

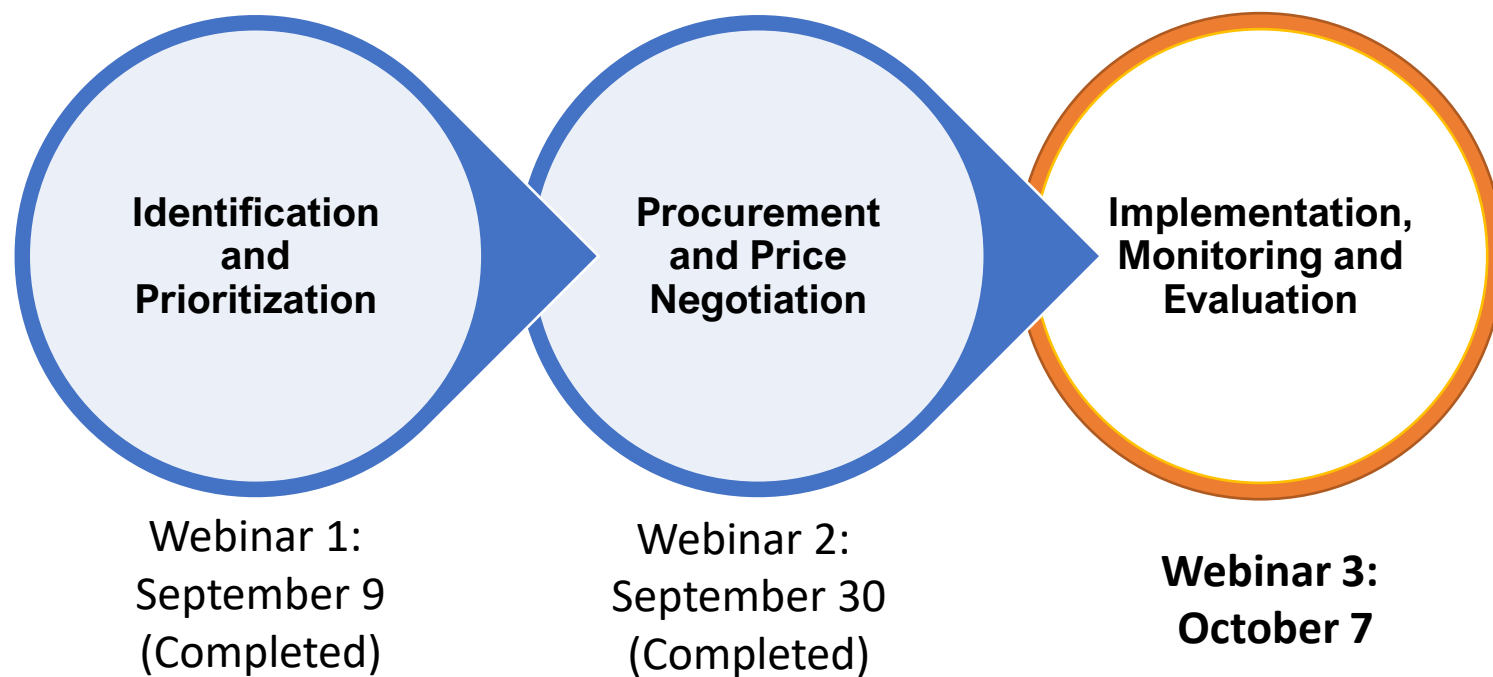
**WEBINAR**  
**KNOWLEDGE  
EXCHANGE**  
IN THE TIME OF  
**COVID-19**

# Welcome to Webinar 3:


## Implementation, Monitoring and Evaluation (M&E) of Health Technologies and Services

# Webinar Series Overview

Use of evidence in a healthcare technology or intervention's life cycle in the context of UHC and emergencies such as the COVID-19 pandemic



# House Rules

- **La traduction en français** est disponible en cliquant sur l'option «**Interprétation**» dans la barre des tâches en bas de votre écran Zoom.
- Let get to know each other: please indicate your **name and organisation/country** in the Zoom video box.
- Let's make sure all **microphones** are **muted** unless you are speaking.
- If you wish to ask a question or share comments, please press the **raise hand button**  on the Zoom participant box function and wait for acknowledgement from the host. Please feel free to type questions and comments in the Zoom chat box as well.
- Finally, we will be **recording** these sessions. Please raise any questions or concerns in the chat box as well.

# Opening Remarks from our Chair: Ms. Cecilia Oh



Program Advisor, HIV Health and Development Group and  
Coordinator, Access and Delivery Partnership (ADP),  
United Nations Development Program (UNDP)

# In this webinar we will

- Communicate the importance of routine monitoring and evidence gathering towards informing the implementation of health technologies
- Highlight how evidence can improve implementation and M&E of health technologies
- Introduce evidence use in real-world implementation and M&E through case studies from different parts of the world
- Reflect on how evidence has been used in the current pandemic and consider how countries are further building these systems while learning from previous challenges

# Session Outline

Keynote Address

Using evidence for better implementation and M&E

Tried and tested

Implementing the PCV vaccination program in Bhutan

Always double-check

Re-assessment of the PCV vaccine in the Philippines

What works better?

Incorporating evidence into health technology decisions in Indonesia

What do the numbers say?

Using high cost user data for decision-making in Thailand

Break: To the Polls!

Planning Ahead

Moderated panel discussion and Q&A

Closing the session and series

What's next?

# Welcome to our speakers



Dr. Suwit Wibulpolprasert,  
MOPH Thailand



Mrs. Deepika Adhikari,  
MOH Bhutan



Ms. Jamaica Briones,  
PCV researcher, Philippines



Dr. Auliya Suwantika,  
UNPAD, Indonesia



Dr. Rukmanee Butchon,  
HITAP, Thailand



Dr. Wanrudee Isaranuwachai,  
HITAP, Thailand



Dr. Shankar Prinja,  
PGIMER, India

# Keynote Address:

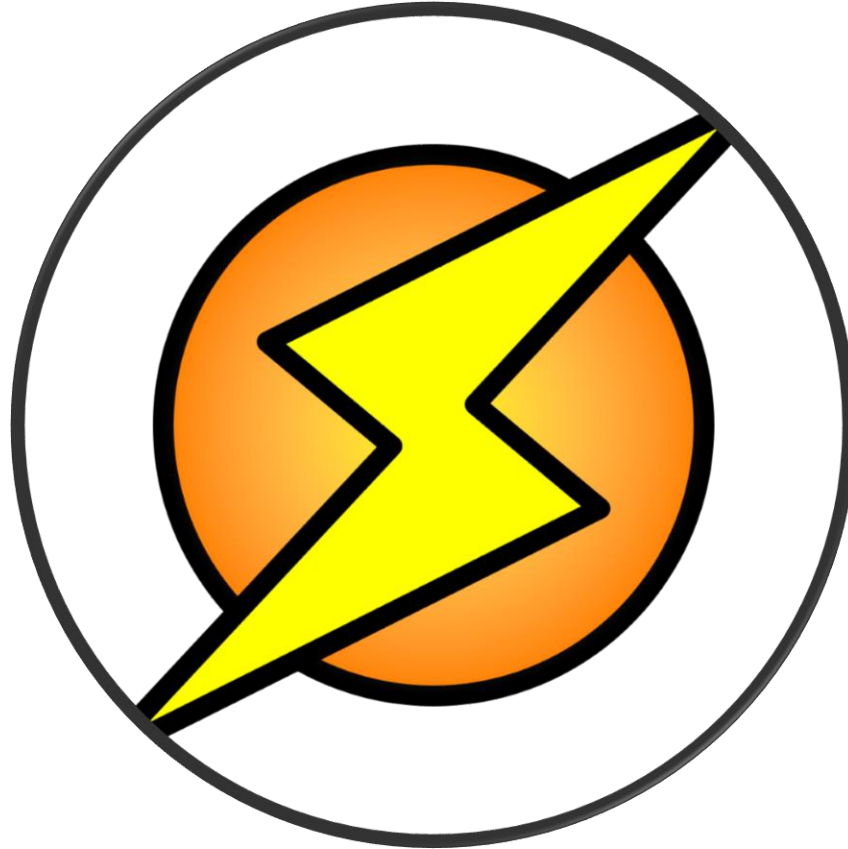
# Use of evidence for better implementation and M&E



Dr. Suwit Wibulpolprasert,  
Ministry of Public Health, Thailand



# 60 seconds rapid summary



# Next up: Country case-studies



# Tried and tested: Implementing the PCV vaccination program in Bhutan



Mrs. Deepika Adhikari,  
Senior Laboratory Officer/COVID-19 Media Focal Person,  
Ministry of Health, Bhutan



གསོ་བའི་སྒྲིལ་ཁག། དཔལ་སྒྲིལ་འབྲུག་གཞུང།

Ministry Of Health, Royal Government of Bhutan



# Use of evidence in vaccine program implementation

Deepika Adhikari

Senior Laboratory Officer/COVID-19 Media Focal

Ministry of Health, Bhutan

# Evidence and vaccine implementation in Bhutan

**Evidence use in Bhutanese Health System:** mostly for pre-introduction decision making.

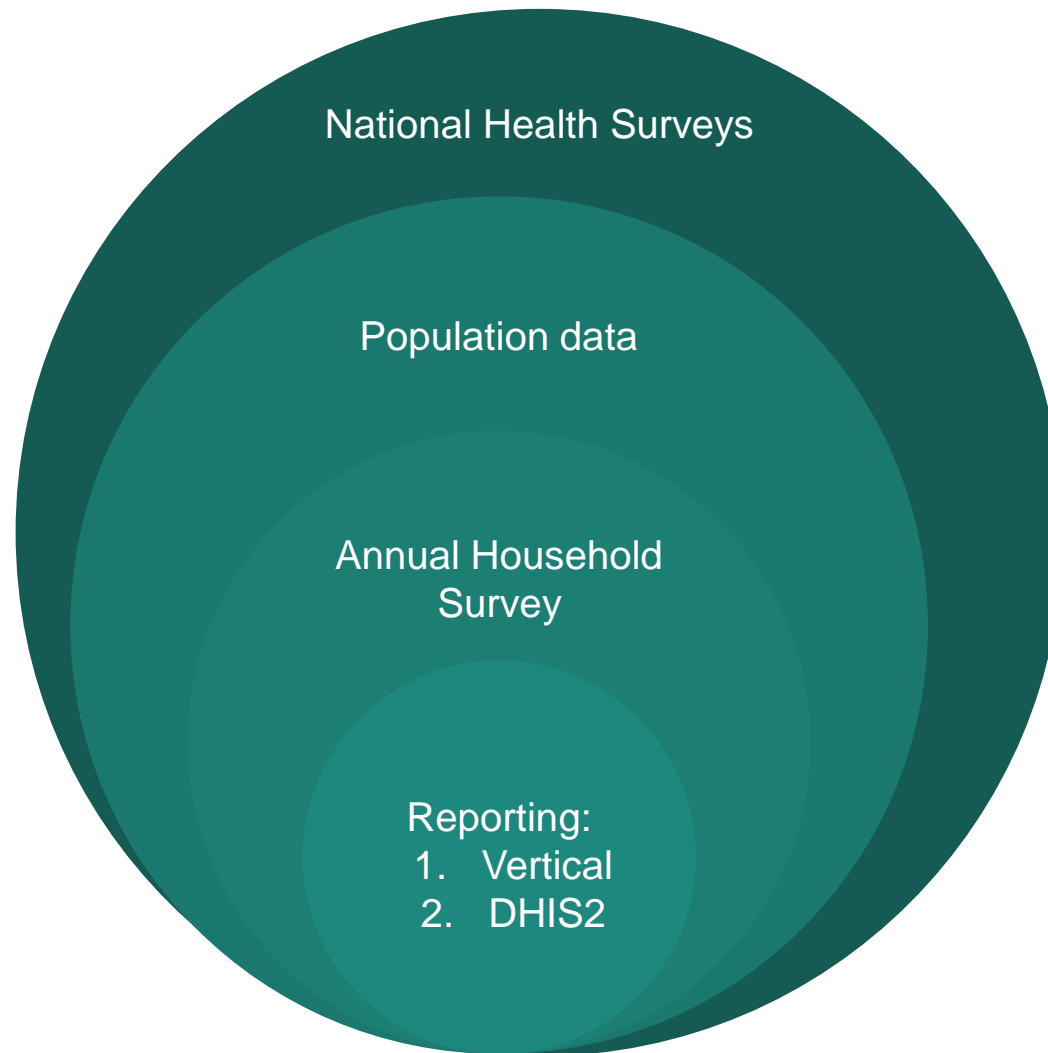
**Salient features** of the immunization implementation in Bhutan:



