



U.S. DEPARTMENT OF AGRICULTURE



# Supplemental Nutrition Assistance Program (SNAP) Employment and Training Rapid Cycle Evaluation: Colorado

Final Report

November 2024

## Nondiscrimination Statement

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: [program.intake@usda.gov](mailto:program.intake@usda.gov).

USDA is an equal opportunity provider, employer, and lender.

# Supplemental Nutrition Assistance Program (SNAP) Employment and Training Rapid Cycle Evaluation: Colorado

Final report

**November 2024**

Tracy Vericker, Emily Metallic, Leah Shiferaw, Gretchen Rowe, James Mabli, Julie Hartnack, Daniel Friend

---

**Submitted to:**

Food and Nutrition Service  
U.S. Department of Agriculture  
1320 Braddock Pl.  
Alexandria, VA 22314  
Project Officer: Anna Vaudin  
Contract Number: 47QRAA18D00BQ

**Submitted by:**

Mathematica  
955 Massachusetts Avenue, Suite 801  
Cambridge, MA 02139  
Phone: 617.301.8997  
Project Director: James Mabli  
Reference Number: 51130

**Suggested citation**

Vericker, Tracy, Emily Metallic, Leah Shiferaw, Gretchen Rowe, James Mabli, Julie Hartnack, Daniel Friend (2024). Supplemental Nutrition Assistance Program Employment and Training Rapid Cycle Evaluation: Colorado; Final Report, Prepared by Mathematica, Contract No. 47QRAA18D00BQ. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support, Project Officer: Anna Vaudin.

**Disclaimer**

This research was supported by the U.S. Department of Agriculture, Food and Nutrition Service. The findings and conclusions in this publication are those of the author(s) and should not be construed as to represent any official USDA or U.S. Government determination or policy.

## Acknowledgements

This report was prepared for the U.S. Department of Agriculture, Food and Nutrition Service (FNS) by Mathematica. It would not have been possible without the contributions of many individuals and organizations whose guidance, information, and efforts were critical to the Supplemental Nutrition Assistance Program Employment and Training Rapid Cycle Evaluation (SNAP E&T RCE) and the successful completion of this report.

The authors wish to thank our FNS project officer, Anna Vaudin, for her thoughtful guidance and oversight over the course of the study. We are also grateful for the time, assistance, and review provided by Anita Singh, Marcie Foster, Kathryn Law, and other staff at the FNS Office of Policy Support (OPS) and Office of Employment and Training (OET).

We were fortunate to have a large and collaborative team of Mathematica staff. We are grateful for the efforts of the report reviewers and editors, data collection and analysis teams, and the hard work and additional support from research assistants and administrative assistants. A special thanks to Mathematica's Kim McDonald and Eileen Bandel for administration of the SNAP participant survey; Pamela Holcomb and Peter Schochet for their guidance and input on the design, analysis, and reporting for the study; Jenn Kali and Barbara Carlson for constructing survey weights; Jeremy Page, Kerry Schellenberger, Adam Korte, Jeff Harrington, and Sam Bonelli for programming and data analysis; Sophia Navarro and Abby Roche for analytic support; Asa Wild for developing graphics; and Jackie Drummond for production support.

Finally, this study and the set of final reports would not have been possible without the staff in Colorado who volunteered their time and effort to work collaboratively with us in designing and implementing the interventions and who supported the research over the last three years. We would like to thank Robert Thompson for his leadership and cooperation, as well as the many other staff and SNAP participants who shared their views and experiences with the SNAP E&T RCE interventions and the SNAP E&T program.

# Contents

Nondiscrimination Statement .....	ii
Acknowledgements .....	iv
Executive Summary .....	1
I. Introduction .....	2
II. Colorado SNAP E&T Program .....	3
III. Overview of Intervention .....	4
A. Intervention development .....	4
B. Intervention overview .....	5
C. Evaluation design .....	7
D. Characteristics of individuals in the analysis .....	7
IV. Findings .....	8
A. Impact evaluation .....	8
B. Implementation evaluation .....	8
V. Lessons Learned .....	12
A. What worked and can be built upon? .....	12
B. Changes needed for replicating the intervention and expanding its scale .....	13
C. Resources participating counties would need to continue the changes made through the intervention .....	14
Appendix A. SNAP E&T RCE Intervention Text Messages, Email Messages, and Postcards .....	A-1
Appendix B. Supplemental table .....	B-1

## Exhibits

I.1.	Rapid cycle evaluation.....	2
III.1.	Learn, Innovate, and Improve (LI2) model.....	4
III.2.	Intervention flow diagram .....	6
III.3.	Baseline characteristics of individuals in the analysis.....	7
IV.1.	Percentage of individuals who enrolled in EF, by research group .....	8
A.1.	SNAP E&T RCE intervention emails for Denver, Broomfield and Montrose counties.....	A-3
A.2.	SNAP E&T RCE intervention postcards for Montrose County .....	A-5

## Tables

A.1.	Text messages for Broomfield and Montrose counties .....	A-1
A.2.	Text messages for Denver County.....	A-2
B.1.	Impacts of behaviorally informed outreach on the percentage of individuals enrolled in SNAP E&T.....	B-1

## Executive Summary

The Supplemental Nutrition Assistance Program (SNAP) provides food benefits to eligible individuals with low incomes. For some, it also provides employment and training (E&T) services to improve participants' economic self-sufficiency. This report describes the Food and Nutrition Services' use of rapid cycle evaluation to test new, low-cost, small-scale interventions in SNAP E&T operations in three Colorado counties: Broomfield, Denver, and Montrose. Colorado operates a statewide voluntary SNAP E&T program called Employment First (EF) that serves work registrants—SNAP participants who have not met any Federal exemptions from SNAP work requirements and are therefore required to register for work and meet general work requirements. The Colorado Department of Human Services (CDHS), which oversees the administration of SNAP benefits in the State, provides oversight and technical assistance to counties that administer their own EF program.

### **Intervention**

The intervention launched in November 2023 and concluded in April 2024. CDHS and the three county teams sought to strengthen outreach messaging within their EF programs with the goal of increasing enrollment. With support from Mathematica, they developed an intervention that consisted of (1) sending SNAP participants a series of messages with behavioral nudges to encourage enrollment in EF and (2) testing outreach methods, such as text messages, emails, and postcards, to determine which was most effective. All three counties tested text and email messages, but only Montrose County tested postcards. Mathematica conducted an evaluation that included a randomized controlled trial to estimate the intervention's impact on SNAP E&T enrollment, and an assessment of how the intervention was implemented, the challenges encountered and solutions to address them, and participants' experiences.

### **Outcomes**

Thirty-three percent of SNAP participants who received a text or email contacted EF in response to the messages. Individuals who received text messages alone were 20 percent more likely to enroll in EF than those who did not; those who received a text and email message were 60 percent more likely to enroll than those who received neither type of message. Increases in enrollment from the combined text and email messaging were higher among households with income less than 50 percent of the Federal poverty level than among higher-income households.

