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

Cooperation to Secure Health & the Economy: The Arrival of the APEC Action Plan on Vaccination
https://www.apec.org/vaccinestaskforce

16 Sept 2021 21:00 (Washington, DC)
17 Sept 2021 9:00 (Singapore)
13:00 (Auckland)
Life-Course Vaccination & the COVID-19 Crisis

COVID-19 has affected immunization ecosystems in various ways:

• Significant immunization service interruptions (e.g., mass campaign suspensions, supply chain disruptions, etc.)
• Hesitancy as COVID-19 vaccines begin to enter the market
• Continuing and new immunization program financing needs
• Regulatory obstacles to effective and rapid delivery of vaccines

95% of economies in the Asia-Pacific region reported disruption to routine vaccination due to the COVID-19 pandemic.¹ The pandemic has resulted in ~23 million children globally missing basic childhood vaccines through routine health services in 2020.²

The present moment offers APEC economies the opportunity to take action to help populations recover and revive economies in the wake of COVID-19, while also charting a course for more resilient and sustainable life-course immunization programs over the coming decade.

The Vaccines Task Force, through its recently endorsed action plan and 2021 programs, aims to support APEC economies to achieve the WHO Immunization Agenda 2030 (IA2030), with a focus on fostering vaccination across the life-course.

By 2030, all 21 APEC member economies will have implemented resilient and sustainable life-course immunization programs, with the objective of achieving widespread uptake of vaccination across the life-course and thereby protecting the health and wellbeing of all populations.
Core Recommendations of the APEC Action Plan on Vaccination Across the Life-Course

APEC economies should move to take measures to:

1. Promote recognition of the value of vaccination & vaccine innovation
2. Prioritize access to & uptake of vaccination across the life-course
3. Build whole-of-government capacity in health security & pandemic preparedness
4. Strengthen confidence in vaccination & build resilient immunization program
5. Enable investment & innovation in vaccine R&D, manufacturing, and delivery
6. Accelerate regulatory harmonization for vaccines across APEC economies
7. Establish proven & innovative mechanisms for sustainable immunization financing

Under a life-course approach, immunization is recognized as a strategy to prevent diseases and maximize health over one's entire life, regardless of an individual's age. It is analogous to a life-course approach to nutrition and exercise.

Background:

Vaccines save between 2 and 3 million lives every year, and are expected to keep millions of people out of poverty over the coming decade, clearly indicating a strong social return on investment.1,2

Vaccination can also reduce the risk of antimicrobial resistance (AMR) that emerges from the misuse of antibiotics against infectious diseases, which in itself is projected to take 90 million lives annually by 2050.3

It has been estimated that measles, rotavirus, and pneumococcal conjugate vaccines could ultimately help avert $4.6 billion in out-of-pocket expenses in Gavi-eligible economies between 2016 and 2030.4

Another study estimates that by 2020, vaccinations administered since 2001 in Gavi economies have averted as much as $320 billion in total costs due to illness. A study of five major EU economies estimated that full implementation of a vaccination program for influenza alone could result in savings of $6.6 billion in reduced primary care visits and hospitalizations.5,6

One study of a Gavi proposal to extend the use of various childhood vaccines to 75 low-income economies found that the labor productivity benefits from expanded coverage alone could yield a return on investment of 12-18% between 2005 and 2030.7

In Indonesia, the cost of lost productivity resulting from influenza and resulting lower respiratory tract infections was estimated at $650 million in one year alone, with an additional $131.2 million in direct medical costs.8

In the US, the economic burden of adult vaccine-preventable diseases was found to amount to as much as $175 billion in a single year.9

With 50 million cases worldwide as of November 2020 (over a third in the APEC region), continuing spread, and no vaccine yet available on the market, the pandemic offers a stark demonstration of the opportunity cost of investment in immunization programs.10

Immunization programs also yield economic benefits. As demonstrated by a research study conducted in the Philippines, vaccination can induce improvements in test scores in children, which yields a return on investment as high as 215% when translated into the earnings of adults.11,12

Source: The Health Policy Partnership

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Pillar 1

Promote recognition of the value of vaccination and vaccine innovation by policymakers and key decision-makers.

Target 1.1
By 2030, all APEC member economies have introduced standardized systems, based on the respective needs and priorities of economies, to generate data on direct and indirect benefits of vaccination that meet quality standards, including the full societal value, to drive policy decisions and prioritization.

Indicator
Percentage of APEC economies that have in place a facility to generate data on both the direct and indirect benefits of vaccination.

