

A Low-Cost RCT of Workplace Health and Safety Inspections Conducted by the Occupational Safety and Health Administration (OSHA)

Project Summary:

Since its inception in 1970, the federal Occupational Safety and Health Administration (OSHA) has used inspections as its primary tool to enforce federal safety and health regulations and to promote safe workplace practices. For just as long, a debate has persisted regarding the effects of these inspections and of OSHA's regulations more broadly. While some claim OSHA destroys jobs without meaningfully improving workplace safety, others argue inspections save lives at low costs to employers and employees. Still others posit that inspections have little effect and waste taxpayer dollars.

This debate has endured, in part, because existing evidence has yielded widely varying results. This variation likely is due to the substantial challenge of measuring the causal effects of OSHA inspections. For example, because many OSHA inspections target establishments with recent accidents or complaints, inspected establishments may have systematically different characteristics (both observable and unobservable) than non-inspected establishments. As a result, estimating the effects of inspection in a standard comparison-group study (using matching and/or regression methods) can produce highly inaccurate results.

A prior study by Levine, Toffel, and Johnson used a more rigorous, randomized design to evaluate the effects of inspections conducted by California's Division of Occupational Safety and Health (Cal-OSHA). Specifically, the study analyzed these inspections by comparing outcomes at establishments randomly chosen for inspection to those at establishments that were eligible, but not selected, for these random inspections. The study, published in *Science* in 2012, found that these Cal-OSHA inspections led to significant reductions in injuries without any detectable harm to plant survival, payroll, or employment.

In the current study, the same researchers will use a similar study design on a much larger scale across many states, to evaluate OSHA's largest non-construction inspection program – Site Specific Targeting (SST) – which targets some of the most hazardous workplaces in the country for enforcement inspections. Because the program has insufficient resources to inspect all such workplaces, SST uses random assignment to allocate inspections, which will allow for an analysis of program effectiveness through an RCT. Among a large sample of approximately 29,000 business establishments eligible for a randomized inspection, the study will test whether being randomly chosen for an SST inspection affects establishments' subsequent injury rates, compliance with OSHA regulations, and business outcomes – such as workplace survival and employment – in the short-term (1-2 years after inspection) and longer term (3-4 years after inspection). These outcomes will be measured at low cost using administrative data that OSHA and other entities already collect for other purposes.

Importantly, the large sample will allow the study to identify the types of workplaces where inspections are particularly more or less effective, and thereby generate actionable evidence about how to most effectively target SST inspection efforts in the future.

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