



Session 3

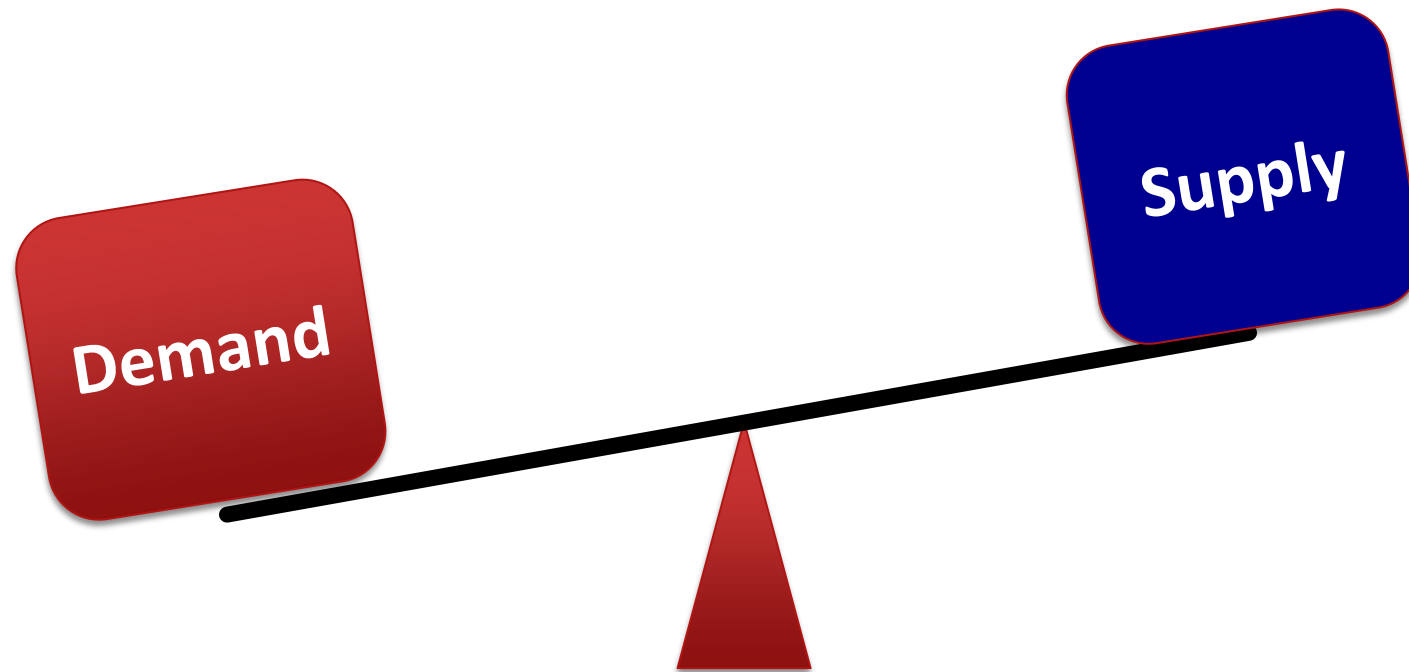
Achieving Program Sustainability Through Strategic Endeavors in Vaccine Procurements

Vaccine Procurement Practitioners Exchange Forum (VPPEF)

Lotte Hotel Yangon, Myanmar

12th -13th September 2019

Vaccine supply VS demand



Why imbalance between supply and demand?

Limited supply

- ◆ limited global production capacity (IPV, Flu (in case of pandemic))
- ◆ Consolidated vaccine market
- ◆ Orphan vaccines
- ◆ Barriers (laws/regulation/licensing/IP right/FTA)
- ◆ High standard required in all vaccine development cycle (GCP, GMP)

