

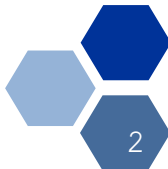
# Quality indicator development and testing

29 February 2016



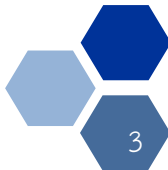
# Outline

- Quality indicator development
- Refinement of the indicator statement (pre-pilot)
- Piloting quality indicators
- Findings of the indicator piloting
- Recommendations
- Q & A and discussions



## Prioritized area

1. Hypertension, Diabetes, CV Risk
2. Maternal and Child Health
3. Bedridden patients
4. Rational use of antibiotics
5. Asthma and COPD

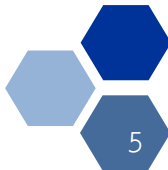


# Criteria for selecting indicators

1. Common clinical conditions with a high burden of illness (review of published literature and aggregated data analyses)
2. Quality of care is variable with opportunities for improvement (expert opinion)
3. Improving quality of care will improve health (review of guidelines, published literature)
4. The indicator attributes to primary care (expert opinion)
5. The indicator is feasible with regard to data availability (review of 43 folder database or related database)

# Approaches to develop indicators

- Systematic guideline-based approach
- Consultation with experts and the Steering Committee
- Consultation with primary care workers in health promoting hospitals, private clinics and district hospitals
- Consultation with database experts about data extraction
- Piloting indicators in PCUs



# Summary of indicators

Disease area	Number of indicators	Structure	Process	Outcome (proxy)
Hypertension	3	-	2	1
Diabetes	3	-	2	1
CVD	1	-	1	-
MCH	5	-	3	2
Bedridden	2	1	1	-
RUA	2	-	2	-
Asthma	6	1	4	1
COPD	2	1	1	-
<b>Total</b>	<b>24</b>	<b>3</b>	<b>16</b>	<b>5</b>

# Refinement of the indicator statements

1. Face validity testing with primary care workers and experts
2. Wording changes as a result of the discussion
3. Determine data recording and extraction protocols
4. Draft guidance to provide information on the interpretation of indicators and how indicators will be measured
5. Initial identification of specific issues to be addressed in piloting

