Webinar Series: The Role of Vaccination in Maintaining Health and the Economy During Pandemics

Financing Life-Course Immunization for COVID-19 Response & Beyond

6 May 2021 20:00 (Washington, DC)
7 May 2021 9:00 (Singapore)
13:00 (Auckland)

Anupama Tantri
Executive Director of Vaccine Policy Development
MSD
Webinar Series: The Role of Vaccination in Maintaining Health and the Economy During Pandemics

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Dr. Chuhuei Chi
Professor
Oregon State University
Mobilizing Resources to Enable Urgent COVID-19 Mass Vaccination

A Presentation at APEC’s Life Sciences Innovation Forum
Financing Life-Course Immunization for COVID-19 Response & Beyond Webinar

May 7th, 2021

Chunhuei Chi, MPH, Sc.D.
Director, Center for Global Health
Professor, Global Health Program
Professor, Health Management & Policy Program
College of Public Health and Human Sciences
Oregon State University
Key Questions

1. What steps are needed to mobilize resources to enable urgent COVID-19 mass vaccination?

2. What types of needs must emergency vaccination funding cover (e.g., more vaccinators, training, communication campaigns, data and tracking systems, new vaccination sites)?
Share of people who received at least one dose of COVID-19 vaccine

Share of the total population that received at least one vaccine dose. This may not equal the share that are fully vaccinated if the vaccine requires two doses.
Mass Vaccination and Resource Mobilization
APEC Economies' Per Capita HC Expenditure, PPP USD, 2018

Data Source: World Bank, 2021
https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD

APEC LSIF Vaccine Forum -Chi 2021-5-7
## Financing Source for COVID-19 Vaccination

### Domestic
- MOH Fiscal
- MOH Emergency
- MOF/MOE Emergency
- Extra-Budgetary Mechanism
- Trust Funds and Bonds
- In-kind Resources

### External
- ADB
- World Bank
- COVAX
- Bilateral
- Multilateral
- Grants and Loans
- Bonds
Planning for the Future

1. An opportunity to strengthen health system and infrastructure beyond the pandemic
2. Contextualization of resource mobilization and financing
3. Vaccination to improve, rather to exacerbate social and health inequity
4. Collaboration within and beyond APEC
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Dr. Mursaleena Islam
Program Director
Thinkwell
How can we ensure adequate financing for routine immunization in the context of COVID-19?

Mursaleena Islam, Ph.D. | APEC Webinar | May 2021
Securing the resources for routine immunization and COVID-19 priorities requires robust, contextually-relevant, and actionable economic evidence.

Drawing on Relevant Case Studies

1. How much does it cost to deliver routine immunization in the COVID-19 context?
2. What is the cost of delivering COVID vaccines?
3. How much financing is available for routine immunization?
Case Study

How much does it cost to deliver routine immunization in the COVID-19 context?

**Background:** COVID precautions including *masks, gloves* and *other infection control measures* were anticipated to increase the cost of delivering routine immunization services, though decision makers had little evidence on the likely scale or main drivers of such costs.

**Working across 8 countries,** we set out to assess the *incremental additional costs* of delivery.

**Analyzed historical immunization expenditure data** for each country to establish ‘baseline’

**Built a unit-cost database** for key commodities from sources including the UNICEF Supply Catalogue

**Developed a dynamic model** to project delivery costs across three implementation scenarios

**Results and Impact:** Our projections showed that the costs of delivering routine immunizations by outreach could increase by **20-129%**. These data are now used by national governments and development partners to better anticipate and advocate for additional budget needs.

**References:**
Case Study

What is the cost of delivering COVID vaccines?

**Background:** COVAX member countries and donors required rapid evidence on the non-antigen delivery costs of COVID vaccines to better inform planning and advocacy efforts.

**Goal:** To determine incremental delivery costs for COVID vaccines across all 92 AMC countries

**Supported the COVAX Costing TWG** to build and test assumptions on population coverage and scale-up strategies

**Modelled costs at global/regional levels** (tech) as well as at country level (transport, cold chain, etc.)

**Developed robust estimates of costs per dose, costs per country** as well as total costs across all AMC countries

**Results and Impact:** Country-level delivery costs amount to **US$2.82 per fully vaccinated person**. The World Bank used these findings to conduct a fiscal space analysis to support resource allocation and prioritization.

How much financing is available for routine immunization?

**Case Study**

**Background:** The Indonesian Ministry of Health (IMoH) acted rapidly at the onset of the pandemic to reallocate funding from routine service delivery toward COVID response.

**Goal:** To determine the impacts of COVID response reallocations on local-level budgets for routine immunization.

**Worked with Government and local-level managers to analyze pre- and post pandemic budgets.**

**Cross-district analysis of financing adjustment for essential services including routine immunization.**

**Combined budget analytics with interviews with service providers to determine qualitative impact on services.**

**Results and Impact:** The budget for routine immunization declined across all districts assessed, through the magnitude of the decline varied. The combination of quantitative and qualitative outputs gave decision makers rich evidence to support budget advocacy efforts.

Securing the resources for routine immunization and COVID-19 priorities requires robust, contextually-relevant, and actionable economic evidence.