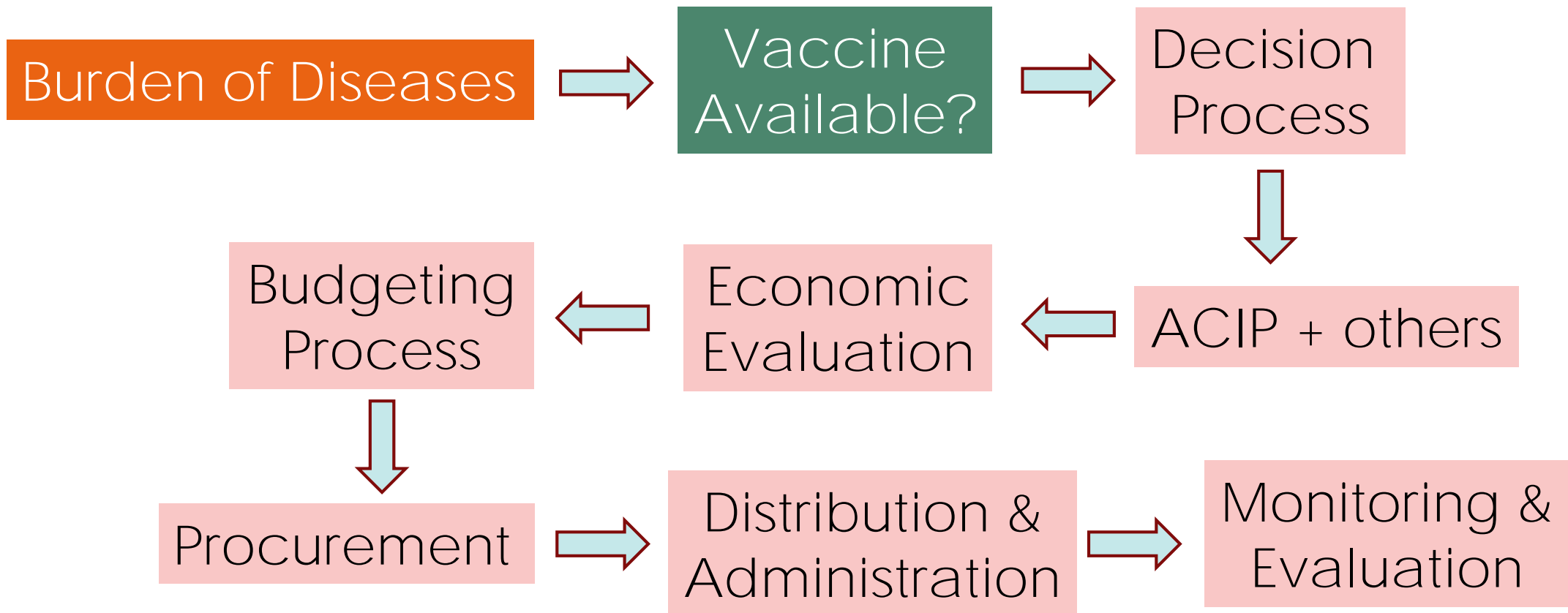
Increase Demand

while limited national resources

- ◆ Pandemic threat, New emerging VPDs
- ◆ New vaccines are needed (DHF, HIV)
- ◆ Increase population
- ◆ Limited resource in developing countries, financial gaps in non-GAVI eligible countries and GAVI graduated

Ineffective management

Vaccine Introduction to EPI



Vaccine security

Procurement

Current vaccines in EPI program and vaccines for control outbreak

Ensure adequate vaccine supply

Effective vaccine management

Stockpiling

- Regional pool procurement
- Multiyear tender
- AMC
- Strategic purchasing

Development

New vaccines/routine vaccines in the development pipeline

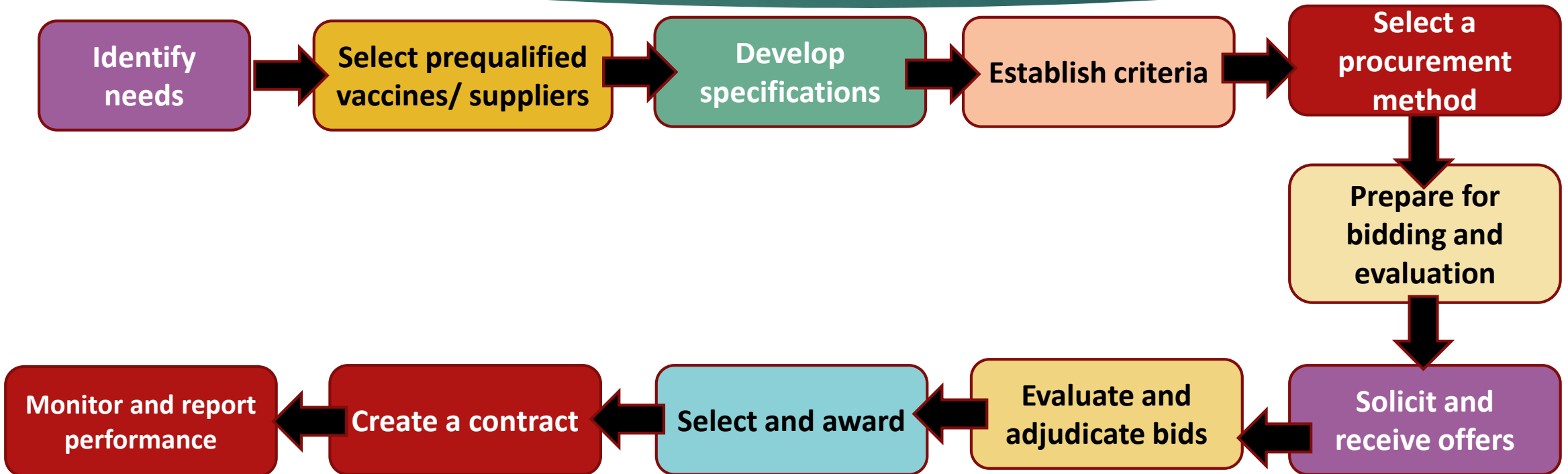
Study and select/prioritize some vaccines that is feasible/worth to be domestically produced.

- Promote vaccine R&D and production
- Strengthening NRA

Flu, HIV, Dengue

Long term

Procurement cycle





Health economics to inform vaccine introduction, product selection, and procurement

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Director of Health Economics and Outcomes Research
Center for Vaccine Innovation & Access

September 12, 2019
Yangon, Myanmar



Photo: PATH/Theet Htoo

1 **Effective vaccine decision-making: Overview**

2 What is health economics?

3 How can health economics inform vaccine decision-making?

4 Examples from the literature

5 Conclusion

Effective vaccine decision-making helps ensure:

- Selection and design of interventions that meet public health needs.
- Use of effective, safe, high-quality products.
- Successful programmatic implementation.
- Long-term supply security.
- Affordable prices.
- Program sustainability.
- Optimal use of resources.
-

Effective vaccine decision-making

- Is a multicomponent process that *includes* health economics.

- 1 Effective vaccine decision-making: Overview
- 2 What is health economics?**
- 3 How can health economics inform vaccine decision-making?
- 4 Examples from the literature
- 5 Conclusion

What is health economics?

- Health economics is a tool to inform decision-making.
- Because not all choices are this easy:



Why health economics?

- Health economics is the comparative analysis of alternative courses of action in terms of both their costs and consequences:
 - Consequences are the *outcomes* or *effects* of the intervention or treatment.
 - Costs are the *resources* used to achieve those consequences.
- Health economics is a way to systematically compare options.

Better question: How can health economics inform decision-making for vaccine introduction, product selection, and procurement?

