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

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Dr. Chunhuei 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

Oregon State University
Center for Global Health

APEC
Life Sciences Innovation Forum

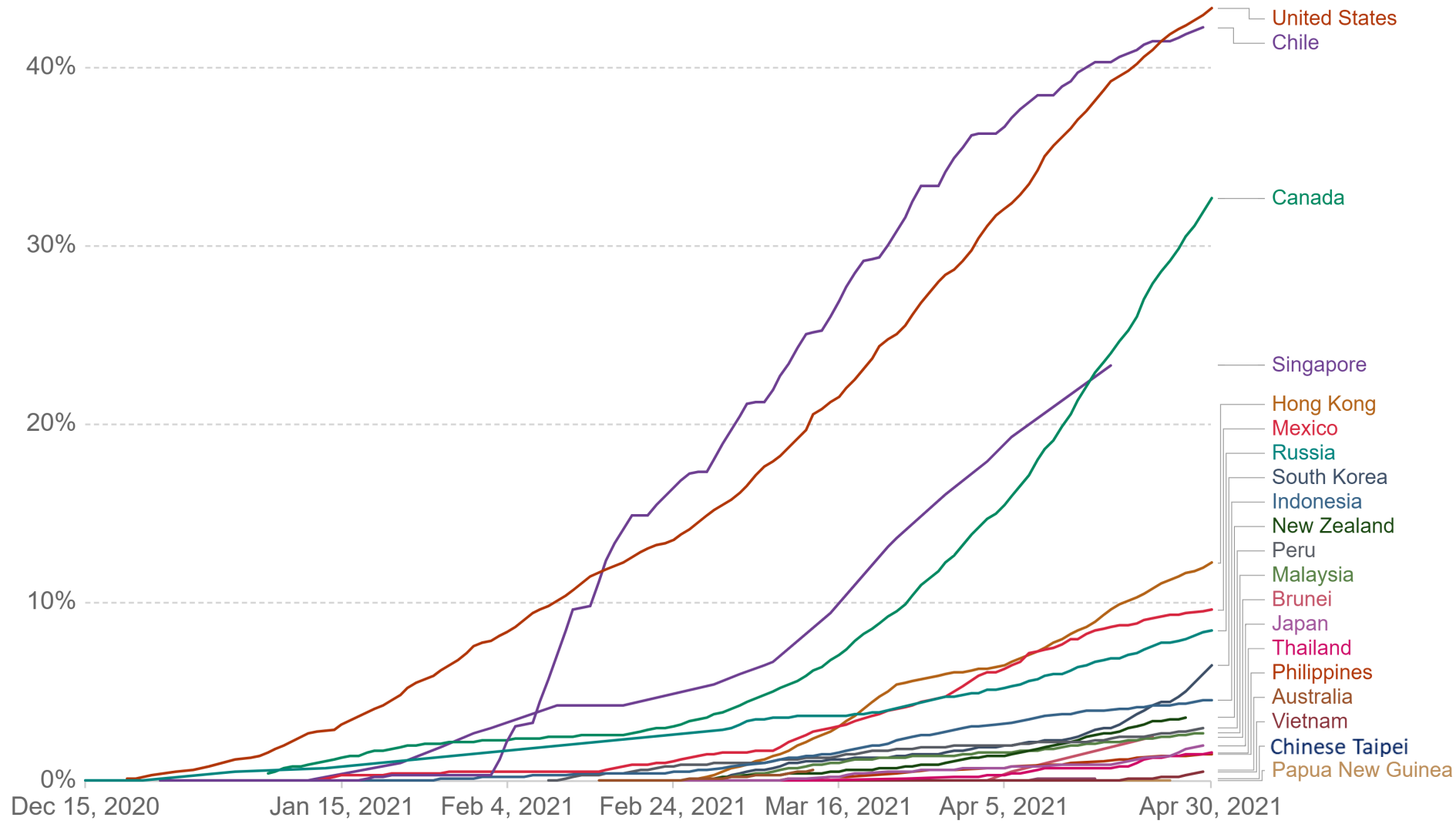
Key Questions

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.



