

Costs and cost-effectiveness of Complementary and Alternative Medicine

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Why Economic Evaluations on CAM?

A diagram consisting of three blue-outlined circles arranged in a triangular pattern. The top-left circle contains the text 'Limited financial resources in health care'. The top-right circle contains the text 'CAM often used in addition'. The bottom-center circle contains the text 'Integration into health care plan?'.

Limited
financial
resources
in health
care

CAM often
used in
addition

Integration
into health
care plan?

Possible Cost Savings on Provider Level

- China: TCM hospital outpatient and inpatient costs around 30% lower than in conventional hospital
- UK: (3 case studies of integrative care): 30% less GP visits, 50% reduced drug bill²
- Netherlands: patients whose GP has additional CAM training have up to 30% lower healthcare costs³

¹WHO Workshop report on Traditional Medicine in primary health care 2007

²Smallwood Report UK

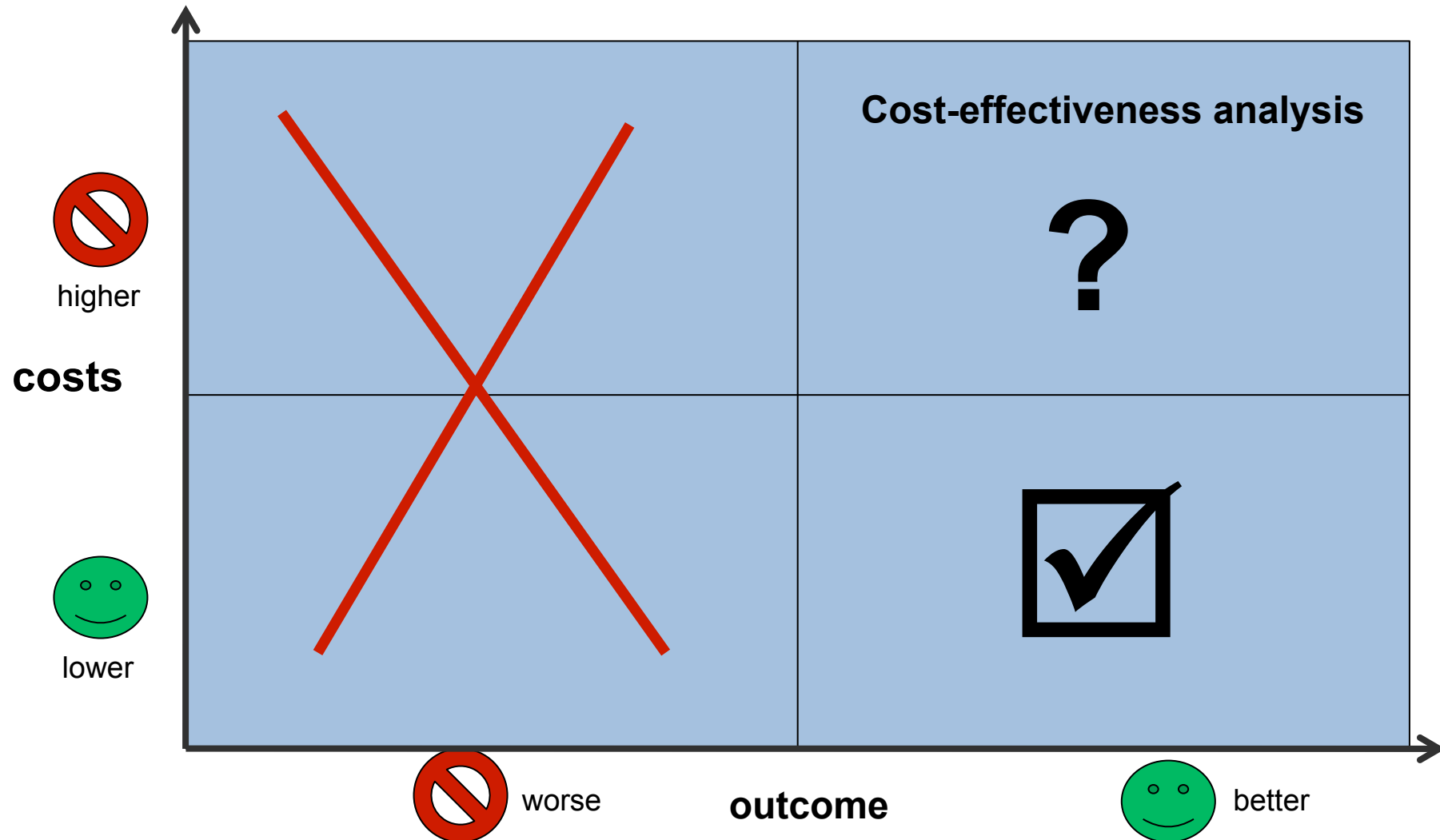
³Kooreman Eur J Health Econ 2011

Background

- Careful interpretation of economic analyses
 - Outcome and costs vary widely depending on treatment and context
 - Studies use different:
 - Economics evaluation methods
 - Perspectives
- Types of economic analyses
 - Cost of diseases
 - Full economic analyses
 - Comparison of treatments
 - Costs and benefits

Full Economic Analyses

