

# **Using a Multi-Armed Design to Decompose Program Impacts**

Reemployment Eligibility and Assessment Impact Study

USDOL Chief Evaluation Office

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# Context for Study: Background

- Several decades of experimentation in reducing spells on Unemployment Insurance
- Worker Profiling program became law in 1993
- Over time, less Eligibility Review Programs and Random Audit, more service delivery
- USDOL created the REA program in 2005
- [Study](#) showed mixed impacts, generally positive
- [Follow up](#) led to being [held up](#) as example
- Notable [paper](#) by Black, Smith, Berger and Noel

# Research Questions and Study Design

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## Basic Research Questions:

- Is the program successful at reducing duration on UI?
  - Who benefits most, how consistent is the impact?
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## Questions Enabled by Multi-arm Design

- Is there compliance with specific program requirements?
  - What is the response to non-compliance?
  - What portion of the overall program impact can be attributed to the individual program components?
  - Are the compliance aspects of the program associated with people leaving the program and returning to employment, or just leaving the program?
  - Can we balance moral hazard with supporting work search?
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# Design Challenges

## Accommodating Concerns Expressed by the Service Providers

- Maximum flexibility for staff to advise on service
- Maximum flexibility for participants in how they are served
- Avoid issues with logistics and staff training
- Minimize deviations from pre-study program design

## General Challenges

- Develop cost-effective strategy for precisely estimating small impacts
- States with multiple service models do not replicate the same treatments
- Predictability in service, clarity and accountability in data

## Challenges with Multi-Arm Design

- Treatment fidelity
- Generalizable impact measure
- Design consistency across sites
- The appropriateness of pooling data

# 4 Arm Study Design: Control, Partial, Full, Multiple

Treatment arm	Description
Control	No requirement to report, monitor for service receipt
Partial	Report and review eligibility, strong effort to avoid incentivizing service delivery, monitor for service receipt
Full	Partial plus Staff-assisted services
Multiple	2-3 iterations of Full treatment, with variation in the services at each visit. (not classic dose-response)

## Expected Contrasts

Contrasts	Description
Partial - Control	Effect of enforcement/call in
Full - Partial	Marginal effect of services
Full - Control	Primary measure of program impact for study
Multiple - Full	Marginal benefit of repeated “dosage”

# Estimates of MDI on Weeks of UI Benefits, for Projected Sample Sizes

Contrast	State				Total
	IN	NY	WA	WI	
<b>Main Effect</b>					
Full REA (Single REA or Multiple REA) vs. No REA	0.35	0.16	0.35	0.39	0.13
<b>Components</b>					
Partial vs. No REA	0.37	0.27	0.40	0.39	0.17
Full REA (Single REA or Multiple REA) vs. Partial REA	0.25	0.22	0.33	0.39	0.14
Single REA vs. Partial REA	0.25	0.25	0.38	0.39	0.13
Multiple REA vs. Single REA	NA	0.25	0.38	NA	0.17
<b>Subgroups</b>					
Full REA (Single REA or Multiple REA) vs. No REA	1.40	0.66	1.41	1.57	0.52

# Implementation Challenges

## Study Population / Sample Size

- Design splits total sample into both sites and arms
- Lower than expected intake due to improving economy
- Some degree of erosion in the expected power of the design

## Logistics

- More arms = more problems/dimensions to monitor.
- Increased chance that design deviates from program operated prior to study
- Additional effort/monitoring for treatment fidelity and randomization
- Transitory population: randomized to treatment but seek service within control sites, do front line staff have sufficient information to provide treatment appropriate to randomized arm?

## Maintaining Trust Relationships

- Concerns about *partials* being served by well intentioned staff
- Federal concerns about variation between design elements and the guidance for the national grant program, accountability, suitability

# Summary

- The added value of decomposing the impacts comes with additional cost and complexity
- We perceive that this tradeoff is a net positive
- We anticipate findings will inform:
  - How people respond to mandatory programs
  - How individual outcomes relate to responses
  - How to optimally structure better programs with less risk to participants
- Initial results expected in late fall, 2017



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<https://www.dol.gov/asp/evaluation/>  
[REA Study Implementation Report](#)