HTx – 3rd Consortium Meeting

24-25 March 2021

Flash Talk Title: Flexible generic framework for evidence synthesis in health technology assessment

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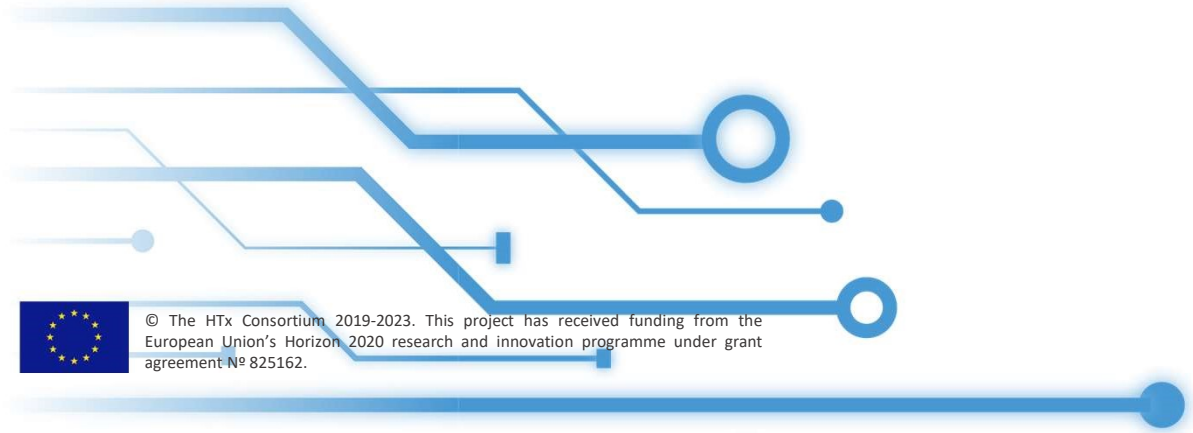
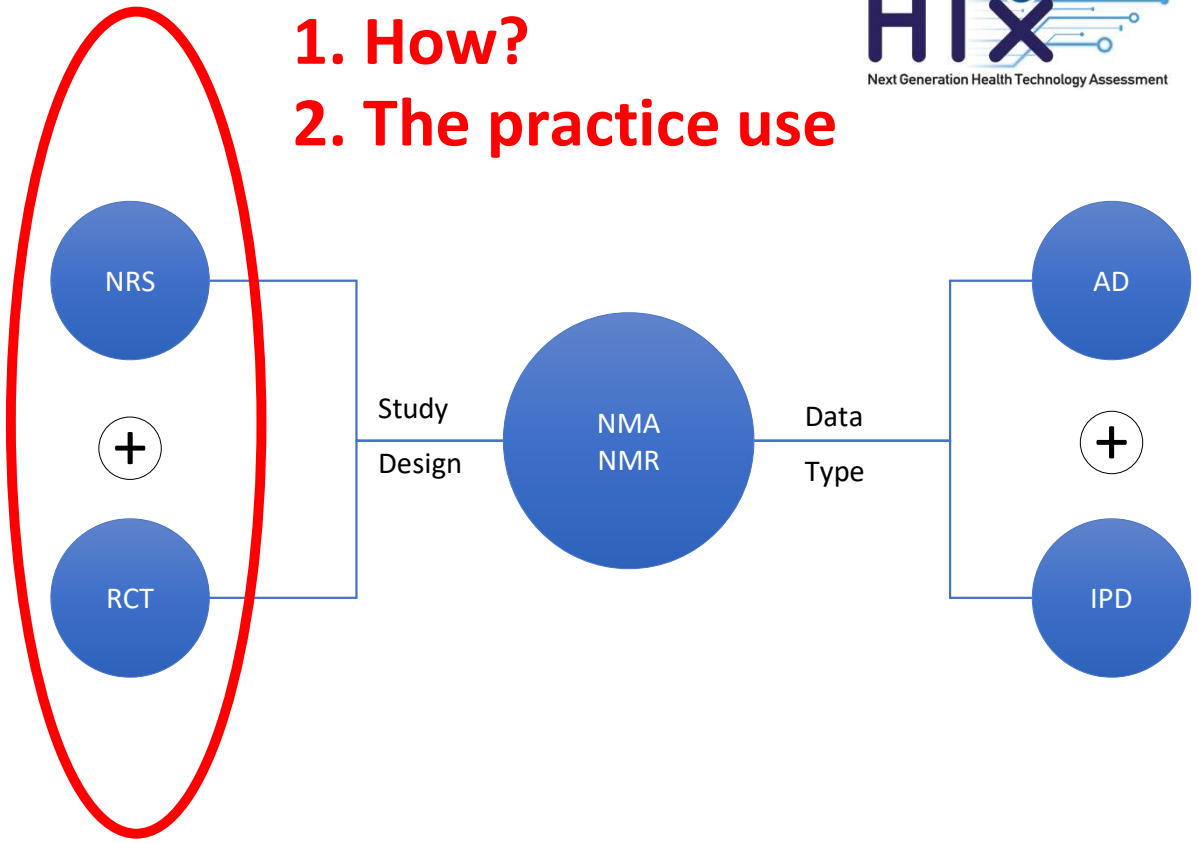