# continued...

**Example:** HPV girls 95.3% coverage during the pandemic.  
Ministry of Education's support was very helpful.

# Types of data





# Benefit of external support

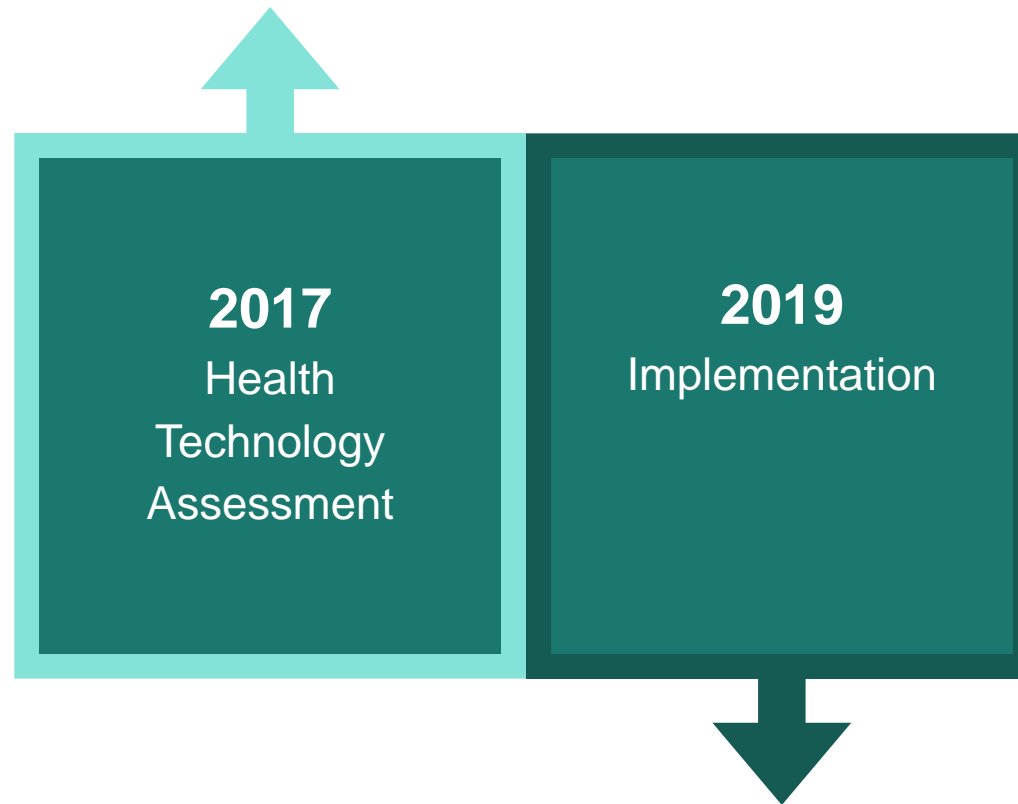
There has been much **appreciation** from the people in the field especially doctors about the studies conducted with external partners being very well designed and well conducted. They also said that these are first of their kind in Bhutan and have adopted a **holistic approach**.

Although, we have tried to develop our **capacities** by learning-and-doing method along with the two projects, however such collaborations will help greatly in the future.

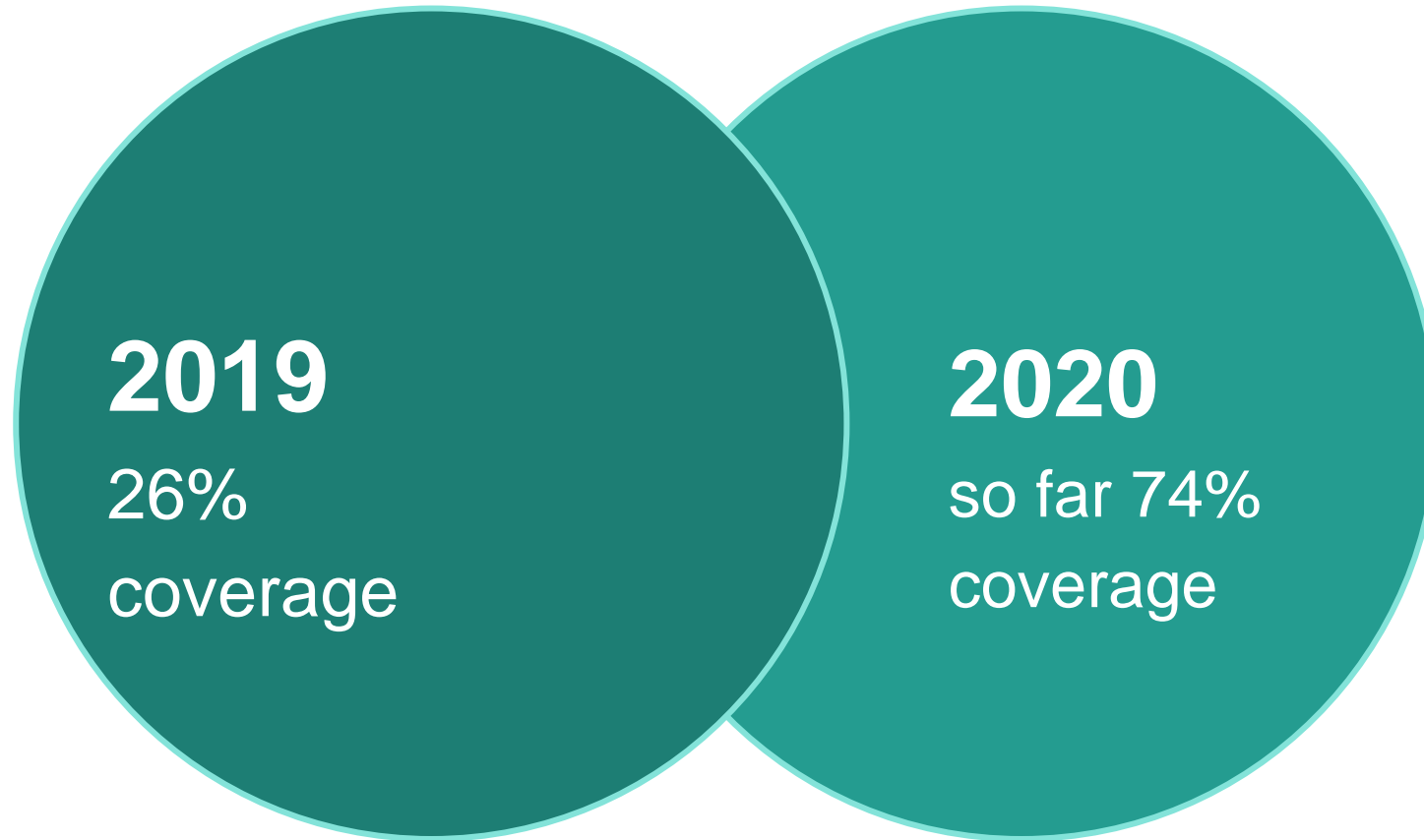


# PCV Implementation

# Background about PCV introduction



# Current coverage status



# Challenges

Resource  
constraint

Data bias

+

No real  
time data.

International  
Organization  
procurement  
system

No direct contact  
with manufacturers  
therefore, price  
comparison and  
negotiation is an  
issue.

# Way forward

If the **pandemic** continues, vaccine coverage will be an issue however, we are putting together every possible means to achieve the target rate.

**Post introduction evaluation:** PCV scheduled for 2021.

# Lessons learned

- Coverage assumption do not always go as **projected**.
- **Cold chain** management.
- Vaccines reporting could be done in **multiple ways**.
- **Drop out** usually happens when there is **long gap** between the schedules (6 weeks, 14 weeks and 9 months).

# Always double-check: Re-assessment of the PCV vaccine in the Philippines



Ms. Jamaica Briones,  
PCV researcher, Philippines



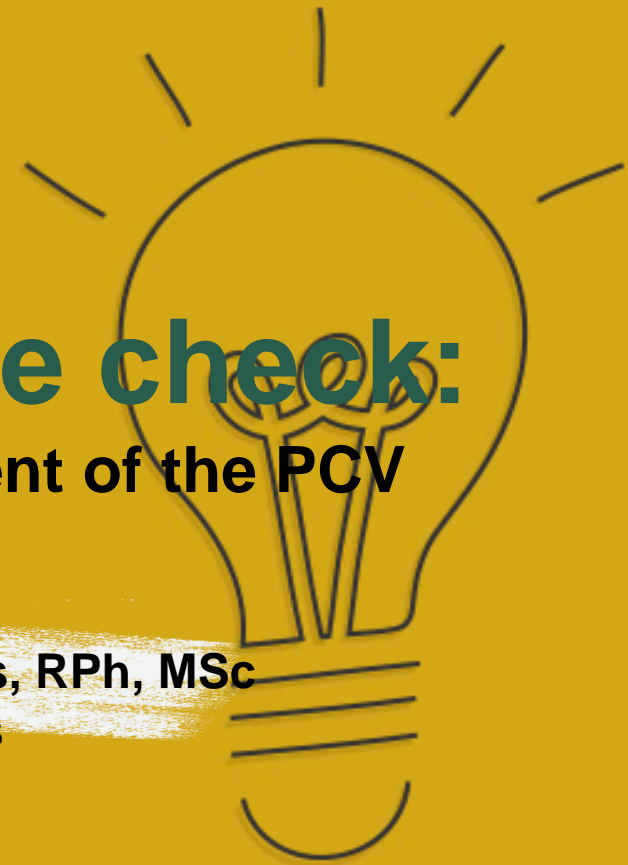
ALWAYS  
DOUBLE  
CHECK

HITAP-ADP Webinar

# Always double check:

## Philippine's re-assessment of the PCV vaccine

**Ms. Jamaica Roanne V. Briones, RPh, MSc**  
Department of Health, Philippines  
07 October 2020



# PRESENTATION OUTLINE



01

Background



02

Rationale for  
re-assessment



03

Conclusion



04

Decisions and  
next steps



05

Learnings





REPUBLIC ACT 11223

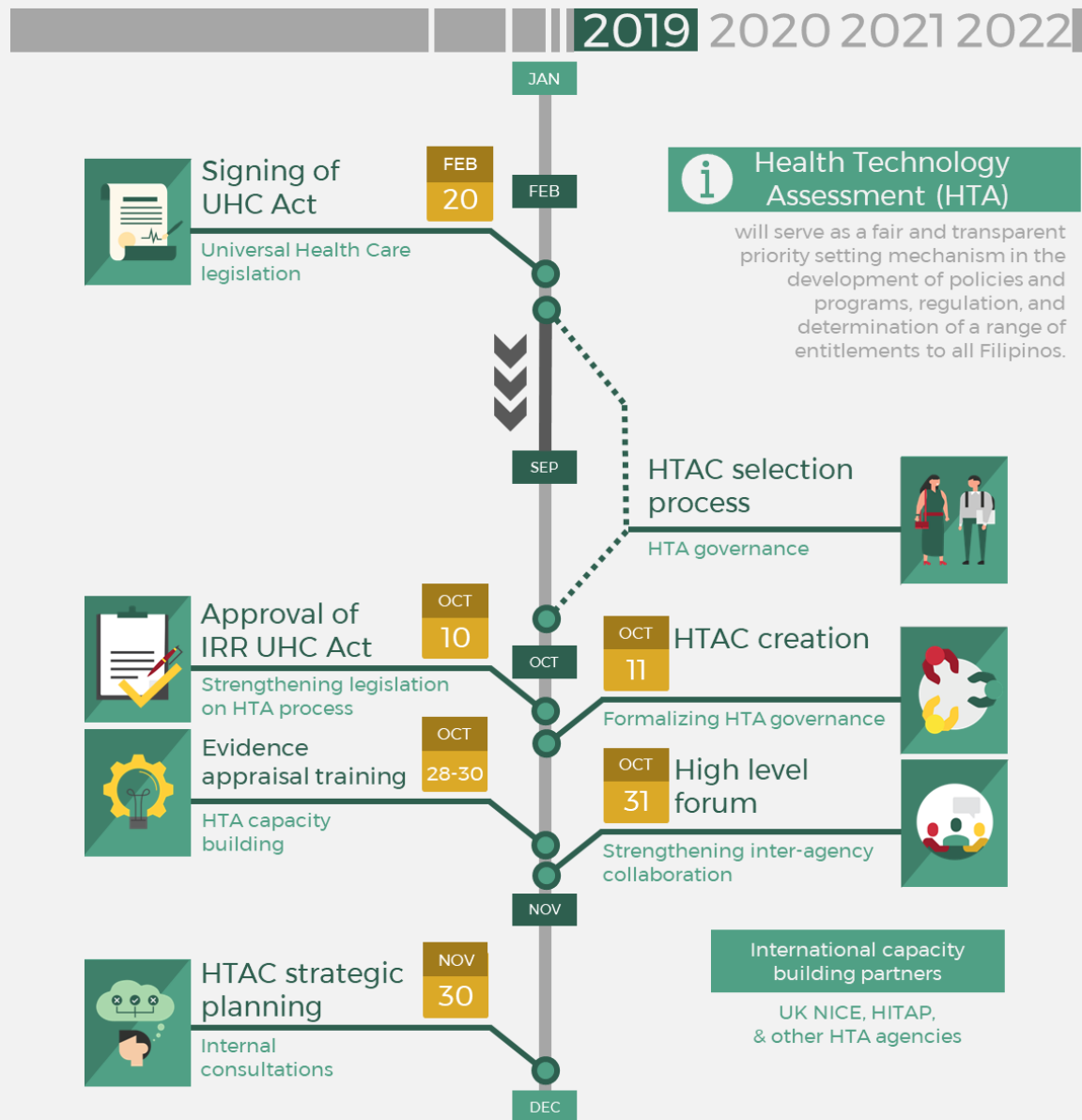
# Universal Health Care Law

The signing of the Universal Health Care Act paved the way for progressive realization of fundamentals for HTA Institutionalization.

