPIRs).
- Enhance compensation for hospital expenses related to IPC activities and Antimicrobial Stewardship Programs.

[Plan for establishing specialized infectious disease hospitals in the Republic of Korea]

Like many other countries, the ROK faced substantial challenges in providing high-quality healthcare services during the outbreak's peak, including an intensive care unit (ICU) shortage. To address this the Korean government aims to establish hospitals specialized in infectious disease treatment. These specialized hospitals will maintain a high standard of infectious disease management, supported by increased compensation levels from national health insurance. The Korean government also intends to enhance compensation for IPC activities and Antimicrobial Stewardship Programs (ASP) at hospitals.

Infectious disease management Institutions (approximately 3,500 beds)	
Central Specialized Hospital (1 hospital, 150 beds)	
Regional Specialized Hospital (7 hospitals, 891 beds in total)	
Local Hospitals (Infectious disease management hospitals)	
National designated isolation beds (270 beds)	COVID-19 emergency treatment beds (2,136 beds)

* Specialized hospitals and beds are designated in pursuant to the 「Infectious Disease Control and Prevention Act」.



Planning are underway to establish two more specialized hospitals to expand geographical coverage.

05 Reinforcing the medical and public health workforce to address large-scale, prolonged epidemics

01 Expand the Local Public Health Workforce

- Increase the number of Epidemiological Investigation officer (EIO) within most local public health centers to strengthen the capacity for epidemiological investigations for various infectious diseases.

  * Amend the 「Infectious Disease Control and Prevention Act」 to mandate the placement of epidemiological investigation officer in regions with populations under 100,000.

- Implement a flexible workforce mobilization system responsive to the changing scale of a pandemic.

[Mobilization scheme for public health workforce: a stepwise approach corresponding to the scale of a pandemic]

	Small outbreak (Early stage)	Acceleration of outbreaks	Large-scale and Prolonged pandemic
Response Personnel	Central and Local Epidemiological Investigation Teams, Public Health Center Task Force teams, Medical Personnel within Public Health Centers	Mobilize personnel from other than infectious disease departments, Public health center workforce, and personnel from other Ministries / Agencies (including the military and police)	Mobilize personnel from other Ministries / Agencies (including the military and police), Comprehensive local government response
Response Level	In-depth case-by-case investigations	Limited Investigation (Streamlined items)	Focus on high-risk and vulnerable groups, streamline investigation items, IT-based autonomous reporting

02 Optimize the Healthcare Workforce to Guarantee Essential Medical Services

- Increase the number of medical doctors in critical specialties, such as critical care and infectious diseases, and improve their working environments.
- Cultivate a specialized nursing workforce for intensive care and infectious diseases by implementing higher staffing standards, reducing patient-to-nurse ratios, and providing appropriate reimbursement schemes to ensure workforce stability.

03 Establish a support system to address medical personnel shortages

- Develop a support system to mobilize public health and military doctors during severe outbreaks, especially when facing a shortage of medical professionals.
- Facilitate the temporary deployment of voluntary applicants, including retired or on-leave medical personnel, to hospitals, local public health centers, and specialized laboratories during emergencies.

06 Improving infection prevention and control in long-term care facilities to safeguard vulnerable populations

01 Strengthen the IPC capacity of Long-term Care Facilities and other Vulnerable Facilities

※ Vulnerable facilities: Facilities accommodating high-risk groups, such as the elderly, who are susceptible to outbreaks. These include convalescent hospitals, nursing homes, and assisted-living facilities for the disabled and mentally ill.

- Enhance facilities through expanded government incentives for renovation and optimization to address the challenges posed by closed, crowded, and close-contact conditions with a particular focus on enhancing ventilation.
- Provide comprehensive training and educational programs for all staff including non-medical personal in vulnerable facilities to empower them to respond effectively.

02 Establish an Evaluation and Reward System

- Revise the existing evaluation criteria for vulnerable facilities to incorporate various infection prevention and control indicators and introduce a reward system that incentivizes outstanding facilities.

03 Strengthen the Role of Local Governments and Restructure the Response System

- Establish dedicated teams in local governments to support vulnerable facilities to effectively manage outbreaks.
- Streamline workflows and establish collaborative response teams at the local government level to consolidate fragmented responsibilities.