Source: Official data collated by Our World in Data

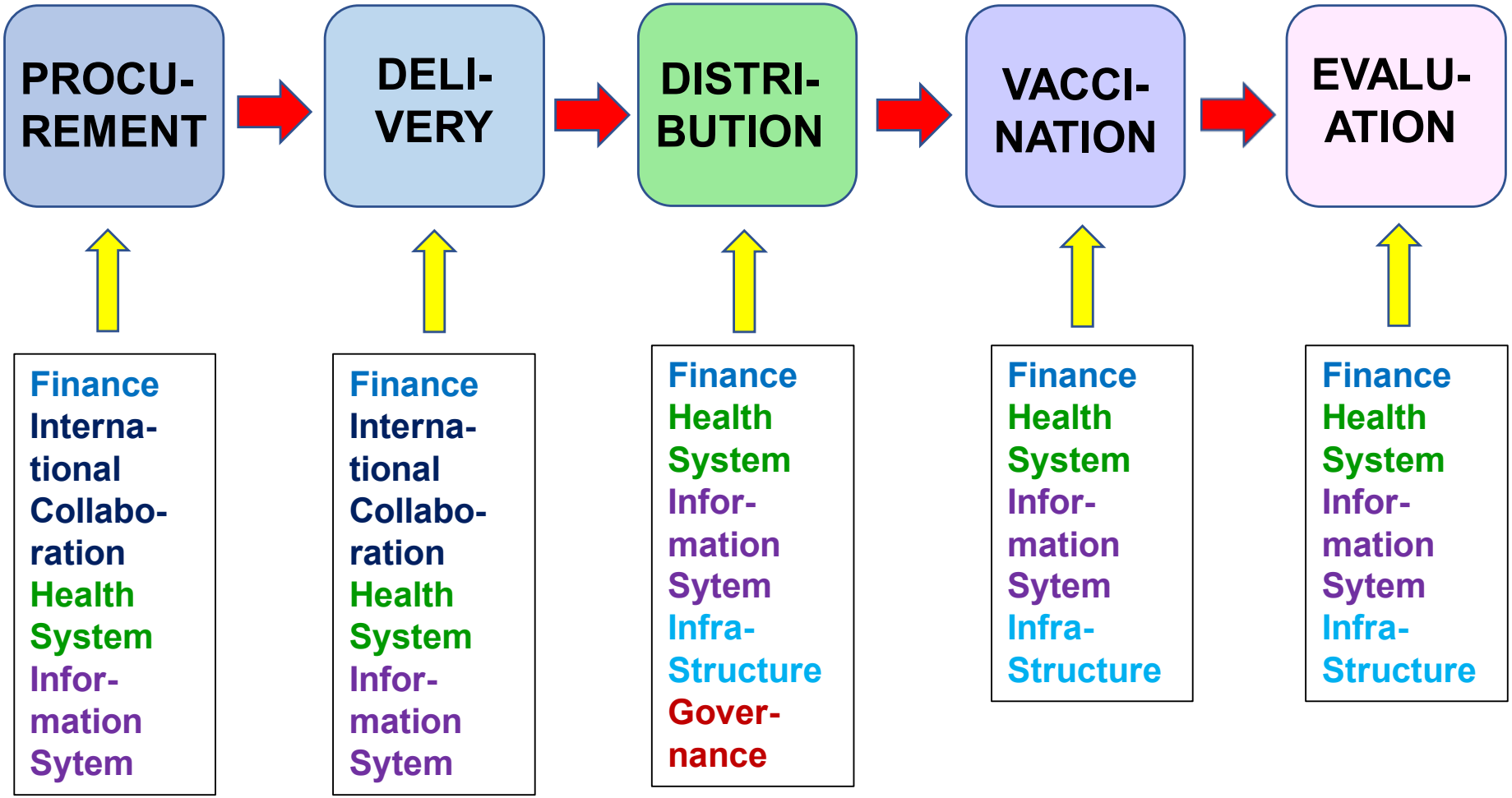
SOURCE: Our World in Data

PROCUREMENT ≠ **DELIVERY**

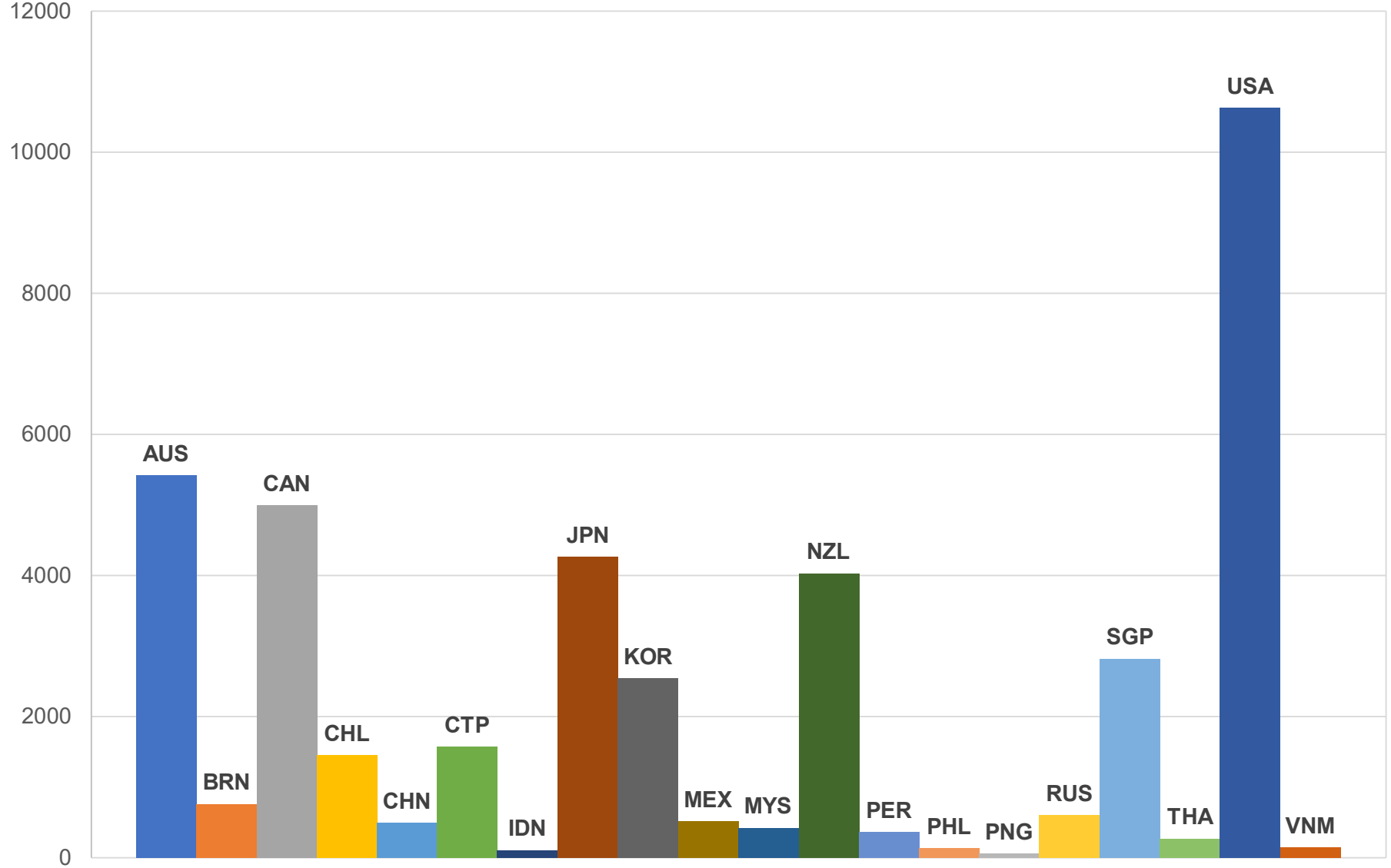
AVAILABILITY ≠ **ACCESBILITY**

VACCINATION ≠ **PROTECTION**

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 ,

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

1

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: **[1]** ThinkWell. 2020. [Report] *The cost of routine immunization outreach in the context of COVID-19: estimates from Tanzania and Indonesia*; **[2]** ThinkWell. 2020. [Report] *Immunization campaigns during the COVID-19 pandemic. A rapid analysis of the additional operational cost*.

Case Study

2

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.

