

Proposal: Develop Research-Proven Strategies for Enhancing U.S. Port Security

After the 9/11 terrorist attacks exposed major vulnerabilities in this country's security infrastructure, many strategies have been proposed or developed to secure the nation's ports against a terrorist attack, and/or the smuggling of weapons of mass destruction into the country. Such strategies include deploying additional patrol boats; installing vessel tracking systems to monitor ship traffic in and around American harbors; equipping the Coast Guard with portable radiation detectors to inspect ship cargo; enhancing surveillance technology in restricted areas of ports; and issuing tamper-proof, biometric identification cards for port workers.

However, none of these ideas have ever been rigorously evaluated, making it impossible to determine which are truly effective in securing U.S. ports from terrorist attack or infiltration.

This paper outlines how one might conduct a randomized controlled trial—the gold standard study design for evaluating an intervention's effectiveness—to rigorously evaluate various strategies for enhancing port security.

To effectively secure America's ports and ensure the wise use of taxpayer money, we believe it would be critical for the federal government to build this type of rigorous evaluation into the process of implementing a new security enhancement strategy, such as those above. The study's purpose would be to produce scientifically-valid evidence on whether the strategy is indeed effective above and beyond what ports are already doing, before that strategy is scaled up nationally.

The following is a concrete, step-by-step illustration of how such a study might be conducted:

- 1) Identify a well-defined, promising strategy for enhancing port security that the federal government wishes to rigorously evaluate.**
- 2) Identify ports where the strategy might be implemented.**
- 3) Randomly assign these ports to either an “intervention group” that would implement the strategy as an enhancement to what they are already doing, or a “control group” that would continue implementing their existing security plan.** Alternatively, the study could evaluate the relative effectiveness of two security enhancements by randomly assigning ports to implement one or the other (e.g. assign them to either add security personnel or install additional surveillance equipment). Since ports vary widely in size, as well as amount and type of traffic, the study might sort the sample into groups of equivalent ports prior to randomization, and then conduct the random assignment within each group.
- 4) Assign “red teams” of government agents to try to breach security at intervention and control ports.** Red teams would be tasked with circumventing each port's security measures (e.g. by trying to smuggle in radioactive materials or gain access to restricted areas). Such red teams have previously been used to test security measures at airports and border crossings (but not as part of a randomized evaluation). A March 2006 report of the Senate Homeland Security and Government Affairs Committee's Permanent Subcommittee on Investigations specifically recommended that red teams be used in testing the effectiveness of port security measures.

- 5) **Determine the effectiveness of the security enhancement based on whether the red teams were less, or more, successful at infiltrating ports in the intervention versus control group.** The random assignment of a sufficiently large sample of ports will ensure that any observed difference in the red teams' success rate can confidently be attributed to the security enhancement and not to other factors. The study would therefore generate scientifically-valid evidence on the effectiveness of the enhancement that policymakers can then apply more widely to prevent terrorists from staging an attack on or from U.S. ports.