### **Factors that facilitated or hindered implementation**

County staff found the intervention design, which made use of automated messaging, simple and easy to implement. However, counties lacked sufficient capacity to keep pace with responses to the texts and the messaging platform used to send messages created technical challenges.

### **Lessons learned**

The automated outreach was helpful in promoting awareness of EF. When considering similar efforts in the future, however, it would be useful to improve the targeting of the SNAP participants who receive outreach by focusing on those who are the best fit for the program, inform SNAP participants during eligibility interviews about the possibility of receiving messages, ensure sufficient staff capacity to follow up with interested SNAP participants, include a link to the EF website in outreach messages, and collect several sources of telephone number and email information to mitigate challenges with contacting interested SNAP participants.

## I. Introduction

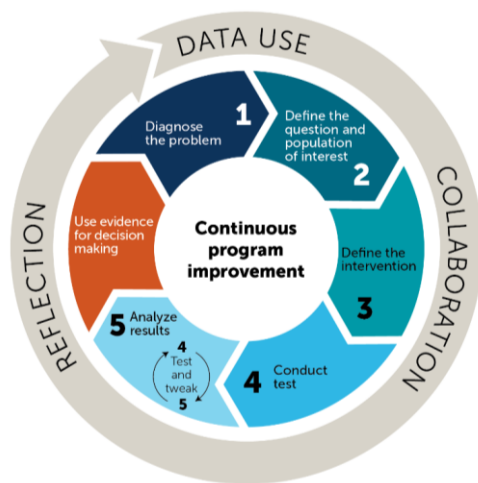
The Supplemental Nutrition Assistance Program (SNAP) is the cornerstone of the nation’s nutrition safety net and provides food benefits to eligible individuals with low incomes who are experiencing economic hardship. In addition to providing food assistance, SNAP provides work supports through employment and training (E&T) programs that help SNAP participants gain skills, training, or work experience to increase their ability to obtain regular employment. State agencies are required to operate an E&T program and have considerable flexibility to determine the services they offer and populations they serve. SNAP participants use these programs to meet work requirements, if applicable, and retain their benefits.

One of the U.S. Department of Agriculture’s Food and Nutrition Service’s (FNS) strategic goals and priorities is to ensure the quality of the services and activities offered through SNAP E&T programs. Over the last 10 years, FNS has invested considerable resources and provided technical assistance to help States build capacity, create more robust services, and increase engagement in their programs. A typical State, however, has limited time and resources to make substantial changes to its business process, service delivery approach, or service options given their existing responsibilities of Federal compliance operations, running the program, monitoring providers, and growing the program.

### Study objectives

1. Describe how RCEs can be used to improve SNAP E&T operations, service delivery, and program outcomes
2. Design and implement RCEs to obtain impact estimates of small-scale changes on SNAP E&T outcomes for each intervention
3. Conduct an implementation evaluation of the small-scale changes and RCEs in each intervention
4. Assess the scalability of the small-scale changes to SNAP E&T operations and service delivery to other local, State, or national policies and programs
5. Determine and document the costs associated with implementing and maintaining these small-scale changes ▲

**Exhibit I.1.** Rapid cycle evaluation



FNS contracted with Mathematica to provide States the opportunity to test low-cost, small-scale interventions in SNAP E&T operations or service delivery using rapid cycle evaluation (RCE). RCE is a powerful method for improving programs’ efficiency and effectiveness. It follows a series of steps to identify challenges and define and test potential solutions (Exhibit I.1).

FNS selected Colorado, four other States, and the District of Columbia to operate interventions, with the aim of improving SNAP E&T programs and identifying how to strengthen the technical assistance it provides to States. From 2021 to 2024, Mathematica collaborated with the intervention sites to identify the major challenges their SNAP E&T programs faced, which generally involved recruitment and outreach or SNAP participant

engagement and receipt of services, and to create and test solutions to them.



RCE addressed five main study objectives (see Study objectives box). This report describes the RCE process, intervention design and implementation, and findings from the small-scale changes Colorado made to its SNAP E&T program.<sup>1</sup>

## II. Colorado SNAP E&T Program

Colorado operates a statewide voluntary SNAP E&T program called Employment First (EF).<sup>2</sup> EF serves work registrants—SNAP participants who have not met any Federal exemptions from SNAP work requirements and are therefore required to register for work and meet general work requirements. Work registrants include able-bodied adults without dependents (ABAWDs) and non-ABAWDs.<sup>3</sup> The Colorado Department of Human Services (CDHS), which oversees the administration of SNAP benefits in the State, provides oversight and technical assistance to counties that administer their own EF program. Three Colorado counties participated in the intervention: Broomfield, Denver, and Montrose.<sup>4</sup> These three counties provide E&T services and establish third-party partnerships with entities such as community-based organizations, workforce development providers, and community colleges to deliver EF services. In all three counties, SNAP eligibility staff refer work registrants to EF. The counties also have reverse referrals—in which providers identify individuals in their other (non-EF) programs who are already participating in SNAP or may be eligible for SNAP—but this is uncommon. When a client is referred to or applies to EF, an EF case manager in the county provides an initial assessment and ongoing case management and makes referrals to employment and training-related components, depending on the client’s needs and interests identified through the assessment. The counties in the intervention offer a different set of components depending on the resources available in their county.



### Colorado SNAP E&T program

- **Area served:** Statewide
- **Target population:** SNAP participants
- **Number served by E&T:** 588 in the three counties participating in the project (FY 2021)
- **Referral type:** Direct and reverse referrals
- **Providers:** County SNAP agencies (in-house services), with referrals to partners ▲

---

<sup>1</sup> Reports for the other sites in the project are available at <https://www.fns.usda.gov/research-analysis>.

<sup>2</sup> Before 2020, Colorado operated a program in which some areas of the State had mandatory programs and others had voluntary programs.

<sup>3</sup> ABAWDs are work registrants who are ages 18 to 52, able to work, and do not have any dependents. (The Fiscal Responsibility Act of 2023 temporarily increased the age limit from 49 to 52 in October 2023 and to 54 again on October 1, 2024; these changes end on October 1, 2030.) ABAWDs must meet both the general work requirement and an additional work requirement to receive SNAP benefits for more than three months in three years.

<sup>4</sup> Due to workload constraints, Larimer County left the project before the intervention launched.

