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An Alternative Technique for Youth Risk Surveillance Outside of the School System

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A B S T R A C T

Purpose: When school districts choose not to participate in adolescent health behavior surveys, tracking adolescent health indicators can be challenging. We conducted a countywide youth behavior survey outside of the school system. Our purpose is to describe alternative methods used for gathering these data reliably and ethically.
Methods: We implemented two parallel surveys with youth ages 14–19 residing in a mid-sized county with urban, suburban, and rural neighborhoods. An anonymous phone-based survey used computer-assisted telephone interviewing with a live interviewer in conjunction with an interactive voice response system to survey youth via random digit dialing of landlines and cell phones. A concurrent in-person anonymous survey was conducted with marginalized youth (from juvenile detention centers, shelters, and residential facilities), using audio computer-assisted self-interviewing technology. The survey measures included the Centers for Disease Control Youth Risk Behavior Surveillance System and additional questions about social supports, neighborhood, and adverse childhood experiences.
Results: Data were collected between February and December 2014. The phone-based sample recruited 1813 participants; the marginalized sample included 262 youth. Several strategies ensured anonymity and reduced coercion. The final phone-based sample was similar to demographics of the county population. The marginalized youth sample captured out-of-home youth who may have been missed with phone-based sampling alone.
Conclusions: We review alternative strategies for obtaining population-based adolescent health data without the cooperation of schools. These techniques can provide a basis to collect data that may help direct resources and policies relevant to needs of local youth.

IMPLICATIONS AND CONTRIBUTION

Representative adolescent health behavior data can be collected outside of school systems. This paper describes a unique combination of validated methods to gather these data among adolescents in one county. With these local data, public health departments and youth-serving agencies can direct limited resources to address local needs.

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Disclaimer: There are no disclaimers.
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The Centers for Disease Control Youth Risk Behavior Surveillance System (YRBSS), optionally administered biannually across U.S. high schools, provides surveillance data about key adolescent health indicators [1,2]. These data help guide public health practitioners and policymakers to develop youth-relevant

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policies to influence youth morbidity and mortality [1,3–5]. Some jurisdictions may lack the financial or political support to administer the YRBSS in whole districts to generate local data, necessitating alternative approaches to collect similar data. Even when schools do participate in population-based surveys, youth with chronic absenteeism, those who have dropped out of school (legal at the age of 16 in most countries), are marginally housed, incarcerated, or in residential placement are missing from these samples. In some countries, girls with limited school access may also be disproportionally underrepresented. Thus, surveys administered in schools may miss youth with significant health and social challenges.

None of Allegheny County's 42 school districts have conducted the YRBSS with their entire student population. While a few have participated in statewide sampling, large districts like Pittsburgh Public School District have not; citing concerns about sensitive questions and time required. As statewide sampling is insufficient for county-level analysis, the lack of county-specific data limits analysis of local youth risk behaviors. Local health departments need county-level data to efficiently target interventions. To address this issue, multiple stakeholders came together to identify innovative methods for collecting YRBSS data at the county level outside of schools.

This project sought to address barriers to collecting comprehensive adolescent health behavior data. The primary aim was to implement a survey similar to the YRBSS with a representative sample of county youth using random digit dialing (RDD) [2]. A secondary aim was to administer a parallel survey with "marginalized youth" who were likely to have more poor health indicators and would not be easily reached using RDD. The purpose of this paper is to describe the methods we used to conduct a countywide survey similar to the YRBSS, independent of schools.

Stakeholder Engagement

The Division of Adolescent and Young Adult Medicine at Children's Hospital of Pittsburgh of the University of Pittsburgh Medical Center, the Institute for Evaluation Science in Community Health at the University of Pittsburgh Graduate School of Public Health, and the Allegheny County Health Department collaborated to conduct a one-time, cross-sectional, anonymous survey of English-speaking youth in the county. The survey team presented the data collection plan to local philanthropic foundations and discussed the benefits of such data to guide local adolescent health policy and programming. Four local foundations came together to provide funds to conduct the surveys.

The local funders, health department leaders, youth-serving community partners, and research team worked together to finalize the survey. Stakeholder input guided inclusion of additional validated survey questions about adverse childhood experiences, gender and sexual identity, social supports, and neighborhood connectedness not routinely included in the YRBSS. Community partners (youth-serving agencies mostly affiliated with the county's Department of Human Services) also assisted the research team in recruiting for the marginalized youth sample.

Methods

Sampling

To obtain a countywide sample of high-school aged youth (ages 14–19) comparable to the YRBSS, we used an RDD methodology similar to what is generally used for the Behavioral Risk Factor Surveillance Survey [6]. Allegheny County is a moderately sized county in western Pennsylvania, with approximately 94,690 youth. We estimated that 1,600 observations would be needed for a 2–3 percent margin of error using a 95% confidence interval. A sample of this size would also allow us to effectively examine differences in health risk indicators. A parallel, in-person survey conducted with a convenience sample of youth made up the "marginalized youth sample." To capture varied experiences, we used a wide convenience sampling strategy of youth who are marginally housed, incarcerated, or in residential homes based on county human services estimates. The marginalized youth sample included 262 youth, about 10% of the marginalized youth population.

Measures

Demographics and health behavior questions were all validated measures from the Centers for Disease Control YRBSS with additional questions about nutrition and physical activity adapted from the Behavioral Risk Factor Surveillance Survey [2,7]. Participants were also asked about exposure to violence and neglect using previously validated items from the National Survey of Children's Exposure to Violence, as well as questions about hope and future orientation, social supports, and neighborhood cohesion [8–11]. There were 145 items on this 30-minute survey.

Procedures for Phone-Based Sample

We recruited youth via RDD with two separate frames, one for landlines and another for cell phones. A professional survey center provided intensive training and personnel to interview for the phone-based surveys. Training included interviewing skills, refusal conversion, dispositioning of call attempts, and rehearsal of interview scripts. We oversampled landlines as preparatory work, which showed greater likelihood of finding homes with eligible youth with landline numbers.

Youth provided verbal assent (for minors) or consent (for those ages 18 or 19). The University of Pittsburgh Institutional Review Board (IRB) approved a waiver of written documentation of consent and a waiver of parental permission. Waiver of written consent was permitted because the IRB understood that the study was completely anonymous and less than minimal risk, that questions in the YRBS are common in a confidential clinical encounter, and that the youths were capable of providing assent to answer questions about their own behaviors. We asked 1,860 teens if they wanted us to speak with their guardians, with 169 (9.1%) stating they wanted parental approval. A total of 1,682 (90.4%) did not want parental approval and 9 (.5%) refused to participate. Of the 169 requesting we speak to their parents, for 93.4% of parents agreed, 3.7% refused, and 2.9% of the youth hung up waiting for a parent to answer. Request for waiver of parental permission followed guidance outlined by Olds (2003) and Diviak (2004) and in both surveys included components required by the U.S. Federal Research Policy; justification of minimal risk as it was an anonymous survey, protection of youth rights through privacy and noncoercion, poor feasibility of study without the waiver, and the provision of additional information via resource sheets and phone numbers [12,13]. Justification in the marginalized sample was the same, though we noted the possible lack of parental availability. The IRB also recognized that