REAL-WORLD CHALLENGES TO RANDOMIZATION AND THEIR SOLUTIONS

Kenya Heard, Elisabeth O'Toole, Rohit Naimpally, and Lindsey Bressler | povertyactionlab.org/na/real-world-challenges-to-randomization-and-their-solutions

In a randomized evaluation, also called a randomized controlled trial (RCT), a random selection of individuals from a sample pool is offered a program or service, while the remainder of the pool does not receive an offer to participate in the program or service.

Random assignment ensures that, with a large enough sample size, the two groups (treatment and control) are similar on average before the start of the program. Any difference that subsequently arises between the groups can be attributed to the intervention rather than to other factors.

Many real-world challenges may arise during the planning and implementation of randomized evaluations. Several of these challenges can be addressed by designing a randomized evaluation that accommodates existing programs.

RESOURCES EXIST TO EXTEND THE PROGRAM TO EVERYONE IN THE STUDY AREA

In some cases, program implementers have enough resources and may feel obligated to distribute a program to everyone in the study area. If everyone is treated at once, there is no control group.

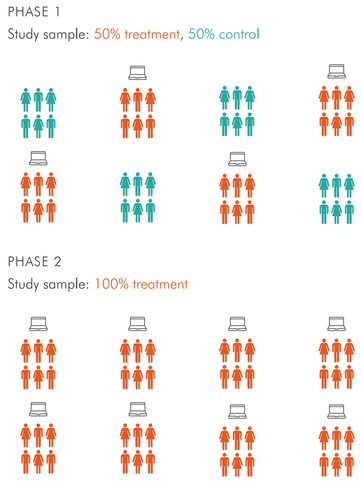
A Real-World Example: Robert Fairlie and J-PAL affiliate Jonathan Robinson conducted an evaluation to determine the impact of home computers on academic achievement. They talked with school officials about the study design and concluded that it would be unfair to give some eligible students (those without a home computer) computers and withhold computers from the rest.[1]

Solution: Phase-in design

To ensure a fair distribution of computers while preserving a control group, researchers used a phase-in design.

The randomly-selected treatment group received computers at the beginning of the school year, and the control group received computers at the end of the school year. An endline survey was administered at the end of the school year to measure impacts of the program just before control students received their computers.

[1] Fairlie and Robinson 2013, 215.



THE PROGRAM IS AN ENTITLEMENT

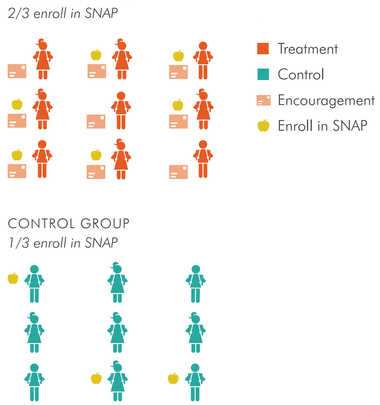
Many programs aimed at reducing poverty are entitlement programs. When evaluating such a program, researchers and practitioners cannot and should not force individuals to take up the program nor deny eligible individuals access to the program.

An Example: The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to eligible, low-income individuals and households in the United States. Randomly assigning access to SNAP benefits among eligible individuals to create a treatment and control group is not feasible.

Solution: Encouragement design

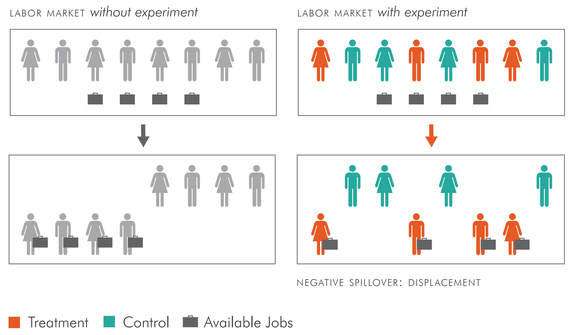
Researchers can randomly assign an encouragement that reminds people in the treatment group of their eligibility for SNAP and details steps to enroll. The control group does not lose access to SNAP benefits as a result of the intervention; they can still apply for SNAP benefits at any time. Effective encouragement leads to higher take-up of the program in the treatment group than in the control group.

In this case, the impact of receiving an encouragement to take up the program is evaluated (and its indirect effect on program take-up), rather than the direct impact of the program itself.



SPILLOVERS AND CROSSOVERS

Interaction between the control and treatment groups can lead to spillovers and crossovers, which can threaten a randomized evaluation. The control group may find out about the treatment and react unfavorably, benefit from the treatment, or be harmed by the treatment.



Solutions: Increase the level of randomization or create a buffer between treatment and control individuals to reduce the likelihood of interaction between the two groups that might lead to information sharing and behavioral changes.

A Real-World Example: J-PAL affiliates Bruno Crépon, Esther Duflo, Marc Gurgand, Roland Rathelot, and Philippe Zamora studied the impact of career counseling on outcomes for young, college-educated job seekers in France. They wanted to know how intensive job counseling services affect employment rates among those who receive counseling and in the overall job market.

Instead of eliminating spillovers, design an evaluation to measure them.

Researchers conducting this study wanted to design a randomized evaluation that could measure the spillover effects of the job counseling services, so they randomized the proportion of unemployed individuals in each treatment area that was offered counseling.

By varying the treatment density, researchers were able to detect whether the control group individuals in areas where they had to compete with a high proportion of counseled individuals were worse off than the control group individuals in areas with a low proportion of counseled individuals.

ACCESS TO THE PROGRAM IS GUARANTEED FOR A PORTION OF THE POPULATION

Many programs select participants based on established eligibility criteria (e.g., an income threshold or a categorical requirement) and must reserve program slots for those who meet these criteria. In such cases, randomization among this group may not be the most appropriate research design, since they are guaranteed access to the program.

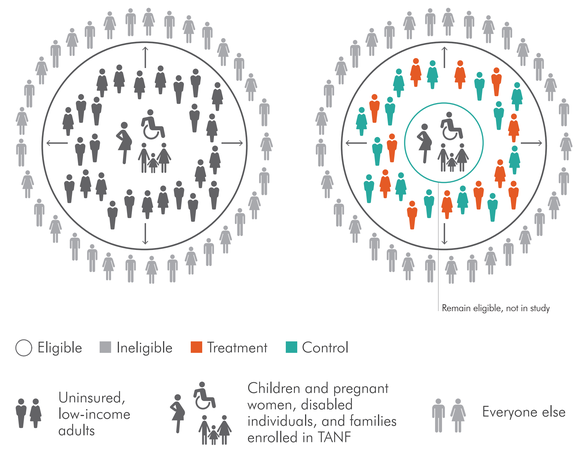
A Real-World Example: J-PAL affiliates Katherine Baicker and Amy Finkelstein, in collaboration with a number of researchers, studied the impact of Oregon's Medicaid program on several outcomes.

Solution: Randomize among the newly eligible

In 2008, the state of Oregon expanded its Medicaid program, Oregon Health Plan Standard, to provide a limited number of spots to low-income, uninsured adults who previously had not been eligible for other public health insurance.

Oregon state health officials correctly anticipated that the demand for Medicaid coverage would far exceed the number of new slots available, and decided that a lottery was the fairest way to allocate these scarce slots.

This provided a rare opportunity for researchers to use the random selection of lottery winners to understand the effects of extending Medicaid to the uninsured, while maintaining access to the program for individuals who were eligible for Medicaid prior to the expansion.



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