Reference: WHO, GAVI and UNICEF. 2021. *Costs of delivering COVID-19 vaccine in 92 AMC countries - Updated estimates from COVAX Working Group on delivery costs.*

Case Study

3

How much financing is available for routine immunization?

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

Reference: ThinkWell. 2021. [Technical Brief] *Maintaining Essential Services during the COVID pandemic in Indonesia [Forthcoming].*

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

1 Evidence needs vary	2 Context is crucial	3 Dissemination is key
Economic and financial costing	Payer perspectives	Government counterparts
Cost-benefit analysis	Local expertise	Implementing partners
Investment cases	Laser focus on usability	Academic community

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:

mislam@thinkwell.global

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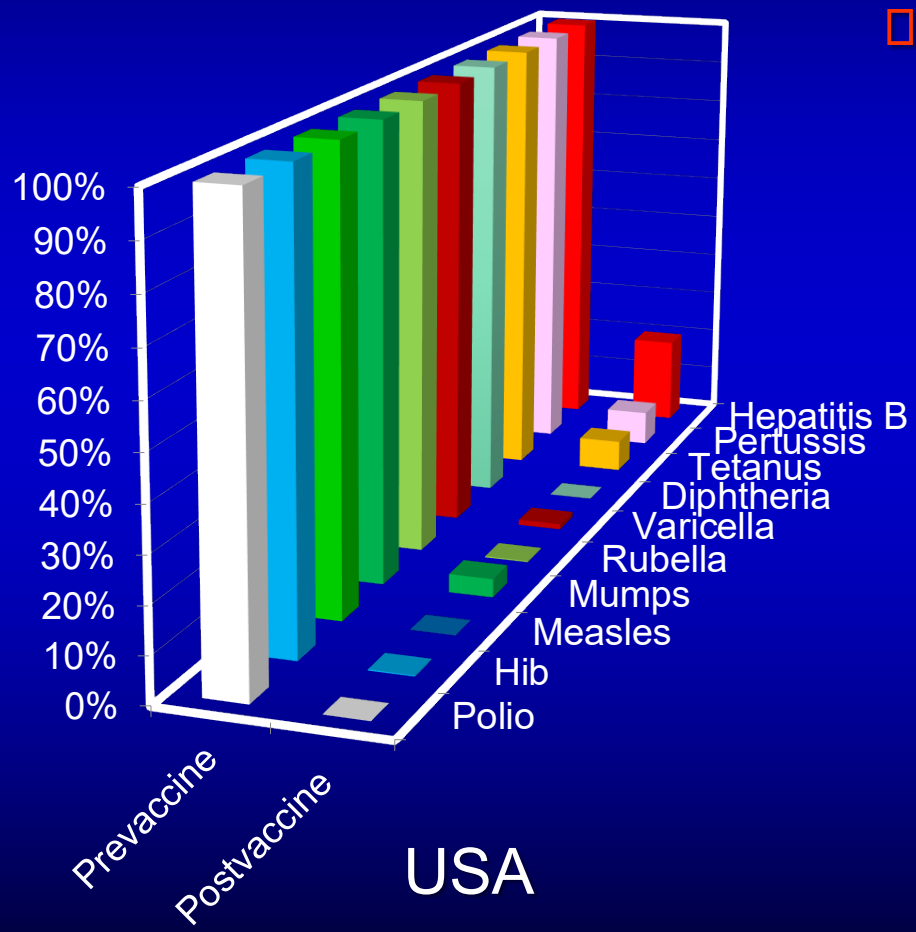
Dr. Ping-Ing Lee
Professor
National Taiwan University

Mobilizing Diverse & Sustainable Financing to Achieve Immunization Across the Life-Course

Ping-Ing Lee

G.Q.

