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Estimating the Size of the Methamphetamine-Using Population in New York City Using Network Sampling Techniques

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ABSTRACT

As part of a recent study of the dynamics of the retail market for methamphetamine use in New York City, we used network sampling methods to estimate the size of the total networked population. This process involved sampling from respondents' list of co-use contacts, which in turn became the basis for capture-recapture estimation. Recapture sampling was based on links to other respondents derived from demographic and "telefonken" matching procedures—the latter being an anonymized version of telephone number matching. This paper describes the matching process used to discover the links between the solicited contacts and project respondents, the capture-recapture calculation, the estimation of "false matches", and the development of confidence intervals for the final population estimates. A final population of 12,229 was estimated, with a range of 8,235 - 23,750. The techniques described here have the special virtue of deriving an estimate for a hidden population while retaining respondent anonymity and the anonymity of network alters, but likely require larger sample size than the 132 persons interviewed to attain acceptable confidence levels for the estimate.

KEYWORDS

Population Estimation; Network Methods; Methamphetamine; Anonymous Sampling

Cite this paper

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