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# ANNUAL MEETING

NOVEMBER 30 - DECEMBER 2, 2022 | HYBRID

HOSTED BY



Folkhälsomyndigheten  
PUBLIC HEALTH AGENCY OF SWEDEN

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

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Session 4

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

December 1, 15h30-17h00

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Moderated by Dr. Anders  
Nordström,  
Ambassador for Global Health,  
Swedish Ministry for Foreign  
Affairs

Thursday, December 1

Addressing the economic  
consequences of  
pandemics, conflicts and  
climate change on public  
health

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Dr. Ifedayo Adetifa  
Director General,  
Nigeria Centre For Disease  
Control

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Building back better from  
the impact of pandemics,  
conflicts and climate  
change on public health  
in Nigeria

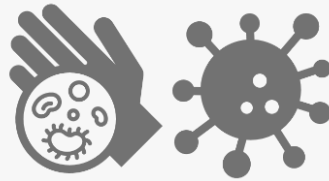
## Setting the Scene: Public Health in Nigeria



Population ~ 200 million



Annual population growth rate of 2.5%



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



Low number of nurses, midwives, doctors



National healthcare budget allocation beneath pledged



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

> 60% dependence on out of pocket healthcare expenses





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## 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”.



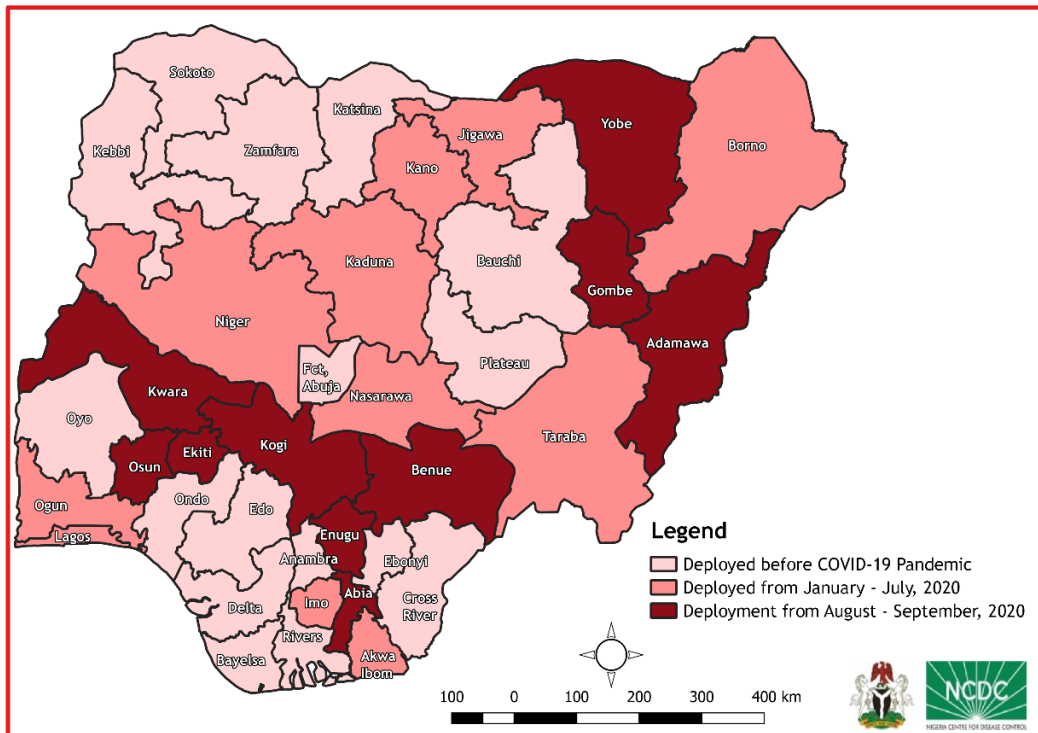
Kogi flood used to tell the story

## Flood washes up corpses at Bayelsa cemetery

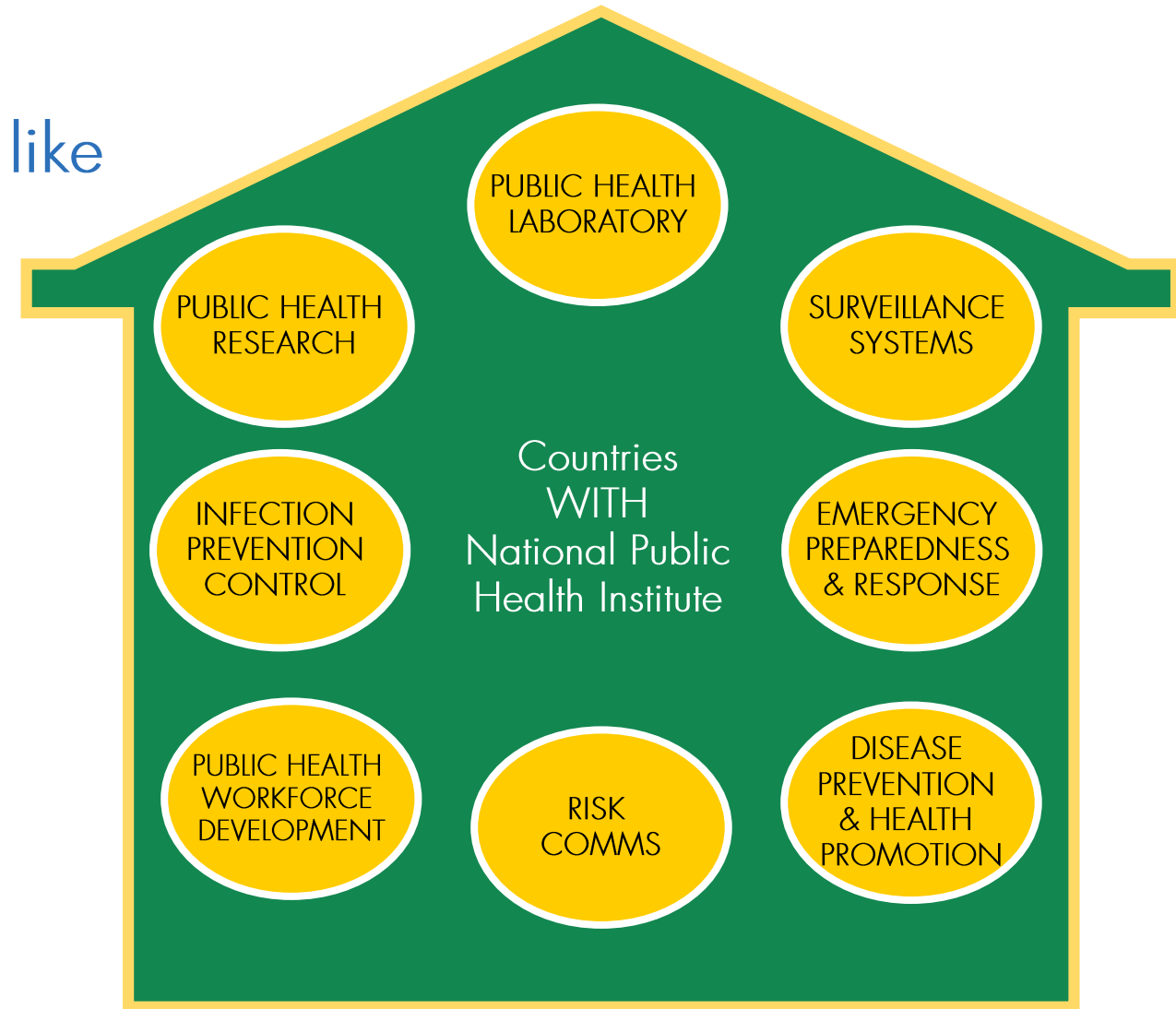
Several people have been displaced by flood in the state.

# What 'Building Back Better' has looked like in Nigeria

## Innovative Tools for Disease Surveillance



Expansion of SORMAS to 37/37 states and 774 LGAs



Strengthening and integration of NPHI functions

## 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.

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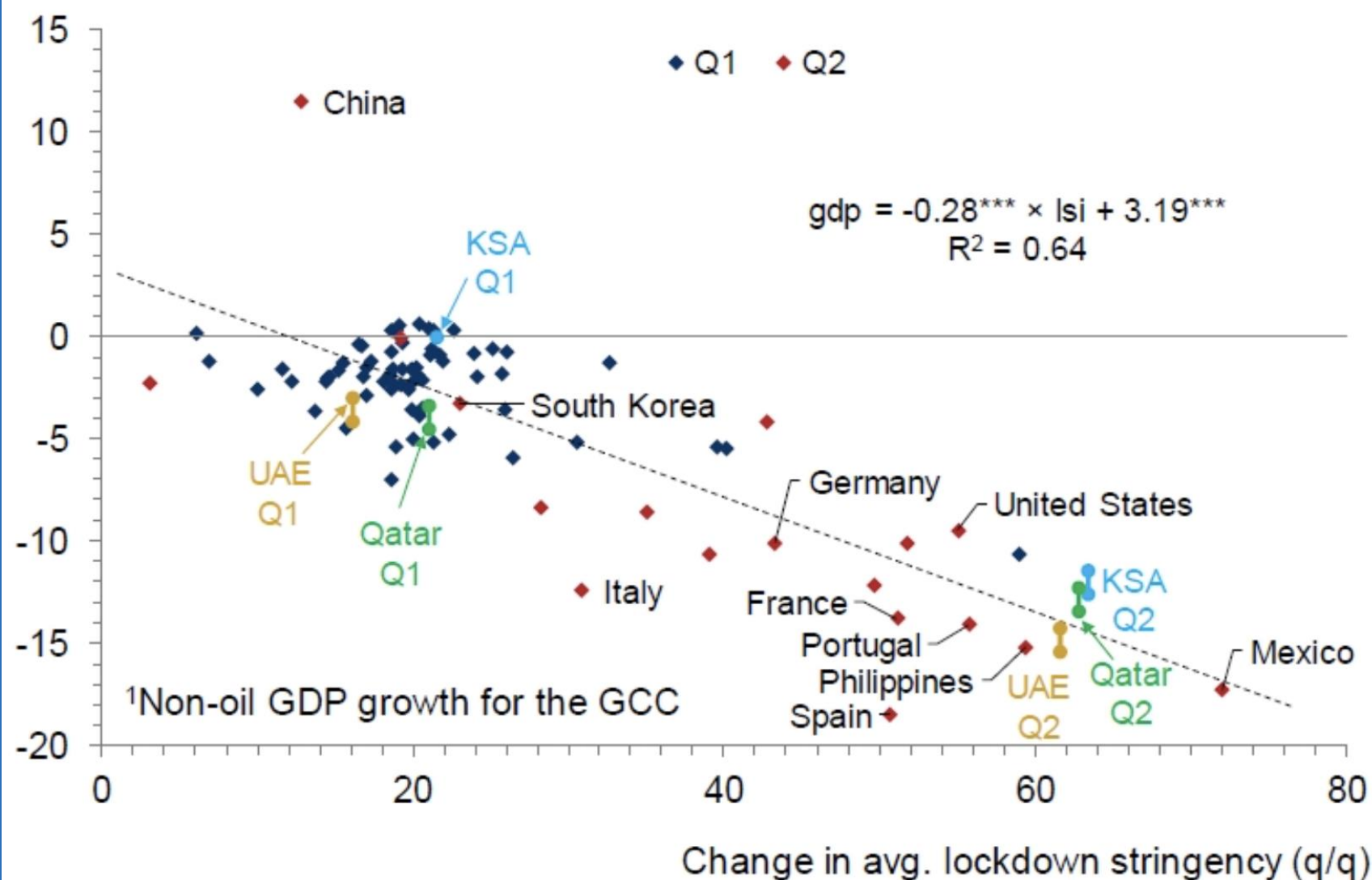
Dr. Sergio Bautista-Arredondo,  
Director of the Health Economics  
Division,  
National Institute of Public Health  
of Mexico

