Title: Leveraging Machine Learning for Optimal Policy: Evidence from Reemployment Services

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This paper examines the impact of re-employment services on recipients of Unemployment Insurance (UI) using administrative data from Rhode Island. We provide causal estimates of program effects by exploiting random assignment of services as part of the Reemployment and Eligibility Assessment (REA) program. On average, the program reduces weeks spent on UI and total benefits claimed, while having no impact on employment and wage outcomes. We use a causal forest algorithm to study treatment effect heterogeneity and find the lack of an overall impact on labor market outcomes masks important differences in responses across observable characteristics. Using these results, we propose an improved targeting system for optimal improvements in REA's target outcomes using predicted treatment effects from machine learning algorithms.