



Evidence-informed drug reimbursement: The role of health economic evaluation

Daria O'Reilly, PhD – Lead Health Economist
Pharmacy Consulting Team



#HealthBenefitsTrends

 **TELUS** Health

The logo for TELUS Health, featuring a stylized green 'e' symbol followed by the word 'TELUS' in bold purple capital letters and 'Health' in a lighter purple font.



Outline

Background

Managed drug formularies

TELUS Enhanced Drug Review process

- Economic assessment

Conclusions

Background

Expensive drugs continuously coming to market.

- Cancer therapies dominate the drug pipeline where private plans will be first coverage. Costs could reach \$150,000 to \$520,000 per patient per year.

-TELUS Health Drug Pipeline Report, Spring 2019

Control spending while providing access to effective therapies for employees.

- Managed formularies

<https://plus.telushealth.co/blogs/health-benefits/wp-content/uploads/2019/Drug-Pipeline-2019-EN.pdf>

Managed drug formularies

List of preferred drugs by plan.

Avoid paying for drugs not more effective as similar, cheaper drugs.

Decisions based on how well the drug works and cost.

- Dictates drug coverage
- Level of coverage

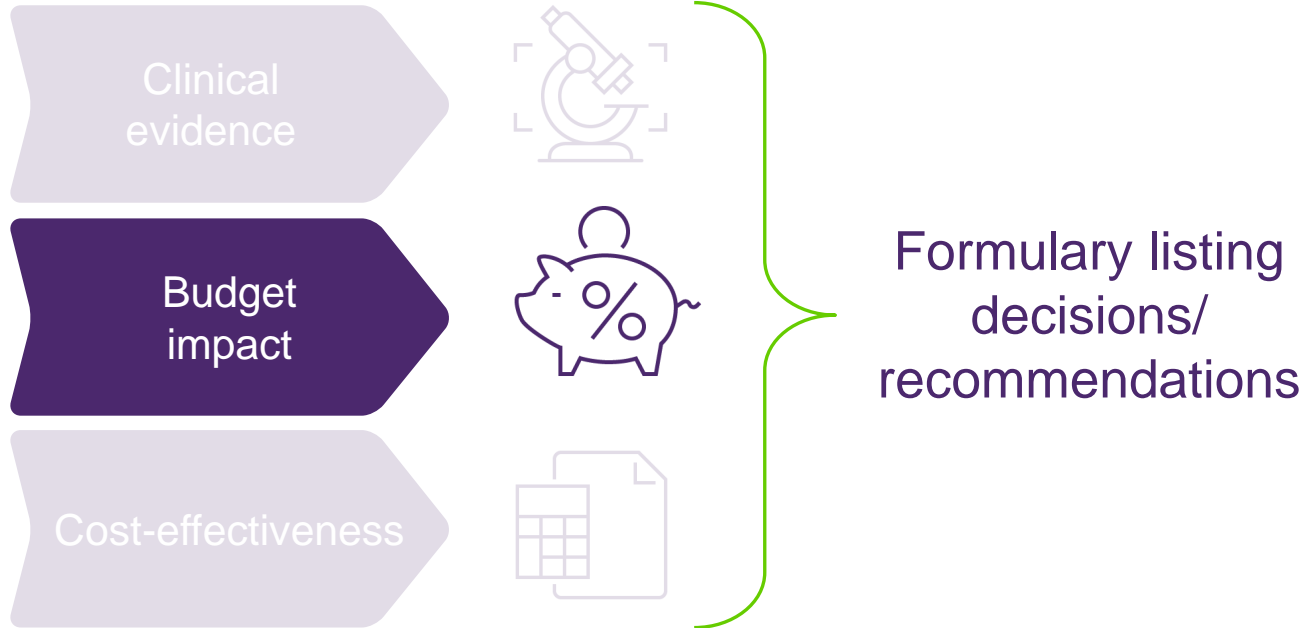
TELUS Enhanced Drug Review process



TELUS Enhanced Drug Review process



TELUS Enhanced Drug Review process



Budget impact analysis (BIA)



How many dollars need to be spent to cover the cost of the new drug in the short-term (e.g. 3 years).

