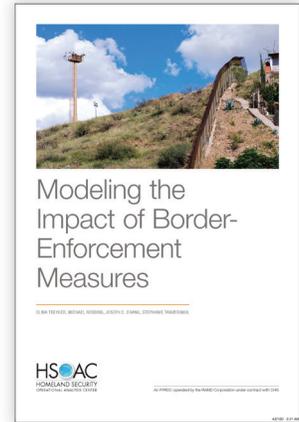


Modeling the Impact of Border-Enforcement Measures

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Homeland Security Operational Analysis Center researchers sought to establish a causal connection between surveillance technology and outcomes relevant to border security. The study demonstrated the promises and limitations of quasi-experimental statistical methods for evaluating the effects or effectiveness of different border-enforcement measures.

RESEARCH QUESTIONS

- Can quasi-experimental statistical methods be used to evaluate the effects of various border-enforcement measures on outcomes that capture border security?
- What is the effect of deploying surveillance technology on U.S. Border Patrol apprehension levels?
- What are the promises and the limitations of using statistical methods to evaluate the effects or effectiveness of different border-enforcement measures (such as infrastructure, technology, personnel, and immigration-enforcement policies)?

KEY FINDINGS

- Quasi-experimental statistical methods can be employed to assess the effects or effectiveness of border-enforcement measures, if the limitations of these methods are taken into account.
- Different surveillance technologies likely have different effects on outcomes at the border.
- There is strong evidence that deploying integrated fixed towers is associated with decreased apprehension levels, indicating deterrence of border crossings through surveilled zones.
- There is weaker evidence that deploying some other surveillance technology might be associated with elevated apprehension levels, indicating augmentation of the Border Patrol's situational awareness of border crossings.

RECOMMENDATIONS

- Extend this analysis by examining other outcomes that are potentially affected by surveillance (e.g., group size, crossings through un surveilled routes around each surveillance asset) and contextual factors that likely contribute to the differences in effects across different surveillance technologies (e.g., personnel deployment patterns, preexisting surveillance assets, the extent to which surveillance assets are effectively networked).
- Improve prospects for similar analysis of other border-enforcement measures (e.g., infrastructure, personnel) through increasing consistency, accuracy, and transparency of existing observable metrics (e.g., got aways, turn backs, and asset assists) and of methods to estimate unobservable metrics (e.g., total migrant flow, apprehension rate).
- Improve prospects for useful statistical analysis through increasing availability of data to researchers and analysts (within and outside DHS) and pursuing integration of data on all border-enforcement measures in an accessible format.