Target 1.2
By 2030, all APEC member economies have introduced value assessment frameworks that are used to drive policy and decision-making processes, taking into account direct, indirect, economic, and societal value of vaccination.

Indicator
Percentage of APEC economies that utilize comprehensive value assessment frameworks for the evaluation of immunization programs’ health, social, and economic impact to drive vaccine policy and decision-making.

Target 1.3
By 2030, all APEC economies commit to incorporating the latest knowledge and data on the value of vaccination into the decision-making processes of leaders.

Indicator
Percentage of APEC economies that have established a communications plan to translate data and analysis of value of vaccination into policy recommendations accessible to stakeholders.

APEC Action Plan on Vaccination across the Life Course

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Pillar 2 / Prioritize access to and uptake of vaccination across the life-course for all individuals

**Target 2.1**
By 2030, each APEC member economy has established comprehensive domestic immunization calendars and immunization programs that cover all stages of life (including all ages) to provide broad access to protection against vaccine-preventable diseases for all populations

**Indicator**
Vaccine coverage rate for routine immunizations in each APEC economy, and across the region as a whole

**Target 2.2**
By 2030, all APEC economies achieve full vaccine coverage for all populations where appropriate – including foreign residents, migrant workers, refugees and stateless persons – through immunization programs that ensure equitable access across the life-course

**Indicator**
Number of new vaccines, underutilized vaccines, and vaccines with expanded indications introduced into the public immunization programs of each APEC economy over the decade, including booster programs and travel-related vaccinations

**Target 2.3**
APEC economies regularly and creatively engage in impactful partnerships with stakeholders to encourage vaccination

**Indicator**
Percentage of APEC economies that have put in place a team and/or process dedicated to maintaining stakeholder partnerships to incentivize vaccines uptake

APEC Action Plan on Vaccination across the Life Course

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Pillar 3 / Build whole-of-government capacity in health security and pandemic preparedness

**Target 3.1**
By 2030, all APEC economies have established mechanisms to effectively mobilize resources in order to deliver vaccines during health emergencies

**INDICATOR**
- Establishment of cross-sector dialogue mechanisms or fora to develop strategy for emergency resource mobilization
- Regular participation by APEC economies in the mechanism

**Target 3.2**
By 2030, all APEC economies have established recovery strategies for their immunization programs in the aftermath of acute health emergencies situations and/or humanitarian crises

**INDICATOR**
Number of APEC economies that have established not only a pandemic preparedness strategy, but also pandemic recovery strategy with "catch-up" immunization embedded into this strategy

**Target 3.3**
By 2030, all APEC economies have full surveillance and monitoring capacity to track any risk of health emergencies due to vaccine-preventable disease outbreaks, and to ensure progress towards vaccines uptake across the life-course

**INDICATOR**
Percentage of economies that have designed a comprehensive process for collecting and evaluating data on the uptake of vaccines, the status of infectious diseases, changing environmental conditions, and any emerging resistance patterns

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Pillar 4 / Strengthen confidence in vaccination and build resilient immunization programs

**Target 4.1**
By 2030, all APEC economies have established rapid, agile and responsive systems that can assess areas of systemic vulnerability, identify gaps, and mitigate the risk of threats to confidence

**Indicator**
Percentage of APEC economies that have put in place a team with the necessary skills and process designated to analyze system vulnerabilities and address emerging or potential threats to immunization.

**Target 4.2**
By 2030, all APEC economies have full monitoring and response capacity to understand crises in vaccines confidence as well as the necessary strategies to address issues

**Indicator**
Percentage of APEC economies which conduct in depth domestic specific studies to understand barriers to vaccination.

**Target 4.3**
By 2030, all APEC economies have active and productive channels of engagement with healthcare professionals (HCPs) that help to educate and empower them to advocate for vaccination and provide reassurance to patients with doubts about vaccination.

**Indicator**
- Percentage of economies that have put in place a communications team and/or process to build skills to manage patients who may be hesitant
- Percentage of APEC economies with well-defined scheduled for HCP vaccination

**Target 4.4**
By 2030, all APEC economies commit to incorporating the latest knowledge and data on the value of vaccination into the decision-making processes of leaders

**Indicator**
Percentage of APEC economies that have put in place a communications program which promotes confidence in vaccination among the public and HCPs.

APEC Action Plan on Vaccination across the Life Course

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Pillar 5 / Enable investment and innovation in vaccine R&D, manufacturing, and delivery

Target 5.1
By 2030, all APEC economies establish policies and procedures that foster public-private dialogue between vaccine producers and governments in order to chart an optimal course for encouraging investment in innovation.