- Eligible population
- Drug cost
- Duration of therapy
- Estimated market share

Affordability

TELUS Enhanced Drug Review process



Budget impact analysis example

	Year 1	Year 2	Year 3
Reference scenario	\$10,000,000		
New drug scenario			\$38,000
Incremental per 100,000 lives		\$20,000	\$35,000
Total incremental cost	\$650,000	\$2,5M	\$3,5M
Incremental cost over 3 years	\$6.65M		

Does not measure value

TELUS Enhanced Drug Review process



Cost-effectiveness analysis



Method of comparing the cost and consequences of ≥ 2 alternatives to aid decisions

Are the benefits of new drugs worth the increased costs?

Economics of health and healthcare

More treatment options than resources allow.

- Scarcity of resources

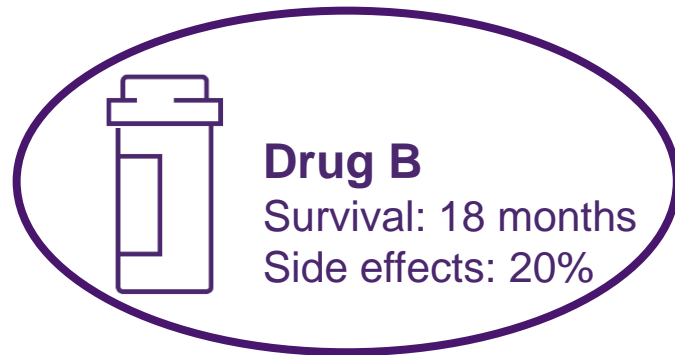
Difficult choices need to be made about allocation.

- Opportunity costs

Weighing costs and benefits

Which drug would you choose?

Drug A
Survival: 12 months
Side effects: 25%



Drug B
Survival: 18 months
Side effects: 20%



Weighing costs and benefits

Drug A
Survival: 12 months
Side effects: 25%
Cost: \$60K



Drug B
Survival: 18 months
Side effects: 20%
Cost: \$180K



Cost-effectiveness analysis

Outcome is a statistic called the **incremental cost effectiveness ratio (ICER)**:

$$\Delta\text{Cost}/\Delta\text{Effect} = \frac{(\text{Cost}_B - \text{Cost}_A)}{(\text{Effect}_B - \text{Effect}_A)}$$

Costs include drugs and costs associated with using the drug.

- Improvement in employee health, return to work, reduction in disability and extended health costs

Effects can be cases diagnosed, life years gained, quality-adjusted life year (QALY).

Daria's broken washing machine



Calculating the costs

Front-load washer \$1,200 vs. top-load \$600

- Uses 50% less water = lower water bills
- Less water, less energy to heat water = reduce hydro bill
- Spins faster, clothes are drier so less heat required = save MORE on hydro bill
- Uses less detergent = buy less soap
- No agitator to move clothes around inside the drum = clothes last longer, reduce clothing expenses

Measure of effectiveness

- Reduced noise from unbalanced loads
- Happy wife = happy life

I am not a fan of doing laundry, so I can stuff the machine with more clothes rather than doing two loads in a top load.

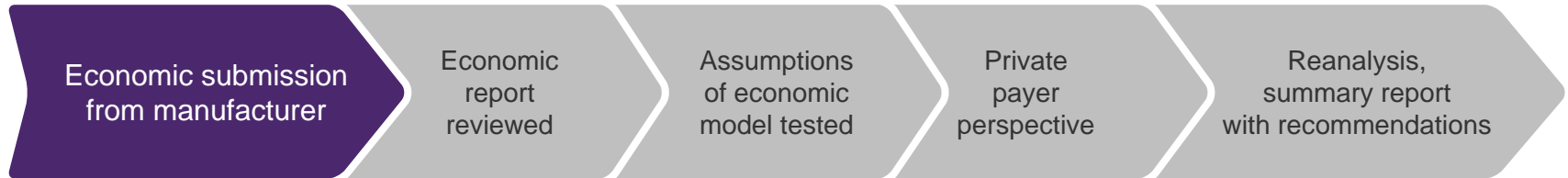
Sample ICER calculation

	Costs	QALY	ICER
Drug A (reference)	\$20,000	4	--
Drug B	\$40,000	4.2	\$100,000/QALY

