



Implementation of Outcome Measurements in Hospital Pharmaceutical Care in Thailand

HOW TO APPLY OUTCOME MEASUREMENTS IN PHARMACEUTICAL CARE

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Using HTA in Selection Criteria for National List of Essential Medicine



Quality of Life instrument



Cost Utility Analysis of EPO for Anemia Treatment in ESRD Patients with Hemodialysis

Presentation Outline



Thailand Health Insurance System

CSMBS (Civil Servant Medical Benefit Scheme)

- 7 million government officers and family
- Fringe benefit of government officers

SSS (Social Security Service)

- 16 million workers
- Tripartite contribution—Employer, Employee, Government

UC (Universal Health Coverage)

- 48 million people
- Welfare program—General income tax

NLEM Selection Process



Subcommittee on NLEM



Expert working group -- HTA studies



Coordination working group – Price negotiation



Subcommittee on NLEM



National Committee on Drug System Development



Patient Outcome

Clinical outcomes

- Professional aspect

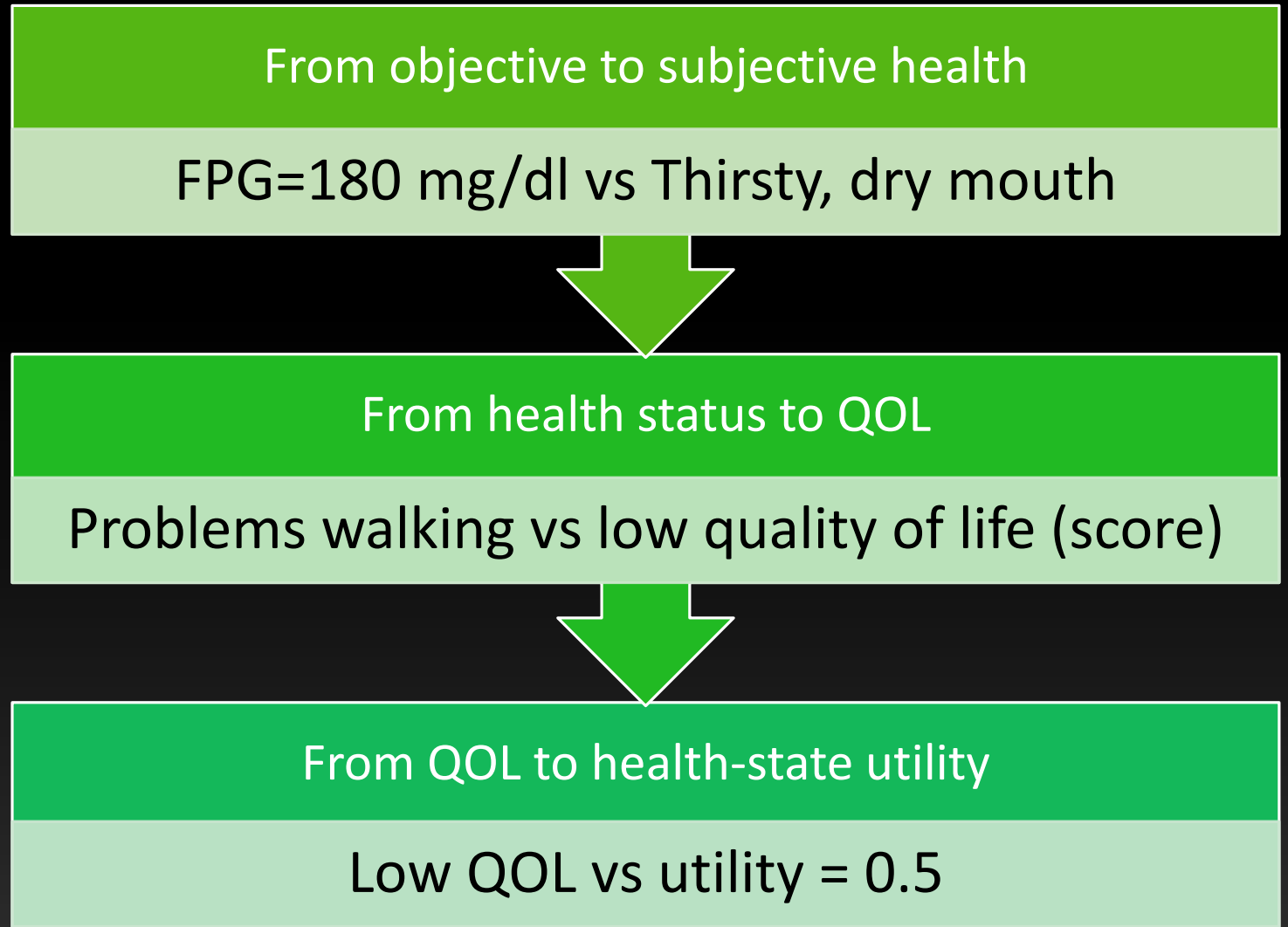
Economic outcomes

- Provider aspect
- Third party aspect
- Patient aspect
- Societal aspect

Humanistic outcomes

- Patient aspect

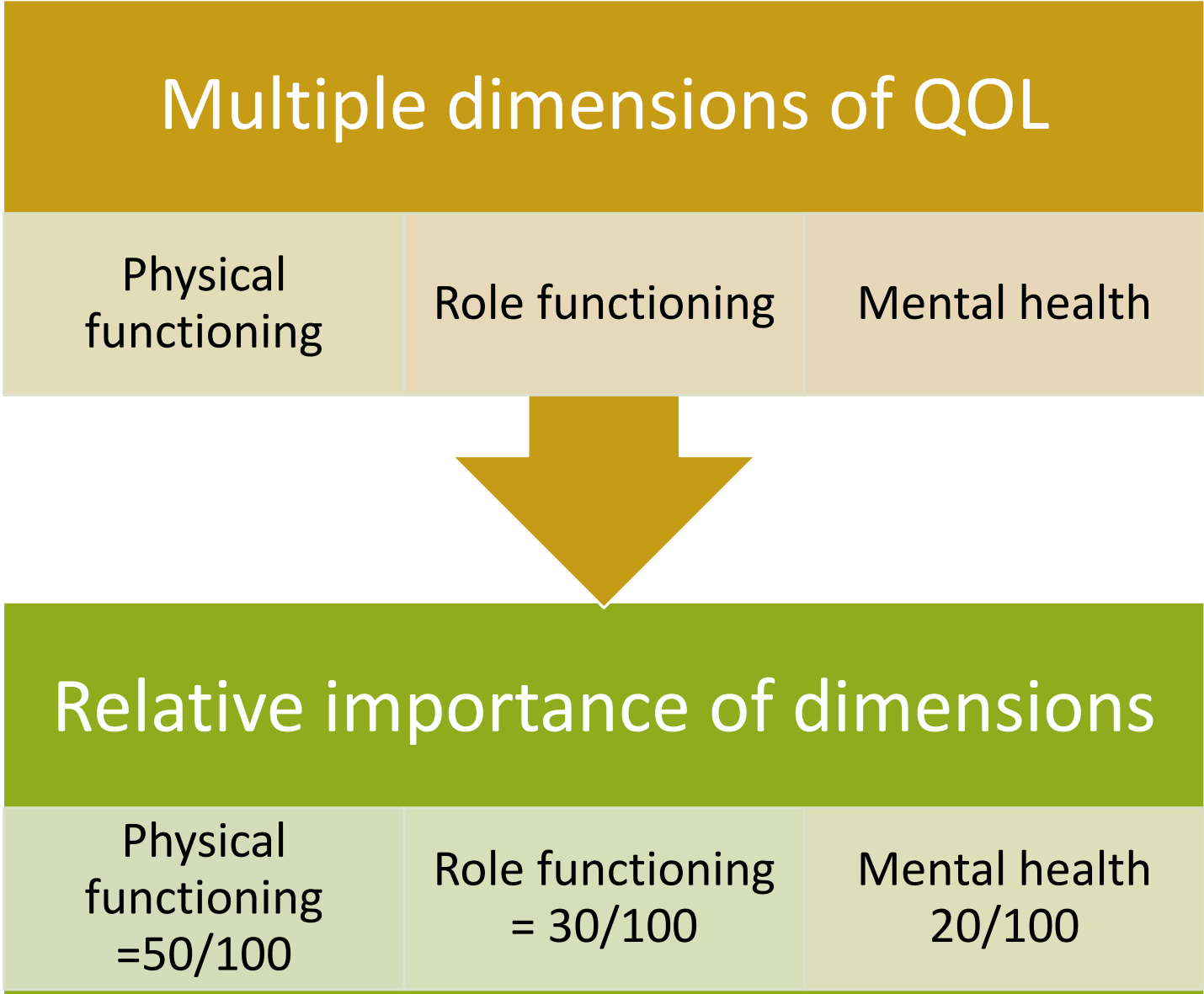
How can health professional/pharmacist achieve humanistic outcome?