ROAD TO HTA INSTITUTIONALIZATION:  
WHERE WE ARE AND WHERE ARE WE HEADED?

<https://hta.doh.gov.ph/2020/07/26/road-to-hta-institutionalization-where-we-are-and-where-are-we-headed/>

## Road to HTA institutionalization

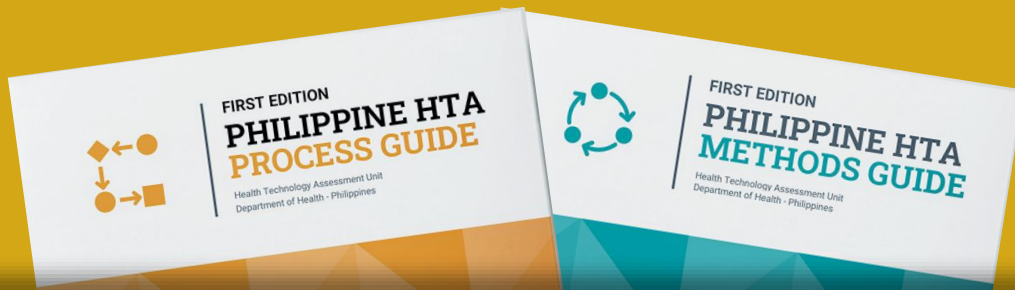


AO 2020-0041

# Philippine HTA Administrative Order and its annexes

*DOH AO 2020-0041: The New Implementing Guidelines on HTA to Guide Funding Allocation and Coverage Decisions in Support of Universal Health*

 <http://bit.ly/HTAAO>



Republic of the Philippines  
Department of Health  
**OFFICE OF THE SECRETARY**

SEP 08 2020

**ADMINISTRATIVE ORDER**  
No. 2020 - 0041

**SUBJECT:** The New Implementing Guidelines on Health Technology Assessment to Guide Funding Allocation and Coverage Decisions in support of Universal Health Care

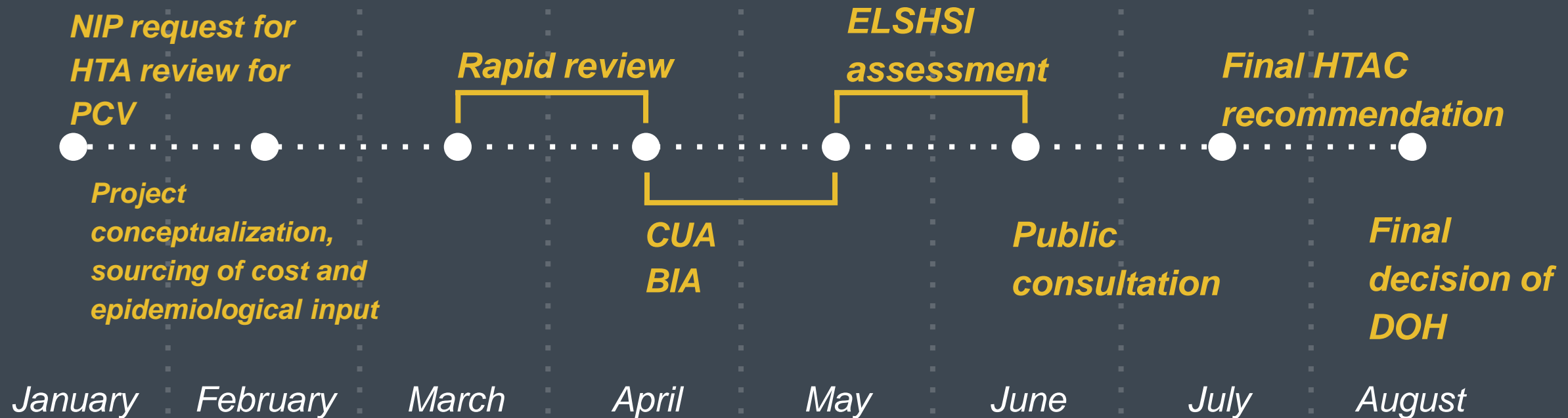
## **I. RATIONALE**

Ensuring Universal Health Care (UHC) in a resource-limited setting faces challenges of dealing with competing public health priority concerns, growing public demand for equitable health services, and proliferating costlier health technologies with promising claims of better health outcomes. Supporting such perplexing tasks is a priority setting mechanism called health technology assessment (HTA) in recognition of the role of evidence-based policy and decision-making. HTA is the systematic process for generating evidence-informed policies on resource allocation decisions in the health sector. It is a multidisciplinary evaluation of the clinical, economic, organizational, social, and ethical impact of implementing a specific health technology or health intervention in a healthcare system.

In 2013, *Republic Act 10606* also known as the *National Health Insurance Act of 2013* mandated the utilization of HTA in guiding the health services coverage of the Philippine Health Insurance Corporation (PHIC or known as PhilHealth). The Department of Health (DOH), through *Administrative Order 2016 - 0034: The New Implementing Guidelines of the Philippine National Formulary System (PNFS)* required that any medicine considered for inclusion in the PNF shall be assessed based on its health benefits, economic value, safety, and effectiveness.

2020

# PCV Re-assessment Timeline





# Rationale for PCV re-assessment

Presence of ***new evidence on the clinical efficacy*** of PCV10 and PCV13 against vaccine type and serotype specific pneumococcal diseases

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***New price offer*** and availability of multi-dose preparations of both vaccines

---

Intent of the NIP to ***expand the vaccination coverage*** (universal coverage)

# Comparison of PCV assessment methods

2013 : 2020

|   |   |   |   |  |
|---|---|---|---|--|
| Clinical efficacy                                       | ✗ | ● | ✓ | Clinical efficacy<br><i>Evidence synthesis on the clinical efficacy (Rapid review)</i>                         |
| Good value for money<br><i>Cost utility analysis</i>    | ✓ | ● | ✓ | Good value for money<br><i>Cost utility analysis</i>   |
| Budget implication<br><i>Budget impact analysis</i>     | ✓ | ● | ✓ | Budget implication<br><i>Budget impact analysis</i>  |
| Ethical, legal, social, and health systems implications | ✗ | ● | ✓ | Ethical, legal, social, and health systems implications<br><i>Online surveys, interviews, and consultation</i> |

## Legend

- ✓ Assessed in this domain
- ✗ Not assessed in this domain

*Responsiveness to magnitude,  
severity, and equity*

*Cost-effectiveness*

*Effectiveness and safety*



*Affordability  
and viability*

*Household financial  
impact*

# HTA Decision Framework





# Final HTAC recommendation on the PCV re-assessment

*Responsiveness to magnitude, severity, and equity*



*Effectiveness and safety*



*Household financial impact*



*Cost-effectiveness*



*Affordability and viability*



The HTA Council recommends the multi-dose vial preparation of pneumococcal conjugate vaccines (PCV) indicated for the following minimum serotypes: 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F.

Both PCV10 and PCV13 which are currently authorized by the Philippine FDA on the publication date of this evidence summary represent good value for money, with the potential of reducing pneumococcal diseases in the country.

To ensure equity, affordability and universal vaccine coverage which can only be ensured by obtaining lower vaccine prices, a **competitive tendering process** is important.



# Additional recommendation in terms of surveillance and research

**Program evaluation** to measure the impact on the burden of pneumococcal disease and changes in serotype distribution

**Periodic surveys of nasopharyngeal carriage** to characterize changes in serotype distribution

**High-quality surveillance** for impact monitoring and assessment

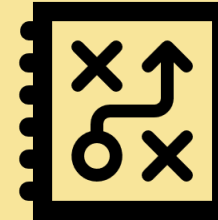
**Clinical & economic burden studies** of pneumococcal diseases

# Next steps after the Final Decision

- Topic nomination  
*Referral of topics to HTAC*
- Topic prioritization  
*Selection of topics for HTA based on criteria*
- Assessment / Evidence Generation  
*Application of formal scientific methods*
- Evidence appraisal  
*Critiquing evidence*
- Recommendation  
*Generation of HTAC recommendation based on criteria*
- Decision  
*Decision by the Secretary of Health and  
PhilHealth*
- Dissemination  
*Circulation*
- **Procurement**
- **Implementation and  
monitoring**

# Learnings

UHC  
HTA



UHC is a political choice = **HTA is a political choice.**

HTA institutionalization is a **tapestry of solutions, composed of many threads.**

The PCV re-assessment was an **opportunity to test the draft process and methods.** Main challenge in conduct of HTA was availability of input parameters.

**HTA council** offers a steady voice to provide objective and technical recommendation for the determination of entitlements.

ALWAYS  
DOUBLE  
CHECK

**Maraming salamat po!**



**What works better:**

# **Incorporating evidence into implementation of healthcare technologies in Indonesia**




Dr. Auliya Suwantika,  
Lecturer and Researcher, Universitas Padjadjaran, Indonesia



# INCORPORATING EVIDENCE INTO IMPLEMENTATION OF HEALTHCARE TECHNOLOGIES IN INDONESIA

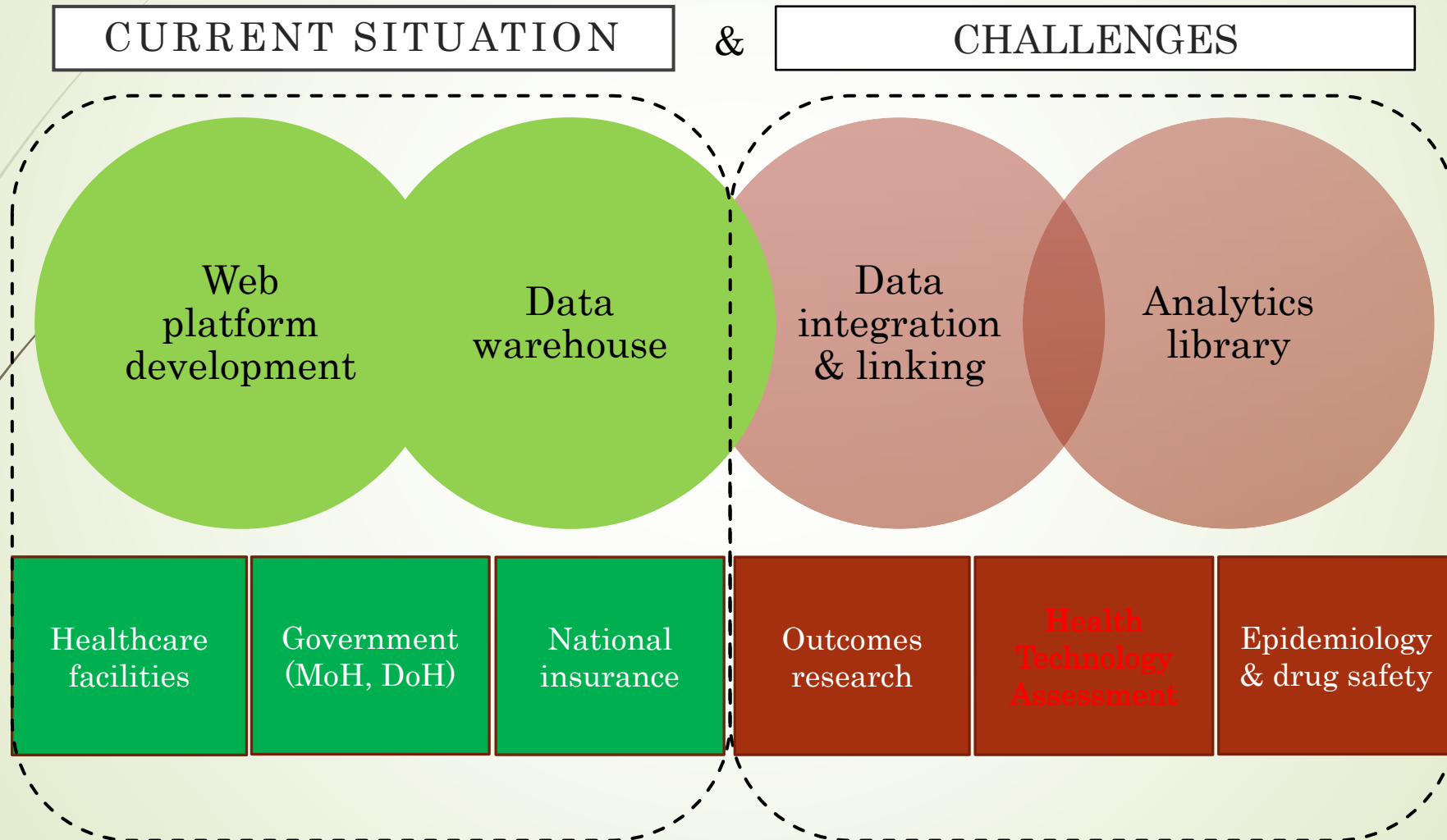
Lessons Learned from PCV Introduction



Auliya A. Suwantika

Center for Health Technology Assessment, Universitas Padjadjaran, Indonesia

# Implementation of RWE in Indonesia





# PCV introduction in Indonesia

- WHO has encouraged the implementation of PCV in the national immunization programs, specifically in countries with high prevalence of pneumonia, such as Indonesia [1].
- PCV13 is considered to be more suitable to be implemented in Indonesia than PCV10 [2].