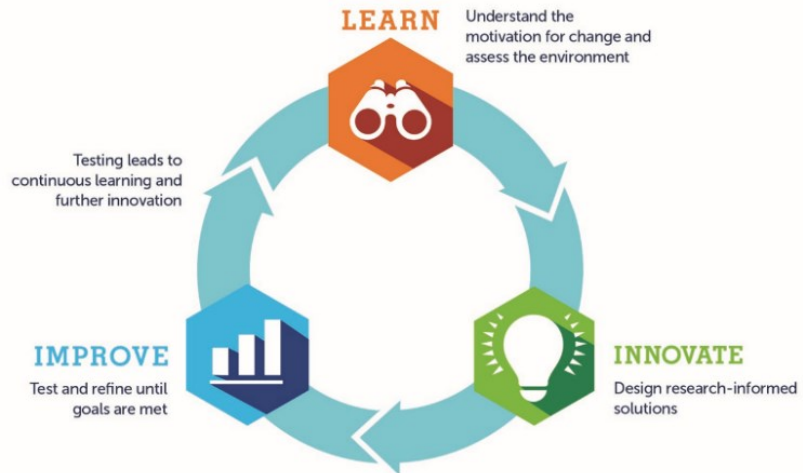
### III. Overview of Intervention

#### A. Intervention development

In May 2021, Mathematica began working with CDHS and three counties (Broomfield, Denver, and Montrose) to identify challenges their programs faced and to develop potential solutions to test. Broomfield and Denver<sup>5</sup> counties cover urban and suburban areas, while Montrose County is rural.

The Learn, Innovate, and Improve (LI<sup>2</sup>) framework was used to guide Colorado through the process of identifying their challenges and solutions (Exhibit III.1). This was a collaborative, co-creative partnership between the Mathematica team and CDHS and county staff. The Learn phase took place between May and August 2021, with several brainstorming and interactive activities that relied on human-centered design principles.

**Exhibit III.1.** Learn, Innovate, and Improve (LI<sup>2</sup>) model



The human-centered design activities included rose-bud-thorn (having individuals name aspects of the program that were positive, areas for growth, or challenges); affinity clustering (sorting named aspects into categories); and problem tree analysis (working through the root causes and effects of challenges).

In September 2021, CDHS transitioned into the Innovate phase. Mathematica worked with CDHS and county staff to identify and develop potential solutions to key challenges and to detail the needed changes. Once these decisions were made, CDHS and Mathematica co-designed the intervention and the evaluation of the intervention with State and county staff. The evaluation included a randomized controlled trial (RCT) to assess intervention impacts and an implementation study to examine the intervention's design, operations, staff and SNAP participant experiences, and replicability. CDHS and Mathematica conducted a road test of the intervention before its full launch and communicated with county program staff and SNAP participants receiving outreach messages to assess if the intervention process was working from their perspective. Some small adjustments were made to the content of the Denver County text messages after speaking with staff and SNAP participants about how well it was working. The intervention was launched in November 2023 and concluded in April 2024.

<sup>5</sup> Denver County's SNAP E&T program is called SNAP to Success (StS). We refer to the program as EF for simplicity.

## B. Intervention overview

The CDHS and county teams identified low enrollment in EF due to recruiting challenges as the primary problem to address. These challenges centered around the need to strengthen outreach messaging, streamline the level of effort required for outreach messaging by EF case managers, and be responsive to communication challenges faced in Montrose County related to poor cell and Internet service and limited technological literacy among some SNAP participants.

The intervention developed to address these challenges aimed to (1) determine whether an enhanced outreach effort is useful in increasing EF enrollment and (2) assess which form of communication is most effective. It had two components:

1. Sending individuals a series of messages with behavioral nudges to encourage them to enroll in EF; and
2. Testing a variety of outreach methods—text messages, emails, and postcards.

One treatment group received a series of three text messages and another treatment group simultaneously received three text messages and email outreach. In Montrose County, where participants often requested communication via mail, one treatment group only received postcards.

The intervention included all work registrants and was not limited to those referred by eligibility staff to the EF program. Intervention members in Denver and Broomfield counties were randomly assigned to one of three groups, and intervention members in Montrose County were randomly assigned to one of four groups (see Intervention groups box). CDHS prioritized the most recent enrollments or recertifications first.

### Behavioral nudge concepts

- **Mere exposure strategy:** Reminding individuals what services are available through EF
- **Endowment effect:** Reminding SNAP participants that they are eligible to receive free services through EF
- **Loss aversion:** Reminding clients that they could miss out in their chance to receive EF services if they do not engage

### Intervention groups

1. **Control group—standard outreach:** If referred by an eligibility staff member in Broomfield or Montrose counties, an EF case manager conducted an unsolicited call, and the individual was invited to an orientation meeting about the EF program. If referred by an eligibility staff member in Denver County, a member of the Administrative Support team<sup>6</sup> called the SNAP participant and scheduled an appointment with an EF case manager. In any county, if a SNAP participant was not referred to the EF program by eligibility staff, they would not receive any outreach about the EF program
2. **Treatment group—text message only:** Received a series of three text messages using behaviorally informed nudges requesting SNAP participants reply directly to the text to receive a call from EF staff for more information
3. **Treatment group—text and email messages:** Received a series of three text messages and emails requesting SNAP participants reply directly to the text or email to receive a call from EF staff for more information. The text messages used behaviorally informed nudges. The text messages and emails were sent concurrently
4. **Treatment group—postcard only (Montrose County only):** Received one postcard encouraging recipients to call the EF program or visit the EF office in-person ▲

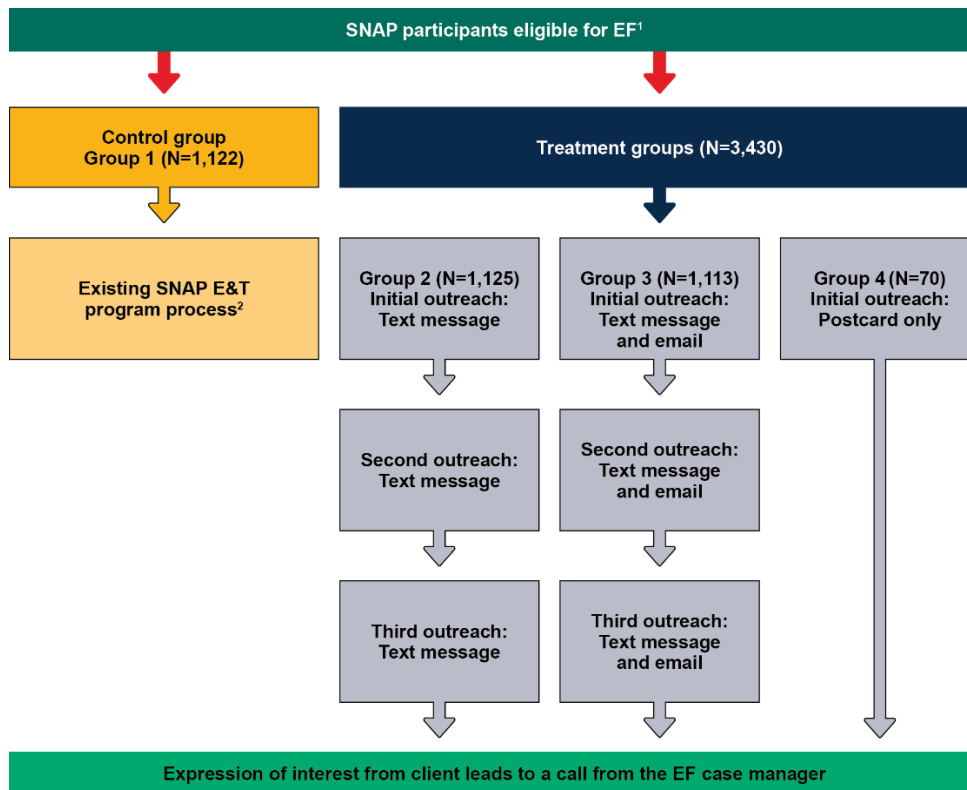
<sup>6</sup> The Administrative Support team in Denver County, comprised of Administrative Support Assistants (ASAs), aid eligibility staff, and EF case managers, was responsible for tasks such as scheduling appointments and making initial calls to SNAP participants. Given the size of caseloads in the State's second most populous county, the ASAs helped eligibility staff and EF case managers oversee their caseloads.