- 1 Effective vaccine decision-making: Overview
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Health economics informs key questions like:

- Should we introduce a new vaccine?
 - Is it impactful and a good use of resources?
- Which vaccine product should we choose?
 - Is vaccine X less costly than vaccine Y?
- Is the preferred vaccine available?
- Is the preferred vaccine affordable and sustainable?

- 1 Effective vaccine decision-making: Overview
- 2 What is health economics?
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- 4 Examples from the literature**
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Should we introduce a new vaccine?


- Is the vaccine impactful? ✓
 - Rotavirus vaccination could avert more than 95,000 cases, 270 deaths, and US\$2.4 million in health care costs.



- Is the vaccine a good use of resources? ✓
 - Rotavirus vaccination is likely to be highly cost-effective.

Which vaccine should we use?

- Is vaccine X less costly than vaccine Y? ✓
 - Vaccine X was uniformly less costly across the three countries examined.



Contents lists available at [ScienceDirect](#)

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Re-evaluating the cost and cost-effectiveness of rotavirus vaccination in Bangladesh, Ghana, and Malawi: A comparison of three rotavirus vaccines

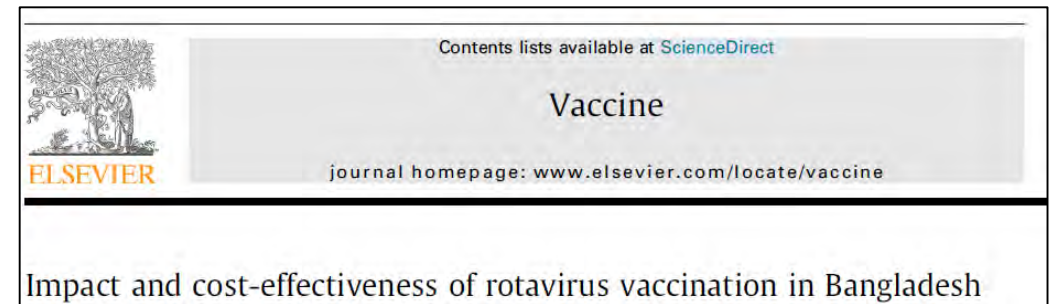
Is the vaccine available?

- Recently seen in the news:
 - ✓ “Vaccine options expand with new WHO prequalification of vaccine from India.”
 - X “Manufacturer pulls out of agreement to provide life-saving vaccine to millions of kids.”
- Not really a health economics question, but an essential question when choosing to introduce and selecting products:
 - Is the preferred product available now? Later? When?
 - Health economics can inform the decision to wait or to choose an alternative product now.

Is the vaccine affordable and sustainable?

- Is the vaccine affordable and sustainable? ✓

- The net cost of the rotavirus vaccine program is approximately 1.5% of EPI program expenditure.



- How do vaccine costs change over time? ✓

- The average annual cost of the rotavirus vaccine program represents 2.8% of the total immunization program cost.



- 1 Effective vaccine decision-making: Overview
- 2 What is health economics?
- 3 How can health economics inform vaccine decision-making?
- 4 Examples from the literature
- 5 **Conclusion**

Conclusion

- Effective vaccine-decision making for introduction, product selection, and procurement relies on many tools and methodologies, including health economics.
- Health economics is one tool to help inform decision-making.
- Health economics is well suited to inform questions of vaccine impact, cost effectiveness, cost, affordability, and sustainability.

Thank you!
For more
information,
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PATH



Yangon, Myanmar
12-13 September 2019

Aligning decision making with vaccine procurement



Presenter: Aurelia Gasca,
Contracts Manager UNICEF Supply Division © UNICEF/UN074431

UNICEF works in 190 countries and territories to save children's lives, to defend their rights, and to help them fulfil their potential, from early childhood through adolescence.

UNICEF works for every child, everywhere!



[Child protection](#)



[Child survival](#)



[Education](#)



[UNICEF in emergencies](#)



[Gender](#)



[Innovation for children](#)



[Supply and logistics](#)



[Research and analysis](#)

Vaccine Security - UNICEF Focus - for Every Child



Accurate forecasting



Available funding



Appropriate contracting

Vaccine Security = sustained & **uninterrupted** supply of **affordable** vaccines of **assured** quality = **For Every Child!**

Vaccine Decision



Demographics

Population dynamics and growth, [birth cohort](#)



Epidemiology

Based on the [epidemiological](#) data and evidence



Vaccine Procurement



Forecasting & Planning

[Strengthen countries capacity](#) in long-term demand forecasting



Procurement Approach

Product [presentation](#), buffer and circulated strain

[UNICEF](#) | for every child

Vaccine Decision



Regulatory requirements

Regulatory and legislative environment



Governance & Oversight

National structures & decision making process



Vaccine Procurement



Import requirements

WHO PQ products and market authorisation



Guiding Procurement Principles

NITAG, multi-year commitment



Development of tender document: Guiding Procurement Principles

- Fairness, integrity and transparency through **competition**
 - Clear & appropriate regulations/rules applied to all suppliers, fair process, equal treatment of suppliers, transparent system
 - Minimise/Avoid specific labelling requirements, testing requirements, agents in country, etc that may incur premiums to the price
- Economy to **minimize cost** and effectiveness to **meet end-user interest**
 - Meet requirement in terms of quantity, quality, timeliness at the right place.
 - Delivery costs including cold chain capacity/requirements, training of HCWs
- Best value for money
 - Consider the optimum combination of factors in meeting the end user needs

Strategic Procurement → Vaccine Security



Market knowledge

Research **vaccine market**, demand and supply side



Forecasting & planning

Strengthen countries capacity in long-term demand forecasting



Budgeting and financing

Dedicated budget line, optimize financing and payment terms to meet vaccine market dynamics