The government should be responsible for promoting immunization

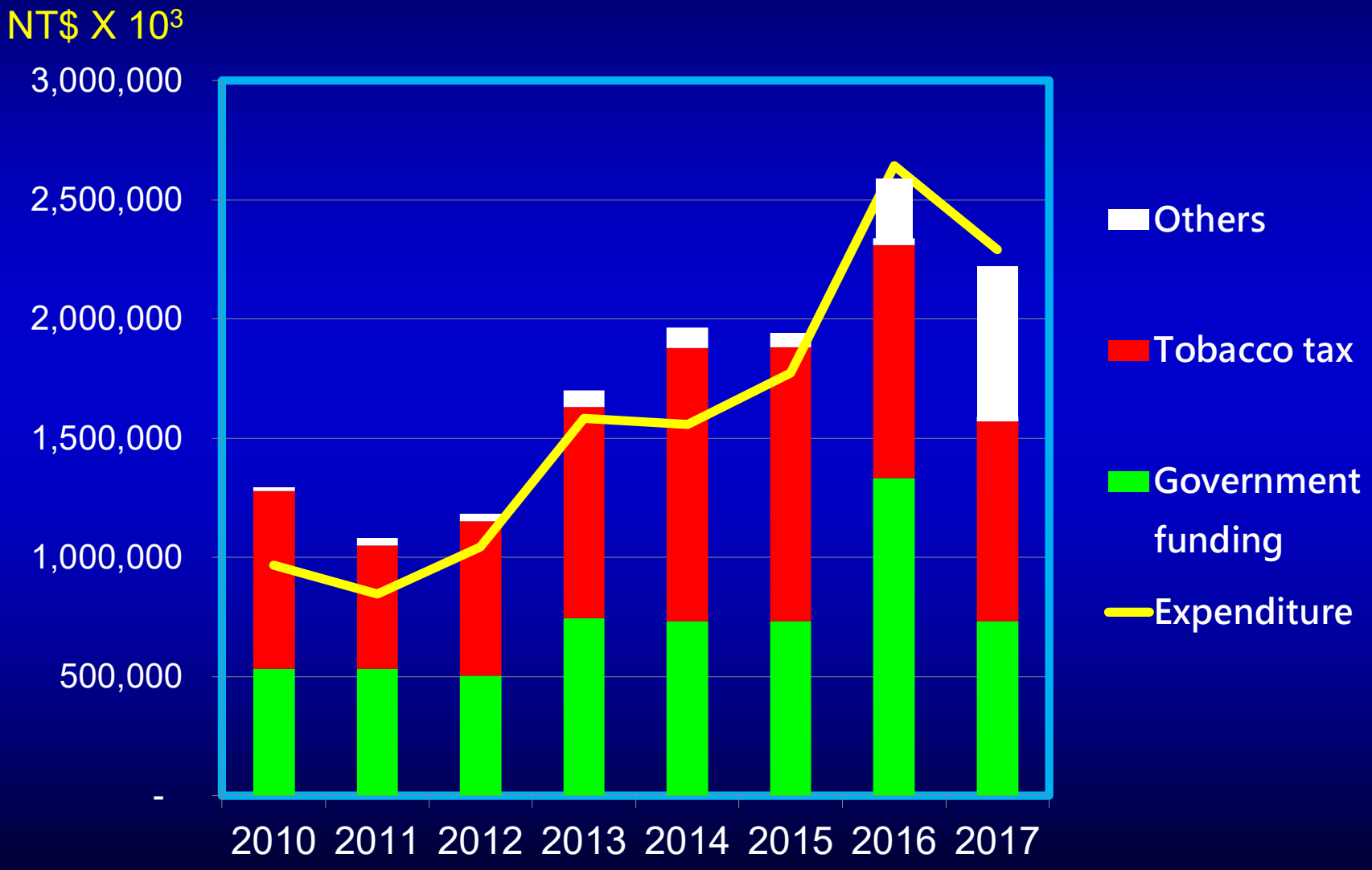


- Constitutions
  - 156: … should adopt and execute policies to **improve welfare of women and children**
  - 157: …should promote **preventive medicine**

資料來源：2008 US CDC

G.Q.

Source of funding for NIP program, Taipei



G.Q.

Health interventions in competition

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

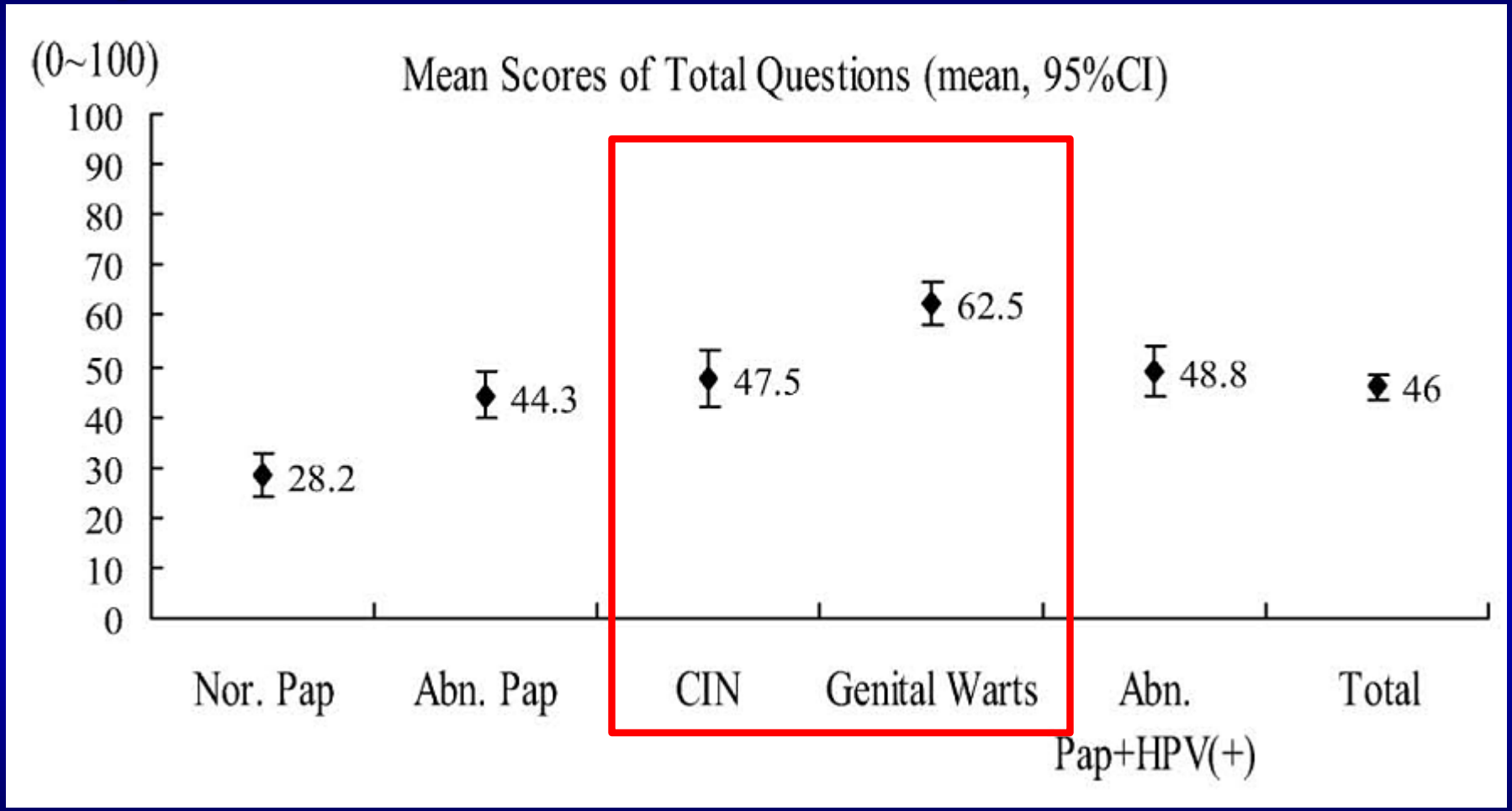
G.Q.

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

G.Q.

Most cost-effective analyses ignored the impacts other than finance



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

G.Q. Wang KL. J Psychosom Obstet Gynaecol 2010;31(1):16.