Intervention outreach materials were developed in both English and Spanish (Appendix A). Texts, emails, and postcards were sent in Spanish to individuals in the intervention who indicated their primary language was Spanish in the SNAP administrative data.

The initial design intended to send all outreach messages one week apart. However, due to challenges with the messaging platform, text messages and emails were not sent on a consistent cadence. On average, messages were sent eight days apart.

The intervention procedures were conducted by Mathematica, CDHS, and county EF staff. CDHS shared a weekly data file with Mathematica that included a list of newly enrolled SNAP participants. Mathematica sampled participants and sent outreach messages, either via the messaging platform for text messages and emails or by mail for the postcards. Mathematica monitored responses to text messages and emails, sorting them into a spreadsheet they shared with county staff via secure file transfer each week. County staff downloaded the weekly files and called the list of SNAP participants in the weekly file who had expressed interest in receiving a call to learn more about EF. Exhibit III.2 provides an overview of the intervention.

**Exhibit III.2.** Intervention flow diagram



Note: The numbers of individuals presented in the intervention flow diagram for Groups 1, 2 and 3 include all three counties, but includes only Montrose County for Group 4. Red arrows indicate points of random assignment.

<sup>1</sup>SNAP participants eligible for Employment First (EF) include existing non- able-bodied adults without dependents (ABAWDs) as of 10/24/23 and new ABAWDs or non-ABAWDs after 10/24/23. Most recent enrollments or recertifications were sampled first.

<sup>2</sup>In Denver County, once a referral is made, a call is scheduled within one week. If the participant misses the meeting, there is no further outreach. In Montrose and Broomfield counties, once staff identify a potentially eligible EF participant, a cold call is made from an EF case manager within one week.

### C. Evaluation design

Mathematica conducted an RCT to estimate the impact of the intervention components on EF enrollment and responsiveness to text and email outreach. The experimental design answers the following research questions:

- What package of behaviorally informed marketing outreach is most effective in increasing enrollment in SNAP E&T within three months of receiving the first outreach, compared with existing marketing practices?
- What mode of outreach (text, text and email, or postcard) is most effective in increasing enrollment?

The evaluation also included an implementation study that assessed the intervention’s design and administration, the challenges encountered and solutions to address them, and SNAP participants’ experience with the intervention.

Mathematica collected and analyzed several types of data to support the evaluation:

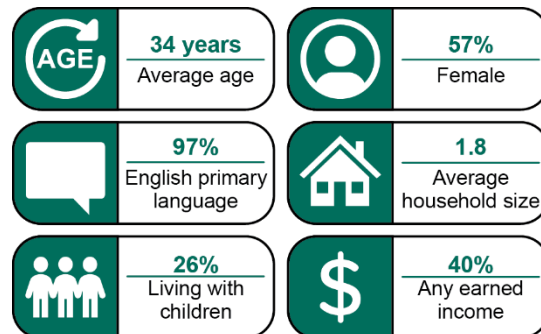
1. **SNAP administrative data** describe the demographic and economic characteristics of individuals at the time of or just before random assignment.
2. **EF outcome data and intervention tracking data** measure outcomes, including EF enrollment through April 2024, and responses to text and email outreach.
3. **SNAP E&T RCE participant survey data** describe SNAP participant experiences with the intervention and EF services. Mathematica collected survey data for a stratified random sample of individuals in both the intervention and control groups.
4. **Implementation data** describe staff and SNAP participant experiences with the interventions, lessons learned, and factors that facilitated or hindered successful implementation. Mathematica collected implementation data through staff interviews, SNAP participant focus groups, and SNAP participant in-depth interviews.

Additional detail on the data collected and evaluation methodology is available in the Technical Supplement to the SNAP E&T RCE final reports.

### D. Characteristics of individuals in the analysis

SNAP administrative data from Colorado provided demographic and economic characteristics of SNAP participants just before random assignment. Exhibit III.3 displays the baseline characteristics of the 3,435 treatment and control group members in the analysis. More than half of the individuals in the intervention were female. The average age of individuals in the intervention was 34; 20 percent were between the ages of 18 and 24, 72 percent were between the ages of 25 and 49, and 8 percent were between the ages of 50 and 59. The primary language of nearly all individuals was English, with only 3 percent

**Exhibit III.3.** Baseline characteristics of individuals in the analysis



Source: SNAP administrative data.

Note: See Technical Supplement for additional characteristics.

reporting Spanish as their primary language. The average household size was 1.8, and about one-quarter (26 percent) of individuals in the intervention lived in a household with children. Forty percent of individuals lived in households that had earned income such as wages and nearly one-fifth had unearned income such as unemployment benefits, cash assistance, or child or spousal support payments (Technical Supplement Table A.1).

## IV. Findings

### A. Impact evaluation

Both text messages alone and text messages supplemented with email messages increased the percentage of individuals who enrolled in EF.

Individuals who received text messages alone were more likely to enroll in EF than those who did not (0.6 versus 0.5 percent; Exhibit IV.1 and Appendix Table B.1). This is a 20 percent increase in enrollment. Enrollment increased further with the addition of email messages to text messages (0.8 versus 0.5 percent), which represents a 60 percent increase in enrollment. These impacts are promising despite not being statistically significant because of very low enrollment rates in the control group.<sup>7</sup>

No individuals in the postcard treatment group from Montrose County in the evaluation enrolled in EF over the observation window for the project.

Impacts of the combined text and email messaging were higher among those who spoke primarily English versus another language, and among those with household income less than 50 percent of the Federal poverty level (Technical Supplement Table C.1b).

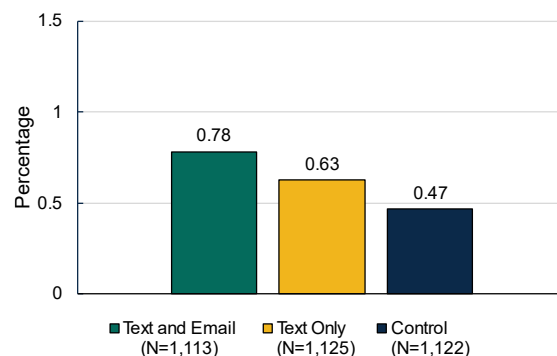
### B. Implementation evaluation

The implementation evaluation of the intervention assessed the intervention's design and administration, the challenges encountered and solutions to address them, and SNAP participants' experience.

