



#4 ANALYZE AND EVALUATE HEALTH POLICIES. INTERNATIONAL COMPARISONS.

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October 7th, 2022

LECTURE OVERVIEW

03. Fundamental principals of economics evaluation

- Methods and tools
- Cost-utility analysis
- Cost-effectiveness analysis
- Costs evaluation
- Interpretation for decision support and limits

21. International comparisons The USA

- Foreword
- Social Security Act
- Health system organization
- Medicaid and Medicare
- State of the healthcare system: indicators

FUNDAMENTAL PRINCIPLES OF ECONOMICS EVALUATION



Methods and tools for economics evaluation of health systems.

Goal? Improvement of the health system **quality** with the strong **constraints of spendings** (public spendings or others)

In France: the usual suspect
one of the **HAS mandates**

Methods and tools for economics evaluation of health systems.

HAS: created by a law, relatively to the health system (August 13th, 2004)

- **Reinforce healthcare quality** for patients benefits
- Maintain a **united and equitable** health system

2 mandates:

- Continuous improvement of health professionals' practices
- Help provided to public decision takers (**optimizing management** of reimbursable goods/services)



HAS – High health authority

Independant partner

- Accredits doctors and health teams to practice in health institutions
- Delivers a certification to every public and private health intitution

Evaluates

- Healthcare quality and improvement
- Good clinical practices

Methods and tools for economics evaluation of health systems.

HAS: new mission of **economics evaluation**

Law for financing the public health system (2008)

« dans le cadre de ses missions, la HAS émet des **recommandations et avis médico-économiques** sur les stratégies de soins, de prescription ou de prise en charge les plus efficaces »

*« as part of its missions, HAS issues **recommendations and medico-economic opinions** on the most efficient care, prescription or treatment strategies »*

Methods and tools for economics evaluation of health systems.

HAS original methodological guide published in 2011

Last update in July 2020, 118 pages

« GUIDE METHODOLOGIQUE

Choix méthodologiques pour l'évaluation économique à la HAS »

For medico-economic recommendations

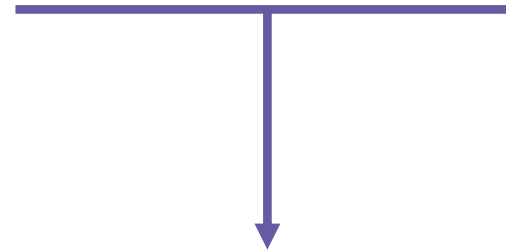
- **Health economics** evaluation
 - cost-utility analysis (quality-adjusted life-years)
 - cost-effectiveness analysis
- Costs evaluation