My task in HTx project

Generic Framework for HTA

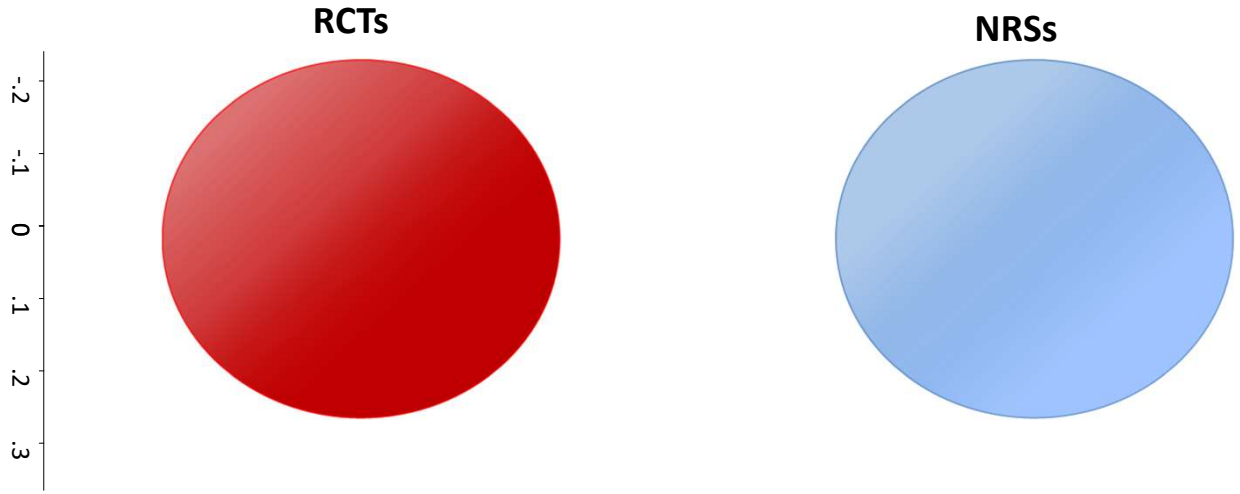
1. How?
2. The practice use



How?

1. **Naïve**
2. **Informative priors from NRS**
3. **Bias adjustment model 1**
4. **Bias adjustment model 2**
5. **A three-level hierarchical model**