#### 1. Factors that facilitated or hindered successful implementation

The intervention was designed to minimize burden on county staff. The automated messaging design was simple and easy for EF staff in counties with sufficient capacity to carry out. The primary responsibilities of county staff were to download weekly reports with a list of SNAP participants who responded to the

**Exhibit IV.1.** Percentage of individuals who enrolled in EF, by research group



Source: SNAP administrative data.

Note: Impacts not statistically significant from zero at the 0.10 level.

<sup>7</sup> The intervention design assumed enrollment rates in the control group of around 30 percent without having access to county data. Because actual enrollment rates were less than 1 percent, the intervention design was substantially underpowered and thus limited in its ability to detect statistically significant effects.

intervention messages requesting to be contacted and call the individuals listed in the weekly report. Denver and Montrose counties had sufficient staff to manage the incoming responses from individuals in the intervention who wanted to be contacted to learn more about the program. They also had time to attend trainings and office hours with the Mathematica-CDHS team.

Broomfield County, however, did not have sufficient capacity to attend trainings and office hours and carry out intervention activities because of staff turnover during the intervention. Broomfield County staff consisted of a mix of experienced and inexperienced staff who had significant workloads outside of the intervention. This was especially acute for the experienced EF manager, who had limited availability for the intervention because of their responsibilities across multiple programs beyond EF.

Even among staff who reported that the intervention design minimized burden on them, the strategy to conduct outreach to all eligible SNAP participants introduced new obstacles. Some outreach messages were sent to individuals in the intervention who were already enrolled in or had a call scheduled with the EF program, which created confusion. Other messages were sent to SNAP participants who had previously been referred to the EF program but had been found not to be a good fit. In both cases, staff had to field calls from individuals, some of whom were concerned that they needed to take action to keep their SNAP benefits. Staff therefore had to explain the purpose of the text messages to callers, and some staff reported frustration with the intervention design and said it added to their already-heavy workload. Some staff said they would have preferred if the individuals included in the intervention were limited to those who were referred to EF but had not yet engaged with it. However, that was not possible because that information was available only in administrative case notes that could not readily be included in the data extract from CDHS.

The intervention faced another implementation challenge with the operation of the messaging platform used to deliver text messages and emails, which affected the timing of the delivery of text messages to SNAP participants. Problems with text message delivery stalled outreach from December 2023 to January 2024 and prevented the messages from being sent on a consistent, weekly basis. The challenges with the messaging platform occurred due to new Federal regulations for texting introduced in September 2023 that required all Application-to-Person texting efforts to be registered and approved,<sup>8</sup> with the level of approval granted determining the number and speed of text message transmissions. The process to request approval was opaque, standards were exacting but poorly defined, and multiple rounds of review took several weeks to complete. The messaging platform CDHS had chosen was compliant with Health Insurance Portability and Accountability Act (HIPAA) protection of personally identifiable health information, which CDHS considers SNAP participant data to include. Other texting platforms considered in the design stage were not HIPAA-compliant. Because of the challenges with text message transmission, text messages were not sent on the weekly cadence as intended.

---

<sup>8</sup> Application-to-Person messaging (A2P) is any kind of message traffic in which a person is receiving messages from an application rather than another individual. A2P message includes, but is not limited to, marketing communications, appointment reminders, chatbots, notifications, and one-time passwords (OTPs) or PIN codes. Carriers in the US and Canada have a strict interpretation of A2P, and consider all messaging that passes through messaging application platforms to be A2P. <https://www.twilio.com/docs/glossary/what-a2p-sms-application-person-messaging>

A third implementation challenge was that individuals in the intervention received different levels of information about EF from eligibility staff across counties. EF staff in counties where they were not co-located with eligibility staff reported concerns about their eligibility colleagues' understanding of EF services and the quality of information about EF that eligibility staff shared with SNAP participants. EF staff

//////  
 "I believe I had a text come through and I thought maybe they had the wrong number or something, because I had never heard of that program."

— In-depth interview respondent

in the two counties that were co-located with eligibility staff did not stress this concern as much as the county where EF staff were not co-located with eligibility workers. In co-located settings, eligibility staff are in-person with EF staff and have more regular contact with them. Co-located eligibility workers receive information about EF and ask questions of EF staff more readily because they have

stronger working relationships than the non-co-located county. This could have impacted the level of prior knowledge SNAP participants in the intervention treatment group had about EF prior to receiving the intervention messages.

## 2. SNAP participant experience

Individuals in the treatment group shared their experiences of the intervention through a survey, focus groups, and in-depth interviews. Individuals in focus groups and in-depth interviews shared a number of similar impressions of the intervention messaging and SNAP E&T.

The intervention improved awareness of the EF program. According to survey data, 33 percent of SNAP participants in the treatment group contacted EF in response to the messages. This is an important outcome, with 35 percent of those who were enrolled in the treatment group reporting that they had heard of the EF program before the intervention. Most of those who responded to messages (72 percent) connected with EF staff. Among those who recalled receiving an email or text outreach, the majority (75 percent) recognized that the messages were from the EF program and felt the messages helped them understand the next steps they should take to participate in the program (73 percent). These survey findings were echoed by one focus group member, who described the messages as "common sense" and "self-explanatory." A majority of the treatment group survey respondents (64 percent) also believed they were contacted by the program just the right amount.

//////  
 "I have so many spam emails that my mailbox is more of just, what's the word I'm looking for? A necessity in terms of just signing up for stuff, but text is more in my face. I'm able to respond to it. It's much quicker. It's usually pretty straightforward, not this whole long laundry list of useless information and pictures and stuff like that. It conveys the information I need to know."

— In-depth interview respondent

Despite these successes, results suggest several areas for improvement. According to the survey results, many treatment group members did not recall receiving the intervention messages or had difficulty recalling the content of the messages. Among individuals in the treatment group who were sent either



text or email outreach, 48 percent recalled receiving a text message and 43 percent recalled receiving an email encouraging them to enroll in SNAP E&T. One focus group member explained that they could have missed the text message because they ignore messages from phone numbers they are not familiar with, saying, "I don't really look at my text messages that much because I get a lot of messages from random things." Other individuals in the treatment group recalled that they received a message about EF but could not remember the content of the message.

Survey results indicated that about one-quarter (26 percent) of individuals in the treatment group said they did not respond to messages because they thought the messages were spam. Several focus group members proposed changes to the text messages that would include more information and build trust in the messages. For instance, they would have appreciated the inclusion of a link to the EF website in the text messages to learn more about the program and services it offered. Others would have liked information about whether child care support was provided or if non-citizens were eligible for EF.

According to the survey, nearly 30 percent of individuals in the treatment group reported they did not receive follow up calls from program staff after expressing interest in EF. This caused confusion and frustration for these individuals. One in-depth interview respondent said they had a clear understanding of EF through the text messages and were interested in learning more. However, they never received a follow-up call as promised and began to doubt the program, even though the services would have proved useful in their difficult financial situation: "But then when I responded, it wasn't any, further correspondence or communication. So, yeah, I was kind of like, okay, is this real or not? ... If I saw the fact that these guys are helping, I would jump on that because right now we're behind our rent. So, I'd have been like, hey, hello, hello."