Health economy methods and tools

Health economics evaluation: cost-utility analysis

Use: health programs/strategies comparison, based on

- their costs
- their results: life-year earned and quality of life



QALY Quality-Adjusted Life-Years

- Evaluated criterion: costs/QALY

Health economics evaluation: cost-utility analysis

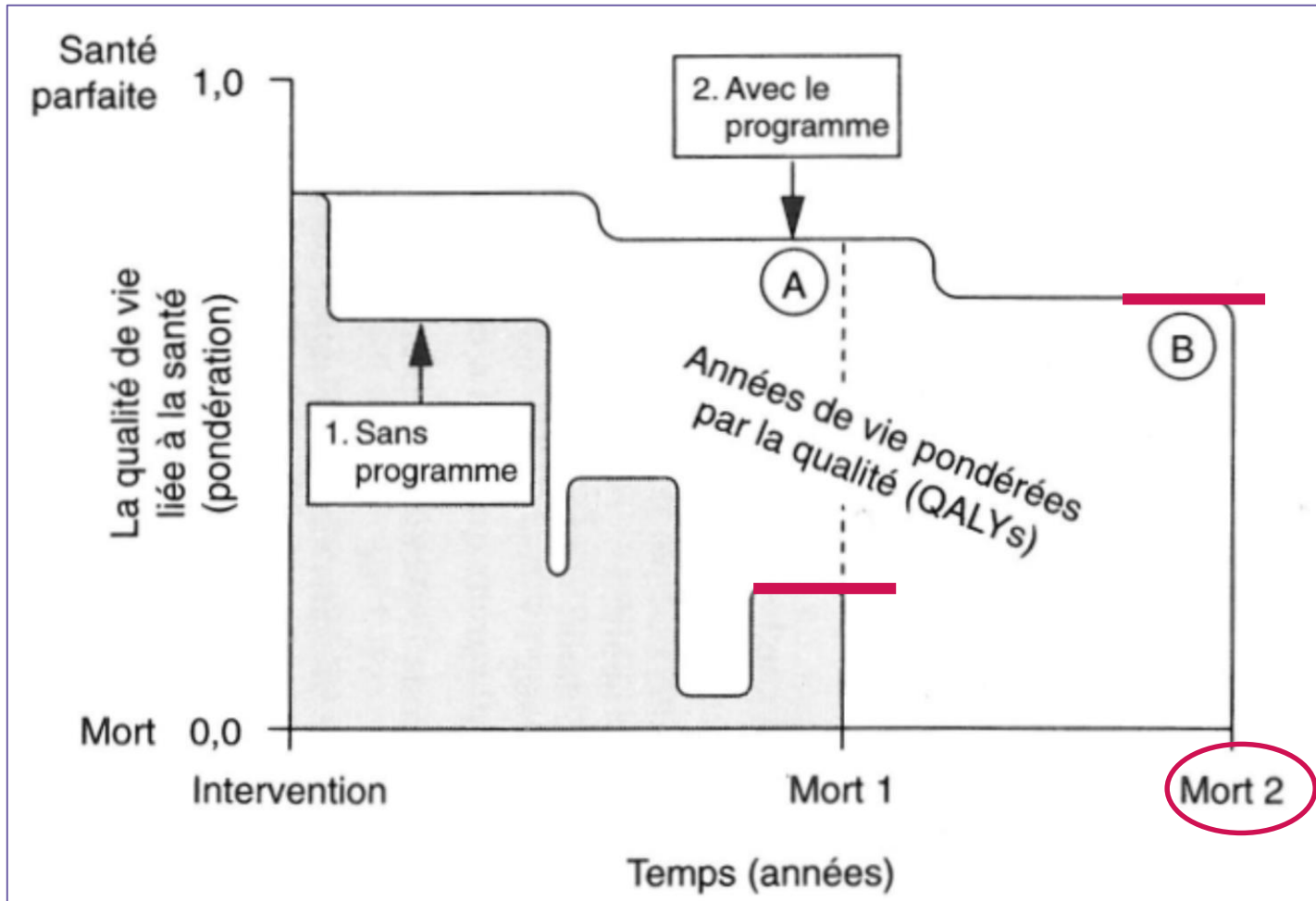
QALY Quality-Adjusted Life-Years:

- Result **indicator** (health economy term)
- Life-year earned weighted by a quality-of-life factor
 - between 0 and 1
 - 0 death
 - 1 best health state possible

Health economics evaluation: cost-utility analysis

- Quality of life evaluated through **questionnaires** (Euroqol EQ-5D/SF-6D; HUI3)
D? mobility, autonomy, daily living activity, pain, anxiety, sight, hearing, speech, memory... several levels for each
> Hundreds of possible health states described
- Questionnaires here recommended by the HAS
- Other versions available, to evaluate children for example other specific populations

Health economics evaluation: cost-utility analysis and QALY



Textbook example

Visual representation of comparing 2 medical initiatives

Use and impact of the QALY:

- Death occurrence
- Health state

Figure 1: life-years earned weighted by a quality-of-life factor thanks to a health program (Torrance, 1996; Gold et al, 1996)

Interpretation for decision support and limits

Cost-utility analysis result: costs/QALY ratio

Meaning: additional costs for earned QALY

Unknown: **willingness to pay (disposition à payer)**

For a given country, maximum acceptable cost for a year of perfect health?

