Quantitative Analysis Approach and Data Sources Appendix

The quantitative aspect of the Opportunity Works effort will provide evidence about the effectiveness of the Back on Track framework in achieving an impact on critical youth outcomes. It will also describe the characteristics, experiences, and outcomes of nearly all program participants. This section summarizes the analysis approach and two critical sources of quantitative data.

Impact Study Design

The impact study will provide summative evidence on the impact of the Back on Track programming on participant outcomes in Hartford, Philadelphia, and South King County. Data collection and analysis are still underway, so it is premature to provide results in this report. This section describes the structure of the impact study, the sample size needed to have sufficient power to estimate impacts on key outcomes, and some preliminary characteristics of the baseline populations in the three impact sites.

To estimate the impact of a program or intervention, it is necessary to compare outcomes from those who were offered the treatment with those from a group that were not offered the treatment. This comparison, however, can be biased if the treatment and comparison groups have very different baseline characteristics, particularly if those baseline characteristics relate independently to the outcomes (e.g., if one group has students with much higher achievement test scores than the other). An experimental approach achieves balance between the groups through random assignment. In the absence of random assignment, many quasi-experimental approaches try to align baseline characteristics for both groups.

The research team will utilize propensity score matching (PSM) to estimate the impacts of the Opportunity Works intervention. PSM is a strong approach in which a participant group and a group of similar individuals who are not offered the program are pooled into one large group with an indicator of treatment status. The analyst estimates the probability of entering the program – the “propensity” to enroll in the program – as a function of a number of variables that could affect program enrollment. The result is an equation that predicts each person's probability of enrollment based on their characteristics. Then, a researcher can compare participants and non-participants with the same probability of enrollment, based on each person's array of characteristics. The outcomes of a non-participant well-matched to a participant (with the same probability of enrollment) provide a good estimate of what the participant would have
achieved if he or she were a non-participant, as long as the variables used for matching are exhaustive and there are not large unmeasured differences between the treatment and comparison cases. The estimate of the program's impact involves comparing the outcomes of participants with the outcomes experienced by well-matched non-participants.

Based on a power analysis, the research team is aiming to recruit about 96 youth into the treatment group and 96 youth into the comparison group at each site. These numbers account for expected attrition of 20 percent between the baseline and follow-up surveys to try to ensure there are at least 77 members in each group.

Data Source: Participant Surveys

Opportunity Works enrollees at all seven sites have been invited to take a baseline and one-year follow-up survey. In the three sites that are part of the impact study, the survey data will serve as the primary source of data. The surveys provide a useful mechanism for data collection because they cover not only program participants but also individuals from identified comparison programs.

The baseline survey was designed to capture participants’ characteristics accurately as soon as they enroll programming. It includes questions about their age, gender, race, and ethnicity; household characteristics; school experiences; and employment and income. The survey also asks respondents about their education and career goals; experiences with the justice system and foster care system; and their perceived levels of social support and self-motivation. Most of the survey's content and wording mirror that of other surveys for similar populations (e.g. the Young Parents Demonstration Survey, the National Longitudinal Survey of Youth, the National Longitudinal Study of Adolescent to Adult Health, the National Survey on Drug Use and Health, and the Re-Integration of Ex-Offenders Survey). It also incorporates various behavioral and mental health scales to provide additional information to match respondents in the treatment group with similar respondents in the comparison group. The Urban team developed the survey in the fall of 2015 after the team discussed outcomes of interest, and the survey received Institutional Review Board approval.

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1 The team will also explore the possibility of using National Student Clearinghouse data to obtain education outcomes.
2 In consultation with the Opportunity Works program staff, the Urban team determined appropriate comparison programs to recruit comparison youth sites by selecting non-participating programs in the same region as the Opportunity Works sites serving an underemployed, out-of-school youth population but offering a set of services distinct from the Back on Track framework.
The baseline survey launched in October 2015 and will continued through July 2017. Respondents could complete the web-based survey on any computer, tablet, or phone with an internet connection, and could take the survey at the program location within one week of enrollment. Beyond working with staff in all sites to ensure a high response rate to improve the quality of the research, all enrollees in impact sites and enrollees in comparison sites that align with the admission criteria for Opportunity Works programming were provided cash incentives for completing the baseline survey.