## NASOPHARYNGEAL CARRIAGE OF *STREPTOCOCCUS PNEUMONIAE* IN HEALTHY CHILDREN UNDER FIVE YEARS OLD IN CENTRAL LOMBOK REGENCY, INDONESIA

Sri Rezeki Hadinegoro<sup>1</sup>, Ari Prayitno<sup>1</sup>, Miftahuddin Majid Khoeri<sup>2</sup>,  
I Gusti Gede Djelantik<sup>3</sup>, Nurhandini Eka Dewi<sup>4</sup>, Sang Ayu Kompiang Indriyani<sup>3</sup>,  
Zainul Muttaqin<sup>5</sup>, Siti Mudaliana<sup>2</sup> and Dodi Safari<sup>2</sup>

**Abstract.** Colonization with *Streptococcus pneumoniae* is mostly symptomless, but can progress to respiratory or even systemic disease. We investigated nasopharyngeal carriage of *Streptococcus pneumoniae* in healthy children under five years of age in Central Lombok Regency, Indonesia. This cross sectional study was carried out in 2012 among 1,200 healthy children aged 2 to 60 months. A multiplex sequential PCR was employed to determine serotype of cultured *S. pneumoniae* and a disk diffusion method to assess susceptibility to antimicrobial drugs. *S. pneumoniae* was cultured from 554 children and the most frequent serotypes found were 6A/B (22% of pneumococcal strains), 19F (11%), 23F (10%), 15B/C (8%), and 19A and 14 (4% each). The majority of strains were still susceptible to clindamycin (97%), erythromycin (87%), chloramphenicol (81%), and penicillin (72%), with only 41% and 38% susceptible to tetracycline and sulfamethoxazole/trimethoprim, respectively. Continuous surveillance of *S. pneumoniae* carriage is important for future pneumococcal vaccination programs in Indonesia.

- Since October 2017, PCV has been introduced in Nusa Tenggara Barat, starting in Lombok Barat dan Lombok Timur that were considered as districts with the highest prevalence of pneumonia in Indonesia [3].

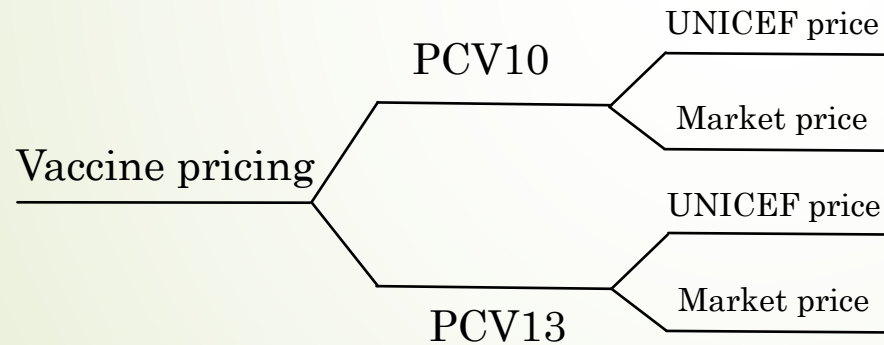
[1] WHO position paper - 2012. *Wkly Epidemiol Rec.* 2012;87(14):129-144. doi:10.1371/jour

[2] <https://infonawacita.com/kasus-pneumonia-tertinggi-kemenkes-canangkan-imunisasi-pcv-di-lombok/>

[3] Hadinegoro SR, et al. Nasopharyngeal carriage of *Streptococcus pneumoniae* in healthy children under five years old in Central Lombok Regency, Indonesia. 2016

# The needs of HTA study

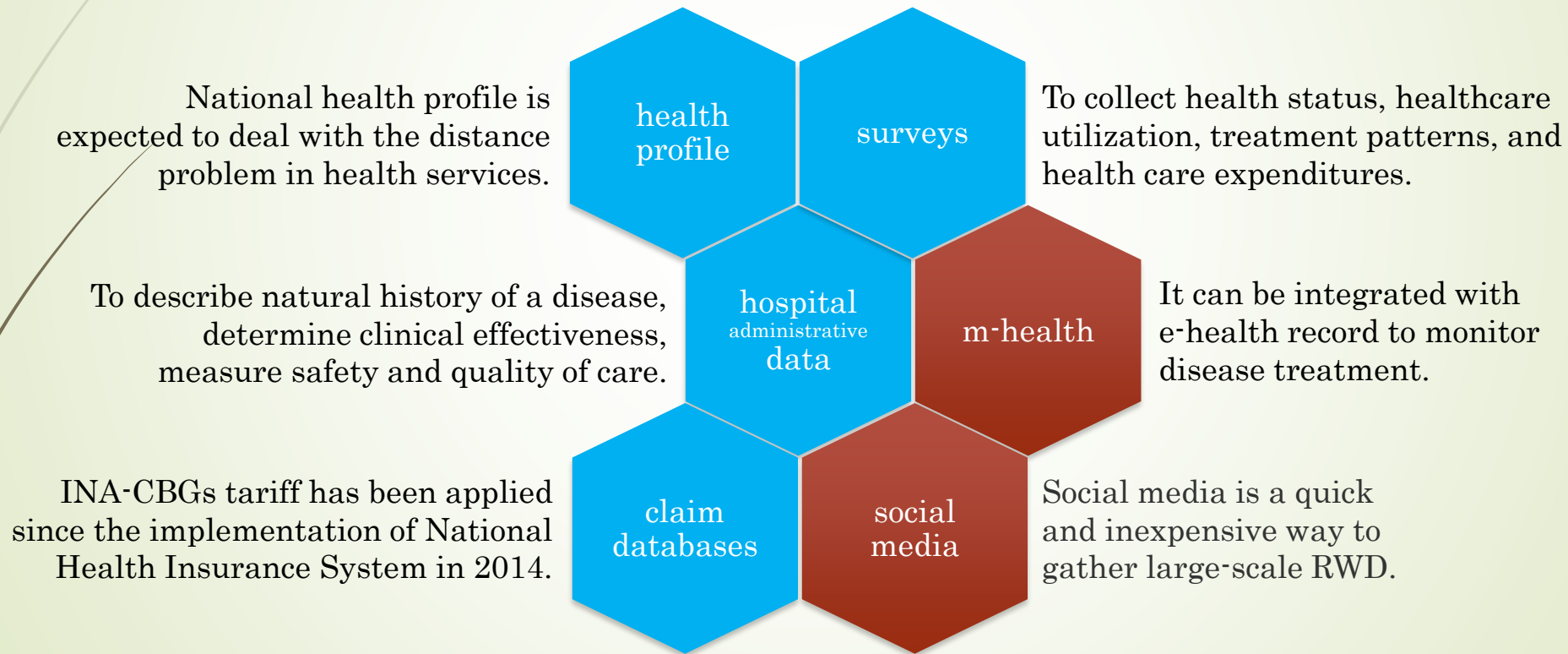
- An evidence-based analysis was required to guide policy makers in decision making to support PCV as part of national immunization program.



# Which data can be used ?



“RWE is defined as data that are collected outside the constraints of conventional RCTs”



# PCV13 under UNICEF price is preferable

## Cost-effectiveness and Budget Impact Analyses of Pneumococcal Vaccination in Indonesia

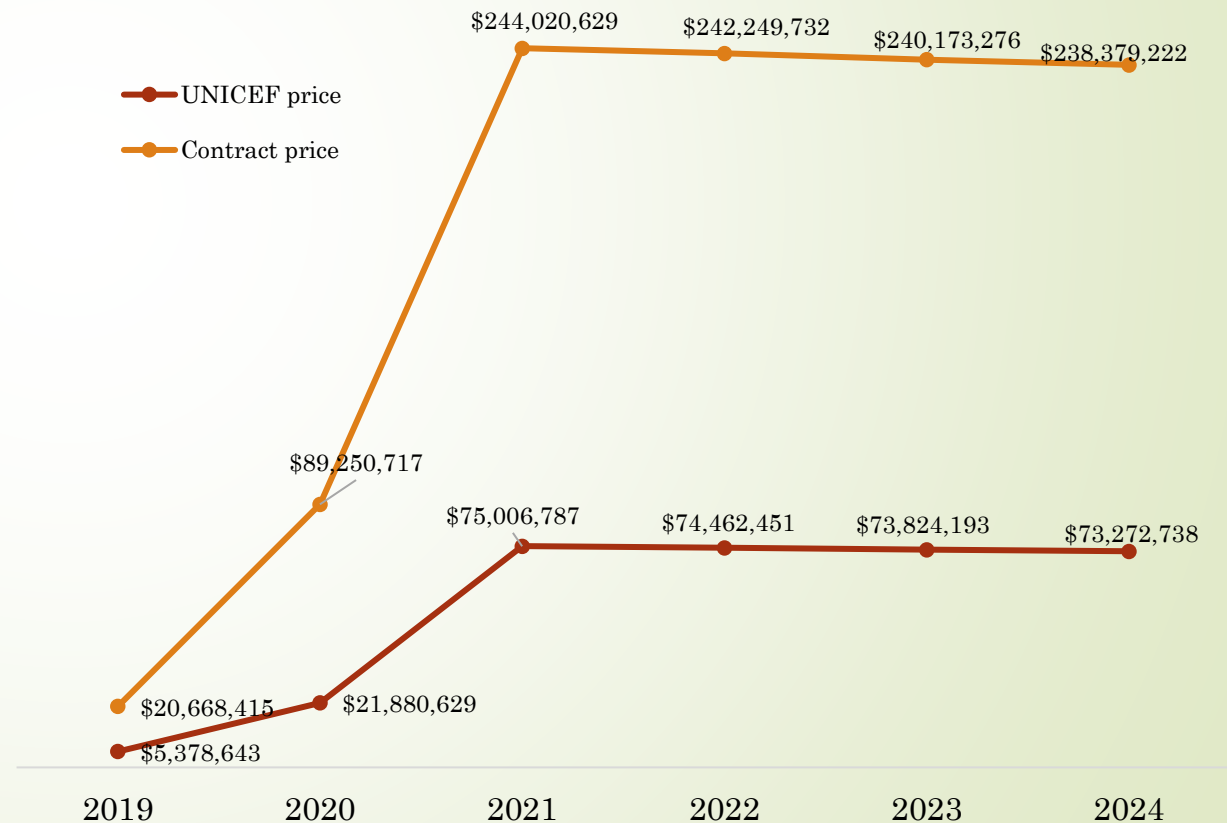
PRESENTER: AULIYA ABDURROHIM SUWANTIKA

CO-AUTHORS: VENSYA SITOANG, GERTRUDIS TANDY, PUTRI HERLIANA, SRI REZEKI HADINEGORO

Poster file: [\[download\]](#)

### Abstract:

As a country with the high number of deaths due to pneumococcal disease, Indonesia has not yet included pneumococcal vaccination into the routine program. The aim of this study was to investigate the cost-effectiveness and budget impact analyses of pneumococcal vaccination in Indonesia. An age-structured cohort based on a decision tree model was developed to assess the cost-effectiveness and affordability values of universal pneumococcal vaccination in Indonesia by making comparison between two vaccines (PCV-10 and PCV-13) within two pricing scenarios (UNICEF and government contract price) in a 6-year time horizon analyses (2019-2024). A nationwide vaccination was targeted to be implemented in 2021. A single birth cohort of infants in each year was followed-up until 5 years of age with 1 month analytical cycles for children < 1 year of age and annual cycles beyond 1 year. The result showed that vaccination would reduce pneumococcal disease by 1,696,548 and 2,268,411 cases when using PCV-10 and PCV-13, respectively. Vaccination would save treatment cost from the payer perspective at \$54 million and \$71 million for PCV-10 and PCV-13, respectively. The Incremental Cost-Effectiveness Ratio (ICER) would be \$218 and \$162 per QALY-gained for PCV-10 and PCV-13, respectively, under the UNICEF price. Applying the contract price, the ICER would be \$997 and \$747 per QALY-gained for PCV-10 and PCV-13, respectively. Vaccine cost per 1 vaccinated child was estimated to be \$5.27/dose and \$17.5/dose under UNICEF and contract price, respectively. Implementation of nationwide PCV vaccination would require approximately \$61-63 million (17-20% of routine immunization budget) and \$238-244 million (67-80%) under UNICEF and contract price, respectively. Sensitivity analysis showed that vaccine efficacy, mortality rate and vaccine price were the most influential parameters affecting the ICER. In conclusion, pneumococcal vaccination would be a highly cost-effective intervention to be implemented in Indonesia. Yet, applying PCV-13 under UNICEF price would give the best cost-effectiveness value and biggest budget impact on routine immunization budget.