Thursday, December 1

# 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<sup>1</sup> growth (%q/q)

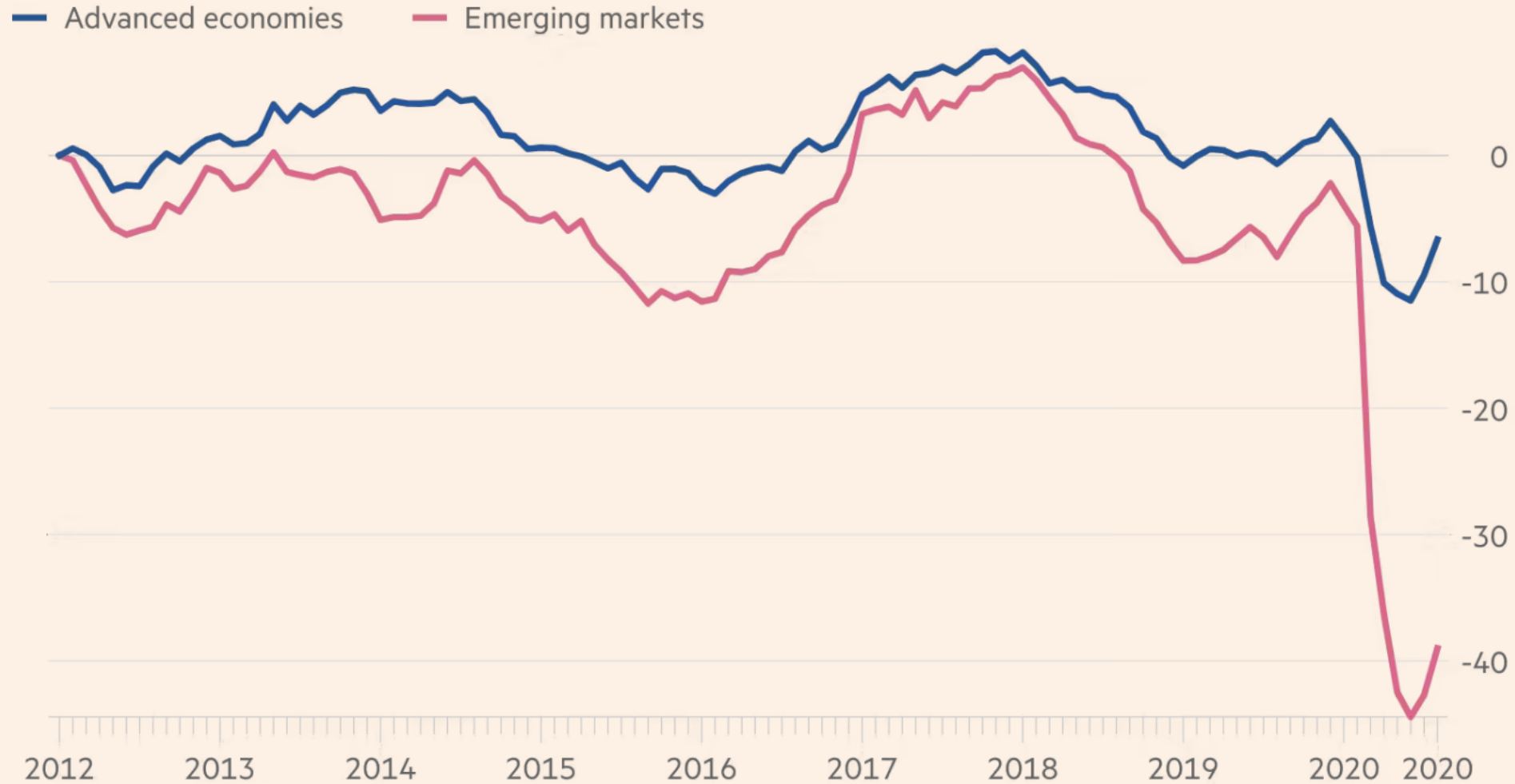


Source: Oxford Economics/Haver Analytics/Blavatnik School of Government



# The global economy remains in dire straits

Composite index of relative strength of a range of indicators



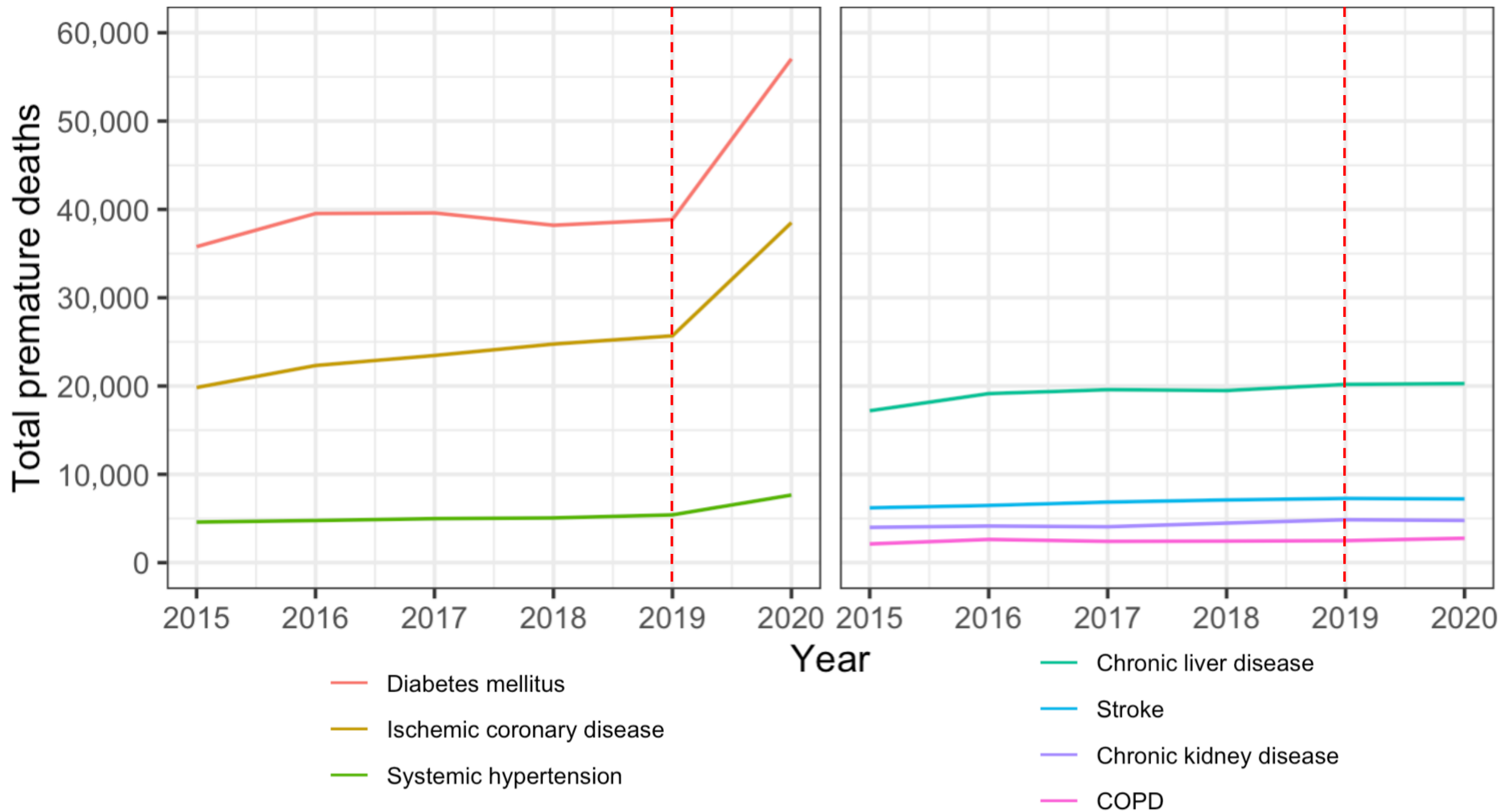
Source: Brookings Institution

# National trend of employment - Mexico

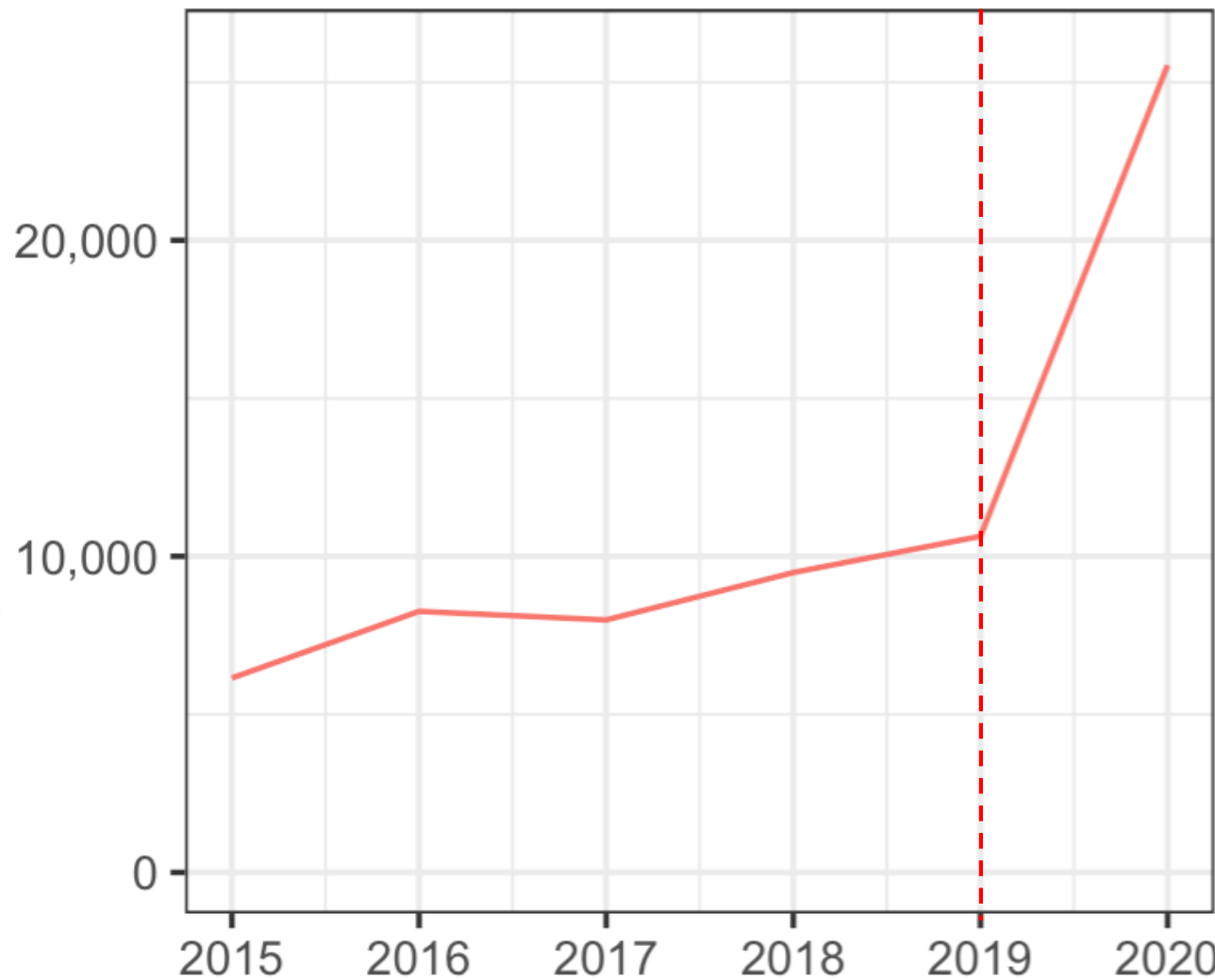