The recruitment process for survey participation proceeded as follows. First, program staff identified individuals in the treatment and comparison groups who were eligible for participation in the evaluation. Eligibility differed across sites by age and gender. In Hartford, males and females ages 18-24 years old were eligible to participate in the survey.\(^3\) In Philadelphia, both males and females age 18-21 could participate. In South King County, both males and females age 18-22 were eligible. These restrictions were based on the design of the treatment programs and were intended to minimize the differential between the treatment group and the comparison group. Next, program staff invited those individuals to participate in the survey, ideally as part of the initial intake process. Finally, the staff entered basic contact information for all individuals invited to take part in the survey (whether or not they agreed) to a secure document that was shared with the Urban Institute. This shared tracking mechanism allows the research team to estimate response rates and provides additional information to inform follow-up survey outreach.

The follow-up survey launched in December 2016 and is offered by internet, phone, and ultimately in-person for non-respondents to earlier survey efforts. The Urban Institute has partnered with Research Support Services to support the follow-up survey effort.

**Non-Response Rate on the Baseline Survey**

Non-response refers to the failure to collect data from some individuals who were asked to participate in the research effort. While random non-response will only reduce a study’s statistical power, attrition that is correlated with intensity of program participation and other characteristics of program participants may bias the estimates of program effects. For example, if those who are benefiting the least from a program tend not to respond to the survey, the analysis might overestimate the program’s effect. In general, higher response rates are preferable, because even if non-response is not completely random, a smaller non-response rate will likely lead to less bias than a larger non-response rate.

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\(^3\) Only males ages 18-24 years old were eligible to participate in the survey initially, but due to changes in the site’s recruitment policies, females also became eligible for the study in early 2017.
Data Source: Program Records

Program administrative data provides an additional source of information about participants’ characteristics, experiences, and outcomes. The data from each of the seven sites will prove to be a valuable tool in helping the research team understand how these programs are operating and how each site is implementing the Back on Track framework. This analysis responds to several research questions established at the design phase of the study:

- What are the characteristics of the participants enrolled in the program?
  - Which participants are most likely to complete the program? Which participants are most likely to drop out of the program?
- Do participants receive and participate in the intended activities and services as defined by the site’s logic model?
- Do participants achieve the desired short-term and medium-term outcomes?

The program data complement the survey data because they cover a larger sample than the survey data and include some additional measures of participant characteristics, program experiences, and outcomes. The program data cover all program enrollees ages 18 and older, and data on outcomes are not limited to those who respond to the one-year follow-up survey. The program data also provide detailed insight into program activities by possibly capturing the dosage, duration, and types of services provided to participants. Program data will provide a clearer picture of how the programs are implementing their Back on Track framework components. In many cases, the site staff continues to follow students and record participant outcomes over long timeframes, which may provide more follow-up than would be available through the survey.

There are some potential drawbacks to program data relative to survey data. While survey data are collected consistently at a defined point in time, program data can be inconsistent if not updated regularly across program participants. For example, if a staff person loses contact with a participant, the records may be incomplete and outcome data may be missing. Survey data also have the advantage of being comparable across sites because the measures are defined consistently. With program data, it is generally not possible to compare across sites, since data constructs can vary considerably. In this way, the two data sources complement each other. Finally, there is no comparison group for the program data and thus it will not be possible to discern the difference in services received by those in their respective Opportunity Works programs and that of the comparison group drawn for the survey. Nevertheless, the survey will likely be able to draw out these differences, at least for the impact sites.

4 The surveys do not have a monetary incentive for non-impact sites and therefore have a much lower response rate.