The survey results suggest that individuals in the treatment group did not indicate a clear preference between text messages and emails. Forty-one percent preferred text messages and 40 percent preferred email. The remaining respondents preferred mail (9 percent), phone call (8 percent) or other means of outreach (2 percent). Individuals reported in focus groups that they preferred email because having a message saved in their inbox allowed them to review it at a later time, while others preferred text messages because of their convenience and brevity.

Individuals in the treatment group shared a variety of reasons for not engaging with EF. Thirty-six percent of survey respondents who had received EF services in the last three months but were not currently receiving EF services reported they stopped services because they found a job. Among respondents who were not enrolled in EF and had not recently received services, 36 percent reported they had a job. In the focus group, treatment members reported the messages made the program seem like it was for job seekers, and because they had a job, they did not think the program could help them. They wondered whether EF was a good fit for those who were interested in changing careers or advancing their professional skillset, which would have been more relevant for their situations. Some individuals in the focus group also shared that they wondered whether participating in the program would allow them flexibility in their job choice, or whether the program would force them to take a job in which they were not interested. According to the survey results, among those not recently receiving



"I did reply yes every time... It's not like I missed a call, or maybe I did, but they didn't leave a message. I don't know. Yeah. So that was a little bit frustrating."

— In-depth interview respondent

services, physical and mental health challenges were other barriers to participating in EF (27 percent).

When individuals in the treatment group who had never received services were asked which offerings would make them likely or much more likely to participate in EF, the most common survey response was more online training or opportunities to meet with their EF case manager (70 percent), followed by more support with career planning or job placement (66 percent), more convenient training locations and times (64 percent), and additional support services (61 percent). More than half (58 percent) reported that additional staff training and availability would increase their likelihood of participating in services. Nearly half (47 percent) said that having more SNAP E&T program staff who look like them or speak their preferred language would increase their likelihood of participating (see Technical Supplement for additional survey findings).

## V. Lessons Learned

The goal of the evaluation was to assess the feasibility, effectiveness, and sustainability of a behaviorally informed text message outreach strategy targeting work registrants in three Colorado counties. The following passages describe several aspects of the intervention that worked well and could be built upon; changes that CDHS and Colorado counties could make for future text, email, and postcard outreach; and resources needed to continue or to scale up the text messaging program.

### A. What worked and can be built upon?

Several aspects of the intervention demonstrated that automated outreach to SNAP participants was effective and worth considering for future use. The automated outreach was helpful in promoting awareness of EF. Many SNAP participants reported that they had not heard of EF before receiving the outreach messages, so the messages were successful in informing individuals in the treatment group of the services available to them. Given the limited number and capacity of staff, automating the outreach communication was beneficial because sending the messages did not add to their workload; the additional work was limited to responding to SNAP participants' expressions of interest.

Although there was no increase in enrollment among treatment members who received postcards, qualitative data collected from staff and SNAP participants about the postcards was positive. Staff in rural Montrose County thought postcards were a good option for reaching SNAP participants who do not have working phone or internet service, reliable email contact information, or are not tech savvy. For participants who live in areas so rural that they do not have mail service, they can receive the postcards at their PO boxes. Staff thought postcards were helpful as another layer of communication about EF to which SNAP participants could refer. Two focus group members from the treatment group said the physical aspect of postcards was beneficial and that they provided an incentive to call and ask questions about the program. However, staff noted the limitations of postcards because several were returned due to an invalid address. They said participants sometimes live with family members and can only stay with them for a limited period of time before moving to another housing situation, or they rent month to month, and thus change their address frequently.

There was an unanticipated but positive secondary effect from the intervention. The outreach messages allowed case workers to be in touch with SNAP participants they otherwise would not have spoken with who needed support with their SNAP case. Several EF staff members shared that some individuals in the

intervention who expressed interest in receiving a call to learn more either were not interested in EF after learning about it or were not a good fit for the program. Nonetheless, the staff said the conversations with these individuals were helpful because they could update their case files with information like changes in employment or answer questions individuals had about their SNAP case.

## **B. Changes needed for replicating the intervention and expanding its scale**

Several lessons learned from the intervention will be helpful when considering similar efforts in the future, including further targeting of the SNAP participants who receive outreach, ensuring sufficient staff capacity to follow up with interested SNAP participants, including a link to the EF website in outreach text messages, informing SNAP participants during eligibility interviews about the possibility of receiving messages, and collecting several sources of contact information from SNAP participants. Future efforts should consider whether outreach should be sent to SNAP participants who case workers already determined are not a good fit for the program. While staff noted that the outreach messages were a helpful touchpoint for SNAP participants who needed support with their case, even if they ultimately did not enroll in EF, the inclusion of SNAP participants who did not need to receive the outreach messages was a primary challenge that the county staff implementing the intervention highlighted. This information about prior screening for EF enrollment was available in case notes but was not readily available to staff. Including a field containing this information in an integrated or shared data system would minimize this challenge.

Additionally, counties should have a team large enough to be responsive to and contact all SNAP participants who reach out. Alternatively, messaging could be staggered to accommodate staffing constraints. In either case, messages to participants should indicate when they should expect to hear from EF staff. Staff capacity varied by county, with two counties reporting an ability to keep up with the contact lists and another struggling to do so given their limited capacity and staffing challenges. To successfully implement the outreach efforts, county teams would need to ensure they have sufficient capacity to conduct the follow up calls. In addition, in outreach messages, SNAP participants should be notified when they should expect to be contacted by staff. Hiring additional staff or calibrating the scale of the outreach effort to fit the capacity of the existing team and regularly re-evaluating how their current capacity relates to the scale of the outreach effort would help to address this challenge.

Contact efforts should include the SNAP E&T website in the text message to provide more information and to legitimize the text message. SNAP participants suggested that including a link to the EF website in the intervention text messages would have allowed individuals to learn more about the program on their own time before requesting a phone call. This also would legitimize the texts and mitigate concerns that the message was spam. Another method to improve legitimacy would be to inform participants during eligibility interviews that they may receive a text message or email about EF.

Finally, collecting several modes of contact from individuals, including primary and secondary phone numbers and email addresses, could help mitigate challenges with contacting interested SNAP

participants<sup>9</sup>. Reaching SNAP participants continued to be difficult, even among those who responded to outreach messages and said they were interested in EF. County staff reported that individuals in the intervention who expressed interest in receiving a call about EF often did not answer when they called to follow up on the individuals' expressed interest. Staff left voicemails when possible, but often were unable to make contact with these individuals. Conversely, several individuals in the intervention reported they did not receive phone calls from staff following up on their expressed interest. Existing data do not reveal what percentage of calls went unanswered by individuals in the intervention and what percentage of calls the county staff did not make, but it is clear that making contact proved to be a challenge.

