



## Tip Sheet # 1: Estimating Impacts When Participants' Random Assignment Status Does Not Match the Services They Received

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An experimental evaluation design—that is, an evaluation involving random assignment—is typically going to be the easiest design to carry out for a state's RESEA impact evaluation. Experimental designs allow for the production of highly credible estimates of an intervention's impact using straightforward statistical techniques, typically with lower sample sizes than other types of designs. Such evaluations compare the outcomes of claimants randomly assigned to a treatment group versus the outcomes of claimants randomly assigned to a comparison group. But even simple experimental analysis has potential pitfalls. For example, our experience suggests that evaluators sometimes mistakenly compare claimants based on receipt of the intervention under evaluation, rather than random assignment to the intervention.

This tip sheet is part of the *RESEA Evaluation Technical Assistance (EvalTA) Analysis Tip Sheet Series* designed to help state staff better understand: 1) the main activities a RESEA evaluator will carry out, and 2) help staff identify and avoid common analysis pitfalls when working with an evaluator.

### TIP #1: ANALYZE TREATMENT-COMPARISON DIFFERENCES BY RANDOM ASSIGNMENT STATUS, NOT BY SERVICE RECEIPT STATUS

To understand *Tip #1*, you must first understand the difference between your study participants' **random assignment status** and their **service receipt status**.

Let's assume your state wants to evaluate the impact of scheduling claimants for an additional meeting(s) beyond the initial RESEA meeting. An experimental design starts with a pool of UI claimants who are all eligible for the RESEA program and uses random assignment to assign the claimants to a treatment group or comparison group. Often done through a computer program, the random assignment process decides at random—like the flip of a coin—whether each RESEA-eligible claimant is selected for a RESEA program model that includes a subsequent meeting (treatment group) or is selected for a RESEA program model that excludes the subsequent meeting (comparison group).<sup>1</sup> That random assignment process determines each claimant's **random assignment status** (see Box 1 and Exhibit 1 on the next page).

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<sup>1</sup> This tip sheet uses the example of a *component* evaluation (sometimes called an A/B Test)—i.e., estimating the impact of requiring a subsequent meeting. The same issues apply to *whole-program* evaluations (sometimes called 0/1 Tests), where claimants are randomized to the current RESEA program or to a no-service comparison group—i.e., estimating the impact of RESEA overall. Likewise, the pitfall in a whole-program evaluation is analysis based on the UI claimant *participating* in the program rather than being *randomized* into it.

It is critical to note that a claimant’s random assignment status does not necessarily determine whether they receive the services to which they are assigned—that is, for the treatment group, whether they actually end up attending a subsequent meeting. In our example, some claimants selected for a subsequent meeting could choose not to attend the meeting (“no-shows,” indicated by the dashed line in Exhibit 1). Likewise, some claimants not selected for a subsequent meeting might actually attend the meeting (“crossovers,” indicated by the dotted line in Exhibit 1), perhaps due to an error in scheduling.

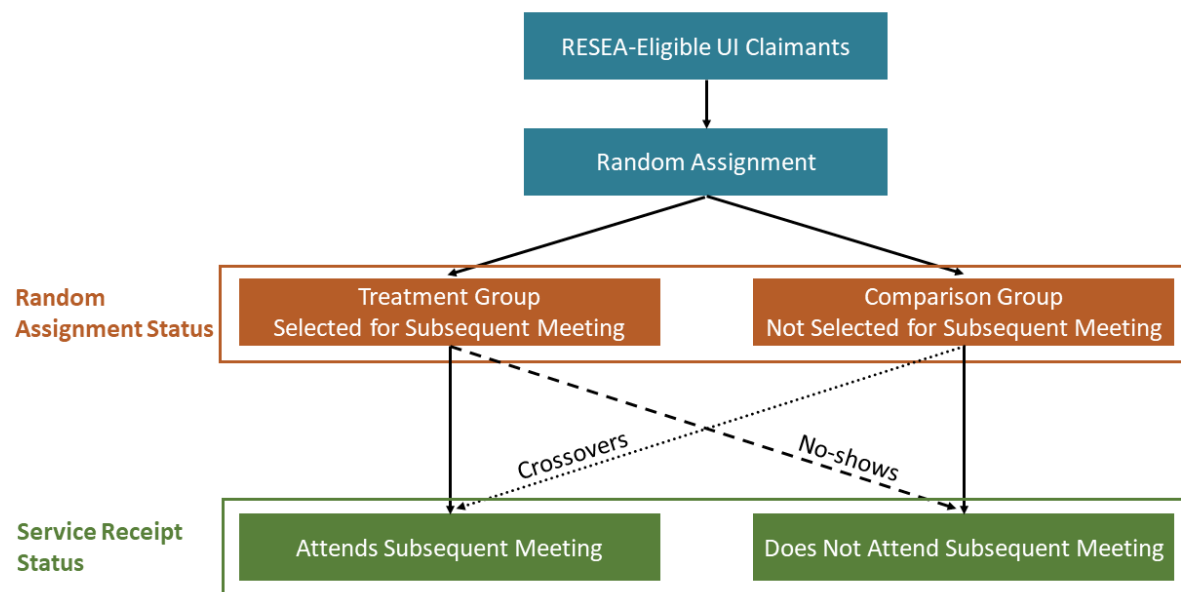
**Box 1: Terminology**

**Random assignment status:** Determined by the result of the assignment process, refers to the program model to which a claimant is assigned to participate.

