

# Children's Data Network

## Randomized Controlled Trial Q&A

**1. *What is a randomized controlled trial (RCT)?***

An RCT is a planned experiment used to evaluate the effectiveness of an intervention (i.e. a new medicine, therapy technique, or social service) by comparing it to a control/comparison intervention.

**2. *What does “randomized” mean?***

Randomization means that participants are randomly placed into the experimental group (i.e. receive a new drug) or the comparison group (i.e. receiving a placebo or older drug).

**3. *Why use randomization?***

Randomization helps assure that the two groups are comparable as possible, which supports the validity of the comparison by lowering the risk of selection bias.

**4. *Are RCTs relevant to the field of child welfare?***

Child maltreatment is a socially complex issue and there is no easy solution for it. The field of child welfare relies on the provision of social services to improve child safety and reduce the occurrence of abuse and neglect. As such, reliable evaluation is highly important for understanding whether the services being delivered are actually achieving the desired outcome.

**5. *Are RCTs appropriate for use in a social service setting?***

RCTs can be an appropriate method for evaluating social services because when well designed, they can help control for other risk factors (i.e. chronic poverty; community violence) or protective influencers (i.e. family supports; economic stability) that might influence participant outcomes.

**6. *What are some other ways RCT methods are discussed?***

RCTs are often referred to as lotteries or waitlist trials. These are particularly useful when service providers have a limited number of participant slots available.

**7. *Do RCTs pose any ethical concerns?***

One ethical concern is the necessity of withholding a treatment or services from one group of participants (the control/comparison group) if that treatment has been proven to be highly effective. This is of great concern in the field of medicine. However, many social services have not yet been proven to effectively improve outcomes. When a new service is being introduced, researchers will often compare its outcomes to those observed among people not receiving any services or an older intervention. This technique is known as a treatment-as-usual comparison. For example, if families with uninvestigated SSA maltreatment referrals are not historically referred to CSPs for services, having the control group experience that same process while the experimental group receives a new type of service referral would be ethically justifiable and would be considered a treatment-as-usual comparison group design.

## **Additional Information about the Utility and Methodology of RCTs**

- In the age of evidence-based practices (EBPs), it has become increasingly important for mental health and other social service providers to demonstrate the effectiveness of their interventions using rigorous testing.
- “Effectiveness research” in the context of socially complex services can also be understood as the evaluation of a service’s impact on client outcomes. To demonstrate effectiveness, researchers must control for potential biases due to outside influential factors using reliable research design methods.
- One commonly used experimental design method is the Randomized Controlled Trial (RCT). RCTs rely on three underlying assumptions:
  - *Standardized Interventions* (both experimental and control protocols need to be defined precisely and adhered to consistently)
  - *Study Sample Equivalence* (participants in the control group must not differ from those in the experimental group)
  - *Environment Equivalence and Neutrality* (researchers must maintain a balanced testing environment for both groups, and must ensure that participants’ experiences of CSPs are not be impacted by changes such as loss of funding, program termination, staff turnover, or changes in SSA procedure. Surveillance bias must also be accounted for when RCTs involve outcomes like child maltreatment allegations)
- *Randomization*:
  - allows for an unbiased evaluation of whether a service or service delivery method produces better client outcomes than used to ensure that client outcomes are not due to other factors
  - helps protect the validity of program evaluation efforts, which may be threatened by:
    - *observable* characteristics, such as differences in income and ethnicity
    - *unobservable* traits, including protective social support networks or family resilience
- *Generalizability* requires that both control and experimental groups are of sufficient size to draw reliable conclusions based on the findings
- According to the Coalition for Evidence-based Policy (2013), low-cost “social RCTs” can be achieved by incorporating random assignment within preexisting processes for determining service eligibility and by utilizing administrative data that are being collected for another purpose.