### **C. Resources participating counties would need to continue the changes made through the intervention**

Implementing automated communication about EF in the future in Colorado will require additional resources, including investment in a HIPAA-compliant messaging platform and enhanced training on EF services for eligibility staff. For instance, CDHS would need to invest funds in continued use of the messaging platform used for the intervention, invest staff time to identify an alternative HIPAA-compliant platform, or develop an internal system with the needed functionality. They would also need to plan for staff resources for deploying and monitoring the system once it has been purchased or developed. Messaging platforms other than the one selected for the intervention should be considered for future text outreach. CDHS would likely experience significant challenges contracting with and operating the messaging platform used for the intervention under its current technological functionality. Although the messaging platform ultimately delivered text messages and emails, this required extensive work to troubleshoot the campaign registration and resulting technical challenges and to engage messaging platform staff in supporting the deployment effort. CDHS's HIPAA compliance requirement introduces a challenge in identifying a messaging platform, as many messaging platforms cannot ensure HIPAA compliance.

Additionally, enhanced training for eligibility staff on EF services and greater coordination and training with eligibility staff could be beneficial for EF enrollment. Some county staff identified this as a gap that could help eligibility staff better prepare SNAP participants to receive messages about EF. They noted there is variability in how well eligibility staff understand EF, and some eligibility workers may refer to EF while others do not due to lack of training. The SNAP participant survey results showed the most common way that respondents reported learning about the EF program was through a referral from a SNAP staff member (eligibility worker). Because eligibility staff are the source of most referrals to the EF program and introduce EF to eligible SNAP participants, it is important for all eligibility staff to be able to explain the EF program and its services. This would better prime all SNAP participants to receive text messages about the EF program, because they would be reminded of a service they are familiar with rather than potentially learning about it for the first time if they worked with an eligibility worker who lacked training about EF and thus did not inform them about the program.

---

<sup>9</sup> EF staff mused that part of the challenge in contacting participants could be high turnover in phones due to difficulty paying phone bills. They said participants purchase a burner phone when they have cash, discard the phone when they do not have resources, and repeat the cycle. Because this is a difficult population to reach, Mathematica was unable to gather data from such participants to learn more.

## Appendix A.

### SNAP E&T RCE Intervention Text Messages, Email Messages, and Postcards

**Table A.1.** Text messages for Broomfield and Montrose counties

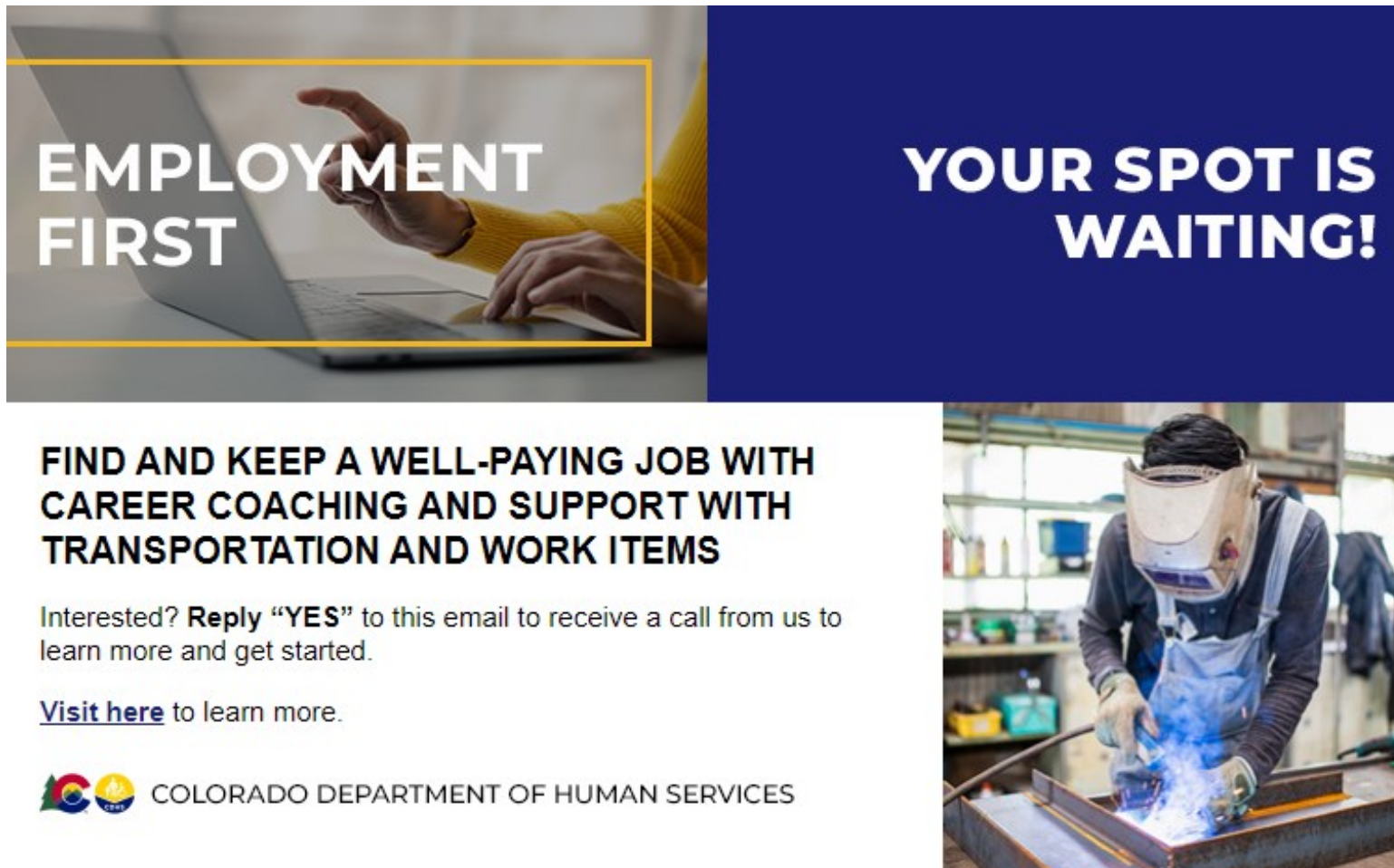
Text messages for non-ABAWDs	Text messages for ABAWDs
<b>Message 1</b>	
<p>Hi [NAME]! This is [Montrose/Broomfield] County’s Employment First Program. I’m here to help you enroll in Employment First, a program supported through your state benefits that can help you find a job or enroll in training to help you get the job you want. We can support a flexible schedule that works best for you. You can also get help with the costs of transportation and work or training supplies as you participate in the program. Lots of people like you have enrolled in our services and received well-paying jobs. We are holding a spot for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>	<p>Hi [NAME]! I’m with [Montrose/Broomfield] County’s Employment First Program. There are rules about your state benefits that are in effect that say that you need to have a job or enroll in training to keep getting your state benefits. Luckily our program offers free help to find a job or get training for a job so you can follow these rules and keep your state benefits.</p> <p>We understand that you might need a flexible schedule that works for you, and we can support that. We can also help you with the costs of transportation, work or training supplies, and rent while you’re in the program. Lots of people like you have enrolled in our services and found well-paying jobs. We are holding a spot for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>
<b>Message 2</b>	
<p>[NAME], you are entitled to free services supported by your state benefits to help you find a job or enroll in training to help you get the job you want. We can help with the costs of transportation and other work or training supplies, and support a flexible schedule that works best for you. Your spot in Employment First is waiting for you!</p> <p>Reply YES to receive a call to learn more and enroll today!</p>	<p>[NAME], you may be close to losing your state benefits because of new work rules. I can help you keep your benefits by enrolling you in free services to help you find a job or enroll in training to help you get the job you want. We can help with the costs of transportation, rent, and other work or training supplies, and support a flexible schedule that works best for you. Your spot in Employment First is waiting for you!</p> <p>Reply YES to receive a call to learn more and enroll today!</p>
<b>Message 3</b>	
<p>[NAME], don't miss your chance to get free services to help you find a job, enroll in training, and help with the costs of transportation and other work and training supplies offered through your state benefits! By signing up for food benefits, you have already started on the path to finding a long-term career. Take advantage of these free services on a flexible schedule that works for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>	<p>[NAME], don't miss your chance to get free services to help you find a job, enroll in training, and help with the costs of transportation, rent, and other work and training supplies offered through your state benefits! By signing up for food benefits, you have already started on the path to finding a long-term career. Take advantage of these free services on a flexible schedule that works for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>