# Potential impact of switch options



Review

## Impact of Switch Options on the Economics of Pneumococcal Conjugate Vaccine (PCV) Introduction in Indonesia

Auliya A. Suwantika <sup>1,2,3,\*</sup>, Neily Zakiah <sup>1,2</sup>, Arif S. W. Kusuma <sup>4,5</sup>, Rizky Abdulah <sup>1,2</sup> and Maarten J. Postma <sup>2,6,7,8</sup>

**Table 1.** Characteristics of pneumococcal conjugate vaccines (PCVs; PCV13, PCV10 A and PCV10 B).

| Characteristics                               | PCV13  |   | PCV10 A   |             | PCV10 B   |  |
|---|--|---|---|-------------|---|--|
|   | 1 Dose/Vial  | 4 Dose/Vial   | 4 Dose/Vial   | 1 Dose/Vial | 5 Dose/Vial   |  |
| Serotypes                                     | 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F |   | 1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F, 23F  |             | 1, 5, 6A, 6B, 7F, 9V, 14, 19A, 19F, 23F   |  |
| WHO Prequalification                          | 2010   |   | 2016  |             | 2020  |  |
| Price per dose                                | \$3.30 */\$20.83 **                                | \$2.90 *  | \$3.05 *  | \$3.50 *    | \$2.00 *  |  |
| Doses per fully immunized child               | 3  |   | 3   |             | 3   |  |
| Indicative wastage rate                       | 5%   |   | 8%  |             | 5%  |  |
| Shelf-life                                    | 36 months at 2–8 °C                                |   | 36 months at 2–8 °C   |             | 36 months at 2–8 °C   |  |
| Cold chain volume per dose ***                | 12.6 cm <sup>3</sup>                               |   | 3.9 cm <sup>3</sup>   |             | 2.7 cm <sup>3</sup>   |  |
| Cost of cold room (per cm <sup>3</sup> ) **** | \$0.0013   |   | \$0.0013  |             | \$0.0013  |  |
| Handling open vials                           | N.A.   | Opened vials may be kept for use in subsequent immunization sessions (up to 28 days from the withdrawals of the first injection if held at 2 to 8 °C) | Opened vials may be kept for use in subsequent immunization sessions (up to 28 days from the withdrawals of the first injection if held at 2 to 8 °C) | N.A.        | Opened vials may be kept for use in subsequent immunization sessions (up to 28 days from the withdrawals of the first injection if held at 2 to 8 °C) |  |

N.A. = Not applicable; \* Gavi-AMC price with procurement via UNICEF SD [25]; \*\* Government contract price of PCV13; \*\*\* According to Gavi's latest report [24]; \*\*\*\* According to a study by Parmar et al. and WHO Performance, Quality and Safety (PQS) standards [26,27].

**Table 5.** Total potential saving on vaccine and cold chain cost among all scenarios.

| Cost                   | 2019         | 2020         | 2021         | 2022         | 2023         | 2024         | Total         |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| <b>Vaccine cost</b>    |              |              |              |              |              |              |               |
| Base case              | \$24,916,689 | \$97,407,970 | \$35,218,736 | \$46,179,392 | \$54,966,739 | \$50,065,979 | \$308,755,504 |
| Multi-dose PCV13       | \$24,916,689 | \$97,407,970 | \$30,949,799 | \$40,581,890 | \$48,304,104 | \$50,065,979 | \$292,226,430 |
| Multi-dose PCV10 A     | \$24,916,689 | \$97,407,970 | \$32,550,650 | \$42,680,953 | \$50,802,592 | \$52,655,598 | \$301,014,452 |
| Multi-dose PCV10 B     | \$24,916,689 | \$97,407,970 | \$21,344,689 | \$27,987,510 | \$33,313,175 | \$34,528,261 | \$239,498,294 |
| <b>Cold chain cost</b> |              |              |              |              |              |              |               |
| Base case              | \$19,590     | \$76,586     | \$142,124    | \$186,356    | \$221,817    | \$71,162     | \$717,636     |
| Multi-dose PCV13       | \$19,590     | \$76,586     | \$43,991     | \$57,682     | \$68,658     | \$71,162     | \$337,669     |
| Multi-dose PCV10 A     | \$19,590     | \$76,586     | \$30,079     | \$39,440     | \$46,945     | \$48,658     | \$261,299     |
| Multi-dose PCV10 B     | \$19,590     | \$76,586     | \$41,359     | \$54,231     | \$64,550     | \$66,904     | \$323,220     |
| <b>Total saving</b>    |              |              |              |              |              |              |               |
| Multi-dose PCV13       | \$0          | \$0          | \$4,367,071  | \$5,726,176  | \$6,815,794  | \$0          | \$16,909,042  |
| Multi-dose PCV10 A     | \$0          | \$0          | \$2,780,131  | \$3,645,354  | \$4,339,018  | -\$2,567,15  | \$8,197,389   |
| Multi-dose PCV10 B     | \$0          | \$0          | \$13,974,813 | \$18,324,007 | \$21,810,831 | \$15,541,975 | \$69,651,626  |

**Table 3.** Targeted area of PCV introduction in Indonesia. Yellow, green and blue are for district, province and national level, respectively.

| 2019              | 2020              | 2021              | 2022               | 2023               | 2024              |
|-------------------|-------------------|-------------------|--------------------|--------------------|-------------------|
| District/Province | District/Province | District/Province | District/Province  | District/Province  | District/Province |
| NTB               | NTB               | NTB               | NTB                | NTB                | Indonesia         |
| Bangka Belitung   | Bangka Belitung   | Bangka Belitung   | Bangka Belitung    | Bangka Belitung    |                   |
| Kota Bogor        | Jawa Barat        | Jawa Barat        | Jawa Barat         | Jawa Barat         |                   |
| Kota Bekasi       | Jawa Timur        | Jawa Timur        | Jawa Timur         | Jawa Timur         |                   |
| Kota Surabaya     |                   | DKI Jakarta       | DKI Jakarta        | DKI Jakarta        |                   |
| Gresik            |                   | Banten            | Banten             | Banten             |                   |
| Sidoarjo          |                   | DI Yogyakarta     | DI Yogyakarta      | DI Yogyakarta      |                   |
|                   |                   | Jawa Tengah       | Jawa Tengah        | Jawa Tengah        |                   |
|                   |                   | Lampung           | Lampung            | Lampung            |                   |
|                   |                   | Sumatera Selatan  | Sumatera Selatan   | Sumatera Selatan   |                   |
|                   |                   | Bengkulu          | Bengkulu           | Bengkulu           |                   |
|                   |                   | Jambi             | Jambi              | Jambi              |                   |
|                   |                   | Riau              | Riau               | Riau               |                   |
|                   |                   | Kepulauan Riau    | Kepulauan Riau     | Kepulauan Riau     |                   |
|                   |                   | Sumatera Barat    | Sumatera Barat     | Sumatera Barat     |                   |
|                   |                   | Sumatera Utara    | Sumatera Utara     | Sumatera Utara     |                   |
|                   |                   | DI Aceh           | DI Aceh            | DI Aceh            |                   |
|                   |                   | Bali              | Bali               | Bali               |                   |
|                   |                   | Gorontalo         | Sulawesi Utara     | Sulawesi Utara     |                   |
|                   |                   |                   | Sulawesi Barat     | Sulawesi Barat     |                   |
|                   |                   |                   | Sulawesi Tengah    | Sulawesi Tengah    |                   |
|                   |                   |                   | Sulawesi Selatan   | Sulawesi Selatan   |                   |
|                   |                   |                   | Sulawesi Tenggara  | Sulawesi Tenggara  |                   |
|                   |                   |                   | Kalimantan Utara   | Kalimantan Utara   |                   |
|                   |                   |                   | Kalimantan Barat   | Kalimantan Barat   |                   |
|                   |                   |                   | Kalimantan Tengah  | Kalimantan Tengah  |                   |
|                   |                   |                   | Kalimantan Selatan | Kalimantan Selatan |                   |
|                   |                   |                   | Kalimantan Timur   | Kalimantan Timur   |                   |

**Table 4.** Alternative scenario of switch options on the introduction of PCV.

| Scenario           | Year      | Vaccine | Presentation | Price                         |
|--------------------|-----------|---------|--------------|-------------------------------|
| Base-case          | 2019–2023 | PCV13   | 1 dose/vial  | Contract and Gavi-AMC price * |
|                    | 2024      | PCV13   | 4 doses/vial | Gavi-AMC price                |
| Multi-dose PCV13   | 2019–2020 | PCV13   | 1 dose/vial  | Contract price                |
|                    | 2021–2024 | PCV13   | 4 doses/vial | Gavi-AMC price                |
| Multi-dose PCV10 A | 2019–2020 | PCV13   | 1 dose/vial  | Contract price                |
|                    | 2021–2024 | PCV10 A | 4 doses/vial | Gavi-AMC price                |
| Multi-dose PCV10 B | 2019–2020 | PCV13   | 1 dose/vial  | Contract price                |
|                    | 2021–2024 | PCV10 B | 5 doses/vial | Gavi-AMC price                |

\* Government contract price: 2019–2020; Gavi-AMC price: 2021–2024.

## Indonesia to protect four million children a year against pneumonia



**Barcelona, 29 January 2020** – The Government of [Indonesia](#), with support from Gavi, the Vaccine Alliance, is planning to introduce [pneumococcal conjugate vaccines \(PCV\)](#) into its national routine immunisation programme, protecting more than four million children against pneumococcal disease – the leading cause of deadly pneumonia worldwide – every year.

Pneumonia is one of the biggest killers of children in Indonesia, with the pneumococcus bacteria contributing to an estimated 500,000 cases of pneumonia and close to 10,000 deaths in the country every year.

Indonesia, which is currently prioritising reducing infant mortality, plans to expand vaccination against pneumococcal disease. Through Gavi's [Advance Market Commitment \(AMC\)](#) mechanism, it will be able to access pneumococcal vaccines for a quarter of the previous cost and therefore the country will be able to expand the vaccine nationwide.

As part of his keynote address at the Barcelona Pneumonia Forum, Suharso Monoarfa, Indonesia's Minister for National Development Planning, said, "It gives me great pleasure today to announce that the Government of Indonesia is committed in proceeding with the special mechanism for PCV procurement through the Gavi Advance Market Commitment. We appreciate the support of Gavi, UNICEF and the Bill and Melinda Gates Foundation in helping to make this happen."

“The government has committed in proceeding with the special mechanism for PCV procurement through Gavi AMC”

[6] <https://www.gavi.org/news/media-room/indonesia-protect-four-million-children-year-against-pneumonia>

Press release

## UNICEF to lead procurement and supply of COVID-19 vaccines in world's largest and fastest ever operation of its kind

*UNICEF will work with manufacturers and partners on the procurement of vaccine doses as well as freight, logistics and storage of COVID-19 vaccines, on behalf of global COVAX Facility*

04 September 2020

### Gov't to Draft Presidential Regulation on Vaccine Procurement and Vaccination Implementation

By Office of Assistant to Deputy Cabinet Secretary for State Documents & Translation  
Date 19 September 2020  
Category: News

Read: 60 Views



[7] <https://www.unicef.org/indonesia/press-releases/unicef-lead-procurement-and-supply-covid-19-vaccines-worlds-largest-and-fastest-ever>  
[8] <https://setkab.go.id/en/govt-to-draft-presidential-regulation-on-vaccine-procurement-and-vaccination-implementation/>  
[9] <https://www.thejakartapost.com/news/2020/09/16/indonesia-unicef-sign-agreement-on-covid-19-vaccine-procurement-under-covax-facility.html>

“Following the same approach, Indonesia has signed agreement with UNICEF on COVID-19 vaccine procurement”

NEWS > WORLD

## Indonesia, UNICEF sign agreement on COVID-19 vaccine procurement under COVAX Facility

Nina Loasana  
The Jakarta Post

Jakarta / Wed, September 16, 2020 / 04:53 pm



COVAX currently has nine COVID-19 candidate vaccines in its portfolio, which employ a range of different technologies and scientific approaches. (Shutterstock/siam.pukkato)



# Lessons learned

- It is necessary to link and integrate all available data warehouses and platforms from healthcare facilities (i.e. hospital), government (i.e. MoH and DoH) and national insurance (i.e. BPJS Kesehatan).
  - By planning ahead, stakeholders can embrace big data and ensure the information they collect is accurate and consistent, allowing for a stronger and more resilient decision-making process.
- 



# References

- [1] WHO position paper - 2012. *Wkly Epidemiol Rec.* 2012;87(14):129-144. doi:10.1371/jour
- [2] <https://infonawacita.com/kasus-pneumonia-tertinggi-kemenkes-canangkan-imunisasi-pcv-di-lombok/>
- [3] Hadinegoro SR, et al. Nasopharyngeal carriage of *Streptococcus pneumoniae* in healthy children under five years old in Central Lombok Regency, Indonesia. 2016
- [4] <http://immunizationeconomics.org/baselposter/suwantika>
- [5] Suwantika AA, Zakiyah N, Kusuma ASW, Abdulah R, Postma MJ. Impact of Switch Options on the Economics of Pneumococcal Conjugate Vaccine (PCV) Introduction in Indonesia. *Vaccines* 2020, 8, 233.
- [6] <https://www.gavi.org/news/media-room/indonesia-protect-four-million-children-year-against-pneumonia>
- [7] <https://www.unicef.org/indonesia/press-releases/unicef-lead-procurement-and-supply-covid-19-vaccines-worlds-largest-and-fastest-ever>
- [8] <https://setkab.go.id/en/govt-to-draft-presidential-regulation-on-vaccine-procurement-and-vaccination-implementation/>
- [9] <https://www.thejakartapost.com/news/2020/09/16/indonesia-unicef-sign-agreement-on-covid-19-vaccine-procurement-under-covax-facility.html>



THANK  
YOU!

