Using Predictive Analytics to Improve Program Retention:
A Case Study in the Criminal Justice Sector

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Across policy domains, practitioners and researchers are benefiting from increasing access to more granular and frequent data and increased computing power to work with larger longitudinal datasets. There is growing interest in using such data as a case management tool - to better understand patterns of behavior, better manage caseload dynamics, and better target individuals for interventions. In particular, predictive modeling—which has long been used in business and marketing research—is gaining currency as a way to identify individuals who are at risk of adverse outcomes. Predictive modeling uses the experiences of individuals whose outcomes are known to model and predict outcomes of individuals whose outcomes are not yet known.

The proposed presentation will discuss a case study of incorporating predictive analytics in a social service organization in the criminal justice sector. The Center for Employment Opportunities (CEO) is a comprehensive employment program for former prisoners — a population confronting many obstacles to finding and maintaining work. CEO provides temporary, paid jobs and other services in an effort to improve participants' labor market prospects and reduce the odds that they will return to prison. Through a researcher-practitioner partnership with MDRC, CEO is building capacity to leverage its large internal dataset and content knowledge to build and maintain predictive analytics aimed at reducing attrition from its program. The partnership is taking advantage of ten years of historic program data to develop a platform for flagging those most at risk in order to triage and tailor services.

Our presentation will review the benefits and challenges of an ongoing effort to implement predictive analytics –commenting on the new information that results provided as well as the limitations. We will discuss how the predictive analytics results – individuals' risks of not meeting milestones – can be incorporated into the CEO's continuous improvement process and communicated to CEO staff. We will also discuss how the results can be used to target interventions and to make adaptations to CEO's curriculum, transitional work program, job coaching and job development activities, and/or its retention services. Finally, we will also share how approaching predictive analytics within a research-practitioner partnership helps CEO harness its rich program data to better understand client risk.