Employed; Sub-occupied; unemployed

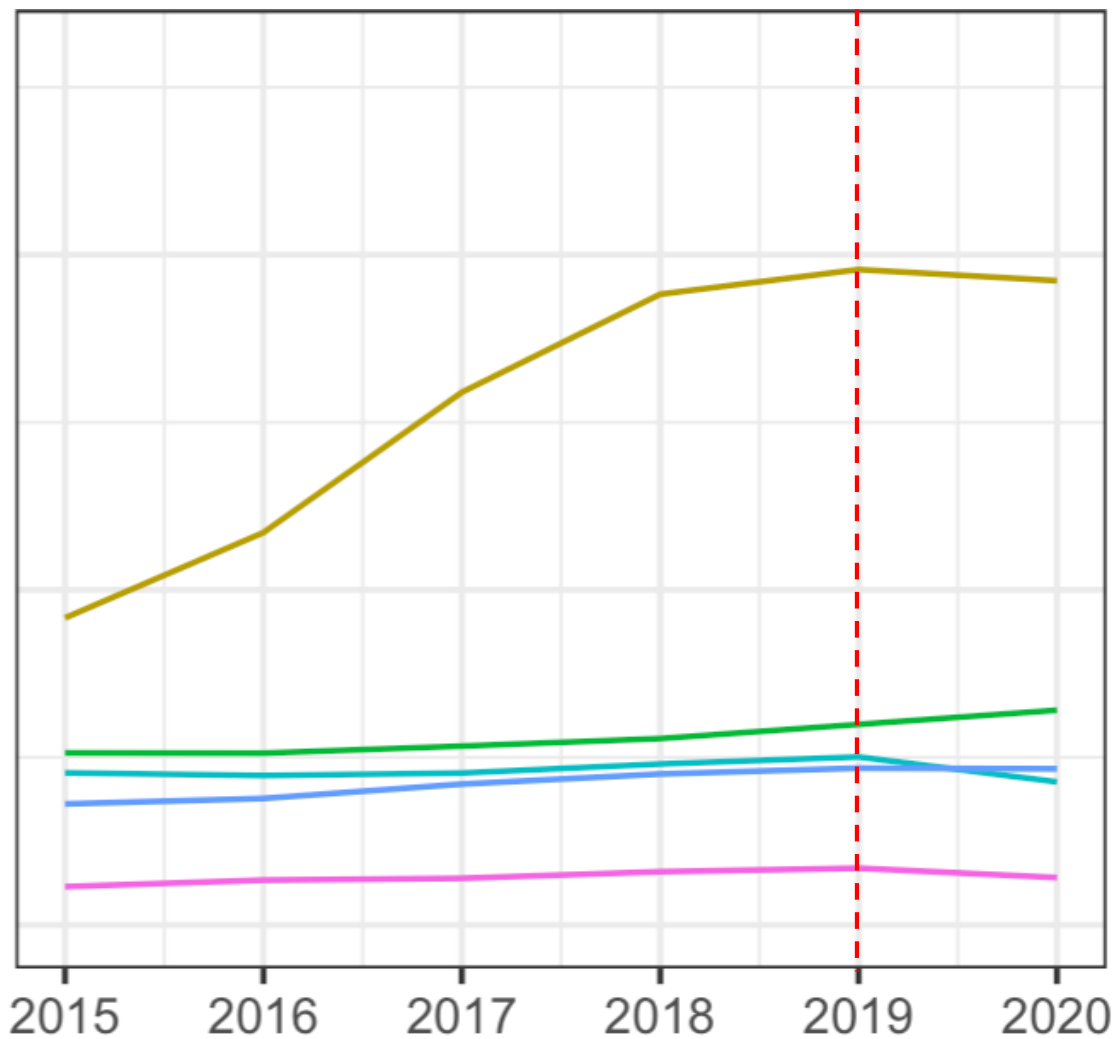




Total premature deaths



Lower respiratory tract infections



Gun violence

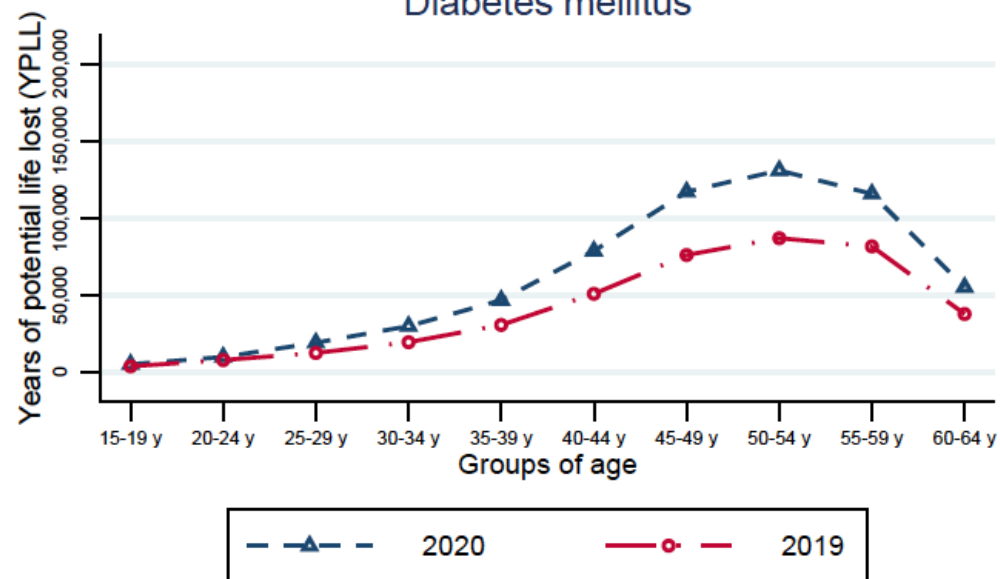
Self-inflicted injuries

HIV

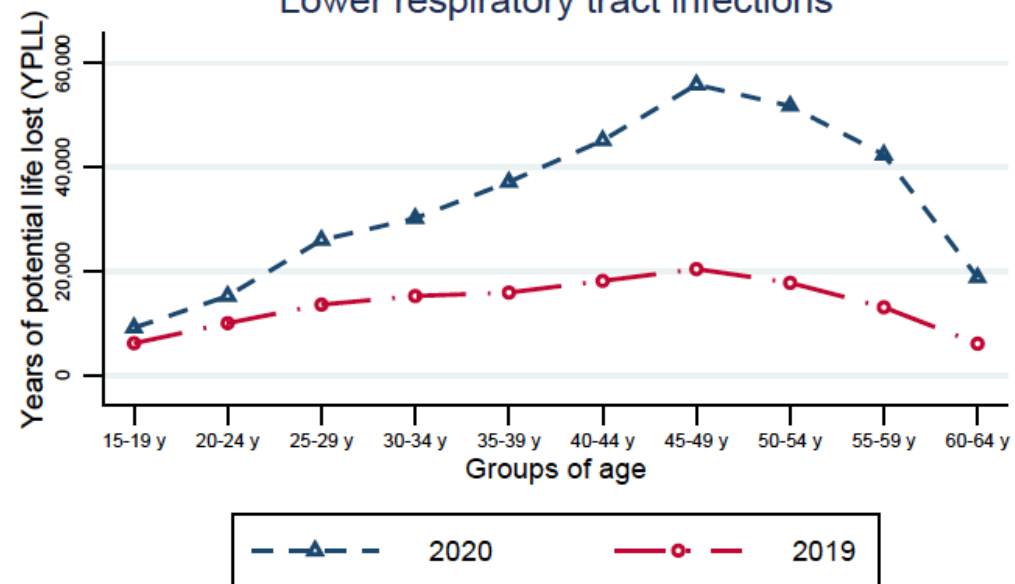
Motor vehicle accident

Urinary tract infections

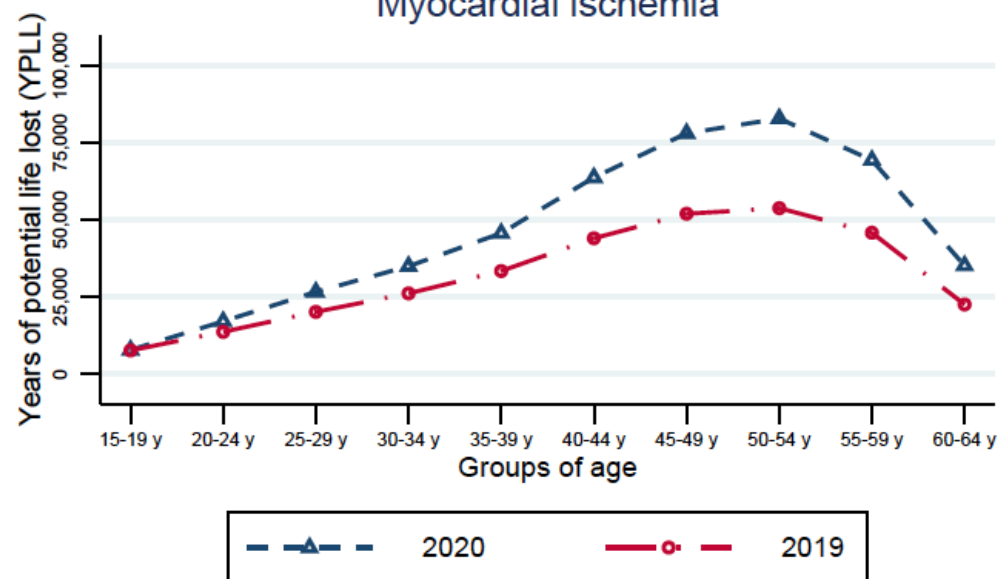
### Diabetes mellitus



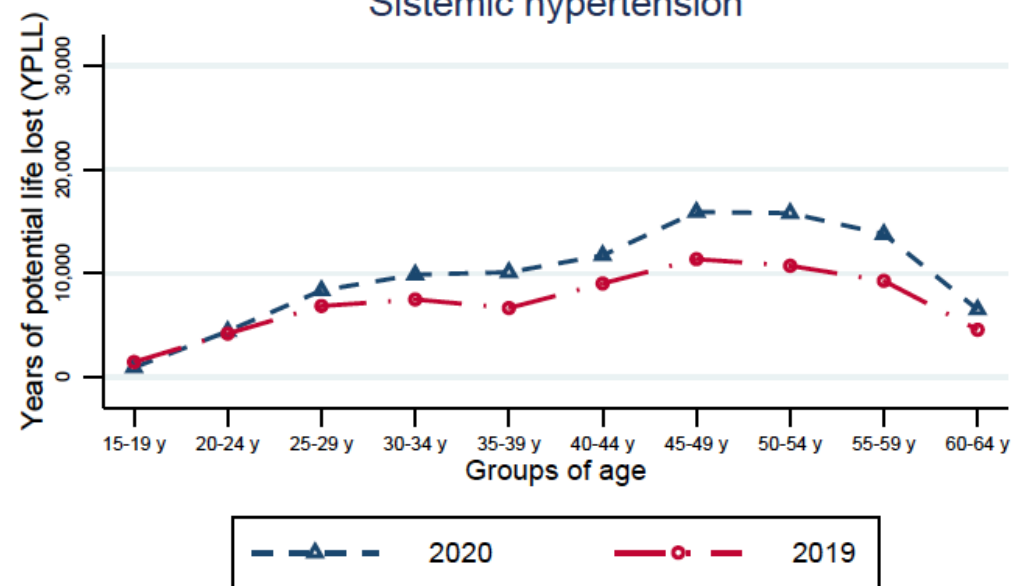