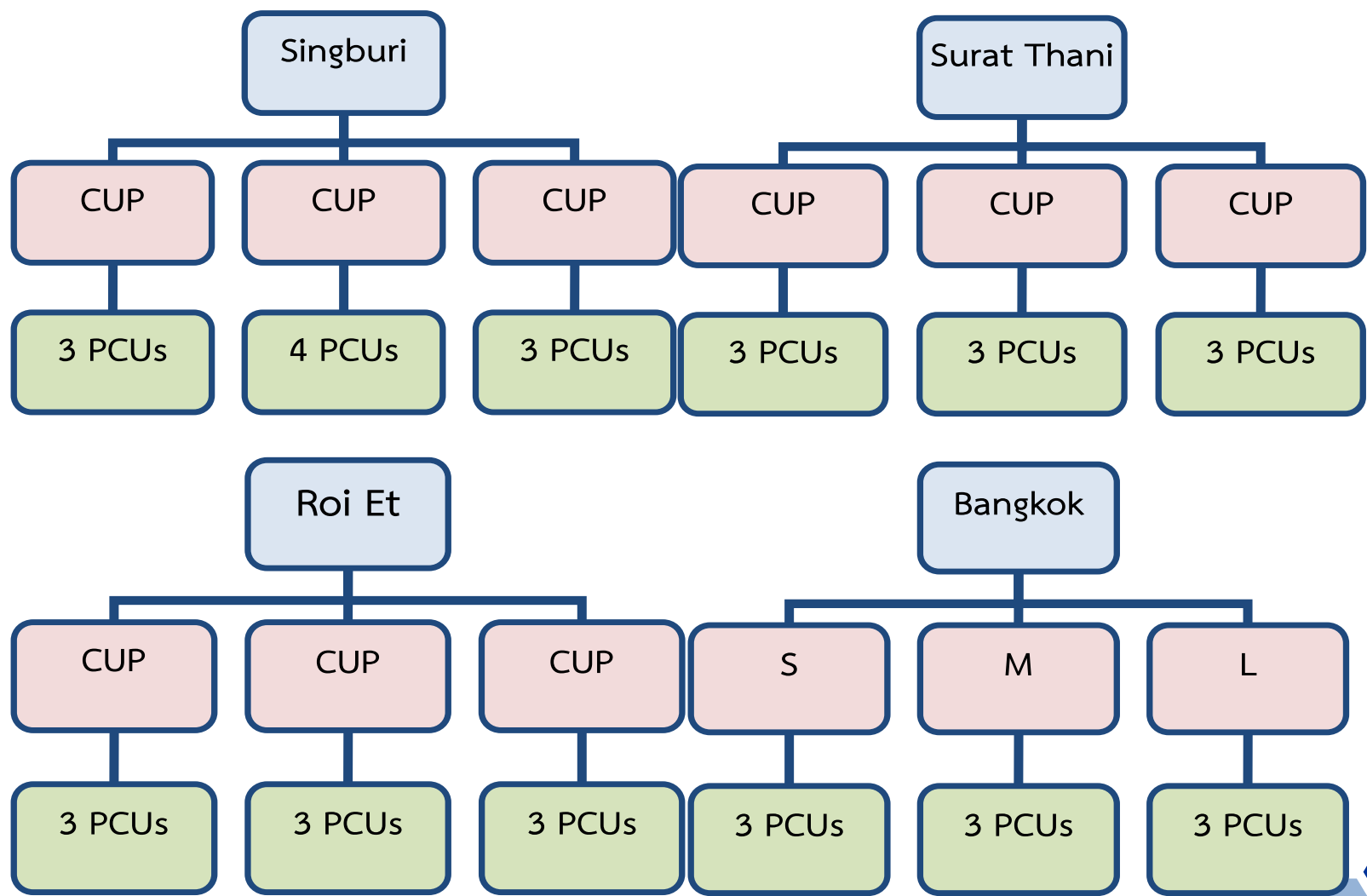


# Objective of indicator piloting

- To test quality indicators on the following attributes:
  - Reliable
  - Feasible
  - Acceptable
  - Attributable
  - Sensitive to change



# Sites for indicator piloting



# Methodology (1)

- Mixed method:
  - Qualitative interviews, focus group meetings
  - Quantitative data analyses
  - Piloting period: 1st December to 29th February

# Methodology (2)

Issues to be considered	Data collection method	Participants
Clarity (unambiguous)	Expert panel	Experts in 5 areas, NHSO staff, health care providers
Necessity	Expert panel	Experts in 5 areas, NHSO staff, health care providers
Background information of the study site	Document review and self-administered questionnaire	Health practitioners
Feasibility, acceptability, potential barriers and unintended consequences	Interviews and focus group meetings	<ul style="list-style-type: none"> <li>- Directors of the PCUs</li> <li>- Health practitioners</li> <li>- Staff who are responsible for data entry and data management</li> <li>- Health volunteers (focus group)</li> <li>- Patients (focus group)</li> </ul>
Reliability	Analysis of submitted patient medical records	

# Methodology (3)

Issues to be considered	Data collection method	Target sample
Workload	Workload diaries	<ul style="list-style-type: none"><li>- Administrative staff</li><li>- All practitioners</li><li>- Health volunteers</li></ul>
Sensitivity to change (sample size needed)	Analysis of patient's medical record (electronic) prior to the introduction of indicators and after indicators are introduced for 3 months	
Cost analysis	Analysis of workload diary's data	<ul style="list-style-type: none"><li>-</li></ul>

# Findings of QOF indicator testing

# Study sites recruitment

Number of PCUs recruited	37
Number of PCUs dropped out	2
Number of PCUs unable to interview	0
Number of PCUs interviewed	28 (+7)

# Size of study PCUs

Population size

Number of PCUs

<  
3000



$$S = 8$$

3001-  
7000



$$M = 16$$

7001-  
10000



$$L = 6$$

(2 dropped out)

>  
10000



$$XL = 5$$

# Types of health personnel

PCUs  
outside  
BKK

Nurse practitioners

Public health officers

Thai traditional  
medicine staff

Dental public  
health officers

Data entry staff

PCUs in  
BKK

GPs and/or specialists

Dentists

Nurse practitioners

Pharmacists

Nurses

Nurse aids

Public health officers

IT staff



# Number of informants

Directors of PCUs and hospitals	25
Health professionals	91
Village health volunteers	96
Patients	90
IT staff	15
Total	317

