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TANF DATA COLLABORATIVE

Pilot Profile: Colorado

The Temporary Assistance for Needy Families (TANF) Data Collaborative Pilot Initiative is a component of the TANF Data Innovation project. The 30-month pilot offered technical assistance and training to support cross-disciplinary teams of staff at eight state and county TANF programs in the routine use of TANF and other administrative data to inform policy and practice.

RESEARCH QUESTIONS. The pilot team at the Colorado Department of Human Services (CDHS) sought to explore whether receiving a supportive payment influenced employment entry for participants within a year after leaving TANF. A supportive payment is a cash payment issued by TANF caseworkers to address any barriers or hardships that are preventing a participant from reaching their goals for self-sufficiency. The pilot offered a foundation for future research into whether supportive payments help families.

The pilot team at CDHS included a mix of staff members with TANF policy, program, data, and evaluation expertise.

DATA LANDSCAPE. The pilot team retrieved data from two statewide administrative data systems. The first, Colorado's **benefit application processing and case management system**, includes eligibility, workforce, demographic, income, and benefit payment information, including any payments provided to address self-sufficiency barriers. It also provides a historical record for each TANF participant, tracked monthly over a period of more than fifteen years. During the period studied by the pilot team (2018-2019), Colorado's TANF cash assistance caseload declined at an annual rate of 10 percent, continuing a trend of declining caseloads that began in 2015. The second system was the Colorado Department of Labor and Employment's **Unemployment Insurance system**, which collects data on quarterly earnings by current and former TANF participants. The team used participants' Social Security numbers to match data from the two data systems.

APPROACH AND RESEARCH METHODS. The pilot team identified a cohort of one-parent families who left the TANF program during the 2018 calendar year. The team first checked the data for missing values and outliers and performed some data cleaning (including imputations and recoding). The team built a logistic regression model to explore the relationships between supportive services and employment. The team identified independent variables based on a review of research literature and its own knowledge of past program outcomes. The variables included the education level of a

PILOT HIGHLIGHTS

The Colorado pilot team was interested in whether providing supportive payments to address employment barriers could increase employment for TANF participants within a year after leaving TANF. The team learned about an approach called propensity score matching to answer this question in a more rigorous way, rather than by simply comparing outcomes for those who received the payments with those who did not. Because of the pilot's findings, the pilot team hopes to expand the use of supportive payments throughout Colorado's TANF program.

parent; the primary employment sector and earnings of the parent during the two years prior to beginning the family's most recent spell of receiving TANF benefits; and the family's size, parent's age, parent's race and ethnicity, age of oldest and youngest child, and county where the family received services in the month when they exited TANF.

The dependent variable was a binary variable (that is, one that has only two values) indicating whether or not the parent entered employment one year after leaving TANF. In the process of building its model, the team discovered evidence of selection bias: there was evidence that the group that received supportive payments was different from the group that did not, and these differences existed before the payments were disbursed. To address this, the team chose a quasi-experimental design, propensity score matching, to compare a treatment group who received supportive payments with a matched comparison group who did not receive supportive payments. The pilot team conducted extensive diagnosis and troubleshooting to ensure a good match across key participant characteristics. In order to improve the quality of the match, the team made several adjustments including (1) switching to *matching with replacement* (so that each comparison group member could be matched to more than one treatment group member if they were the best match), (2) specifying a "*max match*" so that no comparison group member could be matched more than five times, (3) discovering and fixing an issue with *endogeneity* that had been caused by how one of the covariates was coded (a critical assumption of the model is that covariates were defined using data from before supportive payments were received), and (4) limiting the sample to individuals within the *range of common support* (the range of propensity scores in which both treatment and comparison group members were well represented). The team used the MatchIt package in R and conducted an iterative matching process using nearest-neighbor matching.

Colorado TANF Snapshot

State SUPERVISED

County ADMINISTERED

Number of TANF participants (November 2020)[a]

7,685 Adults

22,338 Children

$ 421 Maximum Monthly Earnings Threshold for Family of 3 (July 2020)[b]

$ 508 Monthly Cash Benefit for Family of 3 with No Income (July 2020)[c]

$ 452m TANF and State Maintenance-of-Effort Spending (FY 2020)[d]

(a) Congressional Research Service, *The Temporary Assistance for Needy Families (TANF) Block Grant: Responses to Frequently Asked Questions* (b) Urban Institute, Welfare Rules Database, *Table I.E.3. Standards for Determining Eligibility, July 2020* (c) Urban Institute, Welfare Rules Database, *Table II.A.4. Maximum Monthly Benefit for a Family with No Income, July 2020* (d) Office of Family Assistance, *TANF and MOE Spending and Transfers by Activity, FY 2020*

INITIAL FINDINGS AND NEXT STEPS. Key findings from the Colorado's initial analyses include the following:

- As noted above, the initial regression model revealed evidence of selection bias. Specifically, regression analysis found that those parents having a characteristic that may indicate work readiness—such as higher education levels—are more likely to receive a supportive payment.

- A propensity score model addressed this observable bias and reduced it to statistical insignificance.
- The propensity score analysis found a positive and statistically significant relationship between receiving a supportive payment in the last spell before a participant leaves TANF and two employment outcomes—*entering employment* and *full quarter stable employment*. This suggests that case managers should consider offering supportive payments to participants who have barriers to economic stability or barriers to employment. However, supportive payments did not affect the rate of people re-entering TANF within one year.

> **I think one of the most exciting changes we've made is involving different people in the process of constructing the variables, defining the different levels of the variables . . . All of these decision points that may have been handled just by one person on our team in the past, we've learned through the TDC pilot that it's really beneficial to have more people in the room making those decisions together.**
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> *Evaluator, Division of Economic and Workforce Support*
> *Colorado Department of Human Services*

Looking ahead, the pilot team aims to use its findings to help inform the state's efforts to partner with counties and other interested parties to increase the use of supportive financial payments to families. In addition, the team expects that the pilot's data quality assessment will reinforce efforts to document the issuance of supportive payments more consistently. A likely future research effort will investigate the impact of various supportive payment amounts on employment outcomes. CDHS now is well positioned to use propensity score modeling to address other evaluation questions.

This profile was based primarily on reports and presentations produced by the pilot team at the Colorado Department of Human Services. For more information, contact Megan Kauffmann, Division Evaluator, Employment and Benefits Division (megan.kauffmann@state.co.us). The TANF Data Innovation (TDI) Project Team – which includes MDRC (lead), Chapin Hall at the University of Chicago, the Coleridge Initiative, and Actionable Intelligence for Social Policy at the University of Pennsylvania – provided technical assistance and training. Erika Lundquist of MDRC was the Colorado TDC pilot coach. MDRC edited this document and it was designed by Public Strategies.

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