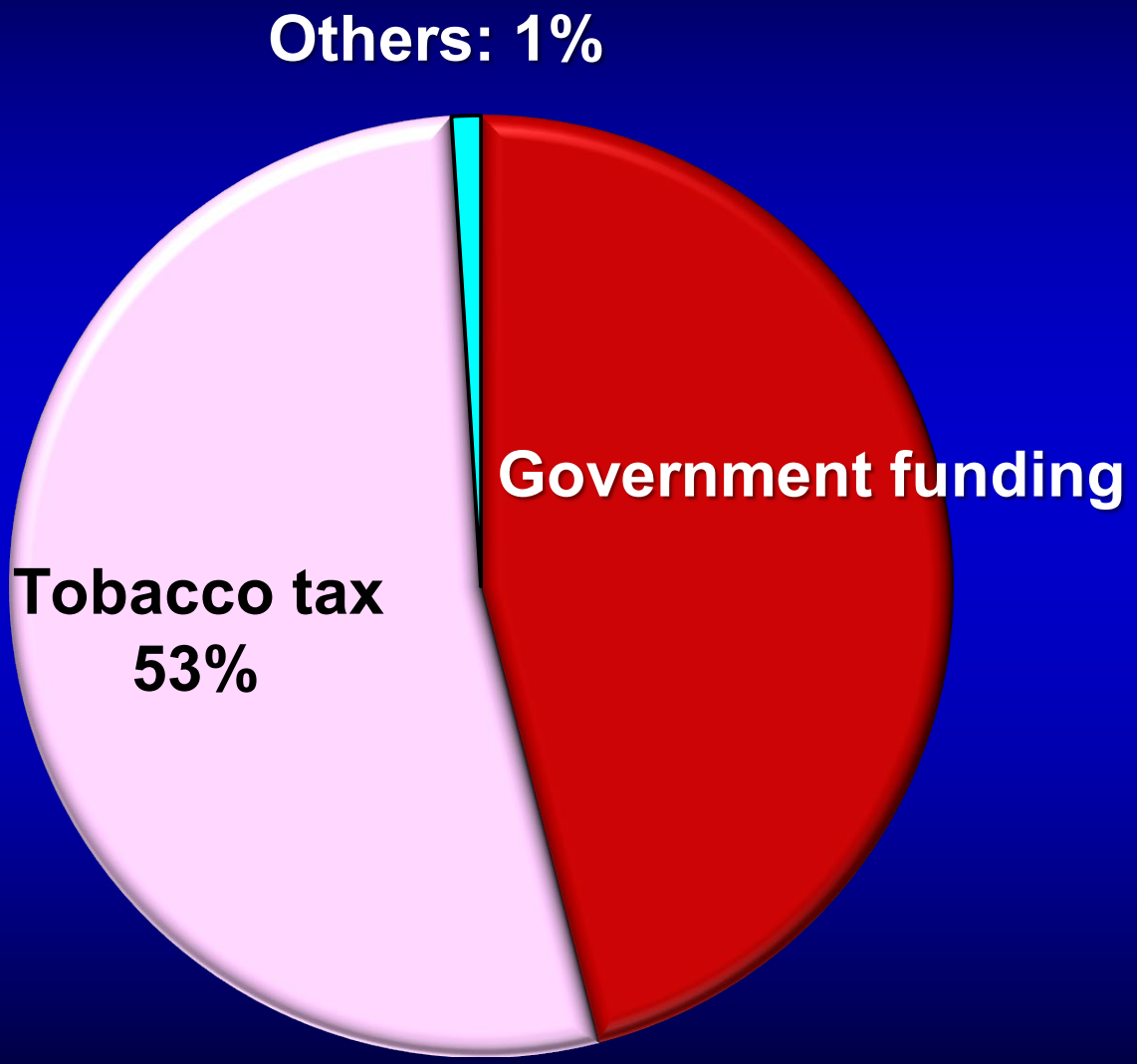
Independent budget for immunization

- Immunization Funds since 2010

Vaccine	'18	'19	'20	'21	'22	'23
Hepatitis A vaccine for children	O	O	O	O	O	O
Pneumococcal vaccine for ≥ 75 yrs		O	O	O	O	O
Pneumococcal vaccine for high-risk population		O	O	O	O	O
Hepatitis B immune globulin for neonates born to HBeAg(-) carrier mothers		O	O	O	O	O
Pneumococcal vaccine for ≥ 65 yrs			O	O	O	O
Rotavirus vaccine for infants			Low income	O	O	O
Pneumococcal vaccine for at-risk population					O	O
Hepatitis A vaccine for adolescents						O

G.Q.

Vaccine Funds since 2010, Taipei



G.Q.

http://www.gavi.org/about/governance/programme-policies/vaccine-donation/

Vaccine donations

GAVI, since 2000

G.Q. http://www.gavi.org/about/governance/programme-policies/vaccine-donation/

Vaccine donations
UNICEF

unicef
70 YEARS FOR EVERY CHILD

WHO WE ARE | WHAT WE DO | WHERE WE WORK | PRESS CENTRE | STATISTICS | BLOGS

Who we are

UNICEF works for a world in which every child has a fair chance in life.

About UNICEF

Children need your help

Children worldwide need your help right now. Please donate what you can today.

DONATE NOW

From distributing lifesaving aid to children in the aftermath of World War II to fighting Ebola, UNICEF has been working for children for almost 70 years.

Our history

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.