Tender & contracting

Flexibility in tendering and **innovative** contracting approaches (LTA)

UNICEF's tender and contracting approach: Making procurement strategic (1)

1. Planning and development of procurement strategy

- Focus on Vaccine Security
 - sustained, uninterrupted supply of affordable, vaccines of assured quality
- Product-specific procurement strategies
 - based on analysis and experience
- Informed by industry and partner consultations and alignment of objectives

2. Competitive tender process

- RFPs for strategic products
 - Flexibility for manufacturers to shape the offer to highlight how they can bring best value
- Multi-year tender & award period
 - Provides planning horizon and more certainty to manufacturers
- Wide invitee-list
 - All manufacturers are invited to participate (incl. pipeline)

UNICEF's tender and contracting approach: Making procurement strategic (2)

3. Awards/Contracts

- LTA – ‘good faith’ framework agreements:
 - Based on good will from accurate forecasts, but ‘treated’ as contracts
 - To achieve exceptional results exceptional contracts have been awarded (e.g., firm or pre-paid contracts)
- Review with a Procurement Reference Group (GAVI-supported vaccines) or other confidential partner consultation (e.g. GPEI)
- Multiple suppliers awarded per product
- Pipeline assessed in award recommendation, and informs award strategy to incentivize continued market development



THANK YOU

Strategic procurement of vaccine in support to UHC: lesson learnt from Thailand

Mr. Tanapat Laowahutanon ⁽²⁾

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Ms. Somruethai Supungul ⁽²⁾

Mrs. Orathai Suwaranrak⁽²⁾

(1) Bureau of Primary care management, (2) Bureau of Medicines and Medical instrument Management

Contents

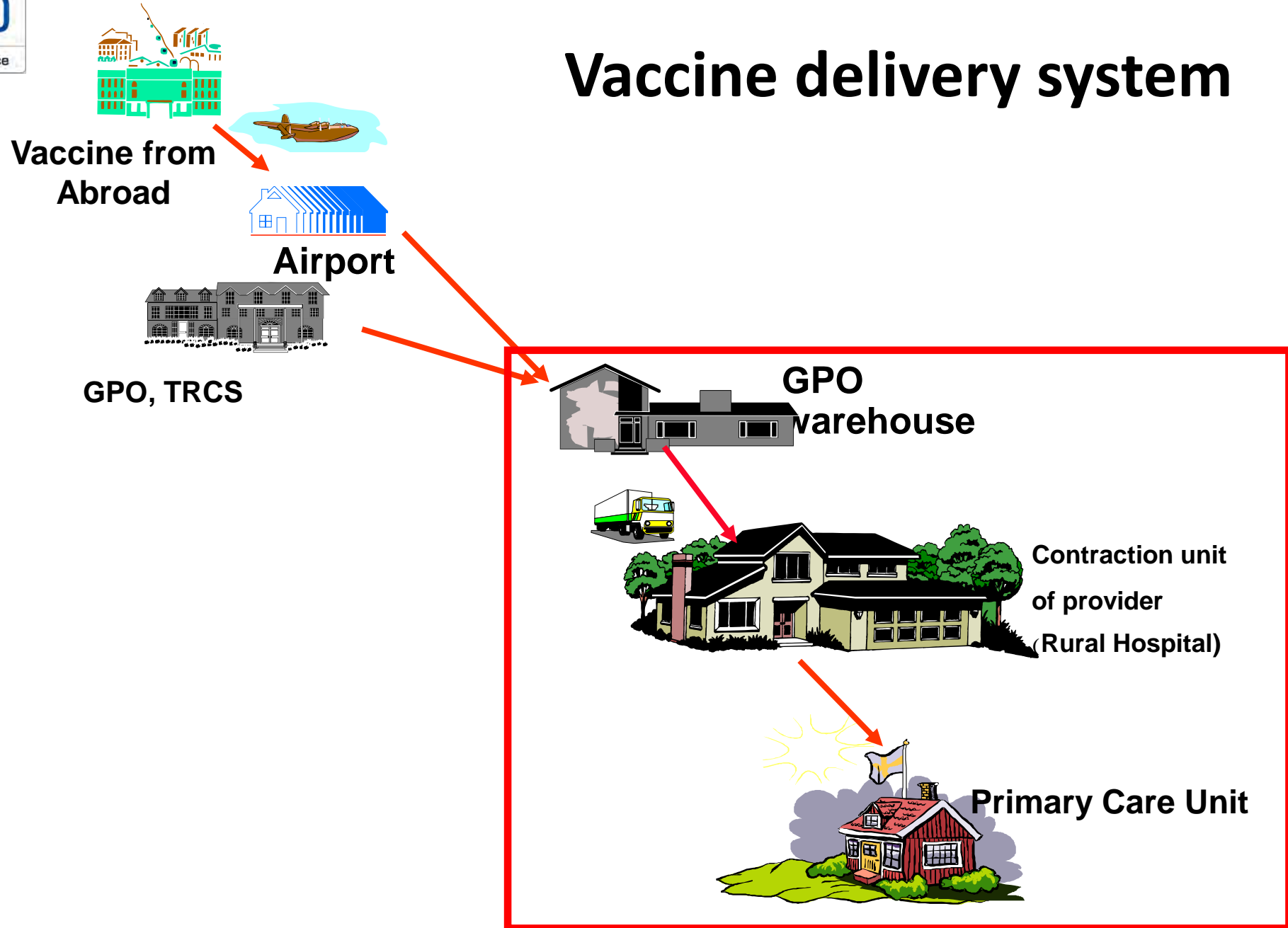
1. Procurement cycle

- 1) Review medicine selection
- 2) Specify quality standards
- 3) Determines quantities needed
- 4) Reconcile needs and funds

