What is an RCT?

Experiments in Governance & Politics (EGAP)
What is an RCT?

- RCT = **Randomized** Controlled Trial

- **Goal**: to assess the **impact** of an intervention.

- **Impact** is defined as the difference between:
  - How things **are** at endline
  - How things **would have been** without the intervention

Read more in [10 Things You Need to Know About Causal Inference](#)
What is an RCT?

- **Challenge:** how do you know what would have happened without the program?

- **Strategy:** Use *randomization*.

Read more in [10 Strategies for Figuring Out if X Caused Y](http://egap.org/resources/guides/identification)
What is an RCT?

- **Random assignment** of units
  - **Units** eg people, schools, villages, etc. assigned to treatment and control groups
  - Randomly assigning units means:
    - There is no **systematic** difference between treatment units and control units except for the fact of being treated
    - The expected average outcome in the **control group** is the same as the expected average outcome that **would have been seen** in the **treatment group** if they were not treated

Read more in [10 Things You Need to Know About Randomization](#)
What are the benefits of RCTs?

Most credible way to demonstrate impact

- Identify successful programs
- Demonstrate impact
- Identify factors that influence effectiveness
- Understand how an intervention works
What’s wrong with the traditional before-after comparison?

• Before-after comparisons can be very misleading especially in changing environments

• Consider these situations (the black line is the path the unit was on, the red line is the change due to the program)
  – In the first case the program helped even though things are worse at endline than at baseline
  – In the second case the program did harm even though things are better at endline than at baseline

• Lesson: To get the right answer you need to know not just what happened, but also what would have happened
When to do an RCT?

- You are **not sure** if a strategy is effective
- You **don’t know** which of two strategies are the best ones to use
- You believe a strategy is effective but **need to demonstrate** it to skeptics
- The intervention has **not started** yet (ex post evaluations are much weaker than evaluations planned ahead of time)
When **NOT** to do an RCT?

- The program is small
  - experiments can’t detect an effect
- The intervention is known to be effective
  - use your resources to give the program to more people
- Randomization is either politically or ethically not feasible
How much does it cost?

- Costs depend on
  - Need to collect original data
  - Sample size
  - Number of waves of data collection
  - Country-specific logistical costs

RCTs that use administrative data can be free

But if extensive data collection is needed in difficult areas they can cost $30,000 - $400,000
Timeline of an RCT

The entire process can take a few months to a few years.
Partnerships

RCTs depend on partnerships:

- Donors
- Implementers
- Researchers
- Research implementers
- Beneficiaries
Ethical Issues

EGAP Researchers abide by a strict set of principles:

- Protection of human subjects
- Transparency
- Right to review and publish findings
- Publication of data
- Disclosure of remuneration

For more, read the EGAP Principles
Other Resources

- Check out these helpful materials on RCTs:
  - Innovations for Poverty Action 2012 presentation on RCTs
  - J-PAL’s web resources or edX course on Evaluating Social Programs
  - Alan Gerber & Donald Green’s book Field Experiments
Read about an RCT in:

Afghanistan

Albania

Brazil