07 Establishing robust governance mechanisms and legal frameworks designed to enhance intersectoral collaboration

01 Refine Crisis Management Governance

- To continuously refine governance mechanisms, foster cross-ministerial collaborations while maintaining the distinctive roles of central ministries under the guidance of the Central Disaster and Safety Countermeasure Headquarters.
- Embrace a hybrid governance model that combines centralized and regionally decentralized decision-making systems, tailored to the distinct nature of each issue.

[Diagram of Pandemic Management System in the Republic of Korea]

	Attention (Level 1, Blue)	Caution (Level 2, Yellow)	Alert (Level 3, Orange)	Serious(Highest) (Level 4, Red)
Stage	Risk Signals Detected	Outbreaks	Community transmission	Nationwide transmission
	Strengthen monitoring and surveillance	Contain outbreaks and Support patient care	Reinforce and mobilize resources broadly	Whole-of - Government Action
Central Government	Countermeasures Team (KDCA) →	Central Disease Control Headquarters (KDCA)	+ Central Disaster Management Headquarters (MOHW) + Pan-governmental Response Center (MOIS)	+ Central Disaster and Safety Countermeasure Headquarters (OPC, MOIS)
Local Governments	Countermeasures Team: In affected regions →	In all regions	+ Local Disaster and Safety Headquarters (in the affected region)	+ Local Disaster and Safety Headquarters (in all regions)

KDCA = Korea Disease Control and Prevention Agency, MOHW = Ministry of Health and Welfare, MOIS = Ministry of the Interior and Safety, OPC = Office for Policy Coordination

ROK's response to outbreaks of novel infectious disease, such as COVID-19, depends on a structured four-tier crisis alert system: attention, caution, alert and serious. The alert level is determined by the scale and spread of the epidemic. In the initial "attention" and "caution" phases, the KDCA takes the lead. From the "alert stage, the Ministry of Health and Welfare steps in, ramping up healthcare services, allocating essential healthcare resources, and broadening compensation mechanisms. When the situation escalates to the "serious" stage, the Central Disaster and Safety Countermeasure Headquarters (CDSCHQ) becomes the epicenter of action, with the Prime Minister's Office providing overarching leadership. This ensures a harmonized response across various sectors. While the MOHW, MOIS and KDCA are instrumental in shaping these efforts, CDSCHQ's meetings involve participation from 41 ministries, and central administrative agencies and all 17 provinces, ensuring prompt and unified decision-making.

02 Enhance Essential Competencies of National and Regional Health Authorities

- Strengthen the capabilities of the KDCA in key areas such as integrated surveillance, risk assessment, risk communication, and data analysis to facilitate evidence-based policymaking.
- Bolster the role of KDCA's five regional centers in assisting provincial and local governments with emergency preparedness and response.
- Develop and strengthen infectious disease response structures at the local government level, including the establishment of dedicated infectious disease control centers within local public health centers.

03 Enact and Revise Legislation Related to Public Health Crises

- Revise the 「Infectious Disease Control and Prevention Act」 to clarify the legal basis for implementing public health measures during emergencies and to provide distinct outlines of the government's and citizens' authorities and responsibilities.
- Propose the 「Public Health Emergency Response Act」 to establish the legal foundation for a rapid response to all hazards that endanger public health, including infectious diseases.

04 Enhance Financial Stability to Address Infectious Disease Crises

- Secure the necessary budget through collaboration with financial authorities, such as the Ministry of Economy and Finance (MOEF) and the Ministry of Science and ICT (MSIT), to effectively implement the National Pandemic Preparedness and Response Plan.
- Explore the potential introduction of innovative financing mechanisms such as the Infectious Disease Crisis Response Fund.