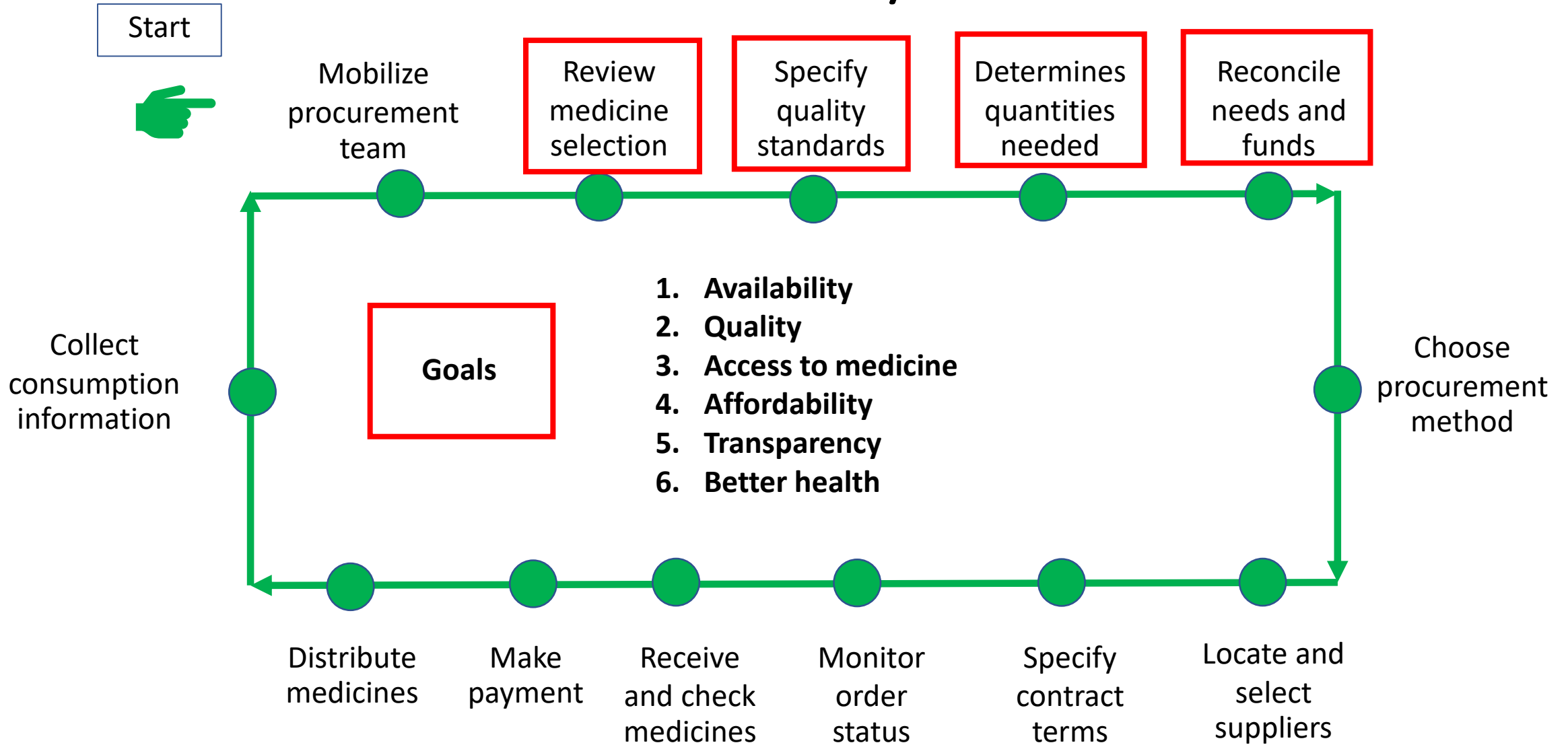
2. Outputs/Outcomes

3. Challenges

Vaccine delivery system



Procurement cycle



Ref: WHO managing procurement

<http://apps.who.int/medicinedocs/documents/s19595en/s19595en.pdf>

Review medicine selection: Selection Process of Thai National List of Essential Medicines (NLEM)

