Pandemics, Conflicts, Climate Change: New Roles and Challenges for National Public Health Institutes

Session 4

Addressing the Economic Consequences of Pandemics, Conflicts and Climate Change on Public Health

December 1, 15h30-17h00
Addressing the economic consequences of pandemics, conflicts and climate change on public health
Building back better from the impact of pandemics, conflicts and climate change on public health in Nigeria
ANNUAL MEETING
NOVEMBER 30 - DECEMBER 2, 2022 | HYBRID

Setting the Scene: Public Health in Nigeria

Population ~ 200 million

Top causes of death: neonatal disorders, diarrhoeal diseases, malaria, lower respiratory tract infections, congenital defects, HIV/AIDS, meningitis, tuberculosis, iron deficiency

Annual population growth rate of 2.5%

Low number of nurses, midwives, doctors

75% Federal, State & Local Government level healthcare management, 25% private sector management

National healthcare budget allocation beneath pledged

> 60% dependence on out of pocket healthcare expenses
Pandemics, Conflicts & Climate Change
Impact of pandemics, conflicts and climate change on public health

PANDEMICS
• Pressure to healthcare service delivery
• Compromised years of clinical progress to diseases such as HIV/AIDS, tuberculosis and malaria

CONFLICTS
• Lack of access to areas for infectious disease response efforts due to insecurity

CLIMATE CHANGE
• Emerging and re-emerging infectious diseases
• Displacement and loss of access to healthcare services

The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report published in March 2022 highlighted that climate hazards such as flooding are “increasingly contributing to a growing number of adverse health outcomes”.

Flood washes up corpses at Bayelsa cemetery
Several people have been displaced by flood in the state.
What ‘Building Back Better’ has looked like in Nigeria

Innovative Tools for Disease Surveillance

Expansion of SORMAS to 37/37 states and 774 LGAs

Countries WITH National Public Health Institute

- PUBLIC HEALTH LABORATORY
- PUBLIC HEALTH RESEARCH
- INFECTION PREVENTION CONTROL
- EMERGENCY PREPAREDNESS & RESPONSE
- PUBLIC HEALTH WORKFORCE DEVELOPMENT
- DISEASE PREVENTION & HEALTH PROMOTION
- RISK COMM
Building Back Better

- Early investments in health emergency preparedness
- Leverage on challenges to strengthen healthcare system
- Strengthening national public health institute’s integrated functions
- Prioritisation of subnational support and coordination
- Consolidating investments in pandemic response to achieve increased resilience and better preparedness.
The economic impact of the COVID-19 pandemic in Mexico: Estimation of the indirect costs of early mortality in 2020
GDP growth and lockdown stringency

GDP\(^1\) growth (%q/q)

\[ \text{gdp} = -0.28^{***} \times \text{lsi} + 3.19^{***} \]
\[ R^2 = 0.64 \]

\(^1\)Non-oil GDP growth for the GCC

Source: Oxford Economics/Haver Analytics/Blavatnik School of Government
The global economy remains in dire straits

Composite index of relative strength of a range of indicators

- Advanced economies
- Emerging markets

Source: Brookings Institution
National trend of employment - Mexico

Employed; Suboccupied; unemployed
Total costs due to premature mortality in México 2019 and 2020
Total costs due to premature mortality in México 2019 and 2020

Excess costs due to premature mortality in México due to COVID-19, Diabetes Mellitus, ICD, and LRTI represents 0.63% of GDP.
Thank you!
sbautista@insp.mx
Economic Consequences of COVID-19 in Korea and Strengthening of the Public Health System for the Preparedness to Potential Threats
The Impact of COVID-19 on Korean Economy

Comparison of the magnitude of economic shocks

1st Oil Crisis (1975) -2.6%
2nd Oil Crisis (1980) -2.7%
Asian Financial Crisis (1998) -7.39%
Global Financial Crisis (2009) -3.9%
COVID-19 Crisis (2020) -7.41%

Real GDP Growth rate
- Trend: 5 Years Average
- 2020: -3.7%

Private Consumption Increase rate
- Trend
- 2020: -7.41%

Comparison of economic shocks:
- 1st Oil Crisis: -2.6%
- 2nd Oil Crisis: -2.7%
- Asian Financial Crisis: -7.39%
- Global Financial Crisis: -3.9%
- COVID-19 Crisis: -7.41%

Outside KIET REPORT(2021.5)
Trend: 5 Years Average
The Impact of COVID-19 on Korean Economy

Korea Institute for Industrial Economics and Trade (2021.5)

OECD Economic Surveys: KOREA (2022.9)
Overview of Korea’s COVID-19 Response

- **Suppression** through the **3T strategy** until the securing of countermeasures (vaccine, medicines, etc.)
- Reallocation of resources while promoting a return to normal life after the Omicron variant outbreak
  ⇒ Focus on the intensive care of high-risk groups and facilities vulnerable to infection