### Lower respiratory tract infections



### Myocardial ischemia



### Sistemic hypertension

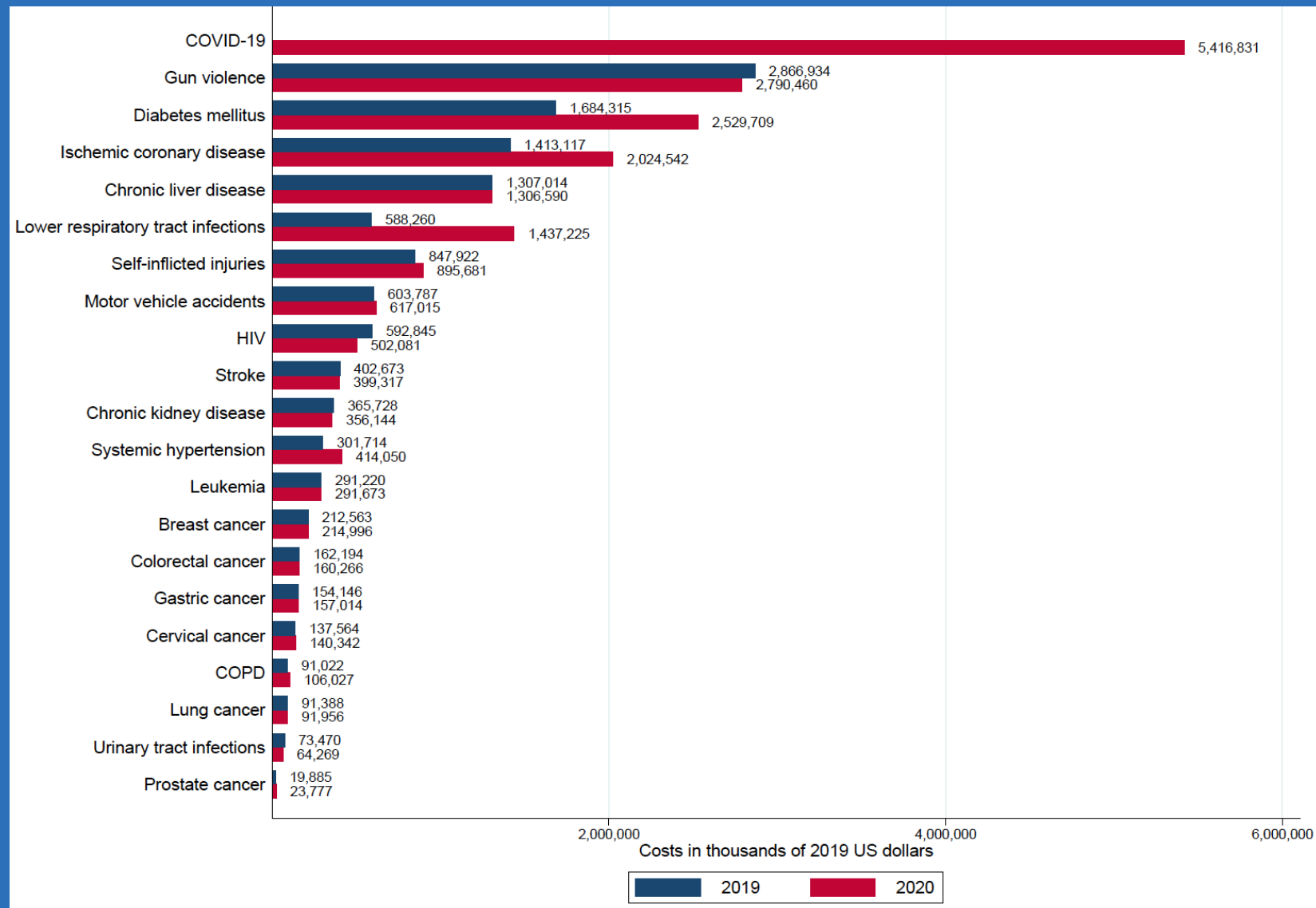


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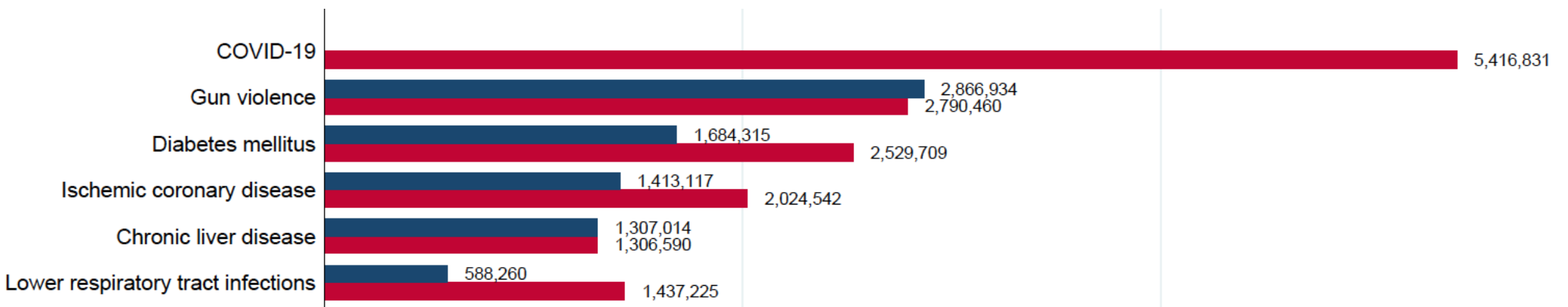
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Total costs due to  
premature mortality  
in México 2019  
and 2020



## 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.

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Thank you!  
sbautista@insp.mx