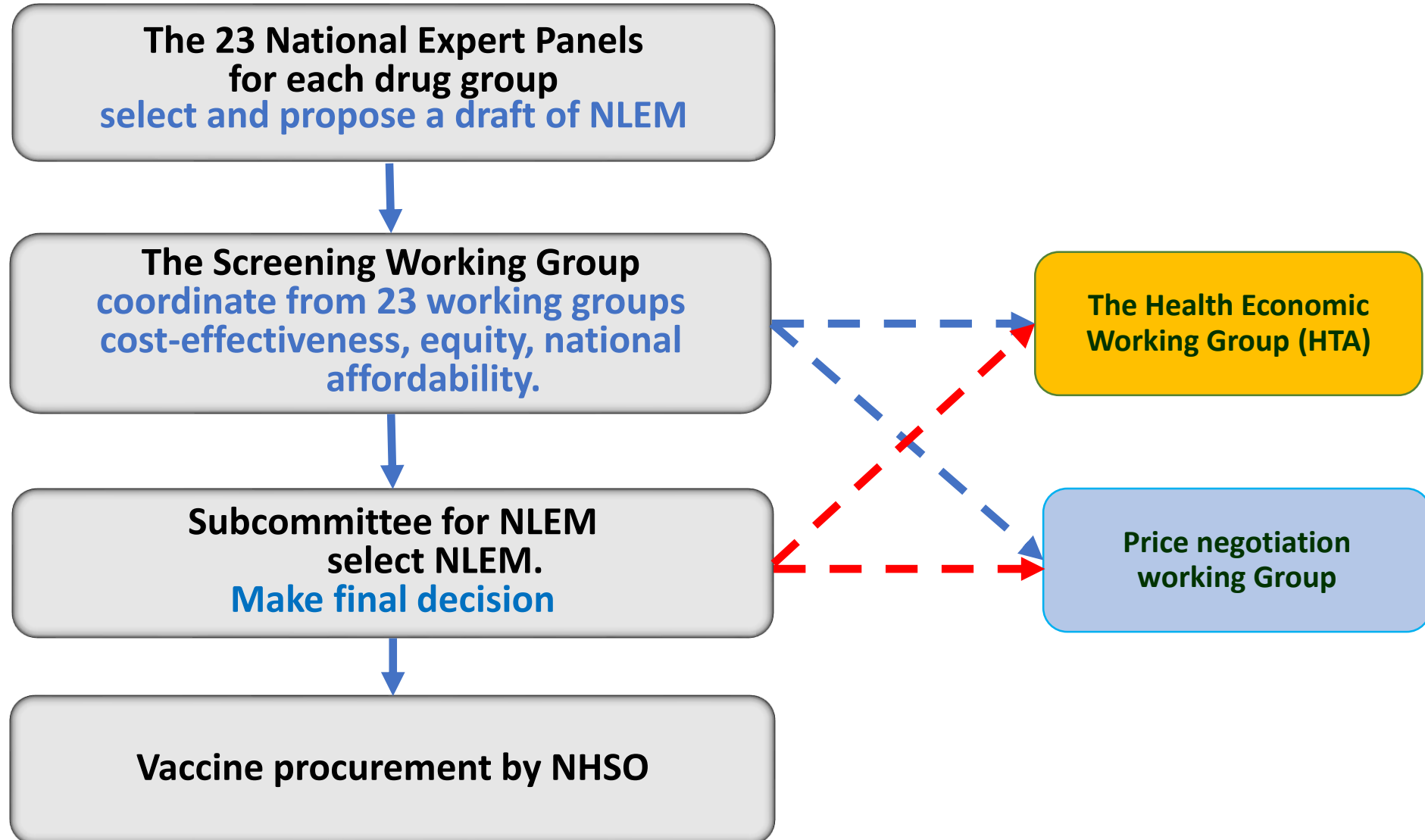
Concept of NLEM

Covers drugs needed for protection & treatment of health problems of Thai people at essential level in an economic & cost-effective manner (Effective list)

Selection criteria

1. Efficacy ,Effectiveness, Safety,Health need ,Compliance
2. Efficiency : cost effectiveness
3. Budget impact (Affordability)

Review medicine selection: Selection Process of Thai National List of Essential Medicines (NLEM)



The National Immunization program for Thai children in Thailand

Age	Vaccinations
Newborn	BCG, HB1
1 month	HB2 (Babies born to mothers with positive HBsAg)
2 months	DTP-HB-Hib1, OPV1
4 months	DTP-HB2-Hib, OPV2, IPV1
6 months	DTP-HB3-Hib, OPV3
9 months	MMR1
1 year	JE1
1 yr 6 months	DTP4, OPV4
2 yr 6 months	JE2 , MMR2
1 years	DTP5, OPV5
2, 4, 6 months	Rota vaccine (start in 2020)
School-based: grade 1	MMR, HB, LAJE, IPV, dT, OPV, BCG (student who have not been vaccinated)
School-based: grade 5	HPV1, HPV2
School-based: grade 6	dT

Comparison of estimated budget for vaccines procurement before and after negotiation by Subcommittee NLEM

Year	Vaccine lists	Before negotiation (million \$)	After negotiation (million \$)	% Reduce
2018	A,B	76.39	15.85	79.26

Specify quality standards

1. Vaccine specification
2. Sources of specification
 - 1) Pharmacopeia: USP, BP, European Pharmacopeia
 - 2) ACIP-Advisory Committee on Immunization Practice
 - 3) Ministry of Public Health
 - Thai FDA,
 - Department of Medical Sciences
 - Department of Disease Control
3. Post marketing surveillance for product analysis.: "WHO report

All vaccine distributed in Thai had to get lot released certification from Department of Medical Sciences

Determines quantities needed

1. Estimation method⁽¹⁾:
 - 1) Estimates based upon target population
 - 2) Estimates based upon previous consumption
2. Reconcile these 2 methods
3. Confirm with suppliers

Reference: 1 Vaccine forecasting and needs estimation

https://www.who.int/immunization/programmes_systems/supply_chain/resources/tools/en/index3.html