See how UNICEF works

G.Q. http://www.unicef.org/about/

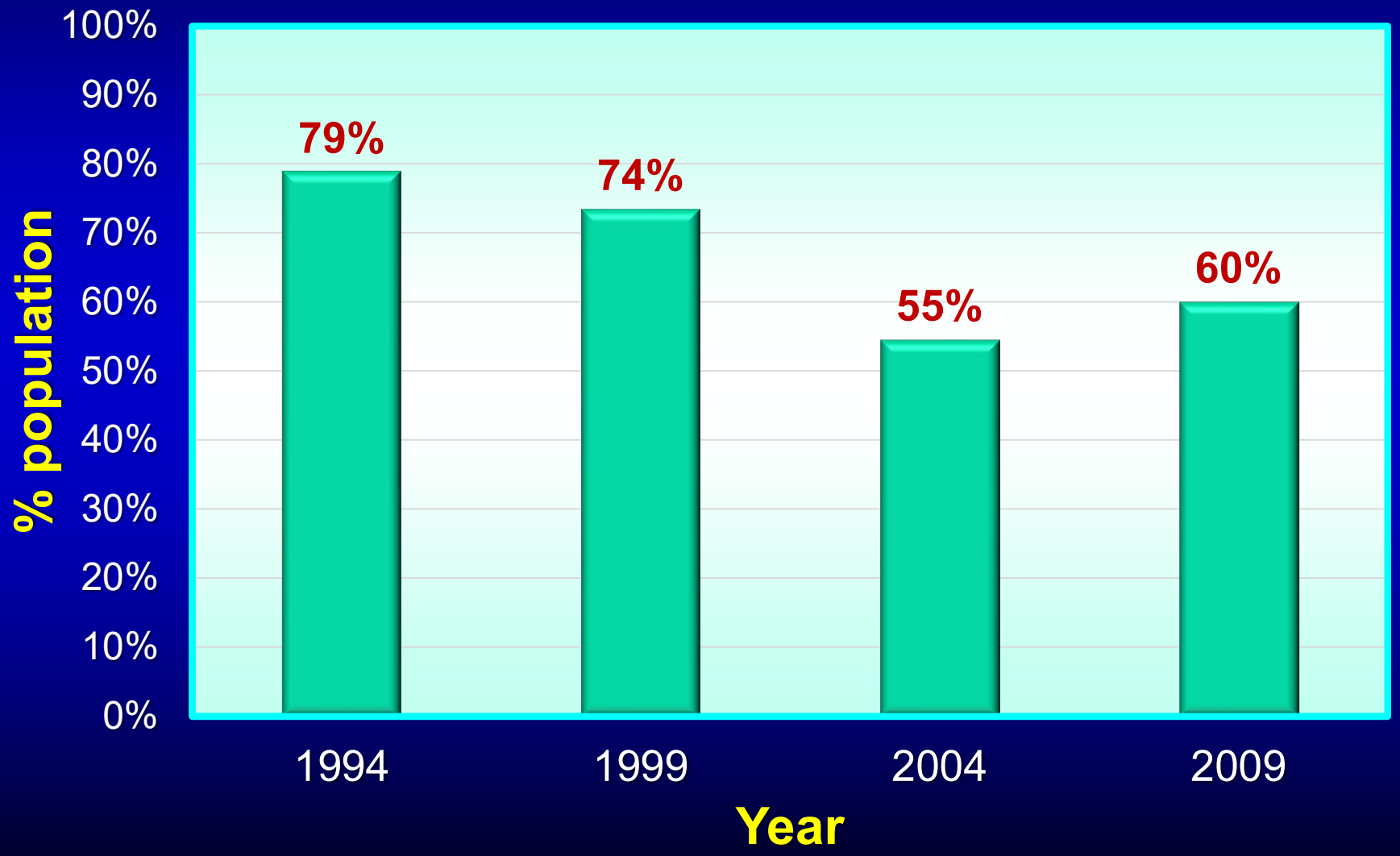
NT$7.1 billion donated to a University Biomedicine to Fight Cancer

Central Agency,
Oct 8, 2015

G.Q.

Religious giving, Taipei

Questionnaire survey, 1994-2009



G.Q.

http://www.ios.sinica.edu.tw/TSCpedia/index.php?title=%E5%8F%B0%E7%81%A3%E6%B0%91%E7%9C%BE%E7%9A%84%E5%AE%97%E6%95%99%E6%8D%90%E6%AC%BE&diff=3294&oldid=3292

Awareness! Awareness! Awareness!

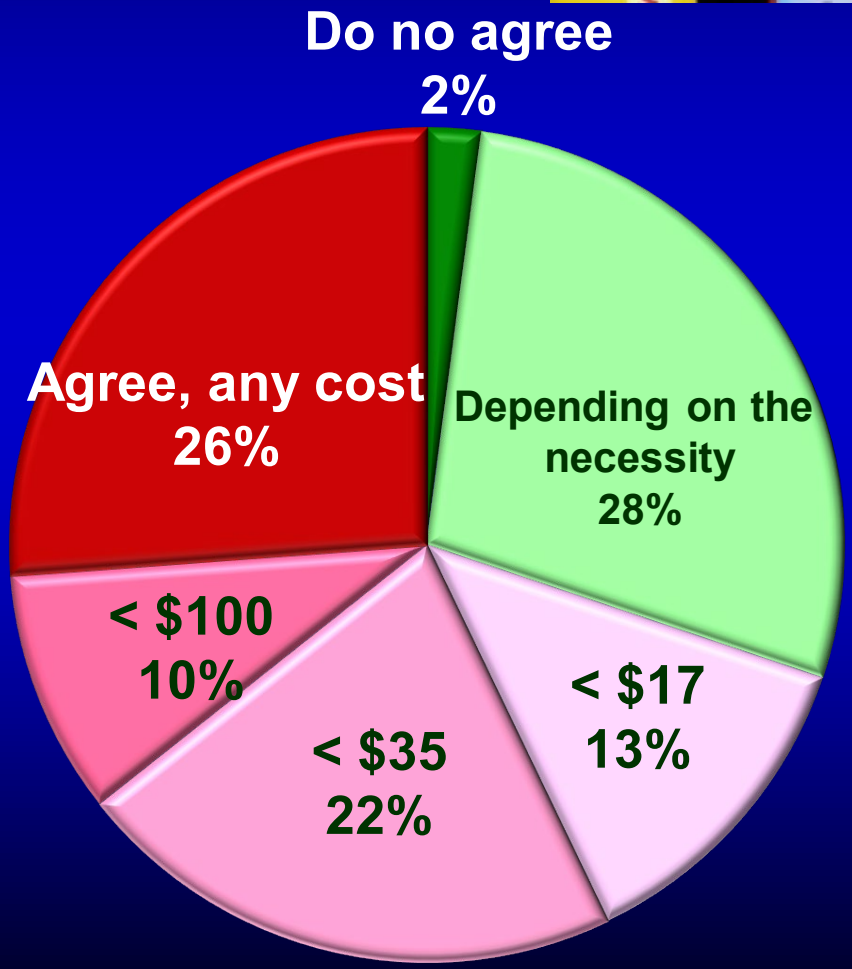
- Increased **awareness** of the importance of vaccine and vaccine-preventable disease:
  - ↓ Vaccine hesitancy
  - ↑ Vaccine acceptance
  - ↑ Vaccine donation
  - ↑ motivation of stakeholders to support vaccination program
- Measures to increase awareness:
  - **Public education**: starting from primary schools
  - **Media education**
  - **Medical education**
  - **Continued medical education**

G.Q.