Indicator
Percentage of APEC economies that have consolidated a private sector strategy to guide engagements with vaccine or broader pharmaceutical producers.

Target 5.2
By 2030, all APEC economies maintain mechanisms to enhance producers’ understanding of local demand and health needs, in order to inform R&D and reduce the commercial uncertainty of new investments.

Indicator
Percentage of APEC economies that have consolidated a private sector strategy to guide engagements with vaccine or broader pharmaceutical producers.

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
## Pillar 6

Accelerate regulatory harmonization for vaccines across APEC economies

### Target 6.1

APEC-wide endorsement of and adherence to a set of agreed regulatory practices including adherence to globally recognized regulatory harmonization recommendations and guidelines, in order to ensure effective supply chains and sufficient inventory

**Indicator**

- APEC-wide endorsement and recommendation for members to implement globally recognized regulatory harmonization guidelines for vaccines
- APEC workshops and capacity building to support implementation

### Target 6.2

By 2030, all APEC economies have undertaken capacity building initiatives to accelerate adoption of globally recognized recommendations and guidance on regulatory harmonization for vaccines

**Indicator**

Percentage of economies where capacity-building trainings have been designed and initiated, involving coordination between global vaccine producers, local producers, and regulators

### Target 6.3

Continuing multisectoral collaboration within and across APEC economies to ensure robust supply chain and access to vaccines across the globe

**Indicator**

APEC endorsement of recommendations on global vaccine supply chain security and incentives for investment and expanded access

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APEC Action Plan on Vaccination across the Life Course

Learn more at [https://www.apec.org/vaccinestaskforce/Action-Plan](https://www.apec.org/vaccinestaskforce/Action-Plan)
<table>
<thead>
<tr>
<th><strong>Pillar 7</strong></th>
<th><strong>Establish proven &amp; innovative mechanisms for sustainable immunization financing</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target 7.1</strong></td>
<td><strong>By 2030, all APEC economies make commitments on economy-wide immunization funding</strong></td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Percentage of APEC economies that have written and introduced an Economy-wide Immunization Plan with provisions for the life-course and concrete proposals for financing strategies</td>
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<td><strong>Target 7.2</strong></td>
<td><strong>Establishment of joint platforms within and across APEC economies in order to foster collaboration to identify and resolve financing challenges</strong></td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Percentage of APEC economies with health or other officials participating in an APEC-wide dialogue on financing strategies for immunization programs</td>
</tr>
<tr>
<td><strong>Target 7.3</strong></td>
<td><strong>Each APEC economy utilizes decentralized strategies to the extent necessary in its given context, in order to facilitate local alignment of funding and needs</strong></td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Percentage of APEC economies that have conducted an investigation of the feasibility, benefits, and risks of introducing decentralized strategies into their immunization plans</td>
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</tbody>
</table>

*APEC Action Plan on Vaccination across the Life Course*

Learn more at https://www.apec.org/vaccinestaskforce/Action-Plan
Life Sciences Innovation Forum
Webinar Series:
The Role of Vaccination in Maintaining Health and the Economy During Pandemics

Nora Siagian
Senior Director, Vaccines Lead | Pfizer EM Asia
Life Sciences Innovation Forum

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

Dr. Lulu Bravo
Professor Emeritus | University of the Philippines Manila
President | Immunization Partners in Asia Pacific (IPAP)
Vaccine confidence cannot be increased by facts and education alone.
Understand values, beliefs & attitudes.

Changing Ways Changes Behavior

POSITIVE VACCINATION CONVERSATION

- Understand values, beliefs & attitudes.
- Actively listen.
- Don’t interrupt.

PERSONALIZE

Focus on facts you wish to communicate.

POSITIVE VACCINATION EXPERIENCE

- Use open-ended questions.
- Acknowledge
- Recommend
RESILIENT and SUSTAINABLE IMMUNIZATION SYSTEMS

- Supportive and Positive Community and individual experiences

- Effective Health systems, Policies and Program Coordination

- Government and Stakeholders Leadership and Commitment (including Private Sector)

VACCINE RESILIENCE

“Immunization Programmes that are able to withstand major shocks and disruptions, to quickly adapt to changing circumstances and to maintain high vaccine uptake and acceptance over time”

Ozawa et al, BMC HLTH SERVICES RES 2016, 16 (Suppl 7) 639
Gathering **Experts** to be Involved Who Would Respond with: Transparency, Empathy, Equity, Equality, Timeliness, Honesty and Confidence
Where to find the experts:

- International and regional agencies
- Domestic agencies
- Professional, research and service organizations
- Former senior government officials and retired academics
- The “Sanjay Gupta” wannabes
THE WAY FORWARD....