1. Naive



No acknowledgement of bias

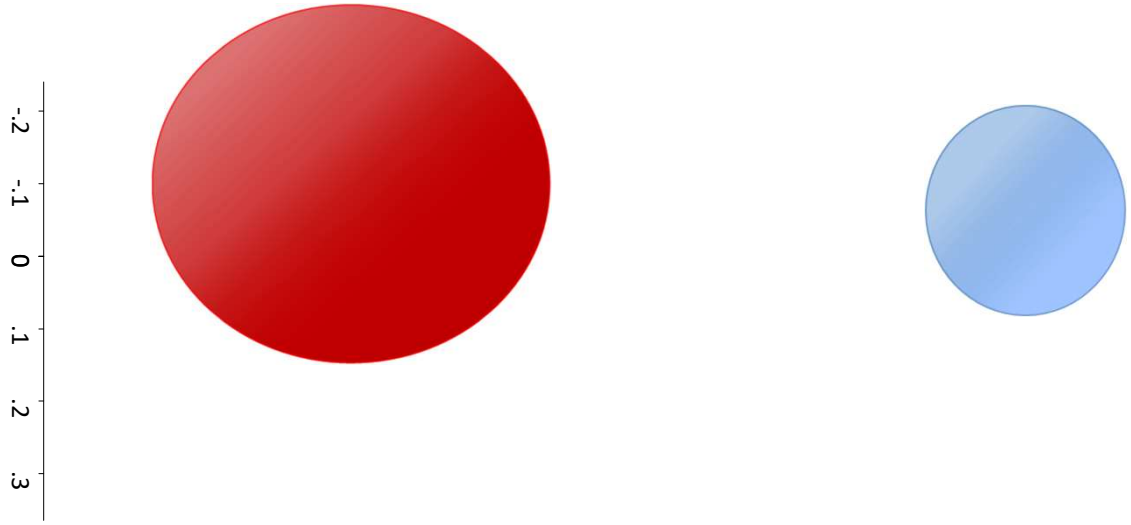
2. Informative priors from NRS

1. Conduct MA/NMA only with NRS

2. Informative priors from NRS

2. Conduct MA/NMA for RCTs with NRS as prior

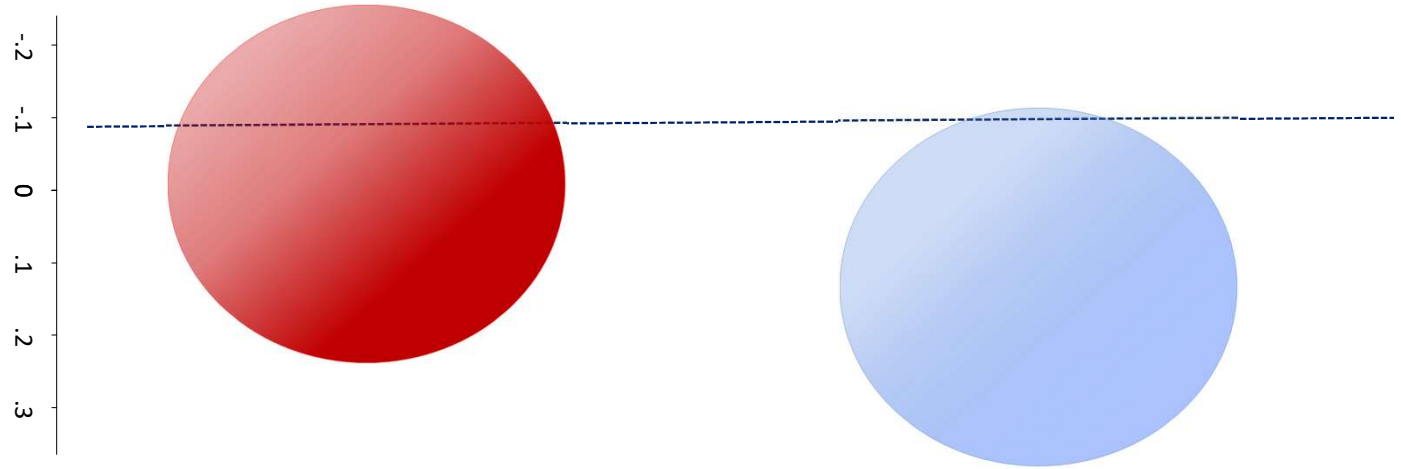