Parents' attitude toward copayment for immunization

N=1,560, TIVS, Taipei, 2014

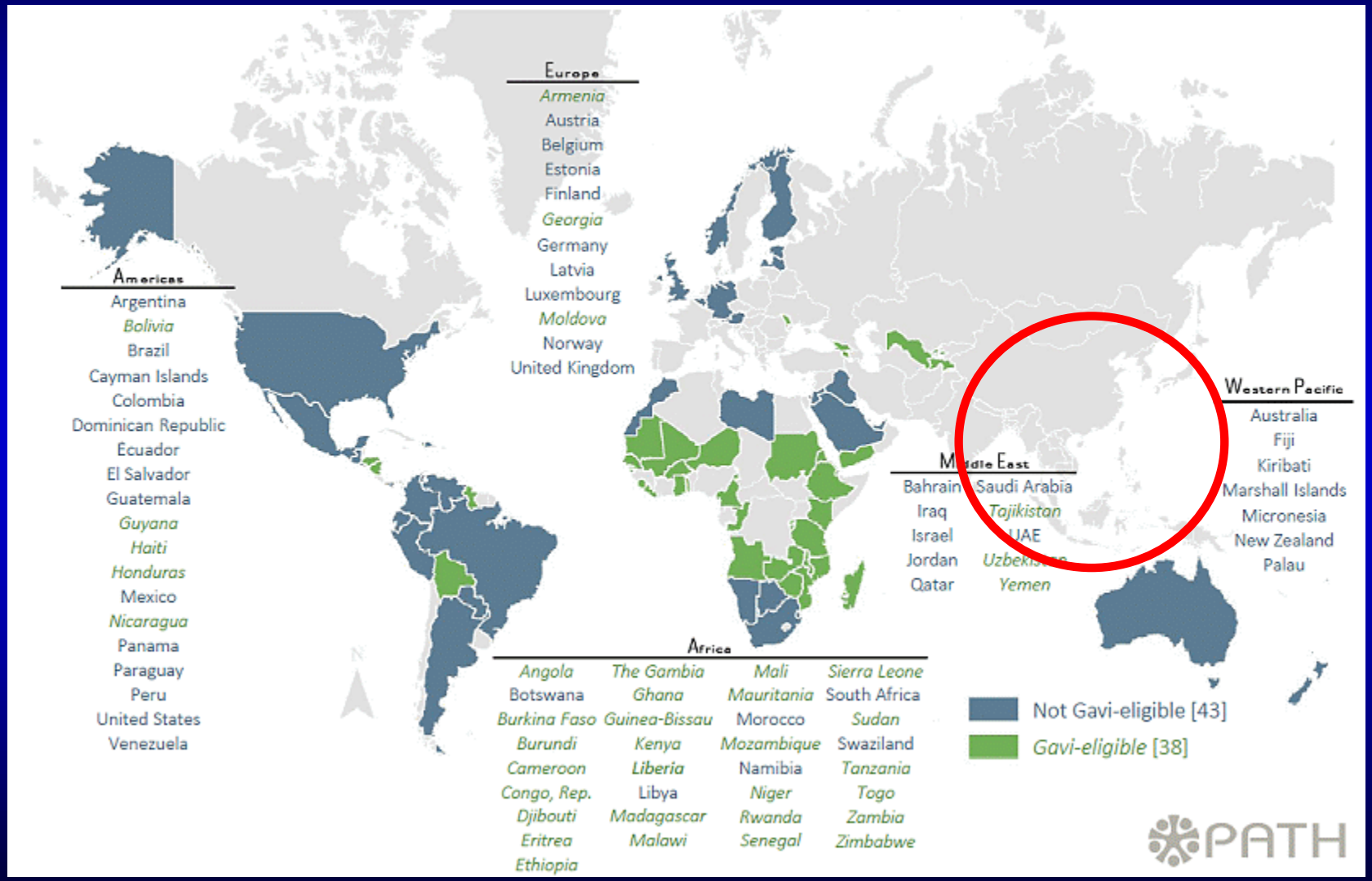
Question:
How much will you be willing to pay for a vaccine with a copayment strategy?



G.Q.