# What do the numbers really say: Using high-cost users data in Thailand for decision-making



Dr. Wanrudee Isaranuwatjai, Program Leader and Senior Researcher, Health Intervention and Technology Assessment Program (HITAP)



Dr. Rukmanee Butchon, Researcher, Health Intervention and Technology Assessment Program (HITAP), Thailand



# High-cost health care users in Thailand: the search for those in need

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Wanrudee Isaranuwachai & Rukmanee Butchon

Webinar: Knowledge Exchange in the time of COVID-19 (Part 3: M&E)

7 October 2020



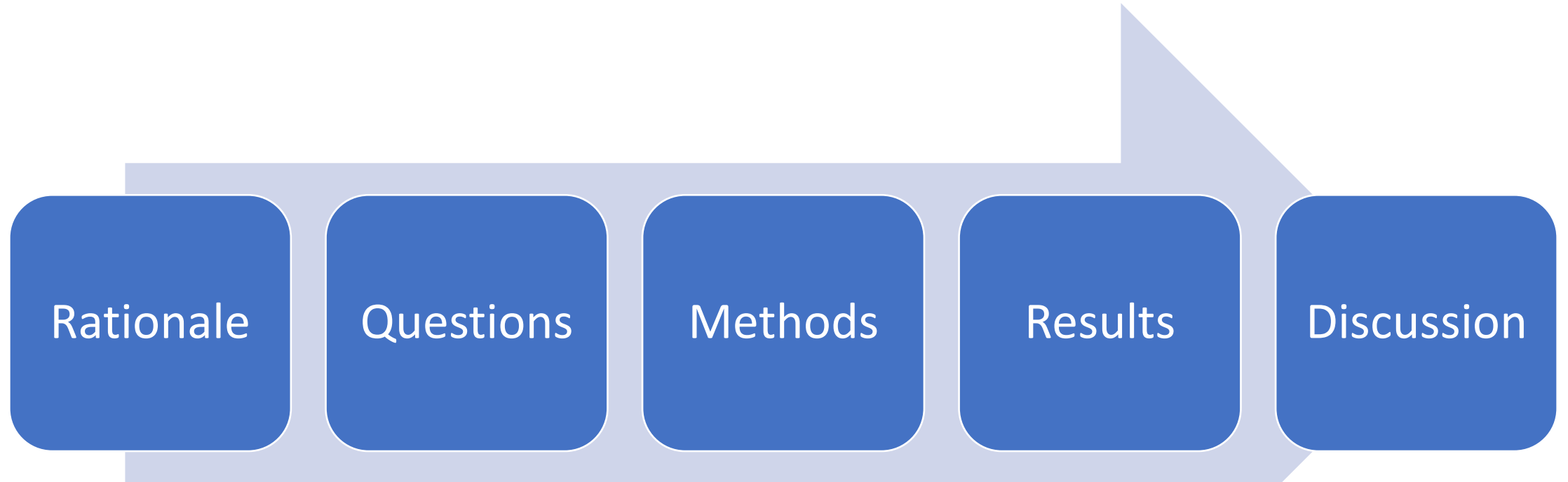


Frequent Flyer/User  
Member Program

# Acknowledgements

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  - Waranya RattanaVIPapong
  - Wang Yi
  - Nitichen Kittiratchakool
  - Yot Teerawattananon

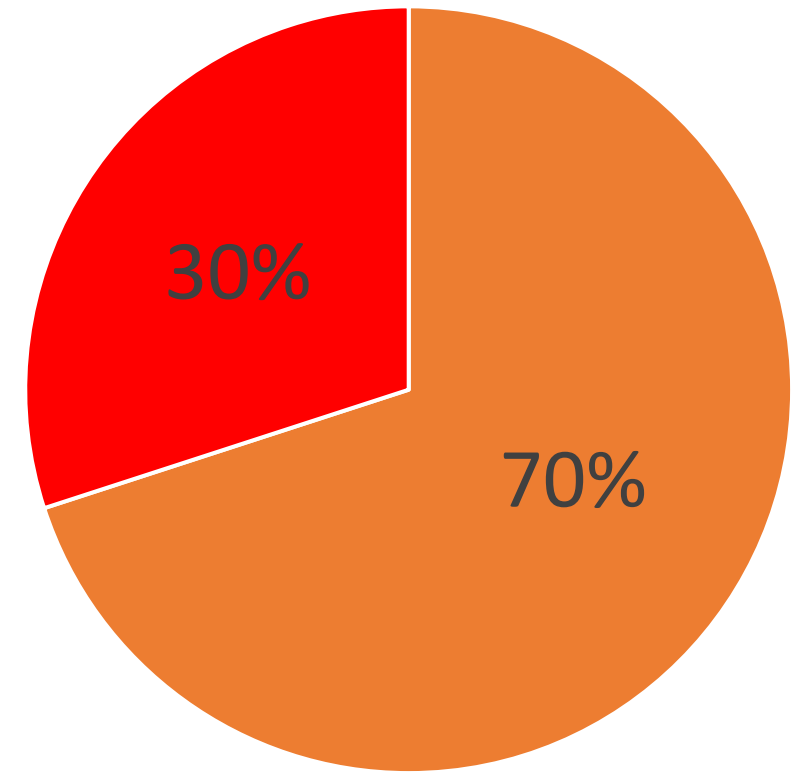
# Outline



# High Cost User Phenomenon



# Healthcare expenditures



- Existing literature on this phenomenon in other countries, e.g., Japan, United States, Norway, Italy, Australia, and Canada
- Health spending is often concentrated in a small proportion of the population

# Rationale

- The study findings on HCUs could be used to:
  - Monitor the magnitude and trend of HCUs in Thailand and support the planning of policies, e.g., access to care and high-cost interventions (existing initiatives)
  - Support tertiary hospitals to establish a mechanism to detect HCUs and develop measures to help this population
  - Facilitate the development of measures/interventions to prevent HCUs in the long term through various channels
  - Improve the quality and management of routinely collected data
- An example of using existing routinely collected real-world data to answer policy-relevant questions



# How Big are Our Data?

## DATA SIZE & HIERARCHY EXPLAINED – rough guide

| Name             |
|------------------|
| 1 Byte           |
| 1 Megabyte       |
| 1 Gigabyte (GB)  |
| 1 Terabyte (TB)  |
| 1 Petabyte (PB)  |
| 1 Exabyte (EB)   |
| 1 Zettabyte (ZB) |
| 1 Yottabyte (YB) |

| Unit        | Size Indications  |
|-------------|---|
| • Byte      | A single letter   |
| • Kilobyte  | One page of typed text is 2KB   |
| • Megabyte  | A typical pop song is about 4MB   |
| • Gigabyte  | A 2 hour film can be compressed into 1 - 2GB  |
| • Terabyte  | Big enough to hold all the x-ray files in a modern hospital   |
| • Petabyte  | Big enough to hold 13 years' worth of high-definition TV content.<br>Google processes 1 PB every hour                     |
| • Exabyte   | Equivalent to 10 billion copies of the Economist  |
| • Zettabyte | If we're able to record every human word that has ever been spoken they would fill up about 42 zettabytes worth of memory |
| • Yottabyte | Too big to imagine  |

7



13,000+  
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APPLICATIONS  
DOWNLOADED

20,000+  
**NEW**  
POSTS ON  
tumblr.

THE  
**LARGEST**  
SOCIAL READING  
PUBLISHING COMPANY!!

320+  
**NEW**  
twitter  
ACCOUNTS



100+  
**NEW**  
LinkedIn  
ACCOUNTS

1 associated content  
**NEW**  
ARTICLE IS  
PUBLISHED

THE  
WORLD'S  
**LARGEST**  
COMMUNITY  
CREATED CONTENT!!

**QUESTIONS**  
ASKED ON THE  
INTERNET...

100+  
Answers.com  
40+  
YAHOO! ANSWERS

6,600+  
**NEW**  
PICTURES ARE  
UPLOADED ON  
flickr



25+ HOURS  
**TOTAL**  
DURATION

600+  
**NEW**  
VIDEOS



70+  
**DOMAINS**  
REGISTERED

60+  
**NEW**  
BLOGS

1,500+  
**BLOG**  
POSTS

168 MILLION  
**EMAILS**  
ARE SENT

694,445  
**SEARCH**  
QUERIES

1,700+  
**Firefox**  
DOWNLOADS

695,000+  
**facebook.**  
STATUS  
UPDATES



125+  
**PLUGIN**  
DOWNLOADS

79,364  
**WALL**  
POSTS

510,040  
**COMMENTS**



Google

Google Search

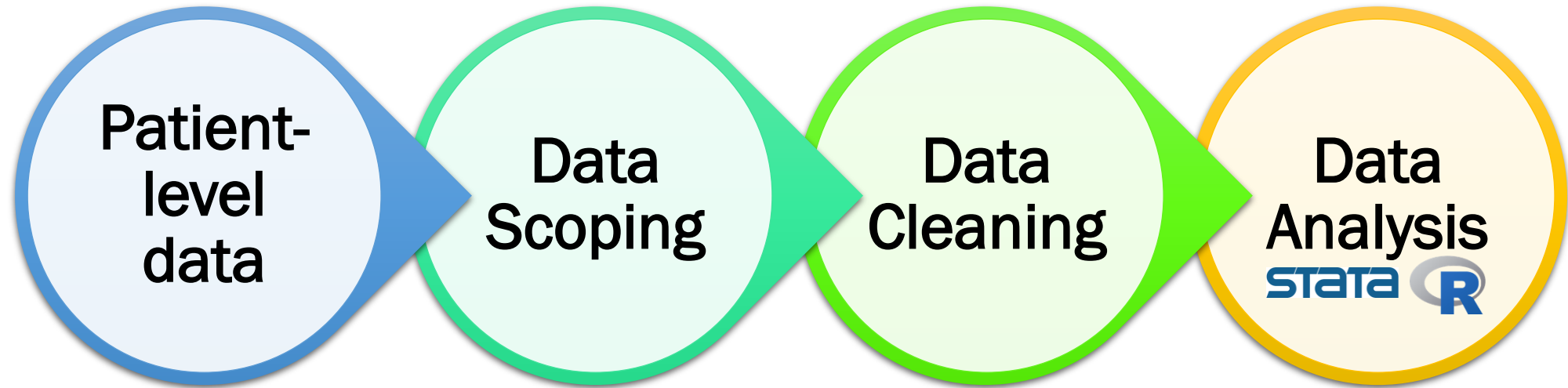


# Research questions

- Who were the high-cost users (HCUs)?
- What were common characteristics and diagnoses among high-cost users compared to low-cost users (LCUs)?
- What were the predictors of high-cost users, i.e., what characteristics increased the chance of becoming HCUs?