**Estimates based upon previous consumption:
Web-based application "VMI"**

Calendar

September 2019

Su	Mo	Tu	We	Th	Fr	Sa
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

Online User

ขณะนี้ กำลัง Online -5 คน

ข่าวประกาศ

โครงการปัจจุบัน : EPI1: VMI วัคซีน EPI Routine

ระบบบริหารการสั่งซื้อ | ระบบคลังสินค้า | ระบบข้อมูลเจ้าของโครงการ

โครงการปัจจุบัน : EPI1: VMI วัคซีน EPI Routine

VMI3R004 - รายงานการจ่ายสินค้า

Data To Excel | พิมพ์รายงาน | ล้างข้อมูล | กลับ

โครงการ : EPI1: VMI วัคซีน EPI Routine

ประเภทรายงาน : แยกตามเลขที่ แยกตามรหัสเวชภัณฑ์

เลขที่จ่าย : ถึง

วิธีการจ่าย : เลือกวิธีการจ่ายทั้งหมดแล้ว

ประเภทการจ่ายอื่นๆ : เลือกประเภทการจ่ายอื่นๆทั้งหมดแล้ว

คลัง : เลือกคลังทั้งหมดแล้ว

หน่วยบริการ : กรุณาเลือก

รายการยา : เลือกรายการยาทั้งหมดแล้ว

หมายเลข Lot : ถึง

ตั้งแต่วันที่จ่ายสินค้า : 11/09/2019 ถึง 11/09/2019

สายขนส่ง : เขตจัดส่ง

โซน : เลือกโซนทั้งหมดแล้ว

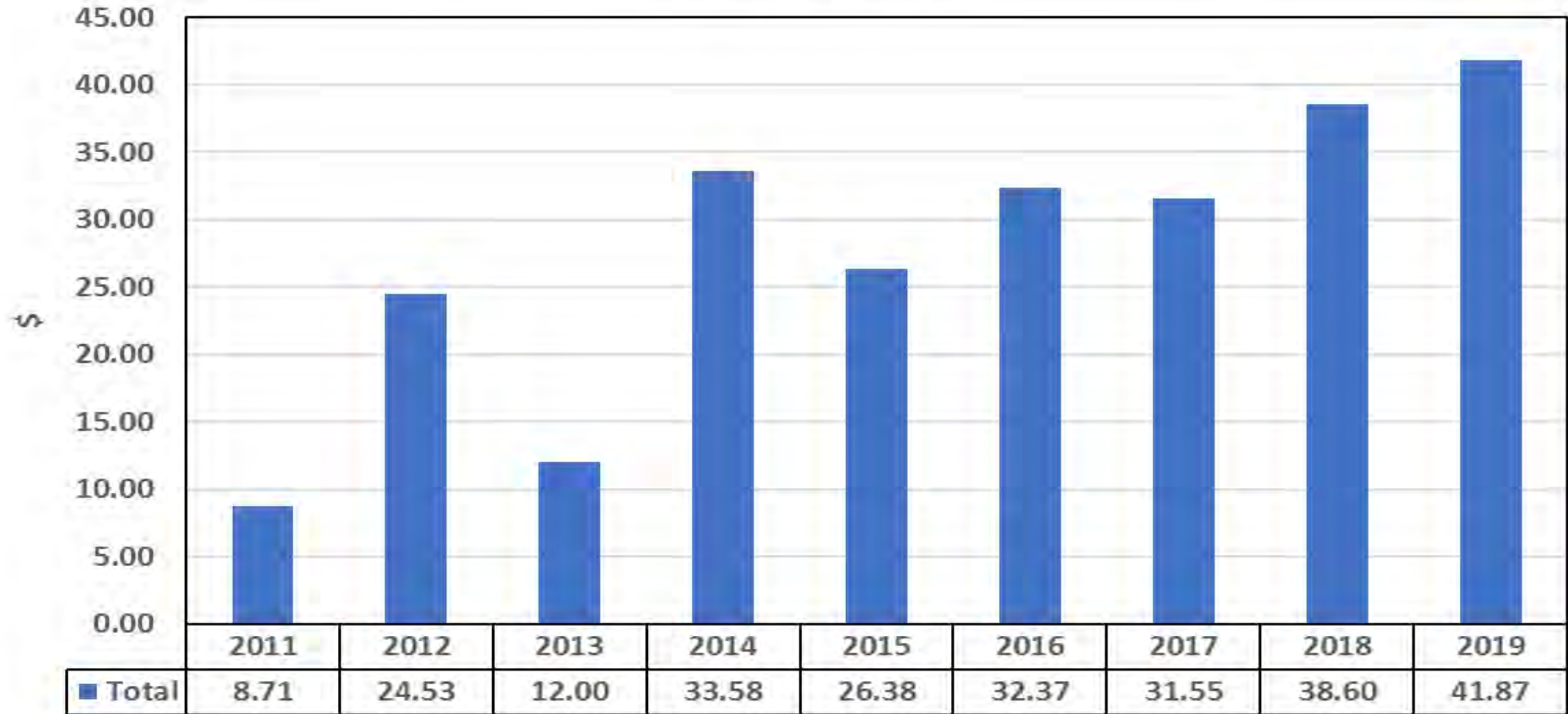
จังหวัด : เลือกจังหวัดทั้งหมดแล้ว

แสดงหมายเหตุ :

Estimates based upon previous consumption: Web-based application “VMI”

