



ECONOMIC ANALYSIS IN SEXUAL AND REPRODUCTIVE HEALTH

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Motivation

- Collaboration between RadboudUMC & Rutgers
- Multiple programs/interventions within one program, limited budget
- How do we decide how to spend our money?



Background

Are both costs and effects included?

Are two or more alternatives being compared?

	No		Yes
No	Only consequences	Only costs	
	Outcome Description	Cost Description	Cost-outcome description
Yes	Effectiveness evaluation	Cost analysis	Cost-effectiveness analysis Cost-utility analysis Cost-benefit analysis

Background

- Relation between costs and effects of 2 or more interventions
- Results used to make care more *efficient*

$$\text{CEA / CUA / CBA} = \frac{\text{Costs}}{\text{Consequences}}$$

- Equal measurement of costs
- Different measurement of consequences

Background

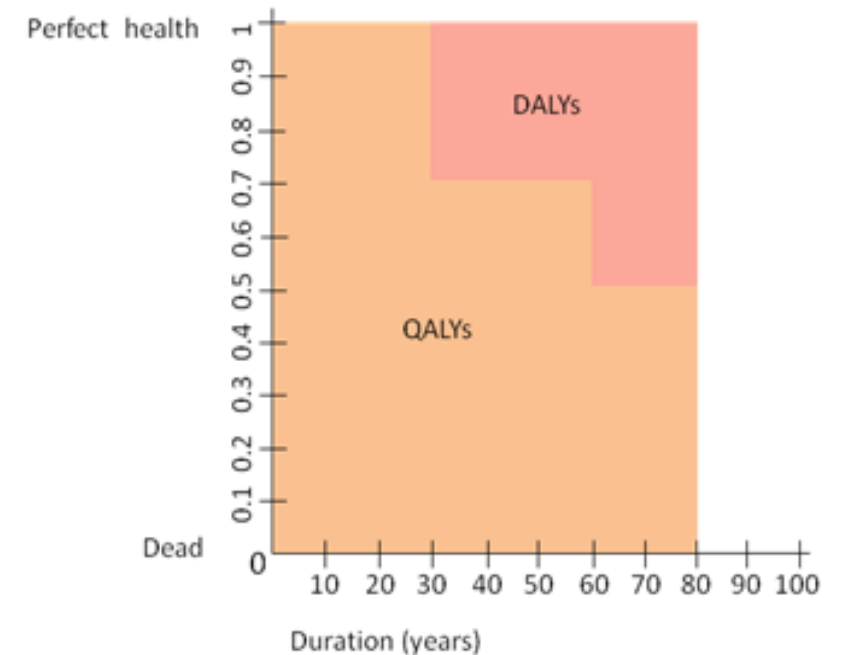
Cost-effectiveness

- Partial measure of effectiveness
- Intermediate or final outcome measures
- Number of prevented unwanted pregnancies / life years gained
- Advantages
 - Easy to interpret
 - Broad range to express effectiveness
- Disadvantages
 - Difficult to find a common outcome measure
 - Difficult to capture all effects

Background

Cost-utility

- Combination of quantity (mortality) and quality (morbidity)
- Quality adjusted life years / disability adjusted life years
- Advantages
 - Includes valuation of health effect
 - More general outcome measure – easier to compare
- Disadvantages
 - Methodologically flawed utility scales
 - Only includes health impact



Background

Cost-benefit

- Monetary valuation of the intervention's consequences
- E.g. reduced economic productivity due to disability
- Advantages
 - Most general outcome measure
- Disadvantages
 - Appropriate methods are lacking
 - Difficult to translate consequences into monetary terms