## Acceptability: percentage of PCUs supporting inclusion

	Number of indicators	Indicator codes
Band 1 $\geq 70\%$	16	HT1, DM1, HT2, DM2, HT3, DM3, MCH2, MCH3, MCH5, BR1, BR2, Asthma1, Asthma3, Asthma4, COPD1, COPD2
Band 2 60-69%	3	MCH1, RUA1, RUA2
Band 3 50-59%	2	Asthma2, Asthma6
Band 4 $<50\%$	3	CVD1, MCH4, Asthma5

## Acceptability: reasons for including indicators into the QOF program

- Beneficial both for people and health providers
- PCUs have capacity to provide services in terms of manpower, technology and skills
- NCDs are priorities in the context due to large scale problems
- Indicators can be viewed as a guidance for health providers to know the priority areas of health services

## Acceptability: reasons for not including indicators into the QOF program

- Health providers do not concern about the issues or do not perceive it as a priority in the area
- Lack of supporting systems from other agencies e.g. trainings, databases, feedback system
- Not enough capacity to provide services
  - Lack of knowledge regarding health service delivery
  - Lack of equipment
  - Lack of human resources
- Some indicators criteria depend on patients or are out of the providers' control such as lifestyle modification-related issues

## Suggestions on indicator adjustments (1)

Indicator	Time frame	Target population	Indicator description
HT1	1 year		
DM1	1 year		
HT2	referral time 3-6 months		
DM2			refer to a physician
CVD1	1 year	patients with DM and HT	

## Suggestions on indicator adjustments (2)

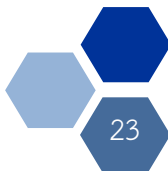
Indicator	Time frame	Indicator description	Indicator exception
MCH1			unintended pregnancy
MCH3			pregnant women with thalassemia
MCH5	delete 12 months		
BR2		allow care team at PCU level	



# Issues concerning data

- Inconsistency of data between national and PCU database
  - HT1, DM1
- Unavailability of data in the national databases
  - CVD1, MCH4, BR1-2, Asthma1, 3-5
- Unreliability of data
  - HT1 (Outlier from normal blood pressure = 2.4%)
  - DM1
  - MCH1
  - MCH2
  - Asthma2

\*Not yet explored: MCH3, MCH5, RUA1-2, Asthma6, COPD2



# Performance of PCUs on the indicators before piloting

	Number of indicators	Indicator codes
Band 1 $\geq 70\%$		
Band 2 60-69%		DM3 (68%)
Band 3 50-59%		
Band 4 $<50\%$		HT1 (49%) /DM2 (44%) /MCH1 (42%) / MCH2 (20%)/ Asthma2 (0%)/ Asthma6 (0%)

\* Asthma1, COPD1 are registers

\*\* HT2, HT3, DM1, MCH3 ,RUA1, RUA2 are still being analyzed

\*\*\* Waiting for more data MCH5, COPD2



# Unintended consequences

- Gaming (HT1, DM1, Asthma2, COPD2)
- Increasing workload on data entry and management, decreasing time on service delivery (MCH1, MCH5)
- It is unfair for certain PCUs where there are many old patients or patients who have been treated for a long period of time (HT3, DM3)
- Relationship problems with community members (RUA1, RUA2)

## Capacity of health providers to implement indicators

- Health promoting hospital tend to do better at active screening
- Indicators are implemented at district/provincial hospital level: MCH3-4, Asthma 1-6, COPD1-2
- Indicators are implemented at health promoting hospital and district/provincial hospital level: HT1-3, DM1-3, MCH1-2, 5, BR1-2
- Indicator is not implemented: CVD1

# Implementation issues

- Problems regarding service delivery (CVD1, Asthma1-6 (PCUs), COPD1-2 (PCUs), MCH 3-4 (PCUs), MCH1)
- Problems regarding awareness of or overlooked by health providers (CVD1, Asthma1, COPD1)

# Indicator implementation

	Indicator code	Reasons
Band 1 (no problem)	HT1, DM1, DM2-3, MCH1	
Band 2 (minor problems and resolvable)	MCH2, Asthma1, Asthma2, Asthma 6, COPD1	The percentages and number of cases are too low  Missing data on SMOKE STATUS
Band 3 (major problems, potentially resolvable)		
Band 4 (major problems not immediately resolvable)	CVD1 MCH4 BR1-2 Asthma 3-5	No available data