08 Creating an advanced information system and big data platform to improve decision-making process

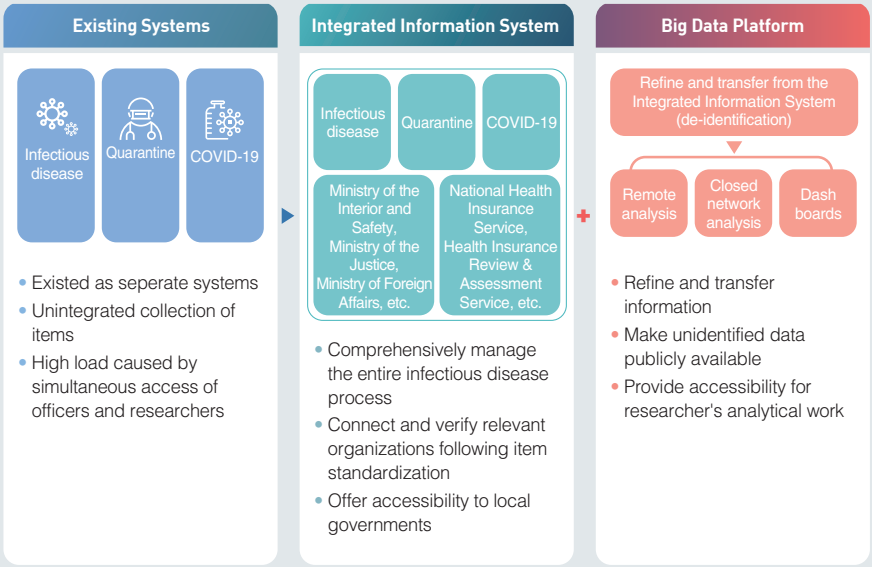
01 Refine the Existing Infectious Disease Information System

- Accelerate data analysis and evidence generation by integrating the entire infectious disease response process, from entry screening to reporting epidemiological investigations.
- Improve user convenience and data integrity through enhanced user interface and standardized protocols for reporting and investigating infectious diseases.

02 Establish an Infectious Disease Big Data Platform and Enhance its Utilization

- Expand the scope of the existing big data platform, currently focused on COVID-19, to encompass all notifiable infectious diseases, thereby enabling comprehensive analysis and facilitating data-driven decision-making processes.
- Create an intuitive infectious disease statistics dashboard that visually encapsulates key indicators, enhancing readability.
- Promote research by disseminating pseudonymized data to the public, while simultaneously increasing data transparency.

[Conceptual diagram of the integrated information system and big data platform]



The Korean government has developed multiple information systems to manage large-scale pandemic like COVID-19. However, fragmented systems have hindered swift data sharing, leading to delays in analysis. To rectify this, efforts are underway to integrate these systems to consolidate fragmented data from diverse sources. Furthermore, the Korean government plans to create an anonymized big-data platform, linking this newly integrated infectious disease information system with external databases, such as the National Health Insurance Claims data, to enhance data accessibility and bolster public health research.

09 Optimizing financial and welfare support to minimize damage and hasten economic revival

01 Enhance the Support System to Address Income Loss from Infectious Disease Treatment

- Advocate for the institutionalization of sickness benefits to provide financial support and protection for workers unable to engage in economic activities due to non-occupational injury or illness.
  * The implementation of sickness benefits is currently in a pilot phase across six local governments, with the aim of institutionalization after evaluating the pilot program's outcomes.
- Gradually refine the eligibility criteria for both livelihood and medical benefits, including reducing property-based limitations, to enhance the financial stability of low-income households.

02 Improve the Welfare System to Safeguard the Vulnerable Population

- Improve the provision of care services by establishing a targeted and customized care system for each vulnerable group (disabled individuals, children, and the elderly). Implement an emergency care program and establish provincial-level emergency care support groups to bridge the care gap during crisis situations.
- Enhance emergency welfare support to aid households at risk, including expanding the criteria for identifying crisis situations (e.g. incorporating conditions influenced by new and emerging infectious diseases) and making readjustment the eligibility criteria for support programs.

03 Strengthen Support to Alleviate Financial Stress for Self-employed and Vulnerable Industries

- Modify the compensation scheme for the self-employed and small enterprises to expedite the provision of compensation.
  * In 2021, the 「Act on the Protection of and Support for Micro Enterprises」 was revised to lay the legal foundation for providing financial support.
- Build support systems such as an emergency management stability fund, with a specific focus on small and vulnerable companies in the agriculture, livestock, and fisheries sectors.