1. Conduct MA/NMA only with NRS



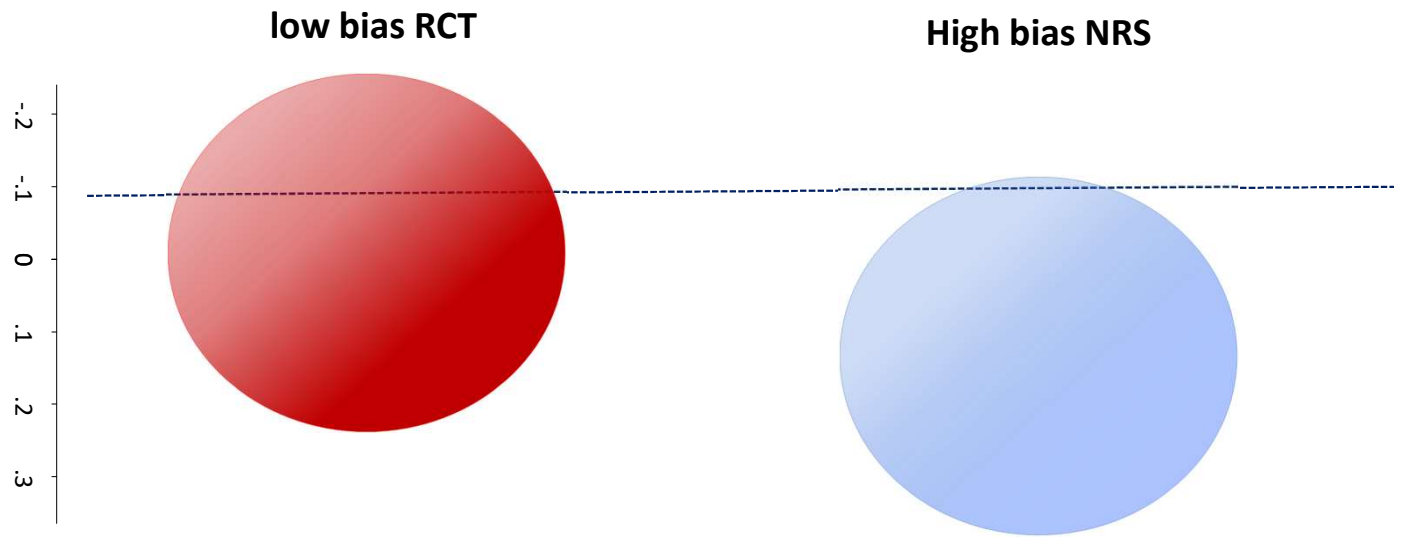
3. Bias adjustment model 1

Shift RCT and NRS evidence based on thier bias (b)

How much to shift?
low bias RCT – b1
High bias RCT – b2
Low bias NRS – b3
High bias NRS – b4
Unclear – b5

