

## Research Briefing N<sup>o</sup> 44

# Randomised Controlled Trials for policy interventions? A review of reviews and meta-regression

This study explores how measures of the effect of policy interventions may be influenced by how evaluations are designed, particularly whether measures differ between randomised controlled trials and non- randomised studies of similar policy interventions.



**Key words:** policy interventions; randomised controlled trials; non- randomised studies; impact evaluation; effect size

## Key findings

- Earlier studies suggested that, in some circumstances, the apparent strength of a policy intervention may be influenced by whether its effect was assessed in Randomised Controlled Trials (RCTs) or non-randomised studies (NRSs), or by other linked factors.
- This study found that the absence of randomisation does not directly influence the effect size of policy interventions in a systematic way.
- No consistent explanations were found for randomisation being associated with changes in effect sizes of policy interventions in field trials.

**Effect size:** expresses the difference between two groups as a quantity. When an intervention is being evaluated, it tells us how large the difference is between the people who received the intervention and a group which did not. Rather than asking the question: “Does an intervention work?” it looks at how well an intervention works; that is, how much more effective one intervention is compared to another (or compared with doing nothing at all).

## Recommendations for research

We recommend

- Policy evaluations adopt randomised designs wherever possible.
- Policy evaluations also adopt other standard procedures for minimising bias and conducting high quality assessment of effects of intervention, particularly blinded allocation of either individuals or groups, and the avoidance of small sample sizes.

- Feasibility studies of randomising geographical areas, communities and regions, for evaluating policy interventions in a range of sectors, implemented within interventions, communities and across regions.
- Feasibility studies of blinded allocation for policy interventions in a range of sectors, implemented within interventions, communities and across regions.
- Research about the reasons for choosing randomisation or not, particularly in the presence and absence of an explicit collective plan of action.

## What we did

While the RCT is generally regarded as the design of choice for assessing the effects of health care, within the social sciences there is considerable debate about the relative suitability of RCTs and NRSs for evaluating public policy interventions.

This study aims to determine whether RCTs lead to the same effect size and variance as NRSs of similar policy interventions; and whether these findings can be explained by other factors associated with the interventions or their evaluation.

The research was carried out by the **Institute of Education's Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)** in 2008 with funding from the Health Technology Assessment (HTA) programme, part of the National Institute for Health Research (NIHR).

## How we did it

Analyses of methodological studies, empirical reviews, and individual health and social services studies investigated the relationship between randomisation and effect size of policy interventions by:

- Comparing controlled trials that are identical in all respects other than the use of randomisation by 'breaking' the randomisation in a trial to create non-randomised trials (re-sampling studies).
- Comparing randomised and non-randomised arms of controlled trials mounted simultaneously in the field (replication studies).
- Comparing similar controlled trials drawn from systematic reviews that include both randomised and non-randomised studies (structured narrative reviews and sensitivity analyses within meta-analyses).
- Investigating associations between randomisation and effect size using a pool of more diverse RCTs and NRSs within broadly similar areas (meta-epidemiology).

## Further information

For the full report see ['RCTs for policy interventions? A review of reviews and meta-regression'](#)

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