> need for projections

Interpretation for decision support and limits - CUA

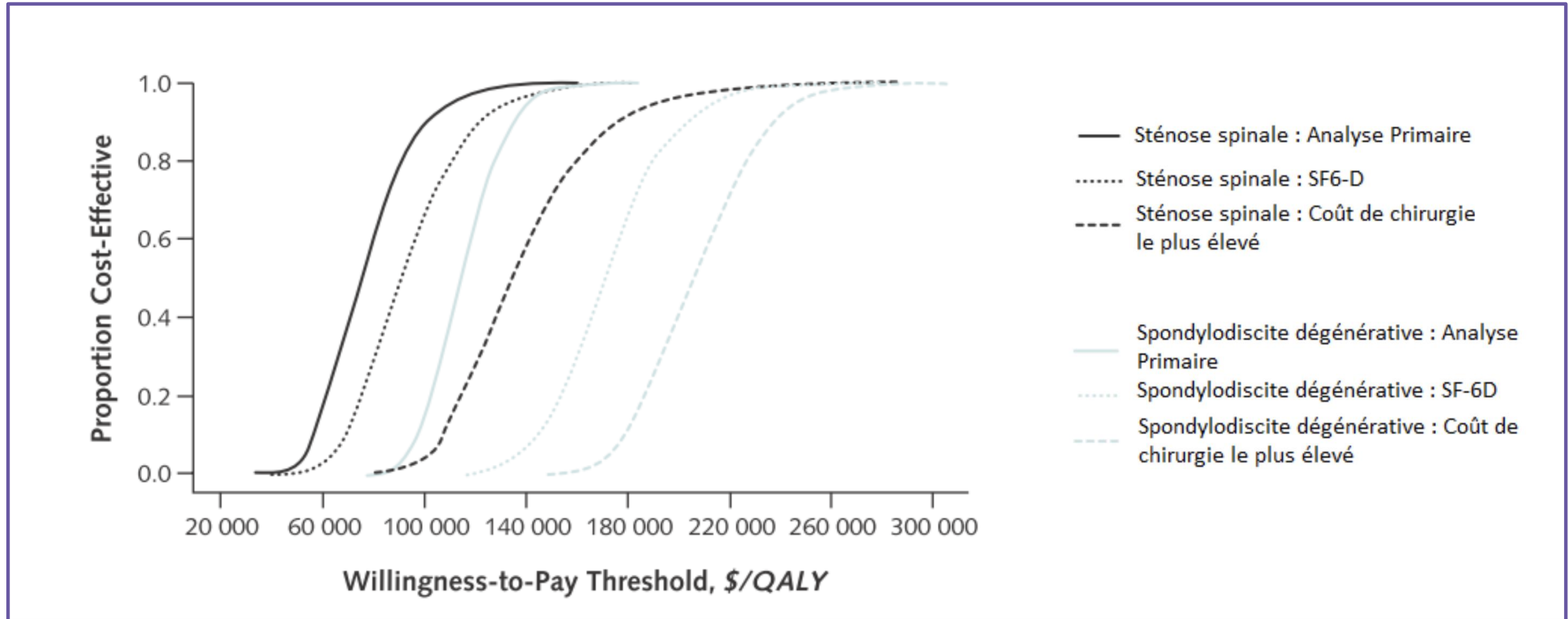


Figure 2: Acceptability curves, surgical treatment of spinal pathologies (Tostes et al. 2008)

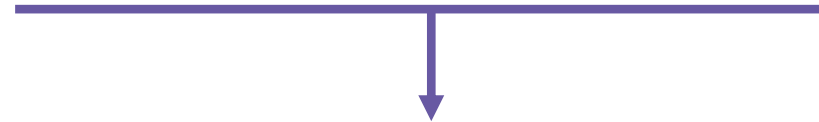
Health economics evaluation: cost-effectiveness analysis

- Use: comparison of two alternative health programs/strategies based on
 - their costs
 - their effectivenesses
- An effective strategy allows to **achieve (health) results** corresponding to **objectives set a priori** (no constraint of time. « efficacité »)
- For exemple: new drug, new medical device, new health management program vs a previous reference
- « doing nothing » can be an option

Health economics evaluation: cost-effectiveness analysis

The 2 programs/strategies:

- are used for the same indication
- can be evaluate by a common effectiveness criterion



HAS recommends
« Life-year gained »

Interpretation for decision support and limits - CEA

Incremental Cost-Effectiveness Ratio (ICER):

$$\text{ICER} = \Delta\text{cost}/\Delta\text{effectiveness}$$

For 2 strategies,
costs difference/mean effectivenesses difference

Interpretation for decision support and limits - CEA

Cost-Effectiveness analysis:

- + direct interpretation of the **clinical and economical** interest of a new strategy (« cost of a gained life-year »)
- - a single effectiveness criterion evaluated at a time/analysis
 - no evaluation of the strategy's **impact on quality of life**
- > in general CUA+CEA, but not CEA by itself

Health economics evaluation: costs evaluation

Use:

- Comparative analysis
- Associate a **monetary value to goods and services** consumed to set up a health program/strategy

Goods and services?