10 Reforming the R&D support system to expedite the development of vaccines and therapeutics

[Vaccine and Therapeutic Development Strategy]

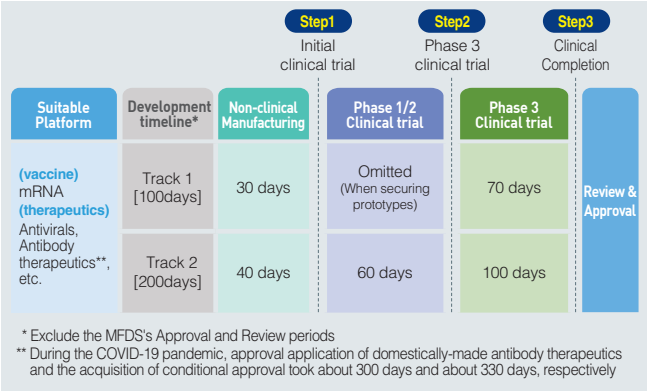
TIME	BEFORE PANDEMIC	PANDEMIC (BEFORE DEVELOPMENT)	PANDEMIC (AFTER DEVELOPMENT)
Phase	Preparedness	Response	Evaluation·Complementation
Strategy	• Select priority infectious diseases • Create a prototype library • Secure a vaccine platform	• Complete development within 100/200 days • Provide rapid support for non-clinical and clinical trials	• Evaluate vaccine immunogenicity • Evaluate efficacy of the treatment

01 Preparedness phase: Initiate Rapid Development Before the Outbreak of Pandemic Diseases

- Select targets* with a focus on priority infectious diseases, namely respiratory viruses and hemorrhagic fever viruses, which have already been selected at KDCA, WHO, CEPI, etc.
  * (Vaccine) COVID-19, Influenza, Nipah, Lassa, Dengue, Severe fever with thrombocytopenia syndrome (SFTS), Chikungunya, and Hemorrhagic fever with renal syndrome, RSV.
  * (Therapeutics) COVID-19, MERS, Nipah, Lassa, Dengue, SFTS, Avian influenza, and RSV.
- Design antigen and produce prototypes before pandemic commencement. And formulate a vaccine library to stockpile them.
- Secure core and novel mRNA platform technologies.
  * (Short-term) Support private sector to develop (or localize) mRNA platform technology and antiviral drug discovery technology.
  * (Long-term) Develop original or next-generation mRNA technology, and secure patents.
- Take a leading role in developing vaccines for unsolved infectious diseases that threaten public security, such as SFTS, smallpox, and Human adenovirus type 55 (HAdV-B55), all of which have a high risk of mortality and morbidity.

02 Response phase: Support Rapid Development in case of Pandemic Disease Outbreaks

- Facilitate fast-track development within 100/200 days based on prototype development progress.
  1. 100 days, Track 1 : In case that prototypes with 1/2 clinical safety and capacity for the target pathogen are secured.
  2. 200 days, Track 2 : In case that prototypes of high similarity to the target pathogen are available (e.g. SARS-CoV-3).



* Exclude the MFDS's Approval and Review periods
** During the COVID-19 pandemic, approval application of domestically-made antibody therapeutics and the acquisition of conditional approval took about 300 days and about 330 days, respectively

- Assist private companies in conducting non-clinical studies for developing infectious disease therapeutics and vaccines by making the most of KDCA and its affiliates' R&D capacity and infrastructure.

03 Evaluation and Complementation phase: Determine Application Based on Immunogenicity and Therapeutic Efficacy Assessment

- Continue a cohort study that traces the immunity of vaccinated populations, and transform the result as scientific evidences for policymaking such as national immunization program.
- Conduct evaluations for clinical effectiveness and post evaluation of therapeutics, such as effectiveness analysis in case of the emergence of variants.

04 Strengthen the Overall Planning and Rapid Response System for Mission-oriented Infectious Disease R&D

- Prepare a new infectious diseases R&D portfolio in accordance with the "3rd National R&D Strategy of Responding to Infectious Disease Crises (2022 to 2026)", and invest in unchartered territories.

  * Enhance the infectious disease management function of the Korea National Institute of Infectious disease (KNIID), an affiliate of the KDCA, and seek stronger performance-oriented cooperation with national research institutes, including the Presidential Advisory Council on Science and Technology.

- Preemptively secure technologies and facilitate R&D projects in time of crisis to protect health security.

05 Implement the Advanced Research Projects Agency for Health (ARPA-H) Initiative in the Korean Model

- Support challenging and innovative health research project that, due to high costs and risk, have not been pursued, but that have the potential for spinoff applications and technologies.