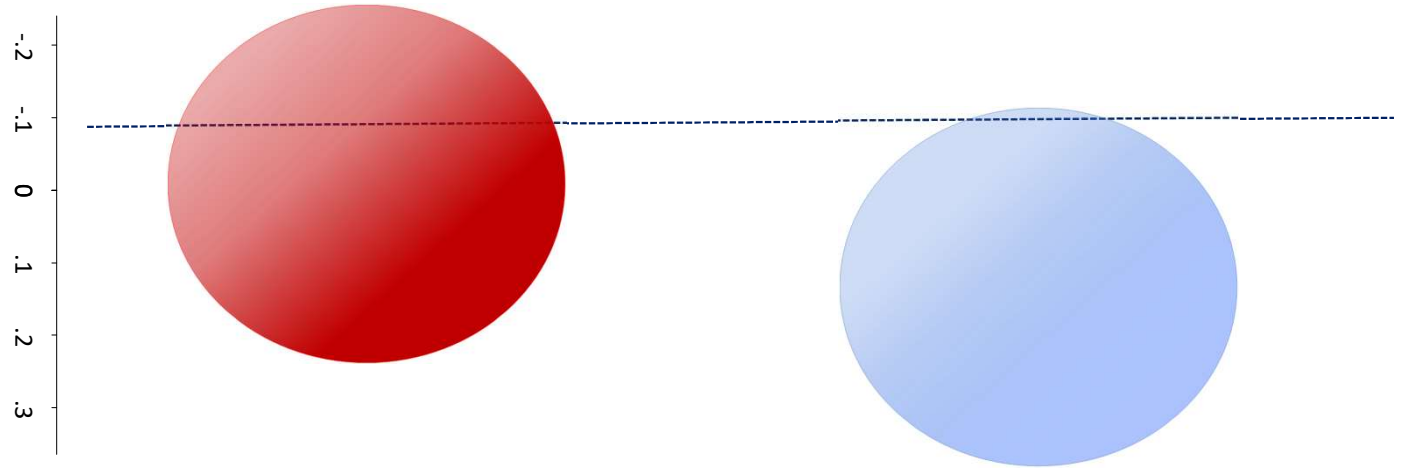


3. Bias adjustment model 1



4. Bias adjustment model 2

the bias shift (**b**) can be estimated from study characterstics, e.g. study-year, concealment, blinding …



4. Bias adjustment model 2

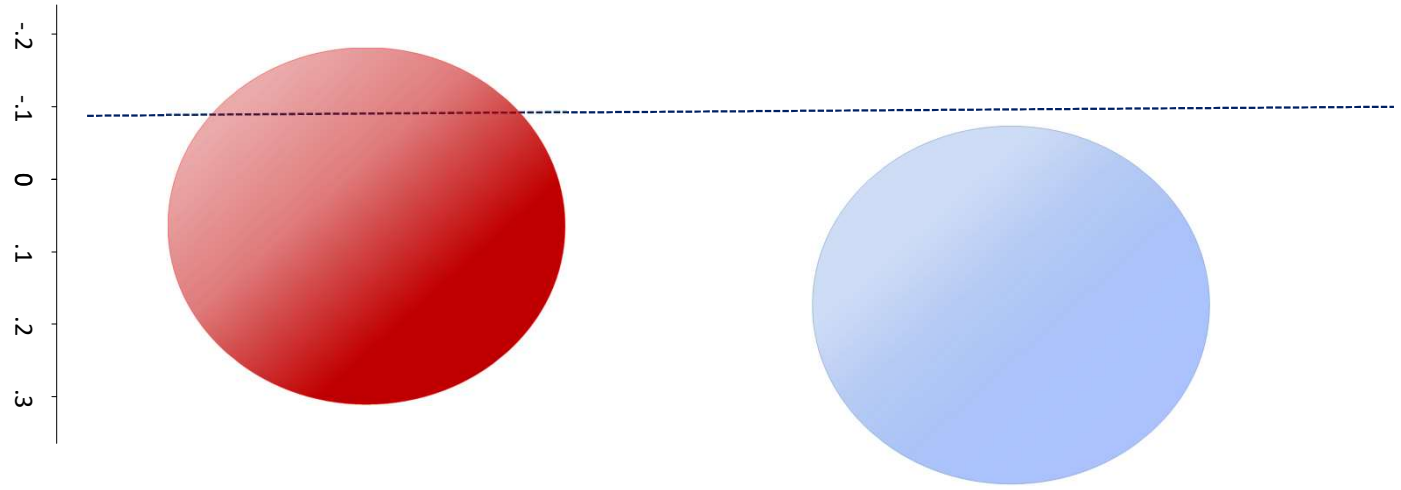
Bias model: b=0.001*study_year+ 0.3*blinding