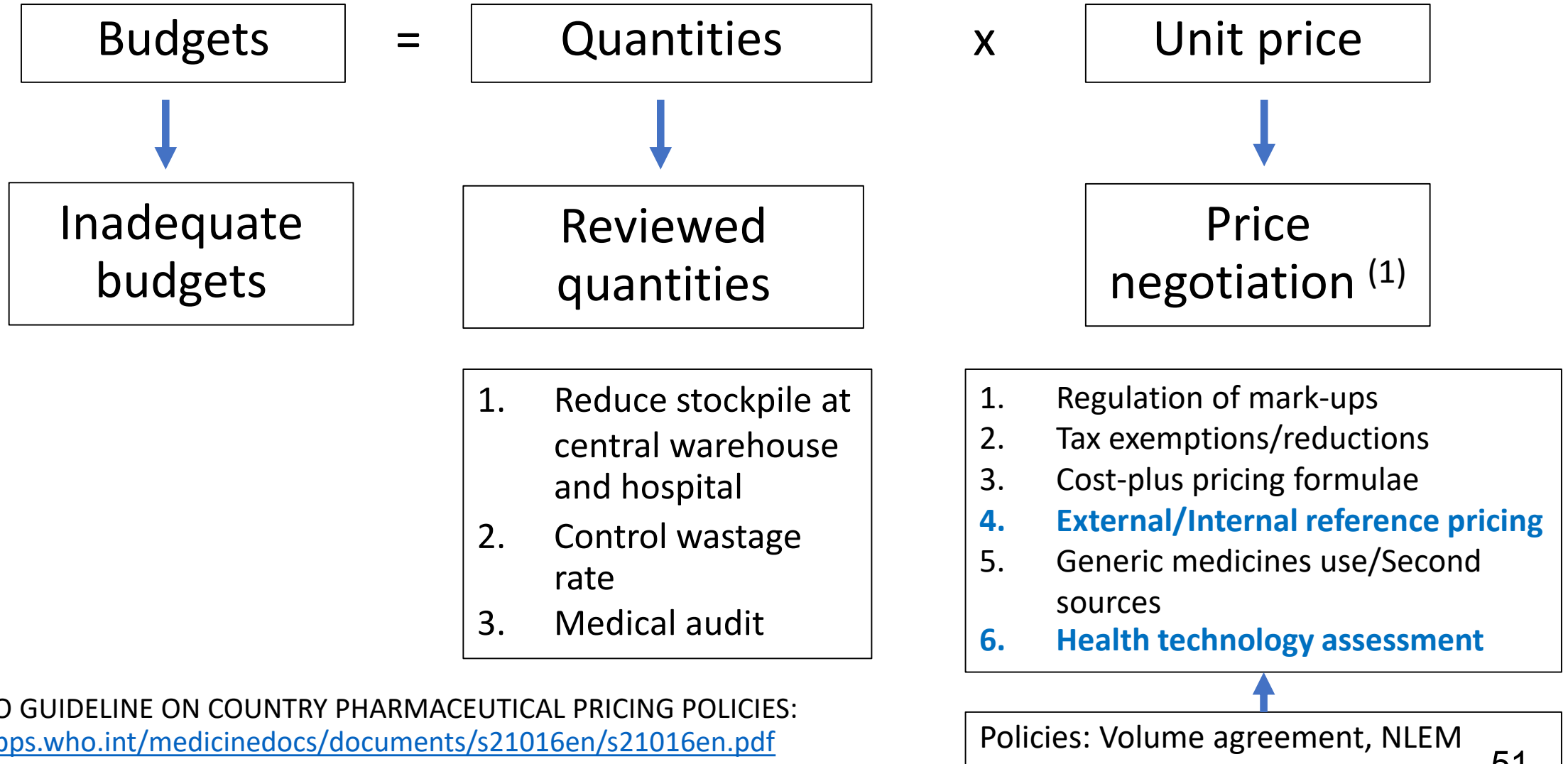
A	B	C	D	E	F	G
Product code	Product list	Hospital name	Vaccine send date	LotNo	Quantities	unit
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	04/10/2018	221500218A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	06/11/2018	221500218A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	03/12/2018	221500218A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	03/01/2019	221500218A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	30/01/2019	221500218A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	07/03/2019	221500518A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	27/03/2019	221500518A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	17/04/2019	221500518A	20	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลชัยใหญ่	07/06/2019	221501418A	10	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	23/11/2018	221500218A	95	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	21/01/2019	221500218A	60	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	22/03/2019	221500518A	50	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	24/04/2019	221500518A	50	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	28/05/2019	221500518A	50	VI
121603660001	dT VACCINE 10 doses/vial (EPI)	โรงพยาบาลพระนครศรีอยุธยา	26/08/2019	221501718A	100	VI

Budget used for vaccine procurement in Thailand by fiscal year (million us dollar)



Sources: Vaccine procurement plan, NHSO

Reconcile needs and funds



(1)! WHO GUIDELINE ON COUNTRY PHARMACEUTICAL PRICING POLICIES:
<http://apps.who.int/medicinedocs/documents/s21016en/s21016en.pdf>

Outputs: Available

Fiscal year	Vaccine list	Detail
2010-2011	JE vaccine mouse brain	Production interruption
2015	MMR vaccine	World wide shortage
2017	HPV	Highly demand in worldwide
2018	HPV, MMR	<ul style="list-style-type: none"> • HPV: Highly demand in world wide • MMR: World wild shortage
2019	HPV, MMR	<ul style="list-style-type: none"> • HPV: Highly demand in world wide • MMR: World wild shortage

Outputs: Vaccination coverage in children age < 5 years in Thailand: compare by fiscal year

Vaccine	1999	2003	2008	2013	2018
BCG	98	99	99.9	100	100
HB1	-	-	98.3	99.9	100
DTP3	97	98	98.7	99.4	99.8
OPV3	97	98	98.7	99.4	99.8
HB3	95	96	98.4	99.4	99.8
IPV	-	-	-	-	95.6
M/MMR1	94	96	98.1	98.7	99.8
JE1	84	87	94.6	96.1	98.6
DTP4	90	93	96.5	97.8	99.4
JE2	-	62	89.3	91.9	95.1
MMR2	-	-	91.2	95.3	96.5
DTP5	-	54	79.4	90.3	95.5
HPV	-	-	-	-	98.1
dT	-	-	94.1	96.9	96.1

Challenges

1. International strategic partnership to procure vaccine:

- 1) Pooled procurement
- 2) Price negotiations
- 3) Vaccine quality

2. Vaccine security

- 1) Multiyear contracts and pooled procurement
- 2) Local producers

3. Vaccine shortage management

- 1) Report vaccine shortage situation
- 2) Establish a way to manage vaccine stockpiles during shortages at the hospital level

**Thank
YOU**
To-Make-Me



ตลอดมาเราช่วย...หากหลายเพื่อหนึ่งเดียว :
ร่วมพลังสร้างสรรค์หลักประกันสุขภาพที่ยั่งยืน



DISCUSSIONS
&
OPEN TO AUDIENCE FOR QUESTIONS