<table>
<thead>
<tr>
<th>1</th>
<th>Evidence needs vary</th>
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<tbody>
<tr>
<td>Economic and financial costing</td>
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<td>Cost-benefit analysis</td>
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<td>Investment cases</td>
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<th>2</th>
<th>Context is crucial</th>
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<td>Payer perspectives</td>
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<td>Local expertise</td>
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<td>Laser focus on usability</td>
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<th>3</th>
<th>Dissemination is key</th>
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<tr>
<td>Government counterparts</td>
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<td>Implementing partners</td>
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<td>Academic community</td>
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ThinkWell is an organization dedicated to improving the health and well-being of society as a means to achieve global prosperity. Since 2011, we have supported over 30 countries to achieve long-lasting improvements to their health systems.

Find out more at thinkwell.global

Contact speaker, Mursaleena Islam:

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Dr. Ping-Ing Lee
Professor
National Taiwan University
Mobilizing Diverse & Sustainable Financing to Achieve Immunization Across the Life-Course

Ping-Ing Lee
The government should be responsible for promoting immunization

- Constitutions
  - 156: … should adopt and execute policies to **improve** welfare of women and children
  - 157: … should promote **preventive** medicine

資料來源：2008 US CDC
Source of funding for NIP program, Taipei

NT$ \times 10^3


Others
Tobacco tax
Government funding
Expenditure
Health interventions in competition

- Long-term care
- Health insurance
- Rare disease
- Nutrition policy
- Betel nut control
- Hospital accreditation
- Obesity prevention
- Precision medicine
- Drug control
- Tabacco control
- Cancer screening
- HIV prevention
- New technology
- Health insurance
- Border quarantine
- Health screening
- Health insurance
- TB control
- Prenatal care
- Age-friendly
- Immunization
- Health screening
- Infection control
Cost-effectiveness analysis

- Disability-adjusted life year (DALY):
  - Assessment of global burden of disease analysis
  - Combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health.

- DALY averted (WHO)
  - < per capita GNI X 1: very cost-effective
  - Per capita GNI X 1-3: cost-effective
  - > Per capita GNI X 3: not cost-effective

- GDP of Taiwan (2007): $29,800
Most cost-effective analyses ignored the impacts other than finance

Pap: papanicolaou smear; CIN: cervical intraepithelial neoplasia; HPV: human papilloma virus

### Independent budget for immunization

#### Immunization Funds since 2010

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>‘18</th>
<th>‘19</th>
<th>‘20</th>
<th>‘21</th>
<th>‘22</th>
<th>‘23</th>
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<tr>
<td>Hepatitis A vaccine for children</td>
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<td><strong>Pneumococcal vaccine for ≥ 75 yrs</strong></td>
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<td><strong>Pneumococcal vaccine for high-risk population</strong></td>
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<tr>
<td>Hepatitis B immune globulin for neonates born to HBeAg(-) carrier mothers</td>
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<td>O</td>
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<tr>
<td><strong>Pneumococcal vaccine for ≥ 65 yrs</strong></td>
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<td>Rotavirus vaccine for infants</td>
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<tr>
<td><strong>Pneumococcal vaccine for at-risk population</strong></td>
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<tr>
<td>Hepatitis A vaccine for adolescents</td>
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Vaccine Funds since 2010, Taipei

- Tobacco tax: 53%
- Government funding
- Others: 1%

http://www.gavi.org/about/governance/programme-policies/vaccine-donation/
Vaccine donations
GAVI, since 2000

http://www.gavi.org/about/governance/programme-policies/vaccine-donation/
UNICEF works for a world in which every child has a fair chance in life.

UNICEF believes:

All children have a right to survive, thrive and fulfill their potential - to the benefit of a better world.

That means equal access to services and care that can make all the difference in children’s lives. It means working to achieve gender fairness and equality. Read about UNICEF’s gender action plan.
NT$7.1 billion donated to a University Biomedicine to Fight Cancer
Central Agency, Oct 8, 2015
Religious giving, Taipei
Questionnaire survey, 1994-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>% population</th>
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<tbody>
<tr>
<td>1994</td>
<td>79%</td>
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<tr>
<td>1999</td>
<td>74%</td>
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<td>2004</td>
<td>55%</td>
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<tr>
<td>2009</td>
<td>60%</td>
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Awareness! Awareness! Awareness!

- Increased **awareness** of the importance of vaccine and vaccine-preventable disease:
  - Vaccine hesitancy
  - Vaccine acceptance
  - Vaccine donation
  - motivation of stakeholders to support vaccination program

- Measures to increase awareness:
  - Public education: starting from primary schools
  - Media education
  - Medical education
  - Continued medical education
Parents' attitude toward copayment for immunization
N=1,560, TIVS, Taipei, 2014

Question: How much will you be willing to pay for a vaccine with a copayment strategy?

Agree, any cost: 26%
< $100: 22%
< $35: 13%
< $17: 10%
Depending on the necessity: 28%
Do not agree: 2%
Areas with rotavirus vaccine in NIP
N-81, May 1, 2016
Areas with pneumococcal conjugate vaccine in NIP  SAGE, WHO, Oct. 18, 2017

http://www.who.int/immunization/sage/1_Background_document_for(PCV_schedules_session_Oct_2011_nov11.pdf
Areas with human papillomavirus vaccine in NIP N=80, May, 2018, WHO

- Green: NIP
- Gray: Not in NIP
Joint Expert Forum for Prevention of Pneumococcal Diseases in Children in Asia
Thanks...