- Hospital and outpatient healthcare
- Healthcare to the elderly and handicapped population
- Medical goods (drugs, medical devices)
- Medical transportation
- Organization of health programs
- Time spent: beneficiaries and medical professionals

Interpretations for decision support and limits

Cost evaluation

Interpretation: comparative analysis between past and future programs/medical initiatives

- + Simplicity
- Costs estimation of every included goods or services

Costs actualization: reducing a future cost to its present value

Costs adjustment for inflation: including prices' evolution from one year to the next

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INTERNATIONAL COMPARISONS

SOCIAL SECURITY AND
HEALTHCARE COVERAGE IN THE USA

The USA and their particular healthcare system

- No state policies for individual social protection before 1933
- Central role of private actors (insurance)
- « Accidental system »

Social Security Act

- 1st approved law on social security in August 14th, 1935
- Social protection including:
 - Retirement
 - Unemployment
 - Benefits for the disabled
 - Support for widows and orphans
- No health or (short/long term) invalidity concerns then, or for the next 30 following years

Health system organization, EU vs US

Europe: 2 models

Beveridge model –
coverage of the health system expenditure =
tax payment (England)

Bismarck model –
coverage of the health system expenditure =
social cotisation (France, Germany, Belgium,
Luxembourg)

Health system organization, EU vs US

USA: public authority (state, federal state) intervenes/chooses which populations to support in terms of health care coverage

Excluded populations:
too high/low incomes, too young
to be eligible to health programs

Medicare and Medicaid, 2 programs

Medicare:

- Managed by the **Federal government**
- covers citizens > 65yo and/or disabled

Medicaid: social welfare

- Managed by the states (51 different programs)
- Covers **poor** population

↓

Economic criteria:

low incomes, elderly, disabled, children

> for a single person, different health managements from one state to the next

Medicare and Medicaid, fundings sources

Federal Hospital Insurance Trust Funds, 1965

Medicare funding

- Taxes collected by the Federal state
- Premium paid by the insured

Medicaid funding

- Federal state (57%)
- The states

State of the healthcare system: indicator Health expenditure

	1970	1975	1980	1985	1990	2010	2015	2018	2019	2020
<u>Australia</u>	..	5,8	5,8	6,1	6,5	8,4	9,3	9,2	9,4	..
<u>Austria</u>	4,8	6,5	7,0	6,0	7,7	10,2	10,4	10,3	10,4	11,5
<u>Canada</u>	6,4	6,5	6,6	7,6	8,4	10,7	10,7	10,8	10,8	..
<u>France</u>	5,2	6,2	6,8	7,7	8,0	11,2	11,4	11,2	11,1	..
<u>Germany</u>	5,7	8,0	8,1	8,5	8,0	11,1	11,2	11,5	11,7	12,5
<u>UK</u>	4,0	4,9	5,1	5,1	5,1	9,8	9,9	9,9	10,2	12,8
<u>USA</u>	6,2	7,2	8,2	9,5	11,2	16,3	16,5	16,7	16,8	..