$$\begin{aligned}\Delta C/\Delta E &= (\text{Cost}_B - \text{Cost}_A)/(\text{Effect}_B - \text{Effect}_A) \\ &= (\$40,000 - \$20,000)/(4.2 \text{ QALY} - 4 \text{ QALY}) \\ &= \$20,000/0.2 \\ &= \$100,000/\text{QALY}\end{aligned}$$

The lower the ICER, the more cost-effective.

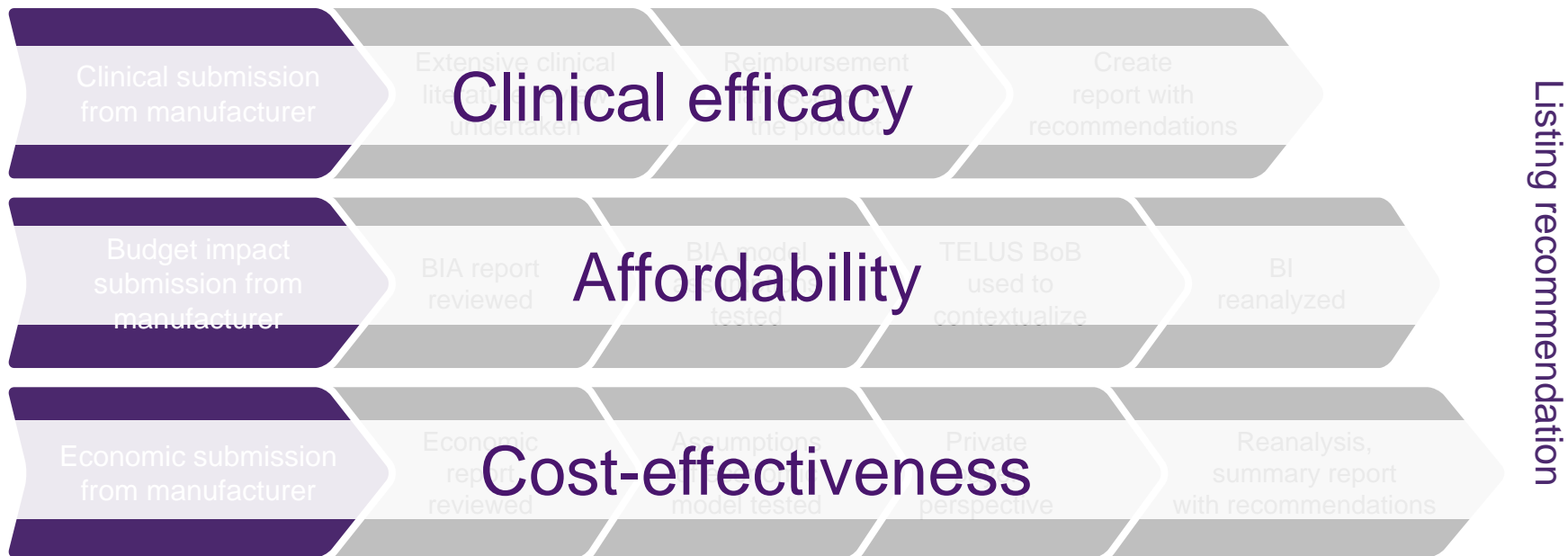
TELUS Enhanced Drug Review process



Example of reanalyzed ICER



TELUS Enhanced Drug Review process



Conclusions

Unprecedented innovation for patients but challenges in affordability for payers.
An EDR process, incorporating cost-effectiveness, helps make evidence-informed listing decisions ensuring value for money.

Questions





Thank you



#HealthBenefitsTrends