**Service receipt status:** Determined by a claimant’s actual experience, this refers to whether a claimant participates in the program model.

What happens *after* the point of random assignment, including no-shows and crossovers, determines your study participants’ **service receipt status**.

**Exhibit 1: Random Assignment Status vs. Service Receipt Status**



Importantly, a claimant’s **random assignment status** depends on whether the claimant was assigned to attend a subsequent RESEA meeting, whereas the **service receipt status** depends on whether the claimant actually attended a subsequent meeting. That crucial difference underlies the potential pitfall that *Tip #1* intends to avoid.

## THE PITFALL

When conducting an experimental evaluation, a common pitfall is estimating impacts by comparing the outcomes based on claimants’ **service receipt status** rather than their **random assignment status**. In an evaluation of a subsequent RESEA meeting, that would mean comparing outcomes for the members of the study sample *who attended* the subsequent RESEA meeting (which, due to crossovers, might include some claimants randomly assigned to the comparison group) versus outcomes for those *who did not attend* the meeting (which, due to no-shows, might not include some claimants randomly assigned to the treatment group). But this comparison will not provide a relevant and valid impact estimate!

The act of assigning claimants randomly creates a treatment group and a comparison group that are statistically similar to each other, so any differences in their outcomes (e.g., unemployment duration, earnings) can be attributed to the difference in their **random assignment status**.

However, assuming some amount of crossovers and no-shows, analyses that *re-groups* claimants based on their **service receipt status** creates two groups that are no longer statistically similar to one another. As a result, if your evaluation compares outcomes of claimants who attended the subsequent meeting versus claimants who did not attend it—that is, by **service receipt status**—it would not be possible to determine whether any differences in those outcomes can be attributed to attending the subsequent meeting or whether the differences are the result of characteristics that differ between attendees and non-attendees.<sup>2</sup> Comparisons by service receipt status will not produce valid estimates of the intervention’s impact (Torgerson et al., 2015).

## THE FIX

Evaluators should estimate impacts of the RESEA intervention being evaluated by comparing claimant outcomes according to claimants’ **random assignment status**—that is, outcomes for those randomly selected for the intervention (the treatment group) versus outcomes for those not randomly selected for the intervention (the comparison group).

Consider asking your evaluator, “*Did you analyze by random assignment status or by service receipt status?*”

The evaluator should say: “By random assignment status!” If they do not, you may want to consider asking your evaluator to change the analysis plan so they are analyzing by random assignment status.

## ADDITIONAL PUBLICATIONS

Bloom, H. S. (1984). Accounting for no-shows in experimental evaluation designs. *Evaluation Review*, 8(2), 225–246.

Torgerson, C. J., Torgerson, D. J., & Taylor, C. A. (2015). Randomized controlled trials. In K. E. Newcomer, H. P. Hatry, & J. S. Wholey (Eds.), *Handbook of practical program evaluation* (4th ed., pp. 158–176). Wiley. <https://doi.org/10.1002/9781119171386.ch7>

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<sup>2</sup> For example, claimants who do not attend a RESEA meeting might have barriers that prevent them from doing so, such as limited transportation or childcare options. Those barriers also could make it harder to become reemployed. Therefore, differences in employment outcomes between attendees and non-attendees could be due to those barriers, not their attendance at a RESEA meeting. Nonetheless, it is possible to estimate the impact of attending a subsequent RESEA meeting—meaning the impact of receiving the treatment, rather than being assigned to receive the treatment—but doing so requires additional assumptions (Bloom, 1984). That discussion is beyond the scope of this tip sheet.

See [RESEA Evaluation Toolkit](#) (page 34) for further discussion of some of the possible reasons that study participants might or might not attend meetings or take up service referrals and the implications for evaluation approaches.

## ABOUT THIS SERIES

State agencies' evaluations of their RESEA interventions—whether the whole program or components thereof—are integral to expanding the evidence base of effective service delivery strategies. This tip sheet is part of a series developed to serve as a quick-reference tool for states planning, launching, and carrying out evaluations of their RESEA programs. Additional tip sheets in this series are available on the [RESEA Evaluation and Evidence Resources WorkforceGPS page](#).

**Suggested citation:** Epstein, Z., Acheson-Field, H., & Klerman, J.A. (2023). *Tip Sheet #1: Estimating Impacts When Participants' Random Assignment Status Does Not Match the Services They Received*. RESEA Evaluation Technical Assistance Analysis Tip Sheet Series. Prepared for the U.S. Department of Labor, Chief Evaluation Office. Abt Associates.

### Additional Resources and Information

DOL's RESEA Helpline: [RESEA@abtassoc.com](mailto:RESEA@abtassoc.com)

Additional RESEA evaluation technical assistance resources are available here:

[https://rc.workforcegps.org/resources/2019/07/30/17/32/RESEA\\_Evaluation\\_Evidence\\_Resources](https://rc.workforcegps.org/resources/2019/07/30/17/32/RESEA_Evaluation_Evidence_Resources)

Study reports, publications, and other materials are available here:

<https://www.dol.gov/agencies/oasp/evaluation/completedstudies/RESEA-Evidence-Building-Implementation-Study>

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