THE STRATEGIES

• Research and Innovation
• Planning to forecast future situations and help policy development
• Understand socio-cultural and political contexts
• Develop effective dialogue and communication platforms involving all key stakeholders
• Continue efforts to ensure that politicians and policy makers understand the nature of evidence. (SCIENCE)
“SCIENCE FOR HUMANITY, SCIENTISTS WITH SOULS”

... TRANSLATE SCIENCE INTO ACTION...

Thank you!
Life Sciences Innovation Forum

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

Stacey Knobler
Vice President, Vaccine Innovation & Global Immunization
The Impact of Life-Course Immunization on Health & the Economy in the APEC region and the role of international cooperation

September 17, 2021

Stacey L. Knobler, MSc
Vice President, Vaccine Innovation & Global Immunization
Core Recommendations of the APEC Action Plan on Vaccination Across the Life-Course

Pillar 5 / Enable investment and innovation in vaccine R&D, manufacturing, and delivery

**Target 5.1**
By 2030, all APEC economies establish policies and procedures that foster public-private dialogue between vaccine producers and governments in order to chart an optimal course for encouraging investment in innovation.

**Indicator**
Percentage of APEC economies that have consolidated a private sector strategy to guide engagements with vaccine or broader pharmaceutical producers.

**Target 5.2**
By 2030, all APEC economies maintain mechanisms to enhance producers’ understanding of local demand and health needs, in order to inform R&D and reduce the commercial uncertainty of new investments.

**Indicator**
Percentage of APEC economies that have consolidated a private sector strategy to guide engagements with vaccine or broader pharmaceutical producers.
The Bad News

- Slowing revenue growth
- Flattening of the Development Pipeline
- Declining numbers of vaccine candidates reaching clinical studies
- Remaining unmet population health needs for vaccine-targetable diseases
Vaccines and their importance as an indispensable public health tool are at the forefront of global conversations due to COVID-19.
Investing in Vaccine R&D & Life-Course Immunization to Achieve Health and Economic Security: Learning from the COVID-19 Pandemic

Key Targets for Innovation-Driving Investment

- **Science & Technology Innovation**
  - Critical role of **public sector research to drive innovative breakthroughs** that can be taken up by private sector developers
  - Power of public-private partnerships and the role of public-sector governments to **de-risk private sector engagement** and investment in vaccine research and development
  - A growing understanding of **vaccines as a public good** that drives not only improved health outcomes, but both economic security and economic development
  - Matching the needs and priorities of defined population economies to innovation **R&D investments** to produce the development of **vaccines with feasible and sustainable product profiles** to drive demand, uptake, and optimize health outcome improvements
  - Develop future investment to **optimize procurement strategies** (consider regional economy pooling) to reduce cost and to better define and secure market demand
  - Reimagine health system vaccination program and infrastructure investments to **account for the need to reach populations across their lifespan with vaccine delivery services**

- **Process Innovation**

- **Health Systems & Program Design Innovation**
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Webinar Series:
The Role of Vaccination in Maintaining Health and the Economy During Pandemics

Carlos Kuriyama
Senior Analyst, Policy Support Unit | APEC Secretariat
The Importance of International Cooperation to Roll Out Vaccinations to Fight COVID-19

Carlos Kuriyama, Senior Analyst
Policy Support Unit, APEC Secretariat

Webinar on Cooperation to Secure Health & the Economy: The Arrival of the APEC Action Plan on Vaccination

17 September 2021 (SGT)
Vaccine supply chain is complex. International cooperation and trade facilitation are very important.

Main sources of APEC imports of supplies and equipment necessary for production, distribution and administration of vaccines, 2019 (Share in APEC imports)

<table>
<thead>
<tr>
<th>Category</th>
<th>Source Countries and Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezing equipment</td>
<td>China 31%, USA 15%, Mexico 15%</td>
</tr>
<tr>
<td>Vaccine carriers</td>
<td>USA 21%, Mexico 19%, Germany 12%</td>
</tr>
<tr>
<td>Needles</td>
<td>Mexico 22%, USA 21%, Ireland 11%</td>
</tr>
<tr>
<td>Alcohol solution</td>
<td>Mexico 44%, USA 20%, Brazil 18%</td>
</tr>
<tr>
<td>Dry ice</td>
<td>USA 28%, Israel 10%, China 9%</td>
</tr>
<tr>
<td>Cold boxes</td>
<td>USA 30%, China 22%, Japan 11%</td>
</tr>
<tr>
<td>Aluminum Salts</td>
<td>China 28%, USA 22%, Indonesia 13%</td>
</tr>
<tr>
<td>Sorbitol</td>
<td>China 33%, Indonesia 20%, France 15%</td>
</tr>
<tr>
<td>Thimerosal</td>
<td>India 20%, Argentina 18%, Germany 16%</td>
</tr>
<tr>
<td>Sterols</td>
<td>China 34%, USA 16%, Japan 16%</td>
</tr>
<tr>
<td>Stoppers</td>
<td>China 23%, Japan 13%, USA 12%</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>USA 38%, Canada 23%, Chinese Taipei 13%</td>
</tr>
<tr>
<td>Vials</td>
<td>China 33%, Mexico 16%, USA 8%</td>
</tr>
</tbody>
</table>

