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4:00 PM, Room 204, Caldwell Building

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How can emerging statistical methodologies improve the global response to human trafficking?"

Having accurate prevalence data is critical for enabling informed decisions about how to allocate scarce resources to strengthen human trafficking (HT) response. Traditional prevalence estimation strategies, namely those utilizing probability sampling designs that are based on combinations of stratified and multistage sampling, have long been used to study hidden populations. Such traditional survey strategies may give estimates that are biased and/or have low precision, typically due to issues relating to under coverage and small sample sizes that correspond to observations made on the hidden population. While all estimation methods have unmeasured errors, existing biases in measurement have motivated the development of more robust statistical methods for prevalence estimation of hidden populations, such as those constructed from network-based and secondary data collection sources. These include network scale-up method (NSUM), respondent-driven sampling, Vincent link tracing sampling, time–location sampling, all of which directly engage with members of the hidden population, such as those being trafficked, and multiple systems estimation and mark-recapture methods, which rely on administrative data. Challenges were frequently encountered when implementing the methods, such as data deficiencies and violations of assumptions which can impact estimation accuracy, but scant literature provided solutions to these challenges.

Drawing from our ongoing projects in West Africa where the traditional survey method involved a probability-based, stratified, and clustered multistage sampling design in which adult respondents in 3,070 households were interviewed about trafficking of children who reside in their household in three selected districts, I present the first attempt to estimate the prevalence of child trafficking using NSUM, which entailed questioning the same adult respondents about the trafficking-related activities of children in their personal networks. I also present novel advancements to improving the accuracy of prevalence estimation, including the development of the new top-code strategies for addressing unreliable data reported by the respondents in the survey interviews, and the application of Small Area Estimation methods to 40 chiefdoms, the lower administrative-level units within the districts, and compared to district-level prevalence estimates.