b1=0.001*2000+0.3*0 = 2

Study year: 2000
Blinding: yes

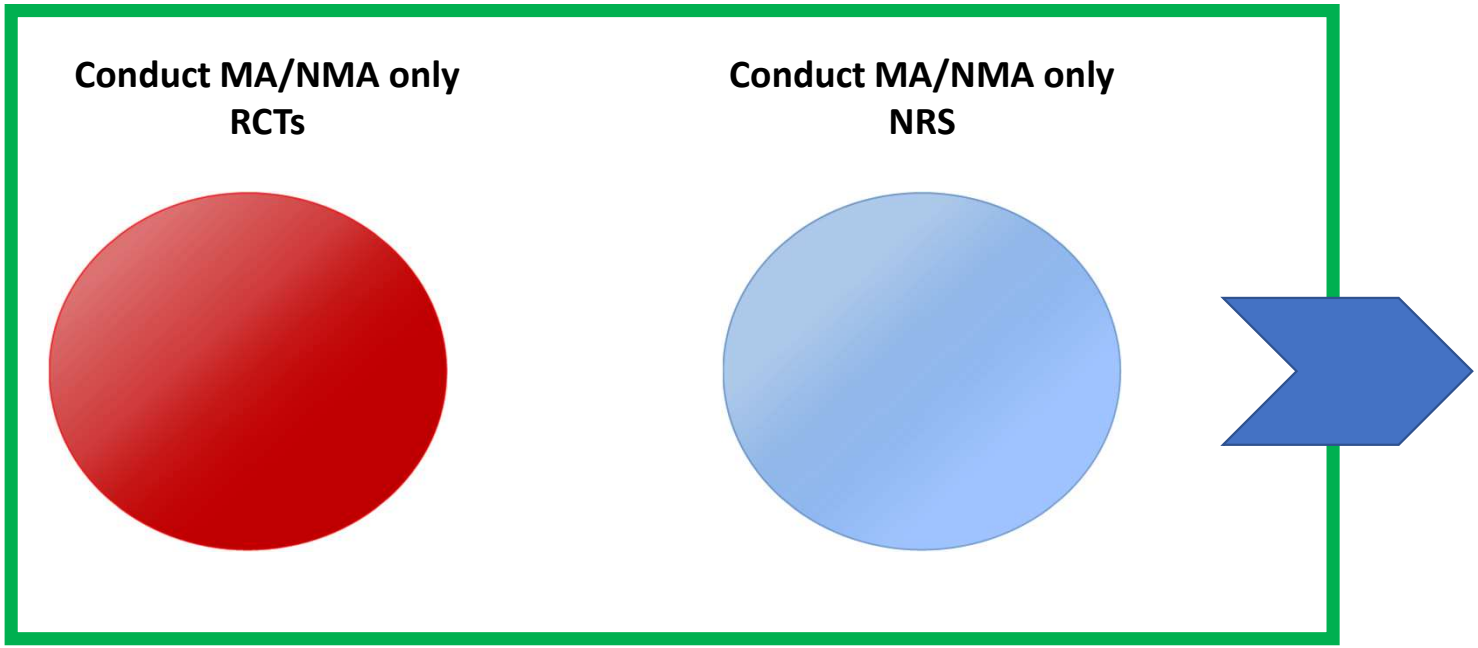
b2=0.001*2020+0.3*1 = 2.32

Study year: 2020
Blinding: No



5. A three-level hierarchical model

In a single analysis

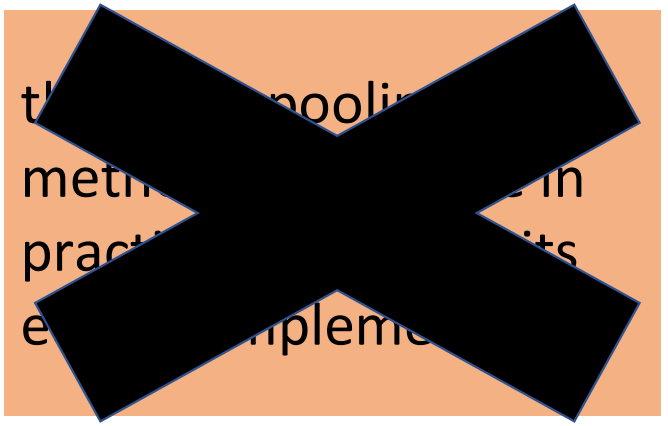


The Final results

Which method is used in practice?

Zhang et. al. 2019 performed a scoping review on methods used to combine RCT and NRS in NMA. They identified 23 NMAs …

Naïve	74% (17)
Use NRS as a prior	0% (0)
3-level hierarchical method	9% (2)
All above	9% (2)
Others	9% (2)



Instead, methods that acknowledge the design differences should be used