# Methods



A 5-year period from 2014-2018 of the NHSO's hospitalization database

Fiscal Year  
*(October - September)*  
Hospitalization (IPD) only

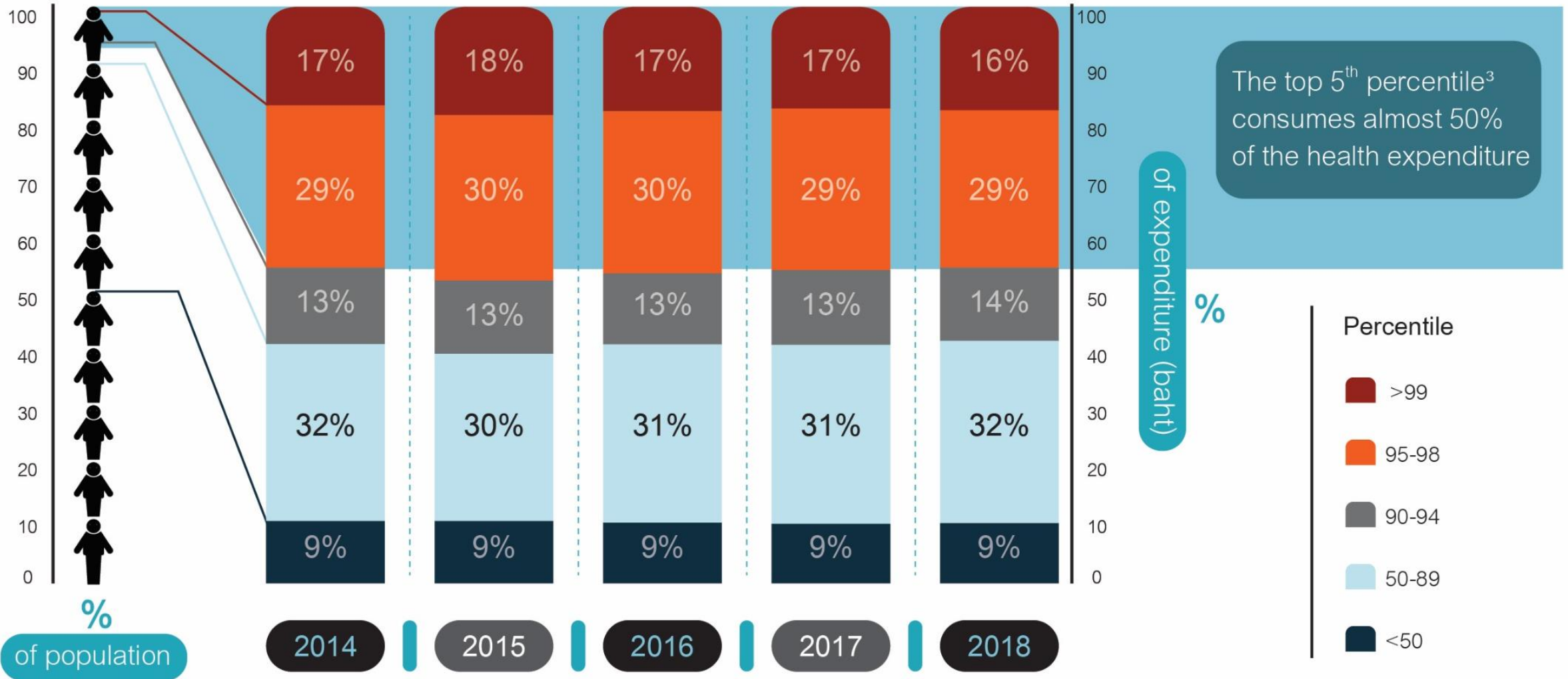
22,853,165 admissions

A retrospective secondary data analysis

- *Descriptive analysis*
- *Multivariate logistic regression*



# Distribution of Hospitalization Cost across Hospitalized Population in Thailand



# Who were the high-cost users?

## High Cost Users (HCUs)

Top 5% of hospitalised patients using the most amount of health care resources

# VS

## Low Cost Users (LCUs)<sup>4</sup>

Bottom 50% of hospitalised patients using the least amount of health care resources

During 2014-2018<sup>5</sup>

**55% Male**  
55-56 years old

**45-48 %**  
of total hospital cost was used by HCUs

Average cost  
**> 100,000 baht**  
per year per patient



**55-56 % Female**  
23-25 years old

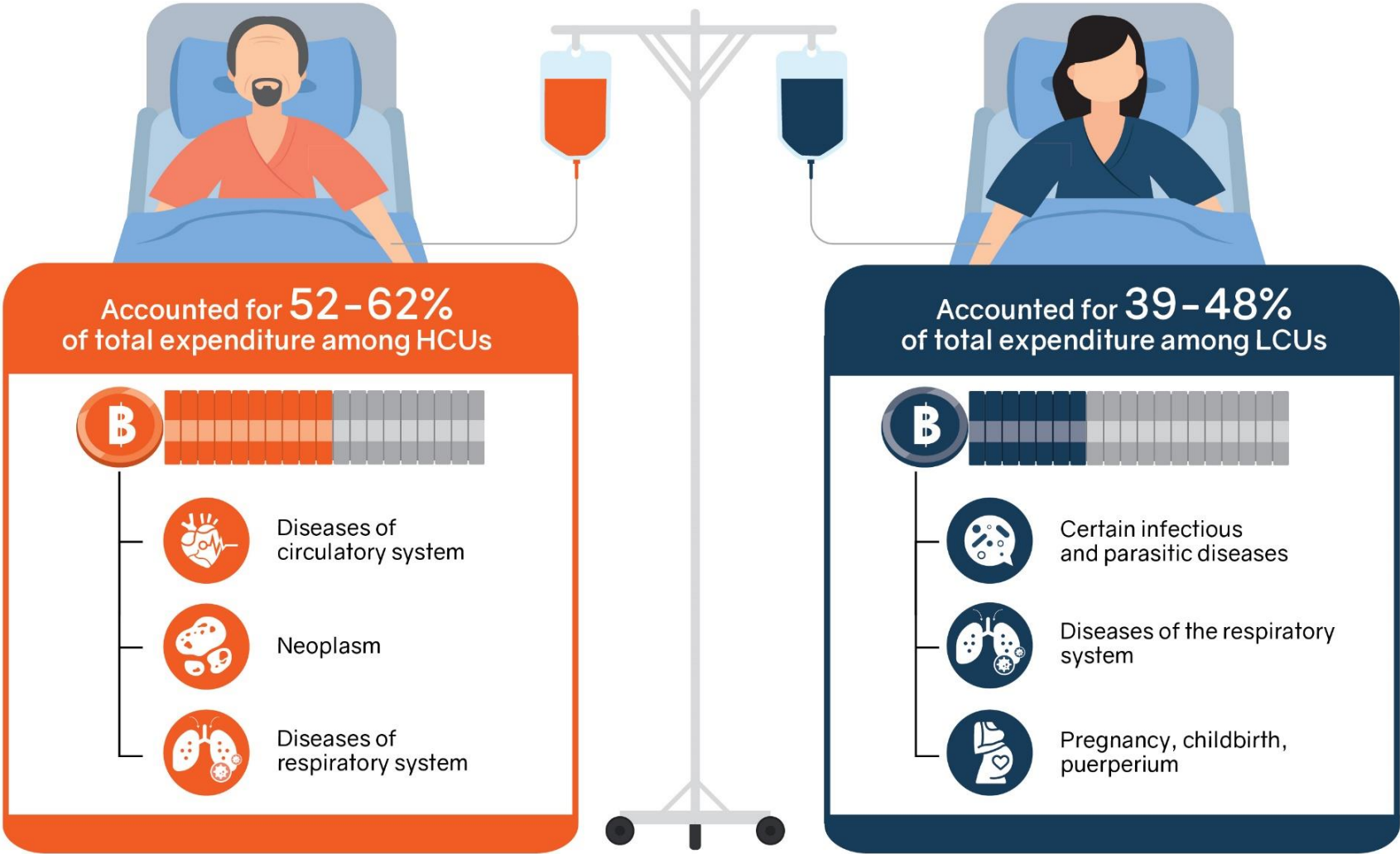
**9 %**  
of total hospital cost was used by LCUs

Average cost  
**< 3,000 baht**  
per year per patient

# What are common diagnoses among HCUs and LCUs?



# Top 3 Primary Diagnoses



What were the predictors of high-cost users, i.e., what characteristics increased the chance of becoming an HCU?

# Factors associated with becoming an HCU



- This analysis was conducted using a multivariate logistic regression model to identify potential predictors of HCUs
- All factors were found to be statistically significant (p-value < 0.05)

# Discussion

- The high cost user phenomenon exists in Thailand
- Key characteristics of high cost users (compared to Bottom 50%)
  - Elderly
  - Male
  - Higher length of stay
  - Higher number of visits and number of hospital visited
  - More frequent to hospitals which are not under MOPH
  - Majority with diseases of circulatory system
  - Higher mortality

# Discussion (continued)

*Ongoing collaborations with policy-makers to apply the study findings and potential use of real-world data*

## Strengths

- First study on HCUs in Thailand
- Could be applicable to other settings because knowing who are in need would equip the health care system to respond accordingly
- An example of how existing administrative database could be used to answer policy-relevant questions

## Limitations

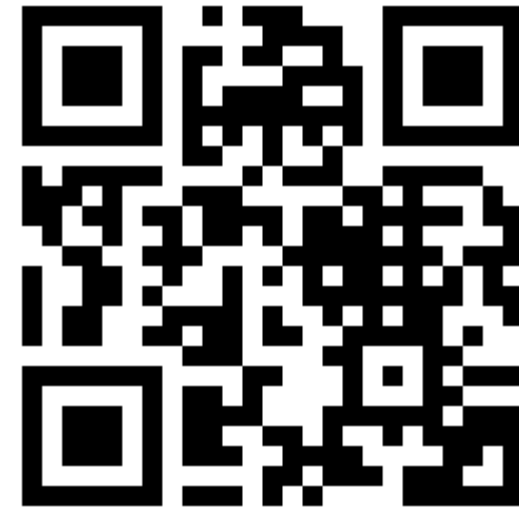
- Only direct healthcare cost
- Other types of health services (e.g., medications, outpatient)
- Data limitations (e.g., missing data, availability) → Highlighting the need for data validation system

# For more information



## **Policy brief:**

Who are the high cost users in  
Thailand's Universal Coverage Scheme



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# Break: To the polls!

Go to the following website:

[www.menti.com](http://www.menti.com)

Key in the code:

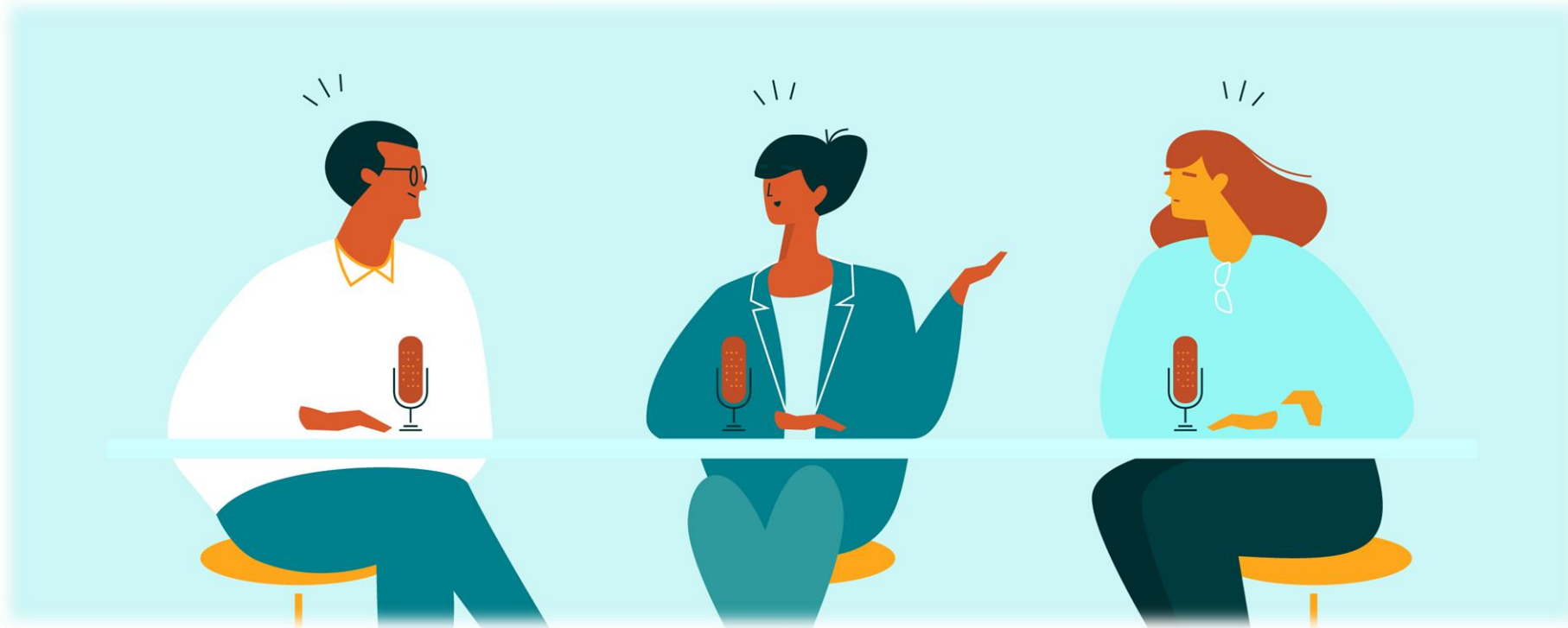
**77 76 50 5**



image: Freepik.com



# Planning Ahead: Moderated Panel and audience Q&A



**Given that the impacts of COVID-19 are being felt across health systems, what are the major lessons learnt about ensuring uninterrupted health services – for example; keeping routine immunization systems active or ensuring continued care for cancer patients? How important is the use of evidence in decision-making during times of emergencies, such as the COVID-19 pandemic?**