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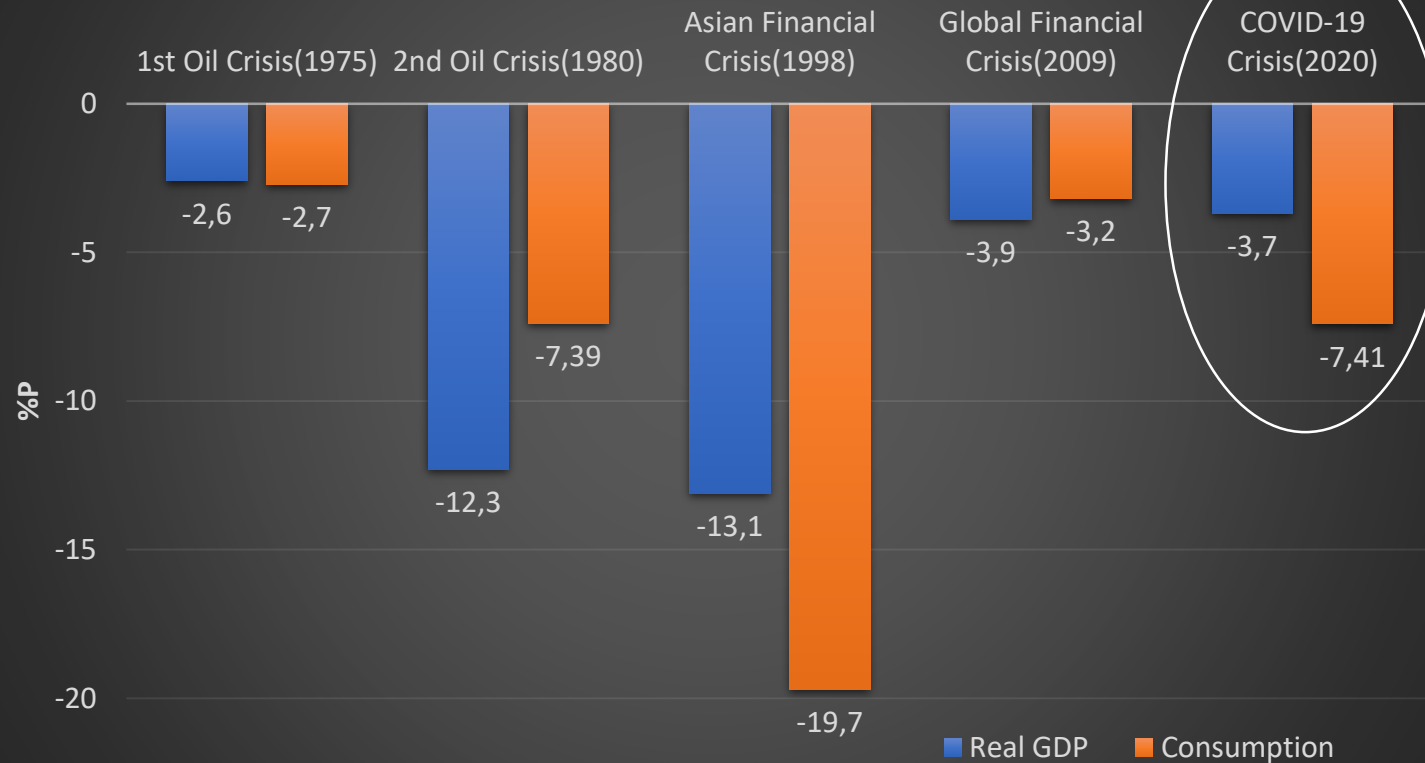
Dr. Yujin Jeong,  
Director for Internal Affairs,  
Korea Disease Control and  
Prevention Agency Director of

Thursday, December 1

# 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

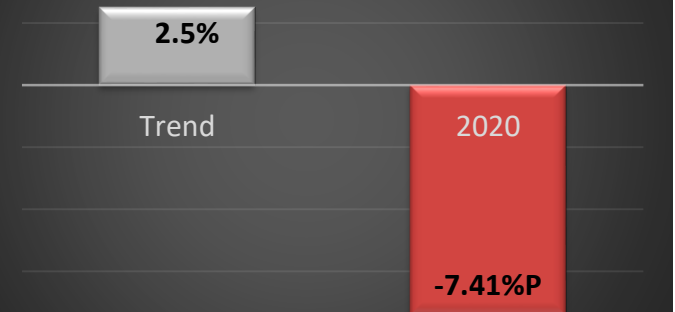
## Comparison of the magnitude of economic shocks



## Real GDP Growth rate



## Private Consumption Increase rate

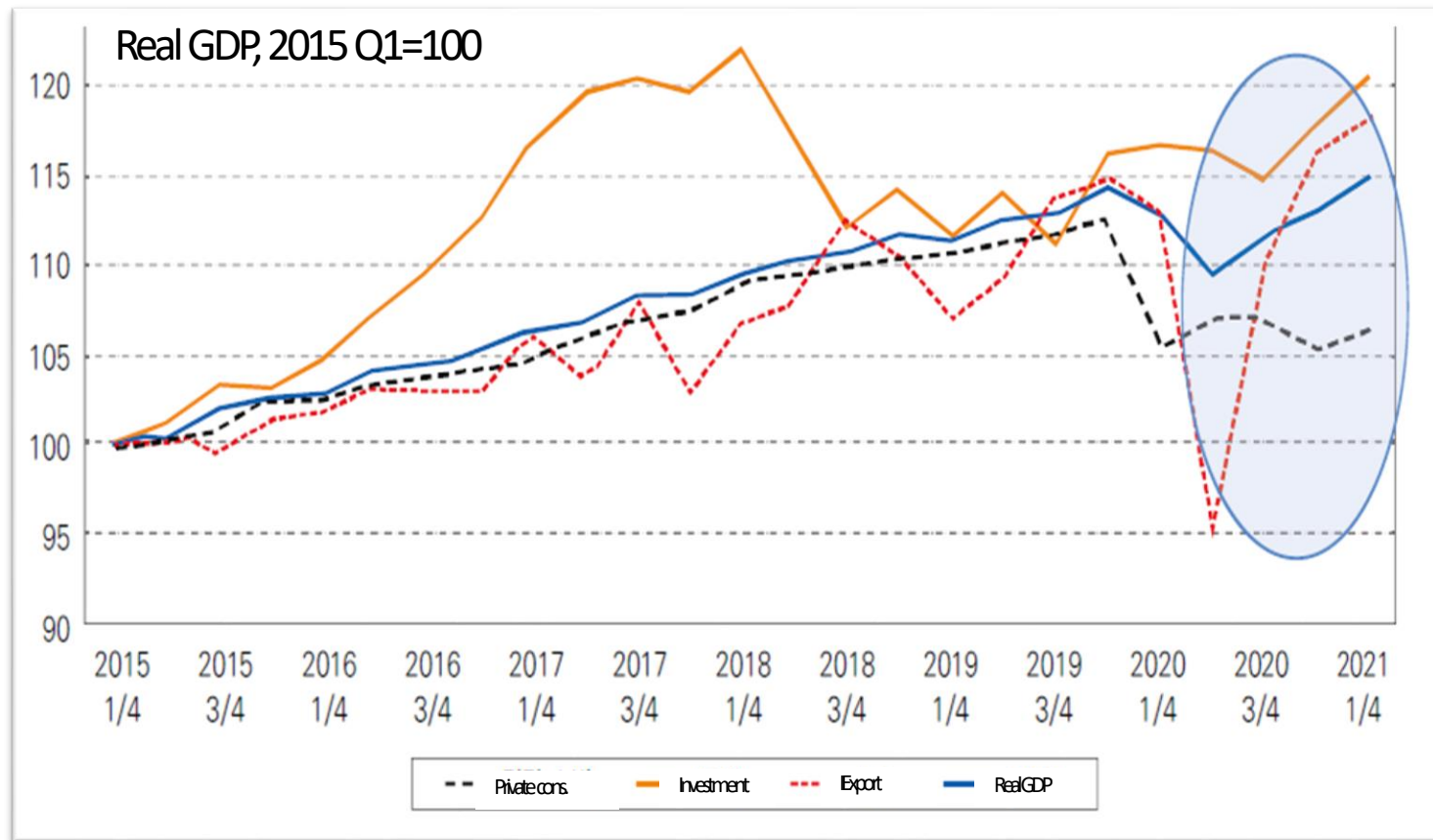


KIET REPORT(2021.5)  
Trend: 5 Years Average

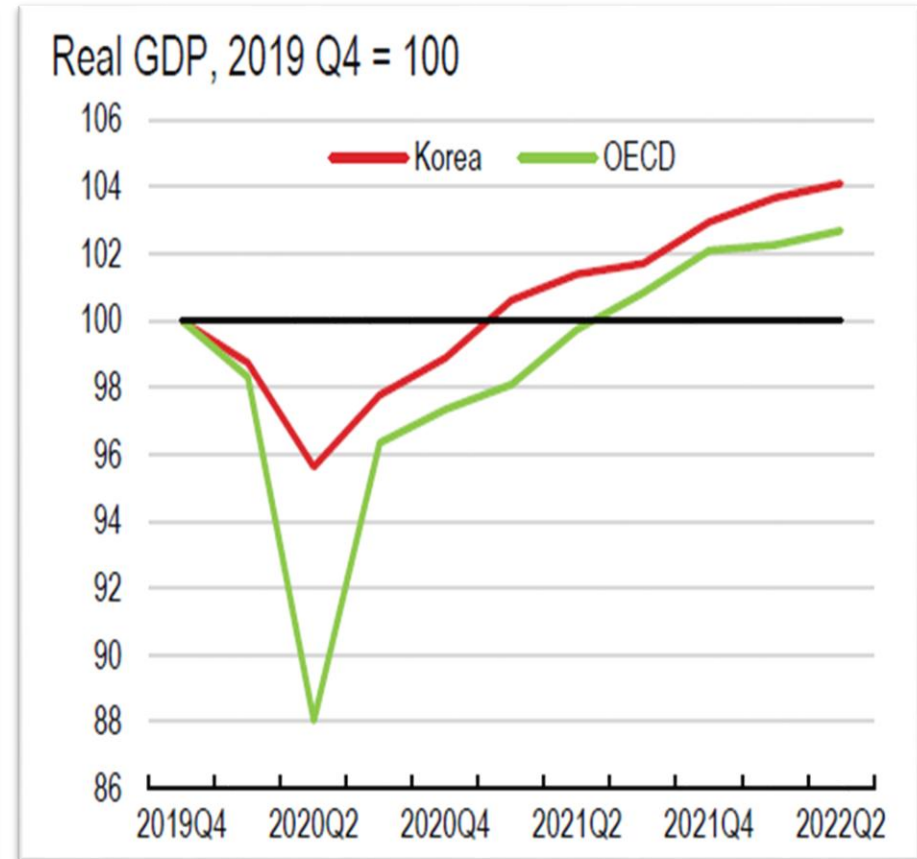


# The Impact of COVID-19 on Korean Economy

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**

Stage	Response Strategy		Key Measures
Initial Inflow	Containment	High uncertainty and lack of information on the characteristics of the disease→Controlling through quarantine and isolation	(3T) <ul style="list-style-type: none"><li>•Quarantine</li><li>•Point of the entry screening procedure</li><li>•3T - Early detection &amp; isolation of patient and contacts</li></ul>
Community infections - Delta variant outbreak	Suppression	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	(3T + Social Distancing + Vaccination) <ul style="list-style-type: none"><li>•3T + Stronger management of high-risk facilities</li><li>•Social distancing</li><li>•Start Vaccination Program</li></ul>
After Omicron variant outbreak	Mitigation	With the introduction of vaccines and medicines, minimizing the damage through efficient responses centered on high-risk groups	(Medical countermeasures + intensive care of high-risk groups + Vaccination) <ul style="list-style-type: none"><li>•Lifting social distancing measures</li><li>•Vaccination + Rapid administration of the therapeutics</li><li>•Focus on High-risk groups &amp; vulnerable facilities</li></ul>

