## CHE Research Summary 10

# How can we prioritise medical research in areas when there are no previous studies of treatments?

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Randomised controlled trials (RCTs) can reliably estimate the differences in health outcomes and healthcare costs between alternative medical treatments. However, they take a long time and are very costly to carry out. Research funders have to choose which RCTs to fund and which to reject. How can we compare the value we get from doing one RCT to the value of doing a different RCT?

Value of information (VOI) methods can be used to estimate the benefits of reducing uncertainty in a specific treatment decision. RCTs are designed to show the relative effect of one treatment compared to another. This is usually quantified as an odds ratio, hazard ratio, or mean difference. If we want to use VOI to help prioritise research we need some quantitative judgement about how uncertain we are about the relative effect of treatments. However, when decisions on research prioritisation have to be made, there is often little available information on relative effects. This is not surprising as research is often required in order to improve the evidence about treatments.

Therefore, if VOI is to be used routinely by the organisations responsible for research prioritisation, some judgements about the relative effect uncertainty has to be made. Our research uses a method called “meta-epidemiology” to make these judgements. It uses results from RCTs in similar diseases to obtain a realistic distribution for the relative effects that are likely to be found in a new study.

The research uses data from 743 published RCTs across nine disease areas to obtain likely distributions for a range of diseases. We illustrate how the predictions can be used in a VOI analysis for an RCT in bladder cancer. We show how the method can help decision-makers to prioritise research even when there is no direct information available on the relative effects of the treatments being considered.

**Read the paper in Medical Decision Making.**

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