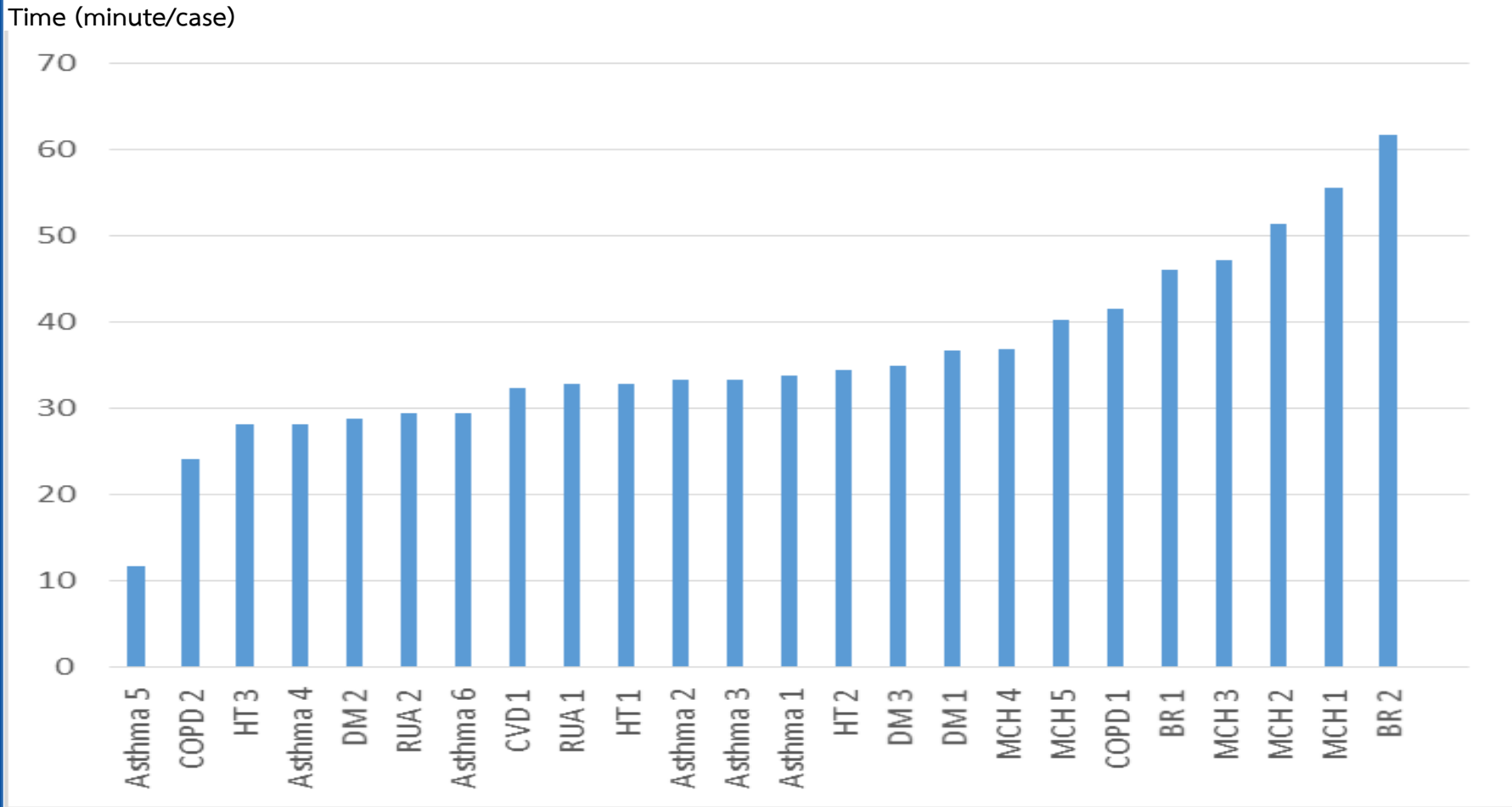
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# Workload

Workload includes time spent of personnel for service delivery, counselling, and data recording.



# Cost

Cost includes labor cost (service delivery, counselling, data recording), material cost, and depreciation cost of equipment.

Cost (Baht/case)