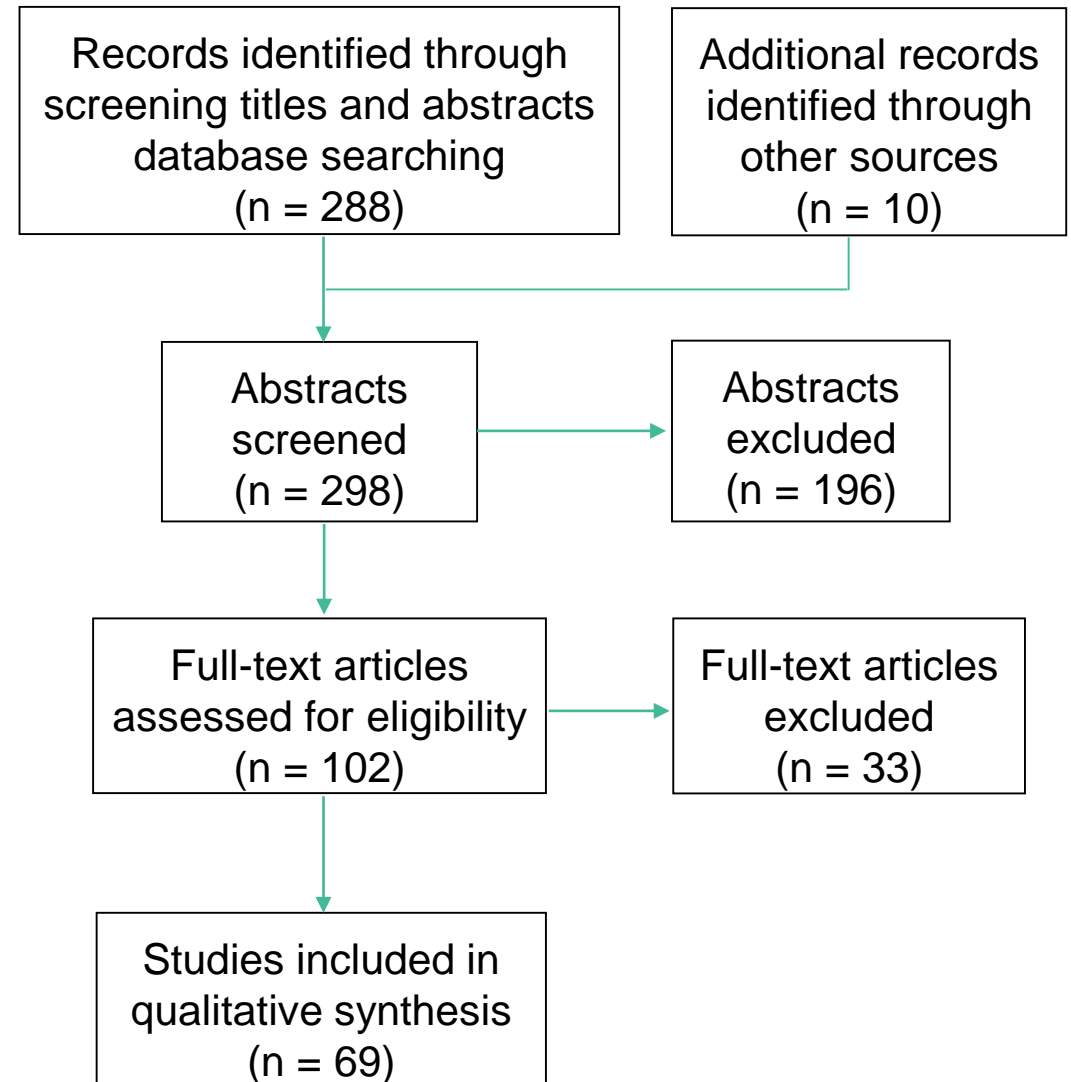
Background

What are the options, limitations and requirements of conducting economic analyses in sexual and reproductive health?

Methods

Systematic review

1. Defining the search strategy
2. Selection of databases (298 results)
3. Screening abstracts (102 left)
4. Screening full text (69 left)



Methods

Classification of results

- Type of full economic analysis
- Topic: Family planning, maternal health, STDs and HIV/AIDS
- Type of intervention
- Type of costs included
- Measure to express consequences
- Measurement methods of consequences
- Measure to express cost-consequences

Results

Topic	Family planning	Maternal health	STIs	HIV/AIDS
Type of analysis				
CEA	24	2	15	18
CUA	1	2	5	17
CBA	-	-	-	1

Results

Objective	Type of intervention	Perspectives included in costing analysis	Input (costs)	Methods and sources for estimation of benefits	Output (benefits)	Measure to express relation between cost and impact
Estimate the potential cost-effectiveness of achieving universal access to modern contraceptives in Uganda by implementing a hypothetical new contraceptive program (NCP)	Prevention	1) Healthcare 2) Non-healthcare	1) Treatment; upkeep, costs of contraceptive technology, healthcare personnel, overhead and capital costs for outpatient care and transportation 2) Patient; out-of-pocket costs and costs of lost time	Secondary data collection and literature and model based	Using a Markov model, life expectancy, disability adjusted life expectancy, pregnancies and fertility were calculated	Cost per life-year gained, pregnancy averted and cost per unit of fertility reduction

Results

- *Options for effects:* per type of economic analysis and topic

Cost-effectiveness	Family planning
	<hr/> <ul style="list-style-type: none">- Number of pregnancies/births averted, life-years gained, unintended pregnancies, unit of fertility reduction, additional use of more effective family planning or new sexual health topic discussed- Minimum number of pregnancies needed to be averted †- Cost savings in medical, welfare and nutritional services and other social services, due to investments in a family planning intervention <hr/>
	Maternal health
	<hr/> <ul style="list-style-type: none">- Number of women treated or deaths averted <hr/>

- *Requirements for effects:* primary or secondary data collection, expert opinion, literature or model based
- *Options for costs:* Healthcare (treatment or programme) and/or non-healthcare (patient, social welfare payments, productivity losses)

Results

Summary

- Broad spectrum of options for CEA and CUA
- Only 1 for CBA (HIV/aids)
- Mostly model and literature based
- Mainly only healthcare costs included
- Many techniques reviewed, yet few educational programs

Conclusion and discussion

- Limited range of topics included
- Difficult to assess the multilevel and multifaceted impact of SRH interventions
- Limited in cost-collection (shared assets)

- CEA and CUA most feasible
- Literature, secondary data collection, mathematical models

Policy recommendation

- Practice vs. ideal world
- Focus on CEA or CUA
- Especially in settings with limited resources and time
- However – always be aware of your limitations!

Conflict of interest disclosure

(potential) conflict of interest	None
Relationships with companies of relevance for this meeting	RadboudUMC and Rutgers
<ul style="list-style-type: none">• Sponsoring or research funding• Consultancy fee or other (financial) reimbursement• Shareholder	All not applicable - internship



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