Conceptual Framework of Humanistic Assessment

- Health outcomes
 - Life duration
 - ★ Quantity of life
 - ★ eg. Years of life extension
 - Quality of life (QoL)
 - ★ Utility
 - ★ Health related QoL

The concept of relative importance



Approaches for Patient Perspective or Quality Assessment

Self-reported health status

- Patient reports having some pain

Health-related quality of life

- Standard questionnaire detects and scores health status dimensions eg., role functioning is scored 40

Health state utility assessment

- Standard questionnaire assesses health utility
- eg., utility = 0.8 or QALY = 0.8

Types of Humanistic Outcome



Patient satisfaction



Quality of life

General measures

- SF36/SF12
- WHOQOL

Disease specific measures

- Disease specific
- Site specific



Health utility

EUROQOL EQ-5D

SF-6D

PROMPT-QoL questionnaire with the first and working draft items

Domain	First draft for Round-1 interviews (<i>N</i> = 120)		Final draft for Round-2 interviews (<i>N</i> = 60)	
	Number of items	Number of problems (%)	Number of items	Number of problems ^a (%)
General attitudes toward medication use	2	19 (7.1)	1	9 (8.3)
Medicine information	7	98 (36.6)	7	16 (14.8)
Disease information	2	20 (7.5)	2	2 (1.9)
Medicine effectiveness	3	16 (6.0)	3	5 (4.6)
Medicine side-effects	1	27 (10.1)	NA ^b	–
Impacts of medicines and side-effects	8	42 (15.7)	8	60 (55.6)
Psychological impacts	9	18 (6.7)	9	10 (9.3)
Convenience	3	3 (1.1)	3	5 (4.6)
Availability and accessibility	3	20 (7.5)	4	0
Therapeutic relationships with healthcare providers	NA ^c	–	3	0
Overall quality of life	3	5 (1.9)	3	1 (0.9)
Total	41	268 (100.0)	43	108 (100.0)

^a Problems gathered from six patient groups of Round-2 interviews.

^b The domain was included in the first draft, but later dropped in the final draft.

^c The domain was not available in the first draft, but added to the final draft by the research team.

Patient-Reported Outcomes Measure of Pharmaceutical Therapy for QoL (PROMPT-QoL)

Dimensions



D1 General Attitude toward medication use

D2 Medicine information

- Medicine name
- Strength
- Indication
- How to use medicines
- Reason for using medicines regularly
- Side-effect and management
- What to do if missed medicine doses

Dimensions

D3 Disease Information

- Causes and prevention
- Symptoms, severity, and treatment

D4 Medicine effectiveness

- Symptom relief
- Cure of disease
- Onset of medicine action

Dimensions

D5 Impact of medicines and side-effects

- Mobility, exertion or pain
- Sleep
- Sexual desire or relationship
- Memory or thinking (cognitive)
- Appearance or body skin
- Eating, digestion, or stool passing
- Vision, hearing, or speech
- Daily activities or socializing with others

Dimensions

D6 Psychological impacts of medication use

- Medicine interactions
- Adverse effects on body organs
- Medicine resistance or reduced efficacy
- Medicine dependence
- Taking many medicines
- Change in medicine types or strengths
- Taking medicines in front of others
- Feeling bored of taking medicines routinely or strictly
- Feeling ill or bad health unlike others

Dimensions

D7 Convenience

- Appropriate dosage forms
- Convenience of use
- Ease of bringing medicines around

D8 Availability and accessibility

- Medicine availability in a setting
- Medication and travel expenses
- Service process and waiting time
- Travel or self-support to hospital

Dimensions

D9 Therapeutic relationships with health care providers

- Trust doctor's decision on medicine treatment
- Friendly manners and willingness to answer medicine queries
- Getting help to sort out medicine-related problems or concerns