<table>
<thead>
<tr>
<th>Stage</th>
<th>Response Strategy</th>
<th>Key Measures</th>
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<tr>
<td>Initial Inflow</td>
<td>Containment</td>
<td><strong>(3T)</strong></td>
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<td>High uncertainty and lack of information on the characteristics of the disease → Controlling through quarantine and isolation</td>
<td>• Quarantine</td>
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<td>• Point of the entry screening procedure</td>
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<td></td>
<td></td>
<td>• 3T - Early detection &amp; isolation of patient and contacts</td>
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<td>Community infections</td>
<td>Suppression</td>
<td><strong>(3T + Social Distancing + Vaccination)</strong></td>
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<td>- Delta variant outbreak</td>
<td>Lower the epidemic peaks to a level that the health care system can handle through 3T and social distancing until the vaccination coverage target is achieved and countermeasures are introduced</td>
<td>• 3T + Stronger management of high-risk facilities</td>
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<tr>
<td></td>
<td></td>
<td>• Social distancing</td>
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<td></td>
<td></td>
<td>• Start Vaccination Program</td>
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<tr>
<td>After Omicron variant</td>
<td>Mitigation</td>
<td><strong>(Medical countermeasures + intensive care of high-risk groups + Vaccination)</strong></td>
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<td>outbreak</td>
<td>With the introduction of vaccines and medicines, minimizing the damage through efficient responses centered on high-risk groups</td>
<td>• Lifting social distancing measures</td>
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<td>• Vaccination + Rapid administration of the therapeutics</td>
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<td>• Focus on High-risk groups &amp; vulnerable facilities</td>
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Lessons from Korea’s Experience

✓ A swift initial response has an immense impact on the successful control of the overall spread of the virus

✓ Preparedness of legal and institutional framework for the pandemic is necessary

✓ Building governance for the Whole-of-Government approach

✓ A rapid scale up of response measures such as diagnosis and securing of hospital beds through the Public-Private Partnership

✓ Enhancing capabilities of the NPHI and securing public trust
COVID-19 Indicators

Global
Coronavirus Cases: 646,060,830
Deaths: 6,636,078
Recovered: 624,566,476

South Korea
Coronavirus Cases: 26,937,516
Deaths: 30,369
Recovered: 17,120,321

https://www.worldometers.info/coronavirus/

Thanks to the government’s prompt response to the pandemic, Korea is experiencing the shallowest recession among OECD countries
(OECD Economic surveys : Korea 2020)
The Way Forward

**Enhancement of Global Health Security**

**Strengthening of Global Public Health System**

**National**
- Continuous Improvement of Existing System
- Enhancement of Organizational Capacity
- Cooperation between Other Government Ministries

**International**
- Sharing Korea’s Experience and Developing Better Strategies through International Cooperation
- Contribution to Capacity Building of LMICs with Official Development Assistance Projects
International Cooperation Efforts of KDCA

Bilateral Cooperation
- Korea-China-Japan Infectious Disease Forum (’07~)
- MOU Signing between KCDC-China CDC and KCDC-USCDC (’19)
- USFK Infectious Disease Prevention and Control Subcommittee
- Technical assistance on Africa and Saudi CDC
- Technical support and consultations on developing country assistance projects

Multilateral Cooperation
- Global Health Security Agenda (’14~)
  - Immunization action plan, Steering Group, High-level meeting
  - KOICA GHSA Ghana, Cambodia technical assistance (’17)
  - GHSA Ministerial Meeting (’22)
- WHO/IHR
- WPRO Korean Voluntary Contribution (’06~)
- International Health Regulation National Focal Point (’07~)
- IVI Budgetary Support (’16~)
- Global Health Initiative (GAVI, UNITAID, IANPHI and etc.)

COVID-19 International Cooperation
- Sharing experience and lessons
- Establishing bilateral, multilateral networks
- Policy dialogues and expert roundtables
- Policy discussion with USFK
- Mutual recognition of C19 vaccination records
- WHO Epidemic and Intelligence Hub Secondment (’22~)

Public Health Emergency Response Assistance Projects
- Capacity Building on Public Health Emergency Response on Laos
- Capacity Building on Infectious Disease Response on ASEAN Member States

Requests received for cooperation
- Joint stockpiling of essential medical equipment including PPE
- Early warning system
- Joint research
- Joint table top exercise

KCDC (2004~2020)
Jan 1, 2016
Elevation to Vice Ministerial Level

Jan 20, 2020
Central Disease Control Headquarters of COVID-19

Sept 12, 2020
Promotion to KDCA

KDCA (2020~)
Technical Assistance Projects by Continent

- Europe-Africa
  - After 2024
  - Multilateral
  - WHO Headquarters
  - SEARO

- ASEAN-India
  - 2023
  - Bilateral
  - Mongolia

- Northeast-Middle East
  - 2023
  - Multilateral
  - Africa CDC

- U.S.-America
  - After 2024
  - Latin America

- 2022
  - Multilateral
  - ASEAN
  - Bilateral
  - Laos
Thank you for attention!
Resources and responsibilities: Adapting to the economic consequences of health protection threats - an NPHI perspective
The UK Health Security Agency makes a unique contribution to public health

A need to change …

The core building blocks of UKHSA:

- **Scientific excellence**: scientific and intellectual leadership nationally and internationally, including developing diagnostics, genomics countermeasures, training and research.