Source: ITC Trade Map. APEC PSU Calculations. Image from Shutterstock
Around 45.8% of APEC’s population is already fully vaccinated (as of 07 September 2021)

Vaccination rates are still low in some APEC economies

Global vaccination rates are also low, only 28.1% of the world population is fully vaccinated. Situation critical in most low income and lower-middle income economies with only 8.3% of the population fully vaccinated.

Source: Multilateral Leaders Task Force on COVID-19; Our World in Data; Chen and Teng (2021)
Note: Sorted by % of population fully vaccinated. Data as of 07 September 2021
Global COVID-19 vaccine production is not enough yet to satisfy world demand

<table>
<thead>
<tr>
<th></th>
<th>Accumulated production (# of doses, billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2021</td>
<td>2.1</td>
</tr>
<tr>
<td>June 2021</td>
<td>3.1</td>
</tr>
<tr>
<td>July 2021</td>
<td>4.6</td>
</tr>
<tr>
<td>August 2021</td>
<td>6.1</td>
</tr>
<tr>
<td>September 2021 (forecast)</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Total global production** is forecasted to reach **12.2 billion by the end of 2021.**

Around **14 billion doses are required** to fully vaccinate 90% of the world population, assuming 2 doses per person.

Very challenging task. Global market of all types of vaccines (for any disease) in 2019 was equal to **5.5 billion doses.**

Massive collaboration among vaccine producers, supply chain participants, public sector and academia to accelerate development, production and authorizations for emergency use.

Production increasing significantly, particularly in the APEC region and Europe.

Source: Airfinity
Only 1.8% of delivered vaccines in APEC were received via the COVAX facility

Doses received via the COVAX facility (number in millions and % share to total delivered)

<table>
<thead>
<tr>
<th>Country</th>
<th>Doses (millions)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>0.1</td>
<td>2.6%</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>0.1</td>
<td>29.4%</td>
</tr>
<tr>
<td>Chile</td>
<td>0.5</td>
<td>1.7%</td>
</tr>
<tr>
<td>Australia</td>
<td>0.5</td>
<td>2.5%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>0.6</td>
<td>98.7%</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>0.6</td>
<td>4.7%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.8</td>
<td>2.3%</td>
</tr>
<tr>
<td>Canada</td>
<td>1.0</td>
<td>1.6%</td>
</tr>
<tr>
<td>Peru</td>
<td>2.1</td>
<td>10.9%</td>
</tr>
<tr>
<td>Korea</td>
<td>2.5</td>
<td>5.8%</td>
</tr>
<tr>
<td>Mexico</td>
<td>4.3</td>
<td>5.0%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>10.2</td>
<td>47.5%</td>
</tr>
<tr>
<td>Philippines</td>
<td>13.5</td>
<td>32.6%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>22.1</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

COVAX has only distributed **256.7 million doses** as of early September 2021. Low-income and lower-middle income economies require **7.1 billion doses** to fully vaccinate 90% of their population.

Source: COVID-19 Vaccine Market Dashboard
Note: Data as of 07 September 2021
Many issues are affecting COVID-19 vaccines, more international collaboration is needed

- **Complex supply chain.** COVID-19 vaccine is sensitive to disruptions in any of its components. Cold chain equipment and storage required, even in communities away from main urban centres.
- **High MFN tariffs** for some vaccine-related products (e.g. alcohol solution, vials, freezing equipment, etc.)
- **Export restrictions and prohibitions** on COVID-19 vaccines and related supply and equipment could affect supplies to the APEC region.
- **Bottlenecks in intellectual property rights** could affect plans to expand vaccine production in the short term.
- **Good Manufacturing Practice** is a **requirement** to produce any vaccine. **Divergences in protocols** among economies could complicate plans to ramp up vaccine production of COVID-19.
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