D10 Overall QoL

- Satisfaction with medication use
- Happiness
- Improvement in daily life

Example of General QOL--SF36

Physical
functioning

Role limitation due
to physical and
emotional
problems

Energy/fatigue

Emotional well-
being

Social functioning

Pain

General Health

Methods for Assessing Utility

Direct method

- Measure utility score directly

Indirect method

- Identify health states
- Transfer to utility score
 - EQ-5D
 - SF-6D

Cost-Utility Analysis of EPO for Anemia Treatment in ESRD Patients with Hemodialysis

- EPO is effective treatment for anemia of renal failure and improve QOL
- Hemoglobin (Hb) reduction is associated with impairment In quality of life (QOL)
- Most patients receiving hemodialysis (HD) for ESRD receive EPO for anemia treatment
- Anemia from EPO deficiency is a common complication of chronic kidney disease (CKD)
- EPO administration reduced the need for transfusions and improve QOL
- Goal of therapy is to achieve specific Hb target levels
- Higher dose of EPO is used to attain higher target levels but increase risk for morbidity and mortality

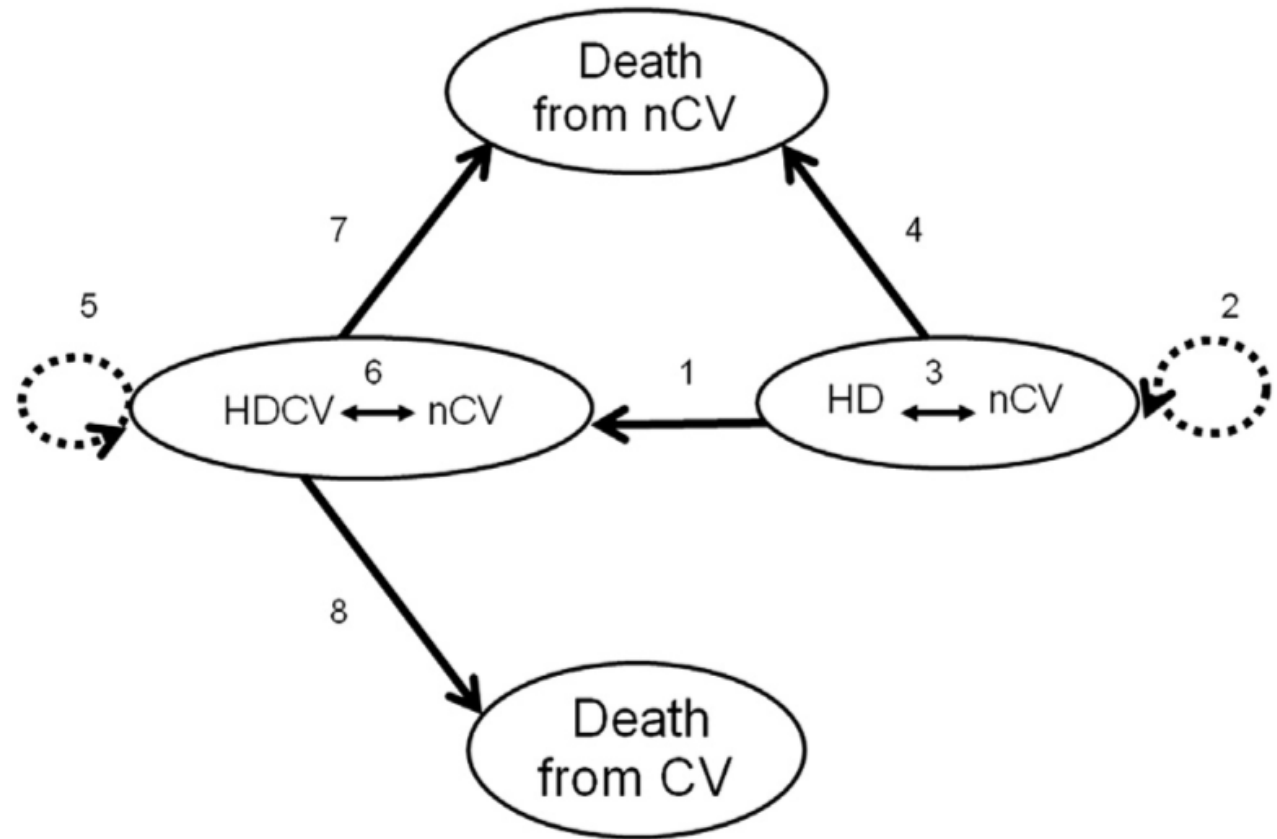




Cost-Utility Analysis of EPO for Anemia Treatment in ESRD Patients with Hemodialysis