# 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**

[view by country](#)

Deaths:  
**6,636,078**

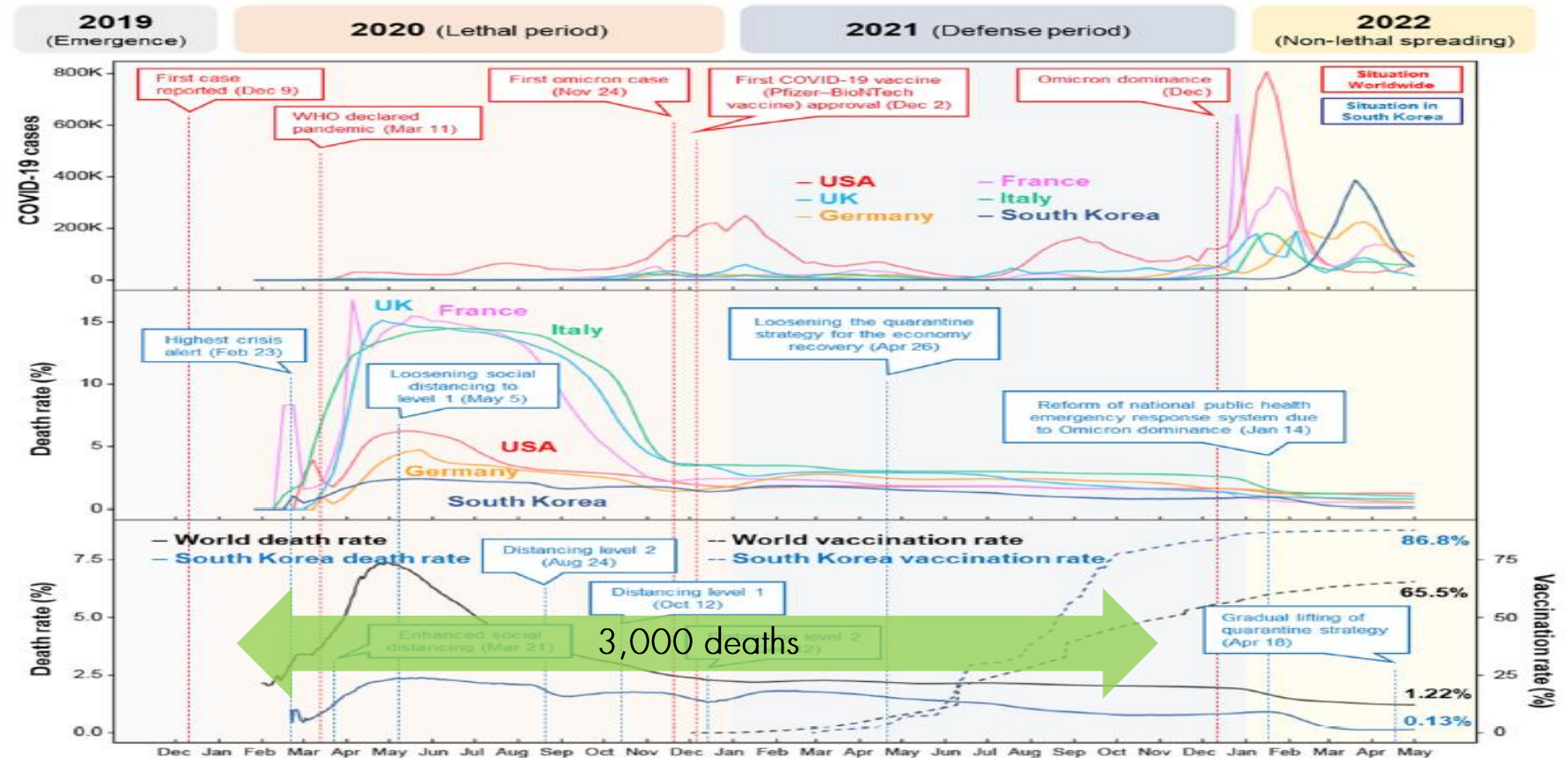
Recovered:  
**624,566,476**

 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

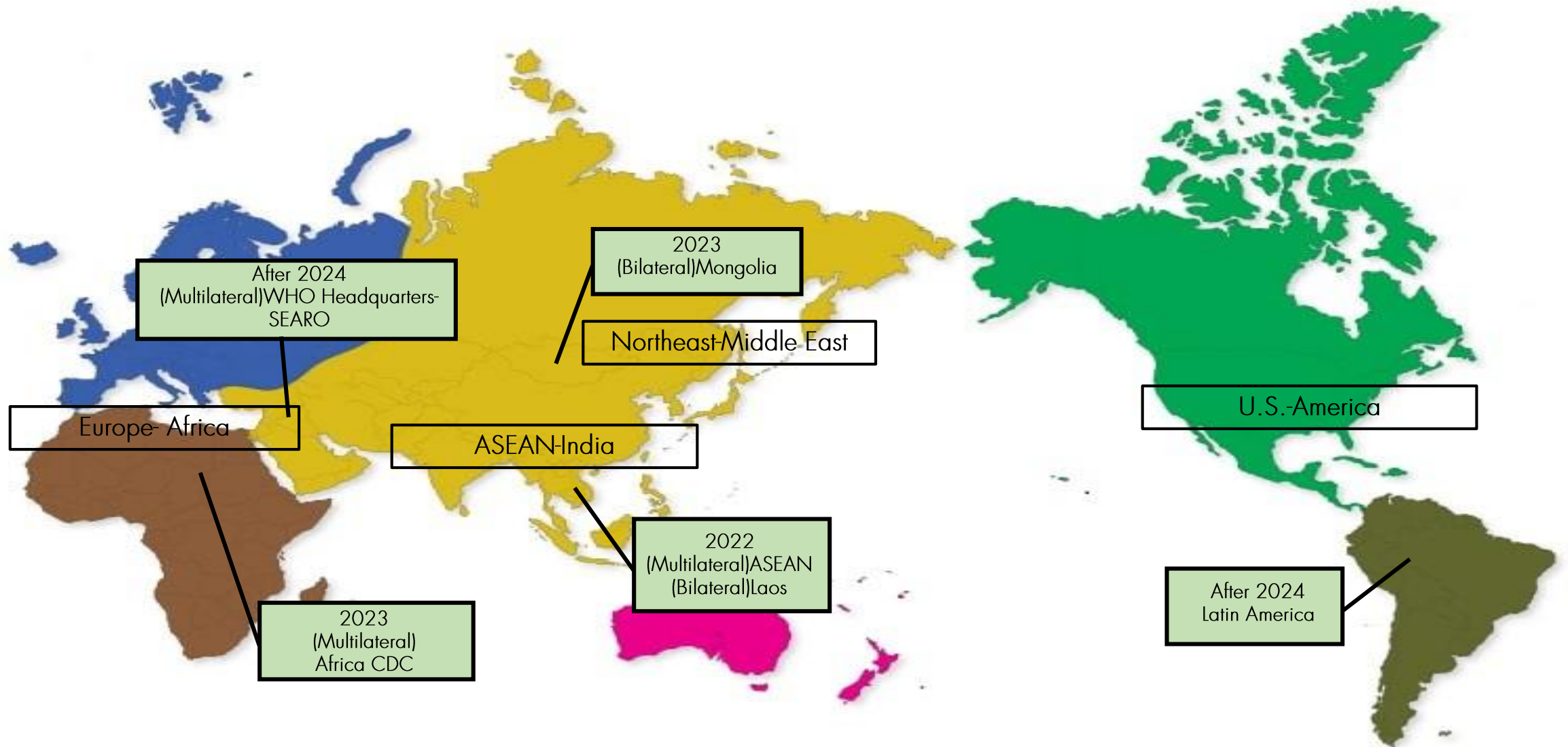
Jan 20, 2020  
Central Disease Control  
Headquarters of COVID-19

Sept 12, 2020  
Promotion to KDCA

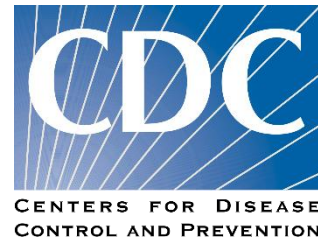
KDCA  
(2020~)



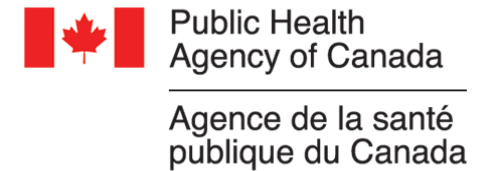
# Technical Assistance Projects by Continent



# Expanding and Strengthening Partnership



ROBERT KOCH INSTITUT



ХАЛДВАРТ ӨВЧИН СУДЛАЛЫН ҮНДЭСНИЙ ТӨВ  
National Center for Communicable Diseases





**Thank you for attention!**



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Prof. Jenny Harries,  
Director,  
UK Health Security Agency

Thursday, December 1

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 ...