Difference between two interventions



Economic Analyses on CAM – A Systematic Review

- 338 economic evaluations on CAM published
- Nearly all of them from Western countries
- 204 between 2001 and 2010
- 114 full economic evaluations
- 28 higher quality studies

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Economic Analyses (2001-2010)

CAM type	All	Full economic evaluations
Manipulative/ body practices	45	25
Acupuncture	41	29
Natural products	38	28
Mind Body Medicine	27	16
Homeopathy	24	13
Complex CAM	18	1
Other CAM	25	12

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Cost Savings - Better Outcome and Lower Costs

- 16 (29%) of 56 comparisons made in higher quality studies
- Non-pharmacological treatments:
 - Acupuncture for low back pain¹
 - Naturopathic care for low back pain²
 - Acupuncture for breech presentations³
 - Manual therapy for neck pain⁴
 - Tai Chi to prevent hip fractures in elderly⁵

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¹Ratcliffe BMJ 2006, ²Herrman Altern Ther Health Med 2008, ³van den Berg CTIM 2010,

⁴Korthals-de Bos BMJ 2003, ⁵Wilson J Clin Outcomes Manag 2001

Cost Savings - Better Outcome and Lower Costs II

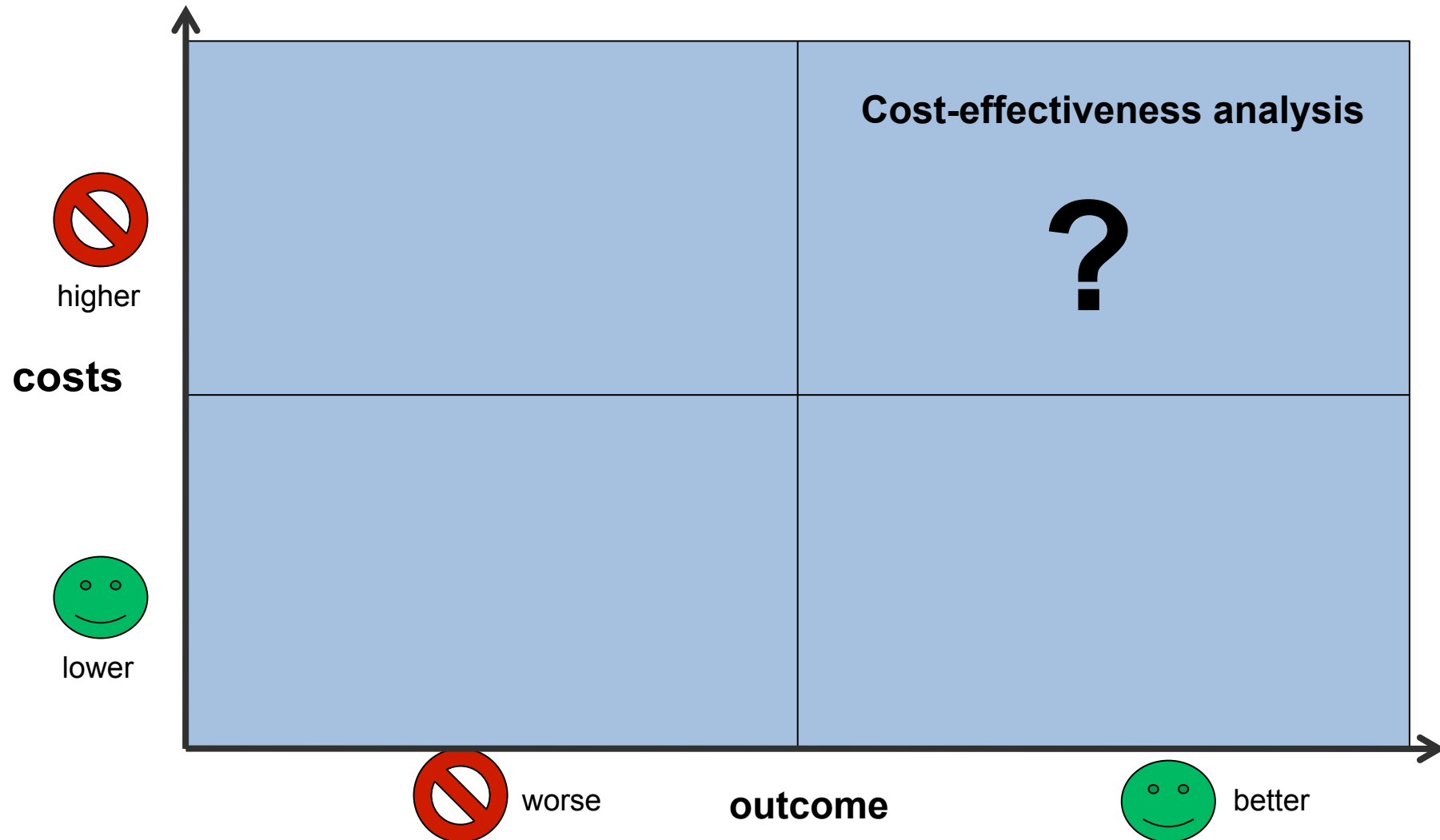
- Supplements
 - Perioperative oral Arginine and Omega-3 fatty acids in colorectal cancer⁶
 - Vitamin K1 in post menopausal women with osteoporosis⁷
 - Vitamin C, E and beta-carotene for cataract prevention⁸