- Higher dose of EPO
 - ❖ Higher Hb target level
 - ❖ Higher QOL
 - ❖ Higher morbidity and mortality
 - Hb target levels above 13 g/dl is associated with cardiovascular events
 - ❖ Higher cost

Markov Model



Utility Score of HD

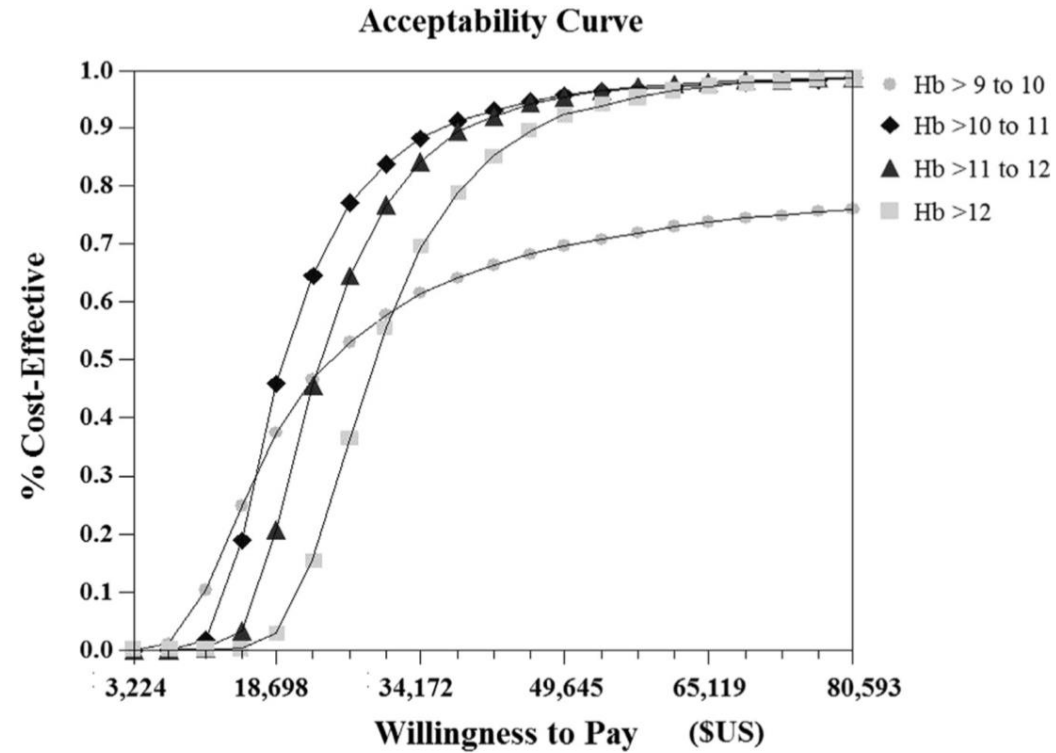
Target Hb (g/dl)	Mean Utility Score of HDCV	Mean Utility Score of HD no CV
≤ 9	0.633 ± 0.030	0.680 ± 0.032
> 9 - 10	0.667 ± 0.029	0.716 ± 0.031
> 10 - 11	0.709 ± 0.018	0.761 ± 0.020
> 11 - 12	0.724 ± 0.022	0.777 ± 0.024
> 12	0.754 ± 0.020	0.809 ± 0.022

Utility Score of HD

Target Hb (g/dl)	Incremental Cost (USD)	Incremental QALY	ICER (USD/QALY)
Relative to Hb ≤ 9			
> 9 - 10	8,686.09	0.36	24,128.03
> 10 - 11	15,978.36	0.85	18,789.07
> 11 - 12	23,324.45	1.04	22,427.36
> 12	30,264.12	1.08	28,022.33

Target Hb (g/dl)	Incremental Cost (USD)	Incremental QALY	ICER (USD/QALY)
Relative to previous level			
> 9 – 10 vs ≤ 9	8,686.09	0.36	24,128.03
> 10 – 11 vs > 9 - 10	7,292.27	0.49	14,882.19
> 11 – 12 vs > 10 - 11	73,46.08	0.29	38,663.60
> 12 vs > 11 - 12	6,939.67	0.04	173,491.76

Acceptability Curve of Difference Hb levels



Thank You