Co-ordinating expertise  
and skills across system



Learning from the global  
pandemic



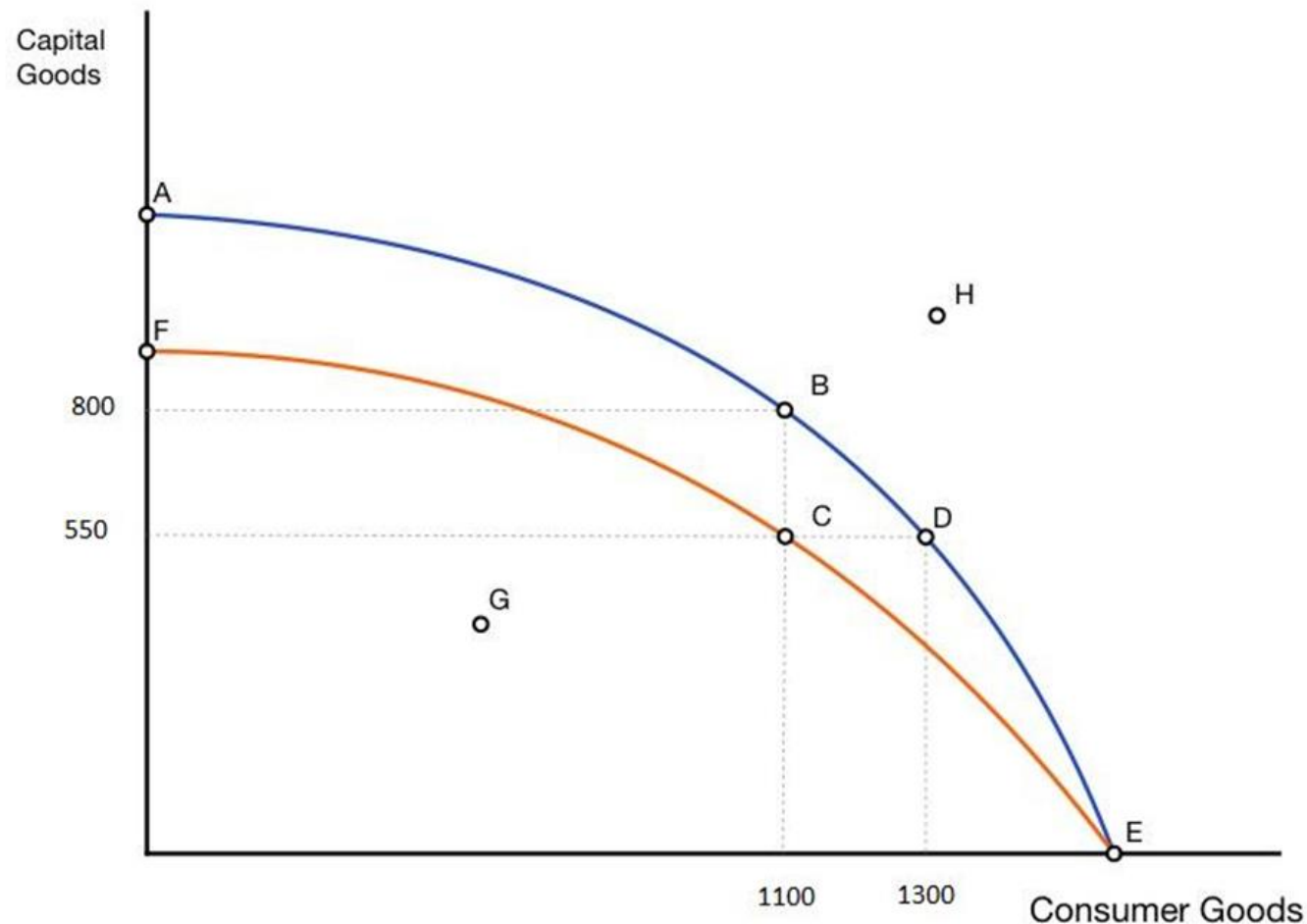
New and growing risks



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



Wildfires are becoming more frequent across the UK

## 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)

### England recorded 2,800 excess deaths in over-65s during 2022 heatwaves

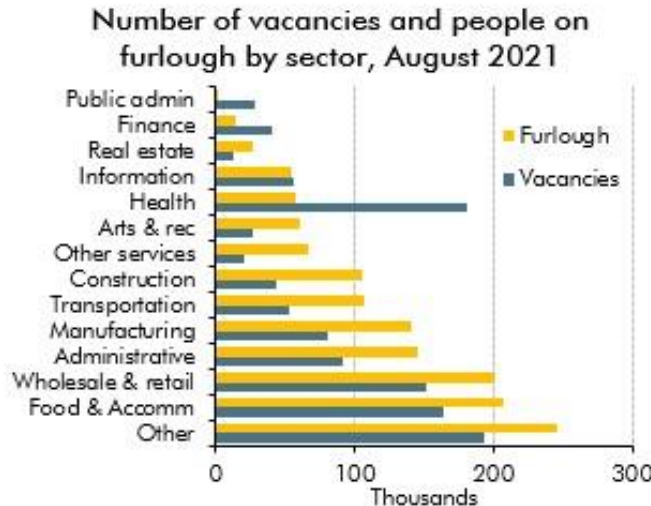
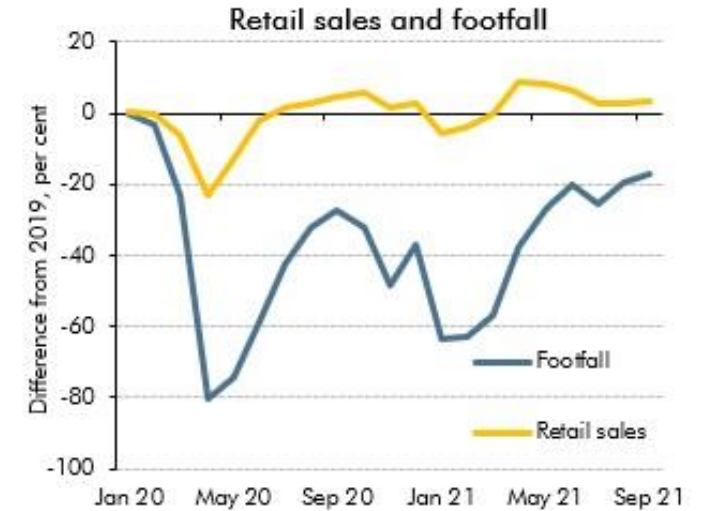
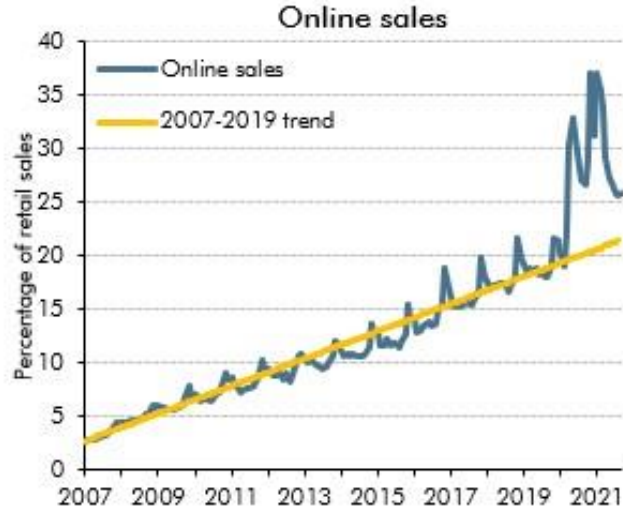
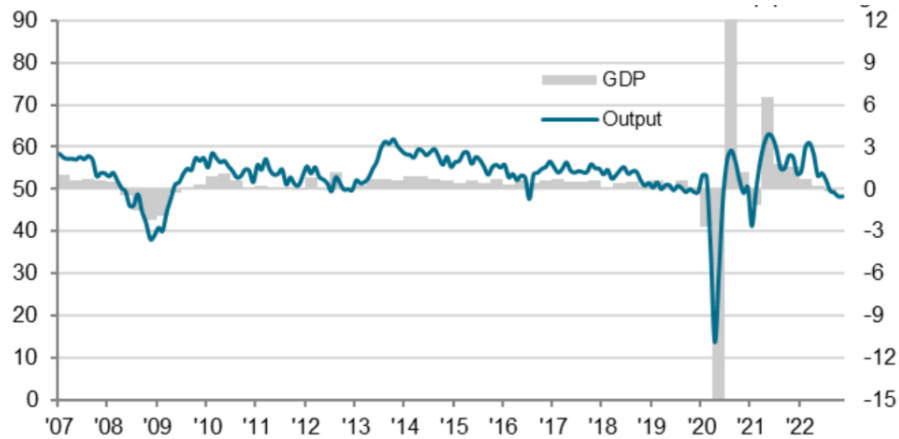
**Calls for government to take action now to prevent further unnecessary deaths next summer**



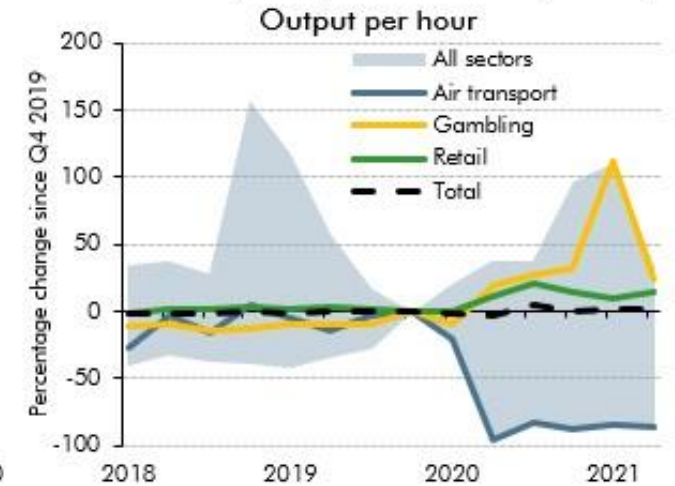
📷 'Making our cities livable in heatwaves should be a high priority,' one scientist said. Photograph: Toby Melville/Reuters

More than 2,800 more people aged 65 and over died in **England** during this summer's heatwaves than would have otherwise, figures show, marking the highest excess death toll caused by heat in at least two decades.