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⁶Braga Nutrition 2005, ⁷Stevenson Med Decis Making 2010, ⁸Trevithick J Orthomolecular Med 2006

Cost-Effectiveness

Difference between two interventions



Cost-Utility-Analysis

How much do we have to pay
to gain one extra year of “perfect quality of
life” (QALY) due to the intervention ?

Incremental Cost-Effectiveness Ratio (ICER)

$$\text{ICER} = \frac{\text{Diff. costs (intervention – control)}}{\text{Diff. QALYs (intervention – control)}}$$

Cost-Utility Analyses

Results from the Systematic Review

- Study quality of the cost-utility analyses of CAM was slightly better than that across all medicine
- Of the 28 Cost-Utility-Analyses comparisons:
 - 18% (n=5) \$0 - \$10,000/QALY
 - 54% (n=15) \$10,000 - \$50,000/QALY

Cost-Effective – ICER \$0-\$10.000

- Acupuncture for Dysmenorrhea, Germany¹
- Acupuncture for low back pain
 - Chronic low back pain, UK²
 - Acute low back pain, Korea³
- Exercise program plus spinal manipulation for low back pain, UK⁴
- Osteopathy for subacute back pain, UK⁵

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¹Witt Am J Obstet Gynecol 2008, ²Ratcliffe BMJ 2006, ³Kim BMC CAM 2010,

⁴UK Beam Trial Team BMJ 2004, ⁵Williams Fam Pract 2004

Cost-Effective – ICER \$10.000 - \$ 50.000

- Acupuncture, Germany:

- Headache¹
- Osteoarthritis²
- Neck pain³
- Low back pain⁴
- Allergic rhinitis⁵



- Acupuncture for headache, UK⁶
- Alexander technique or massage for chronic back pain, UK⁷
- Omega-3 fatty acids to avoid death after myocardial infarction⁸

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¹Witt Cephalalgia 2008, ²Reinhold Eur J Health Econ 2008, ³Willich Pain 2006, ⁴Witt Am J Epi 2006, ⁵Witt Am J Epi 2009

⁶Wonderling BMJ 2004, ⁷Hollinghurst BMJ 2008, ⁸Quilici In J Clin Pract 2006

Complexity of Economic Analyses on CAM

- CAM mainly used as complex interventions
- The theory of many CAM methods predicts life style changes and possible long-term effects

Assumptions and Possible Translations

- Prevention of illness as a result of CAM treatments might result in cost-savings¹
 - e.g. less time off from work, less direct costs
- For example, lifestyle intervention for diabetes patients in primary care is cost-effective in relation to standard care²

¹Smallwood Report UK

²Jacobs-van der Bruggen Diabetes Care 2009

Conclusion

- A number of high quality studies indicate cost-effectiveness or even cost saving for single CAM treatments.
- Long-term economic impact not known, but aspects such as life style change could have positive economic impact.