# Collateral impacts on the health system: India's experience



Dr. Shankar Prinja, Additional Professor of Health Economics,  
Post Graduate Institute of Medical Education and Research  
(PGIMER), India

# Externality of COVID-19 on non-COVID health conditions

Dr. Shankar Prinja

Additional Professor of Health Economics

Department of Community Medicine and School of Public Health

Postgraduate Institute of Medical Education and Research

Chandigarh, India

HITAP Webinar, 7<sup>th</sup> Oct 2020

# Negative Externalities of COVID-19

COVID-19

Demand Side

Supply Side

Lockdown

Public Perception

Income Loss

Diversion of limited resources towards COVID-19

HCW perceptions (Rise of infections)

Disruption of Preventive & Promotive services

Geographical barriers

Decreased willingness access care

Income elasticity

Preventive care

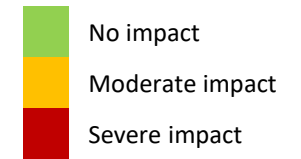
Out patient care

Reduced Services for non- COVID-19 conditions

Reduced Demand for non- COVID-19 conditions

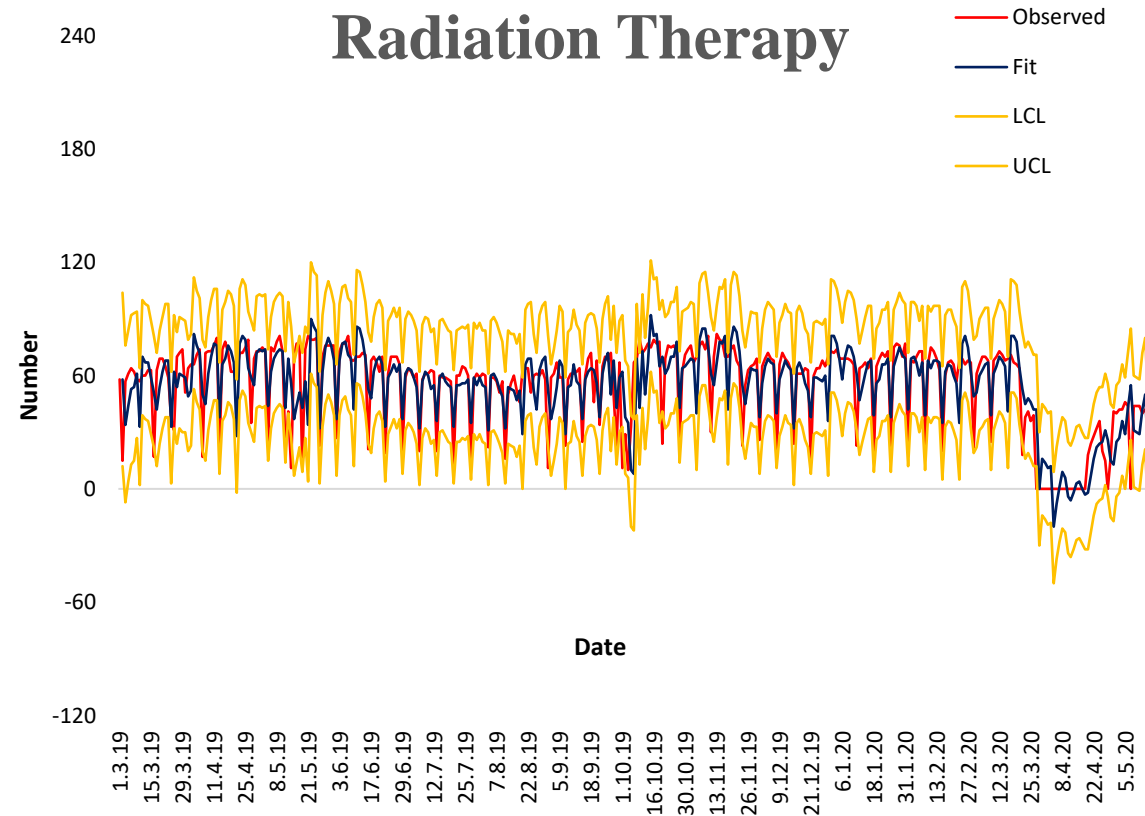
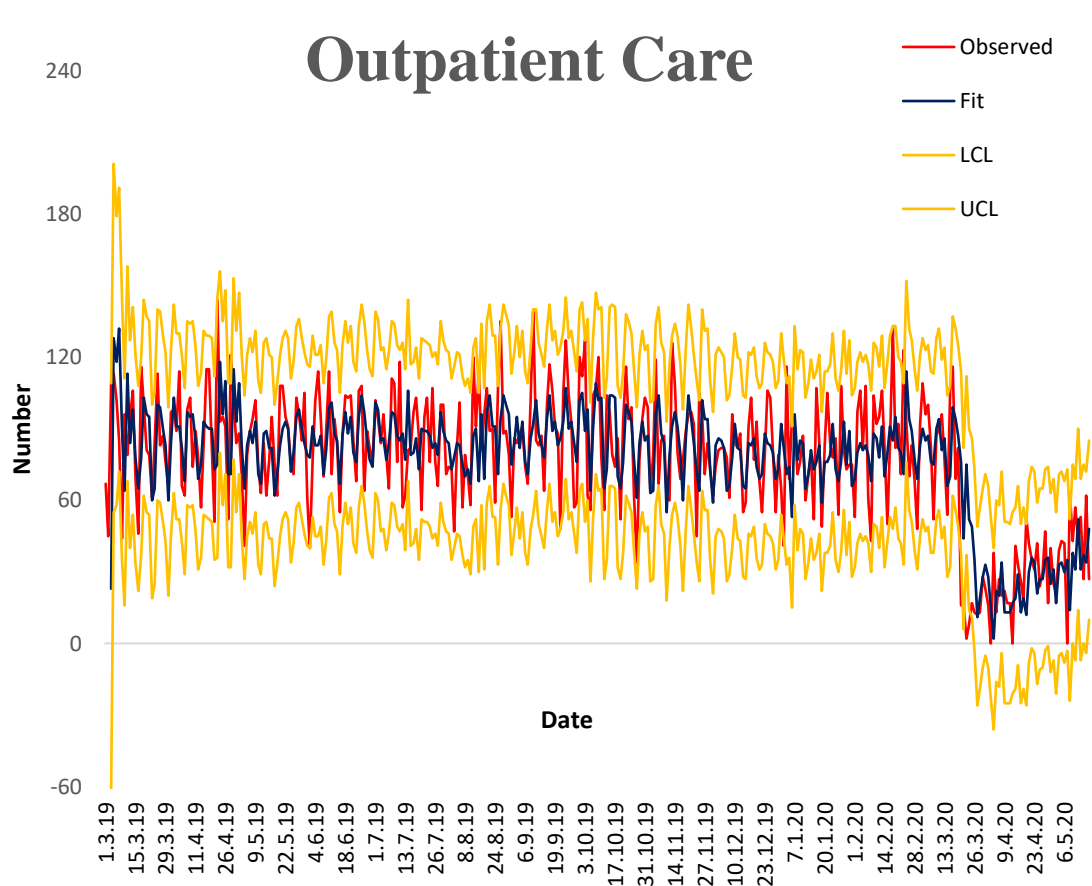
Negative Impact on Non- COVID-19 Conditions

# Impact on Primary Care



| Service   | During lockdown | Remarks   | During initial unlocking | Remarks  |
|---|-----------------|---|--------------------------|--|
| <b>Immunization</b>   |                 | Immunization services were initially completely suspended   |                          | MAMTA Diwas has been re-initiated  |
| <b>ANC</b>  |                 | Conducted by ASHAs with telephonic follow up by ANMs. Involvement of ANM in these activities was reduced and number of follow ups had decreased since the lockdown. |                          | Activities have been re-initiated, home visits have been started. However the number of visits remain lower than usual.  |
| <b>Follow up of high risk pregnancies</b>   |                 |   |                          |  |
| <b>HBNC visits</b>  |                 |   |                          |  |
| <b>Follow up of TB and leprosy patients</b>   |                 | Conducted by ASHAs on call. No face to face meeting was done.   |                          | Status quo   |
| <b>Follow up of diabetes and hypertension patients</b>  |                 | NCD screening and follow up of patients was halted  |                          | Has been re-initiated at most centers. Patients have started visiting the centers again. But NCD camps have not been re-started.   |
| <b>Family planning services (Distribution of condoms and oral pills)</b>                          |                 | Condoms and oral pills were distributed by ASHAs at village level, in a need based manner.  |                          | Status quo.  |
| <b>Family planning services (Health education and referral for spacing and permanent methods)</b> |                 | Health education and referral services generally provided at the HWC, could not be provided due to declined footfall. Few people visited centers.                   |                          | More individuals have started visiting the HWCs but the footfall is still lower than usual. Individuals requiring procedures are being referred to higher facilities.            |
| <b>General OPD (Acute minor ailments)</b>   |                 | A decline in OPD footfall was observed at all centers.  |                          | More OPD visitors are being observed now with the relaxations in the lockdown. But the total footfall still remains low. CHOs are still more involved with COVID related duties. |
| <b>Malaria</b>  |                 | Conducted by MPW(M) in normal conditions. Due to the involvement of MPW(M) in COVID related activities Malaria activities had been suspended in most centers.       |                          | MPW(M) are still posted on COVID related services hence these services are not available.  |

# Impact on Provision of Cancer Care



# Excess Mortality & DALYs among Cervical Cancer Attributable to COVID Lockdown

| Scenarios            | Excess Adverse Health Outcomes |                        |                           |
|----------------------|--------------------------------|------------------------|---------------------------|
|                      | Excess deaths                  | Life Years lost        | DALY                      |
| Lockdown of 9 weeks  | 737 (542-964)                  | 14,439 (10,682-18,983) | 18,134<br>(13,574-24,018) |
| Lockdown of 12 weeks | 943 (712-1,237)                | 19,003 (14,437-24,437) | 24211<br>(18,335-31,075)  |
| Lockdown of 6 months | 1,951 (1,469-2,627)            | 42,034 (31,573-55,400) | 57,003<br>(42,765-74,579) |



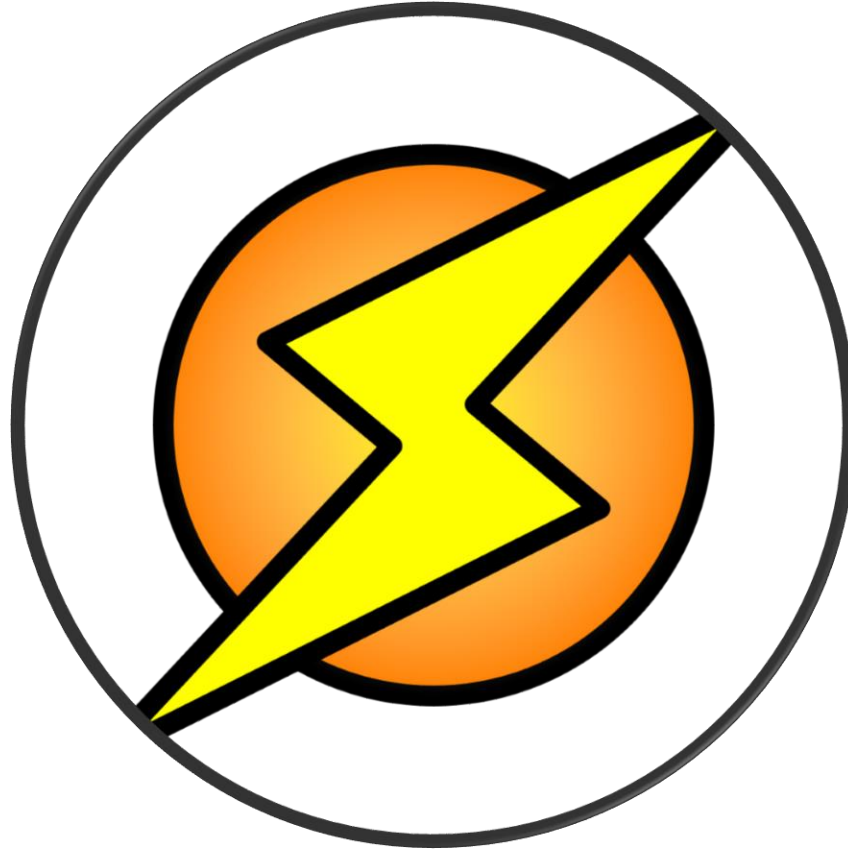
# Health Systems Need to Reorganize

- Rules of Priority Setting will change
- Treatment for patients of early stages of cervical cancer should be prioritized.
- Early stage patients whose surgery is postponed can be shifted to definitive radiotherapy.
- Primary care physicians should be involved through teleconferencing
- Primary Care needs to continue

# Keep your questions coming in the chat box



# 60 seconds rapid panel summary



# Closing the series: What's next?



Program Advisor, HIV Health and Development Group and  
Coordinator, Access and Delivery Partnership (ADP),  
United Nations Development Program

# All webinar materials will be available on

KNOWLEDGE EXCHANGE IN THE TIME OF COVID-19

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