## What lies beneath the economic headlines?



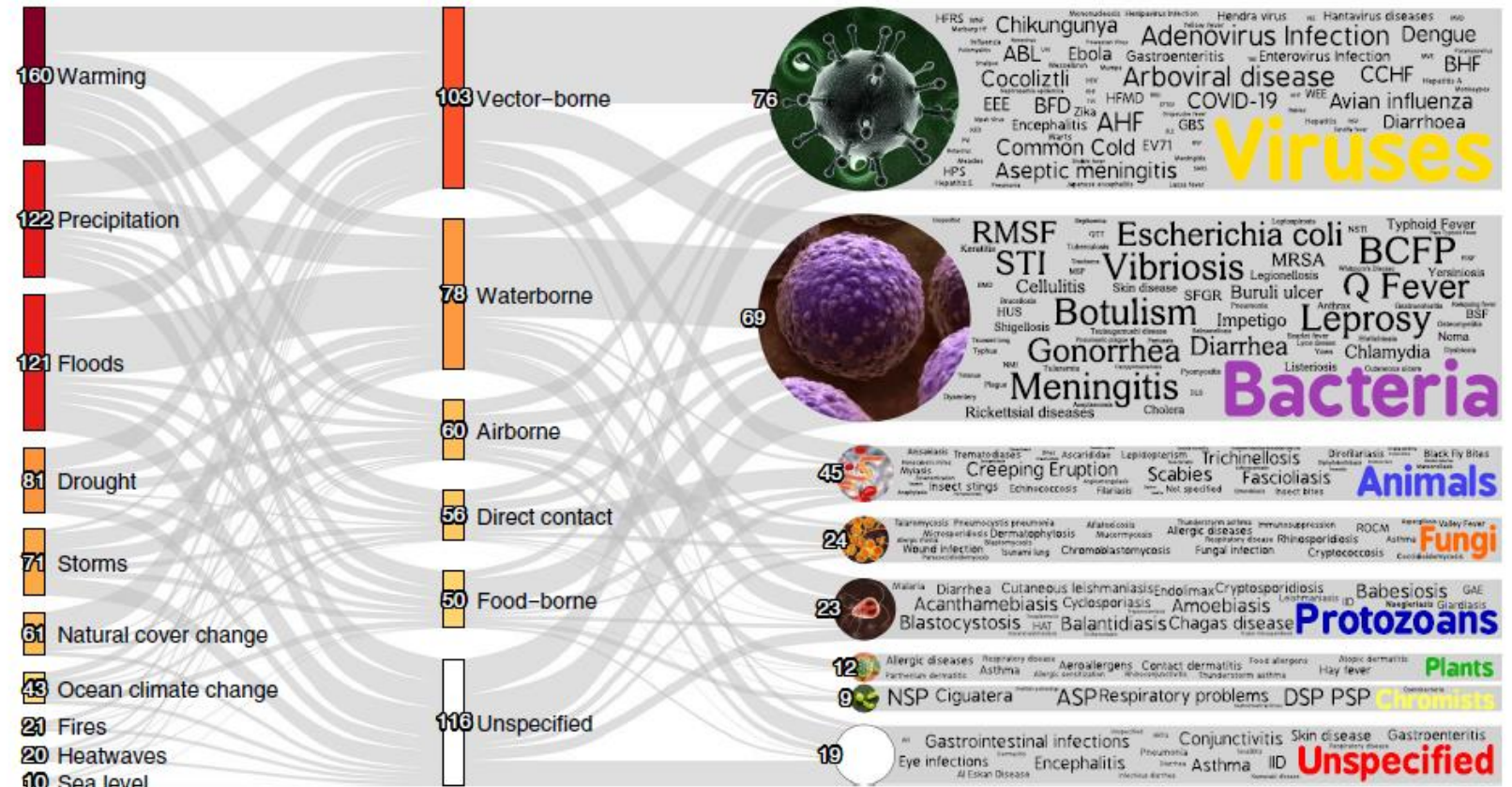
Source: ONS, Springboard, OBR



Note: excludes crude oil due to series volatility.

Source: Office for Budget Responsibility





Mora, C. et al. Over half of known human pathogenic diseases can be aggravated by climate change. Nat. Clim. Change <https://doi.org/10.1038/s41558-022-01426-1> (2022).



## 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.



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Heating, inflation and excess mortality – just what the doctor didn't order.

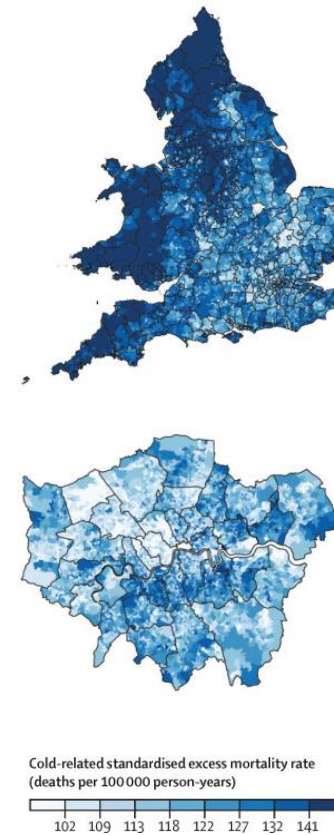
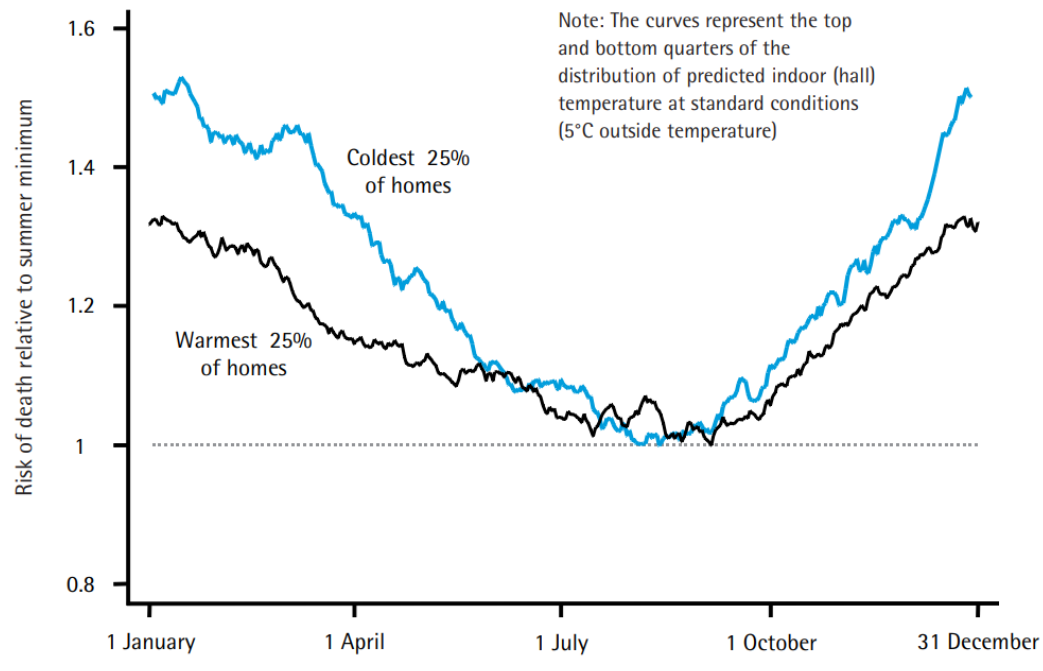
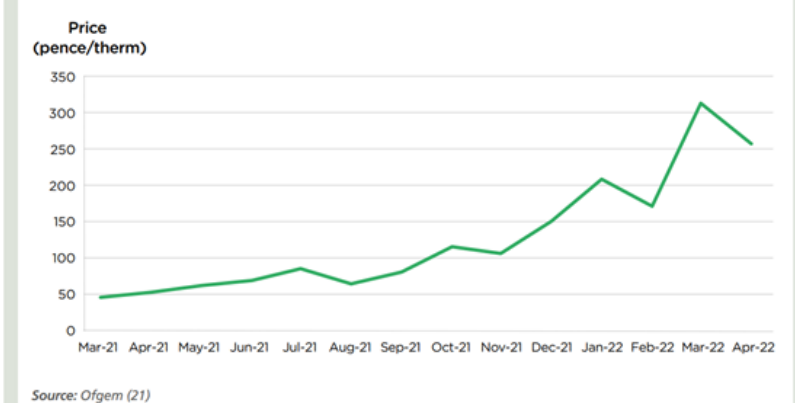


Figure 2. Average gas prices based on forward delivery contracts shown as pence per therm, UK, March 2021-April 2022



*Cold Comfort: The social and environmental determinants of excess winter deaths in England, 1986-96*  
Gasparrini A et al Lancet Plan Health 2022

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UK Health  
Security  
Agency

## EXHIBIT 2.1 The Burden of Large Epidemics



From Panic and Neglect to  
Investing in Health Security:  
Financing Pandemic Preparedness  
at a National Level  
World Bank, 2017



### Health impact

- Sickness
- Deaths
- People left with long-term sequelae

### Economic impact

- Productivity loss from death or disability of affected population
- Productivity loss of caregivers
- In most severe outbreaks
  - Loss from travel/transport bans (e.g. tourism, business travel, exports)
  - Loss of consumer confidence and spend
- In most severe outbreaks (cont'd)
  - Absenteeism and closure of schools
- Cost of response & recovery



### Social impact

- Disruption of social fabric
  - Children/dependents left without caregivers, disruption of households
  - Need for more caregivers due to disability
  - Social stigma
- Equity/access
  - Women & children disproportionately affected
  - Poorest population disproportionately affected

## EXHIBIT 2.4 Key Challenges for Financing of Preparedness Activities at the National Level



Competing needs for resources within the health sector, which result in higher priority for curative care at the expense of investments in strengthening public health capabilities



High uncertainty of direct reward from investments in preparedness—not easy to 'sell' an investment which, if successful, results in something avoided



Competing investment projects in other sectors with higher/more immediate perceived return, in the context of constrained resources



Multi-sectoral, cross-department and multi-level (global, regional, national and sub-national) coordination and efforts needed for effective implementation

## 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.<sup>1</sup>*

- 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.