- **Data, analysis and surveillance strength**: high-quality all-hazards surveillance, data science and analysis.

- **Operational agility and flexibility**: system leader modelling excellence in agile and responsive operations with ability to scale as needed.

- **Global health security and preparedness**: creating a stronger global health protection system through international surveillance, action and partnerships.

- **System leader, forging partnerships with wider system, academia & industry**: a hub for innovation and collaboration, supporting the UK’s competitive advantage in health science, technology and academia.

- **Maximising the social and economic impact of health security**: articulating the benefits of health security and providing expertise across Govt.
Societal opportunity costs: Production possibilities frontier
The scale of the challenge is growing amid economic turmoil, climate change and conflict

- COVID-19 – a global pandemic with wide socio-economic impacts including on supply chains
- Climate emergency - frequency of adverse weather events impacting how we live today
- Conflict – movement of people, changing geo-politics and exacerbating food insecurity
Key threats in the UK – last 3 years

- Covid-19 pandemic

- Climate events – hottest summer temperature ever – peaked over 40 degrees July 2022

- A financial crisis with highest inflation rates for 40 years, low wage growth and disproportionately rising utility costs, particularly for heating (gas and electric)
What lies beneath the economic headlines?

Source: ONS, Springboard, OBR

Note: excludes crude oil due to series volatility.

Source: Office for Budget Responsibility
Impact of climate change on human pathogenic diseases

Inflation is being driven by global events but will have most effect on those from the most deprived communities

- Key drivers of inflation:
  - Sharp increases in global energy prices, driven up by conflict
  - Higher tradable goods prices; post-pandemic supply chain disruption has continued
  - Domestic wage pressures and prices are rising across advanced economies.

- Policy at national and local level needs to be focused on groups at highest risk. Health disparities are likely to be amplified.

- This highlights the importance of public health activities.
Heating, inflation and excess mortality – just what the doctor didn’t order.

Cold Comfort: The social and environmental determinants of excess winter deaths in England, 1986–96
Gasparrini A et al Lancet Plan Health 2022
From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level
World Bank, 2017
Public health is underfunded which presents challenges to preparing for the next major public health threat

• Public health has been underfunded historically

Waves of public health funding often come after a public health emergency and are linked to specific diseases or issues, such as H1N1, Ebola, Zika, and now COVID-19. Yet after the immediate danger from such threats subsides, funding is slashed.¹

• We need a new approach to deliver our remits and responsibilities to ensure we’re prepared and ready to respond to major threats such as the next pandemic

¹ How Investing in Public Health Will Strengthen America’s Health - Center for American Progress
Climate change will affect our economy alongside changing the threat landscape

• The economic benefits of interventions are often calculated on the basis of averting harm. We need to further build the evidence base.

• The ‘Monetary Valuation of Risks and Opportunities in CCRA3’ (published May 2021) calculate that the total economic cost of heat related morbidity to the UK economy is £141m per annum (the lowest estimate).

• In tight fiscal constraints, low-cost solutions can mitigate the impacts of climate change and bring health co-benefits:
  ➢ walking / cycling in place of taking the car = improved air quality
  ➢ low carbon diets = reduced risk of obesity.

• Addressing climate change requires a multisectoral approach.

Some countries adapt better than others and have less adverse weather related mortality - we need to learn from each other.
What opportunities has UKHSA found? An explicit two channel approach
What opportunities has UKHSA found?

1. **Working with Industry** - the vaccine Task Force. Model now being used for obesity and dementia
   - Vaccine and therapeutics evaluation
   - UKHSA Centre for Vaccine Development and Evaluation
   - Contributing to the economy

2. **Working nearer to Ministers** – influencing policy and investment, recognizing economic burden

3. **UKHSA Centre for Climate and Health Security**

4. **Investment in other Hazard areas** – Radiation, chemicals

5. **Redevelopment of the national risk strategy**

6. **Development work on Biosecurity strategy** – including One Health angle
What opportunities has UKHSA found?

• Data and Technology
  • Covid Dashboard – public engagement, health outcomes (in September 2020 the Dashboard got five million hits a week)
  • Data linkage (people)
    • Communities – local Directors of public health
  • Data linkage (systems) – SARI WATCH acute respiratory data
    • SGSS (Second Generation Surveillance)
    • Vaccine evaluation – faster than pharma trials

• Focus on Inequalities for health hazards
From evidence to action - how can we adapt our approaches

- Build flexibility to be able to adapt at pace, preparing for low probability and high impact events, and working in partnership with stakeholders including industry and academia.

- Tell the story – identifying opportunities to bring government and the public along the journey.

- Share models and approaches that work – learning from each other.