Table 1: Health expenditure, % Gross domestic product (PIB)
(Source OCDE Organisation for Economic Co-operation and Development)

Progression in the USA and comparisons to other countries (EU, Canada)

State of the healthcare system: indicator Health expenses

Health expenses per inhabitant:

- Health care
- Health system administrative costs

(1st 31% in the US
vs 2nd 15.8% in Australia, 10.4% in Netherlands)

Health system administrative costs, details:

- Private insurance margins
- Marketing
- Concurrency consequences (insurances, lawyers)

State of the healthcare system: WHO performances

WHO annual World Health Statistics reports, performances in 2000:

- 1st France; 2nd Italy
- 20th Switzerland; 21st Belgium
- 37th USA, after Costa Rica, Chile and Colombia

2 main explanations:

- Health coverage - full access to health services
- Health access depends on where we live

State of the healthcare system: indicator Life expectancy

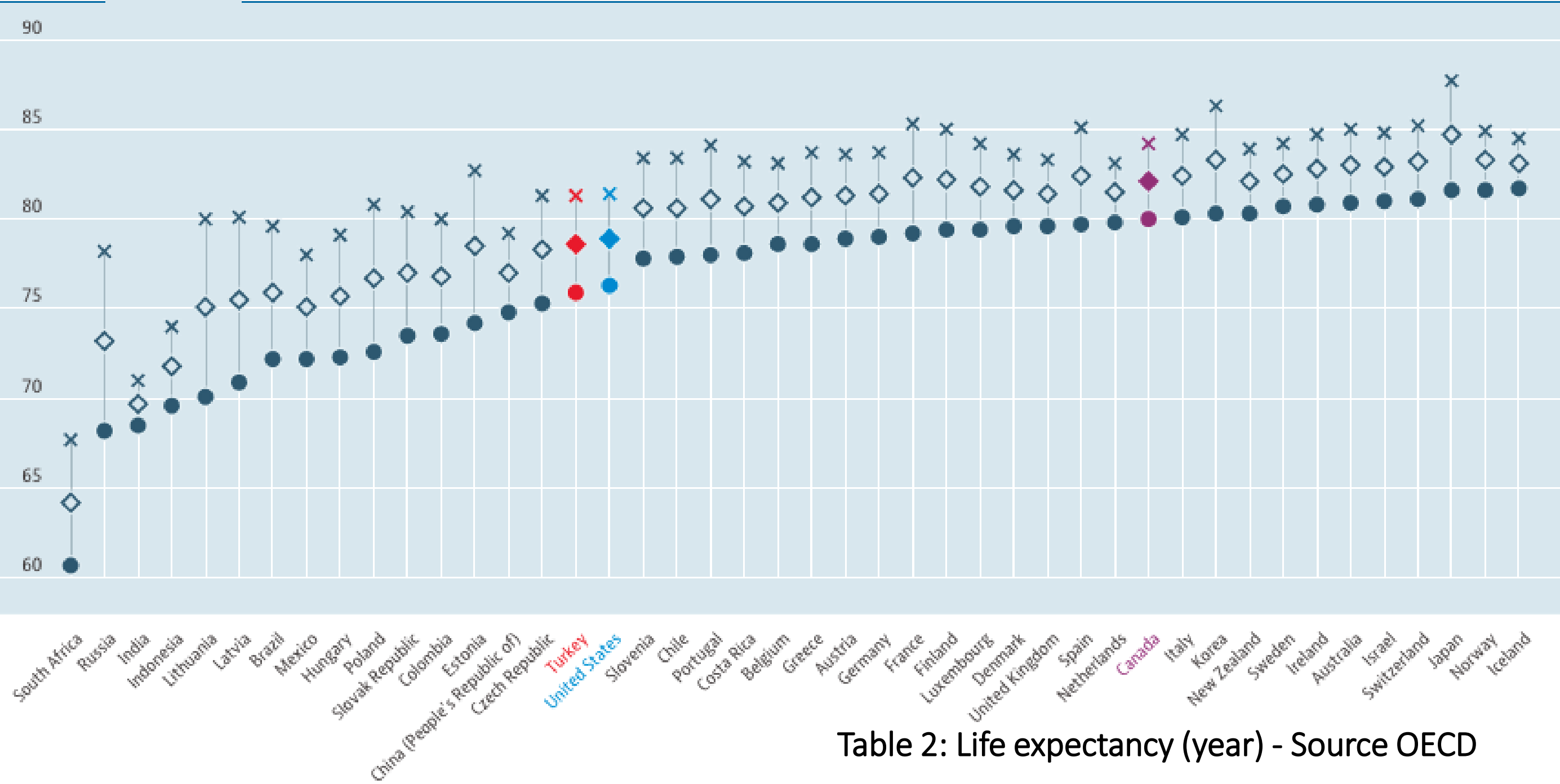


Table 2: Life expectancy (year) - Source OECD

State of the healthcare system

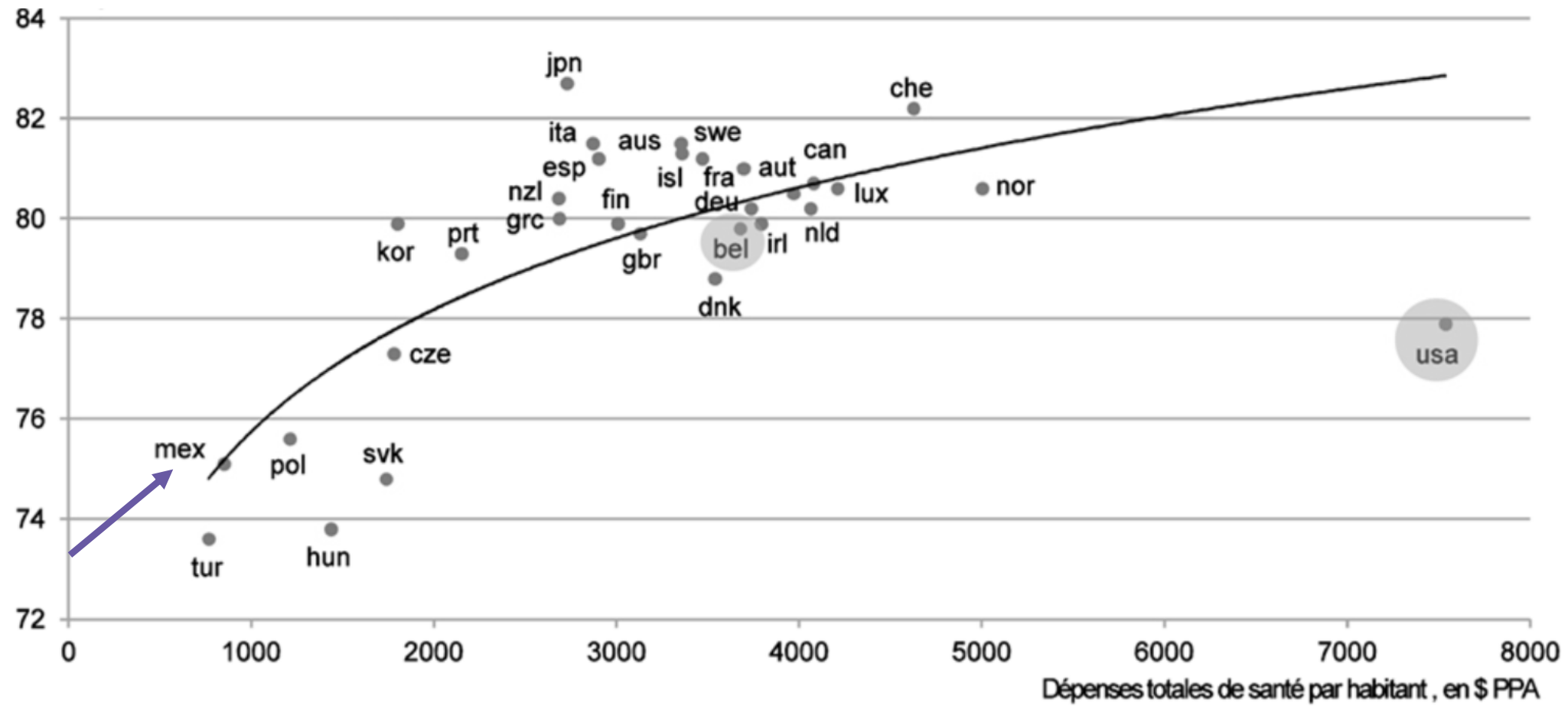


Table 3: Life expectancy (year) and health system global cost (USD)
(Source OCDE Organisation for Economic Co-operation and Development)



Q & A ?

Analyze and evaluate health policies. International comparisons.

October 7th, 2022



COMING UP NEXT

#5 REGULATION OF THE HEALTHCARE EXPENDITURE. Online lecture!

October 12th, 2022