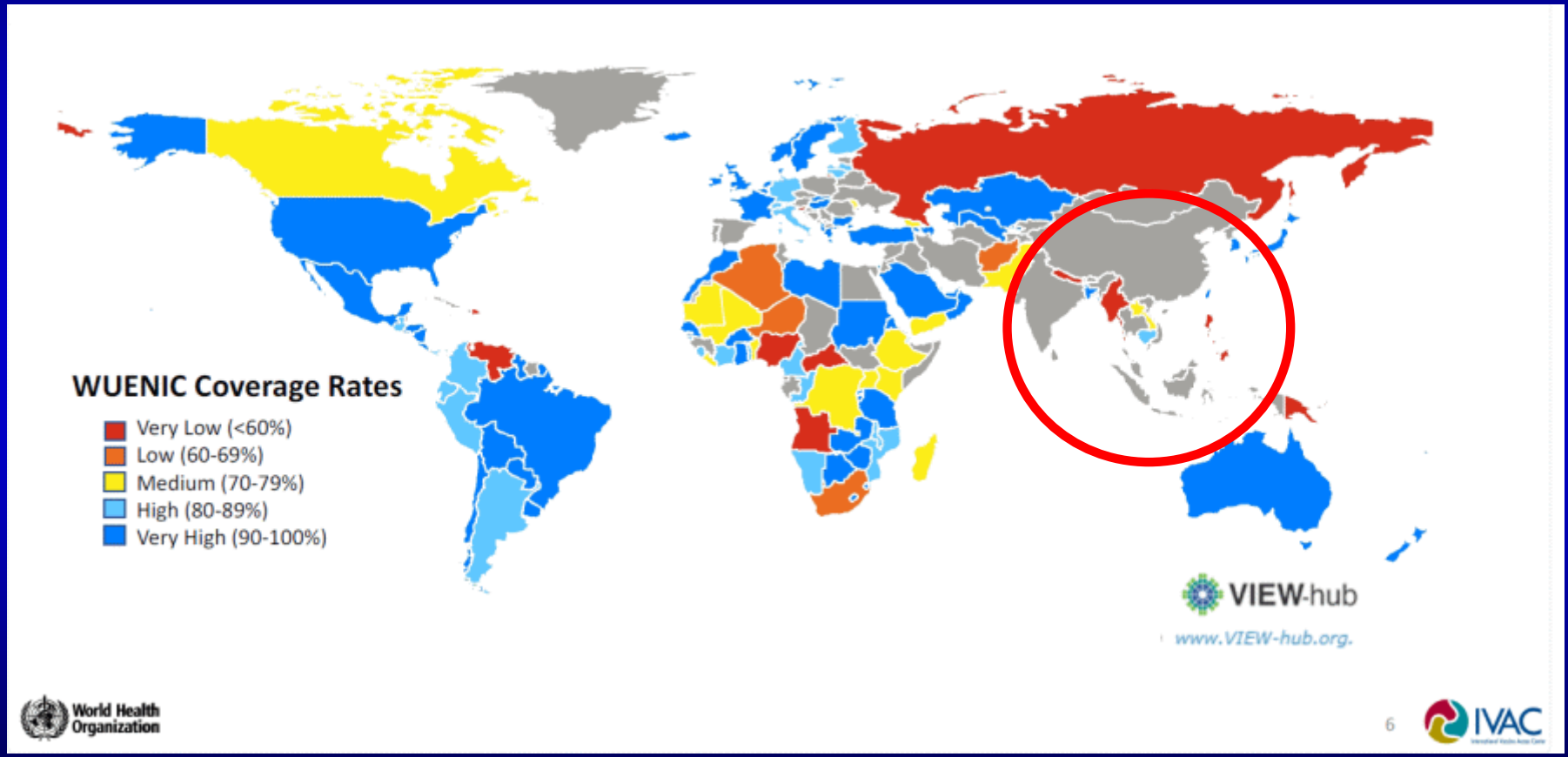
Areas with rotavirus vaccine in NIP

N-81, May 1, 2016



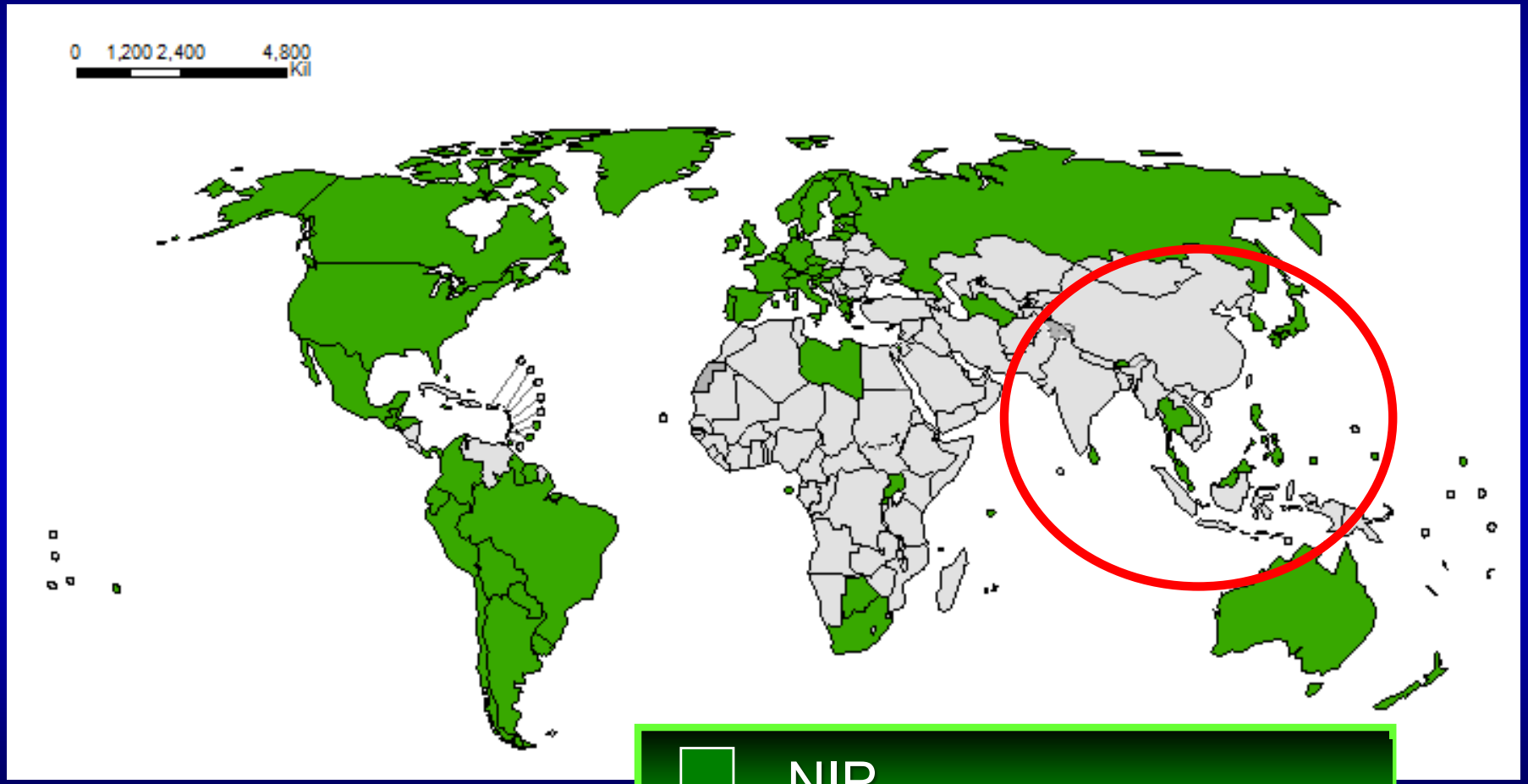
G.Q. PATH's Vaccine Resource Library (https://vaccineresources.org/details.php?i=2235)

Areas with pneumococcal conjugate vaccine in NIP SAGE, WHO, Oct. 18, 2017



G.Q. 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



G.Q.

Joint Expert Forum for Prevention of Pneumococcal Diseases in Children in Asia

G.Q.


Thanks....
Alishan