**Table A.2.** Text messages for Denver County

Text messages for non-ABAWDs	Text messages for ABAWDs
<b>Message 1</b>	
<p>Hi [NAME]! This is Denver County’s SNAP to Success Program, a program supported through your state benefits that can help you find a job or enroll in training to help you get the job you want. You can also get help with the costs of transportation and work or training supplies as you participate in the program. We are holding a spot for you!</p> <p>If you missed your appointment about SNAP to Success with our team, reply YES to receive a call to reschedule.</p> <p>If you’ve already spoken with our team and are taking advantage of all that SNAP to Success can offer you, remember to attend your meeting with your case manager. We’re so glad to be working with you!</p> <p>Reply STOP to stop receiving messages</p>	<p>Hi [NAME]! This is Denver County’s SNAP to Success Program. There are rules about your state benefits that are in effect that say that you need to have a job or enroll in training to keep getting your state benefits. Luckily our program offers free help to find a job or get training for a job so you can follow these rules and keep your state benefits.</p> <p>We can also help you with the costs of transportation and work or training supplies while you’re in the program. We are holding a spot for you!</p> <p>If you missed your appointment about SNAP to Success with our team, reply YES to receive a call to reschedule.</p> <p>If you’ve already spoken with our team and are taking advantage of all that SNAP to Success can offer you, remember to attend your meeting with your case manager. We’re so glad to be working with you!</p> <p>Reply STOP to stop receiving messages</p>
<b>Message 2</b>	
<p>[NAME], you’re on your way to taking advantage of the free services supported by your state benefits to help you find a job or enroll in training to help you get the job you want. We can help with the costs of transportation, rent, and other work or training supplies, and support a flexible schedule that works best for you. As a reminder, the next step is to attend the call with your case manager.</p> <p>If you haven’t had a call with our team yet, don’t worry – it’s not too late! Reply YES to receive a call to learn more and enroll!</p>	<p>[NAME], you’re on your way to taking advantage of the free services from SNAP to Success that can help you avoid losing your state benefits because of new work rules. SNAP to Success can help you keep your benefits by enrolling you in free services to help you find a job or enroll in training to help you get the job you want. We can help with the costs of transportation, rent, and other work or training supplies, and support a flexible schedule that works best for you. As a reminder, the next step to attend the call with your case manager.</p> <p>If you haven’t had a call with our team yet, don’t worry – it’s not too late! We are here to help you keep your state benefits. Your spot in SNAP to Success is waiting for you!</p> <p>Reply YES to receive a call to learn more and enroll!</p>
<b>Message 3</b>	
<p>[NAME], don’t miss your chance to get free services to help you find a job, enroll in training, and help with the costs of transportation, rent, and other work and training supplies offered through your state benefits! By signing up for food benefits, you have already started on the path to finding a long-term career. Take advantage of these free services on a flexible schedule that works for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>	<p>[NAME], don’t miss your chance to get free services to help you find a job, enroll in training, and help with the costs of transportation, rent, and other work and training supplies offered through your state benefits! By signing up for food benefits, you have already started on the path to finding a long-term career. Take advantage of these free services on a flexible schedule that works for you!</p> <p>Reply YES to receive a call to learn more and enroll today or STOP to stop receiving messages</p>

**Exhibit A.1.** SNAP E&T RCE intervention emails for Denver<sup>10</sup>, Broomfield and Montrose counties

**Email for non-ABAWDs**



The image shows a simulated email layout. At the top left, there is a photograph of a person's hands using a laptop, with the text "EMPLOYMENT FIRST" overlaid in white. To the right of this is a dark blue rectangular area with the text "YOUR SPOT IS WAITING!" in white. Below these elements is a white section containing the main text of the email: "FIND AND KEEP A WELL-PAYING JOB WITH CAREER COACHING AND SUPPORT WITH TRANSPORTATION AND WORK ITEMS". This is followed by a paragraph: "Interested? Reply 'YES' to this email to receive a call from us to learn more and get started." and a link: "Visit here to learn more." At the bottom left of this section is the Colorado Department of Human Services logo, which consists of three stylized figures in red, yellow, and blue, followed by the text "COLORADO DEPARTMENT OF HUMAN SERVICES". To the right of the email content is a photograph of a welder wearing a protective mask and gloves, working on a metal piece in a workshop.


**EMPLOYMENT FIRST**


**YOUR SPOT IS WAITING!**

**FIND AND KEEP A WELL-PAYING JOB WITH CAREER COACHING AND SUPPORT WITH TRANSPORTATION AND WORK ITEMS**

Interested? Reply **"YES"** to this email to receive a call from us to learn more and get started.

[Visit here](#) to learn more.

 **COLORADO DEPARTMENT OF HUMAN SERVICES**



<sup>10</sup> Note that for the Denver County emails, "SNAP to Success" was used rather than "Employment First."

Email for ABAWDs



**YOUR SPOT IS  
WAITING!**

WE CAN HELP YOU MEET YOUR  
WORK REQUIREMENTS TO KEEP  
YOUR STATE BENEFITS

**FIND AND KEEP A WELL-PAYING JOB WITH  
CAREER COACHING AND SUPPORT WITH  
TRANSPORTATION AND WORK ITEMS**

Interested? Reply to this email **saying "YES"** to receive a call from us to learn more and get started.

[Visit here](#) to learn more.



COLORADO DEPARTMENT OF HUMAN SERVICES





**Exhibit A.2.** SNAP E&T RCE intervention postcards for Montrose County

**Front of postcard – non-ABAWDs**

**EMPLOYMENT  
FIRST**



**FIND AND KEEP A WELL-PAYING JOB  
WITH CAREER COACHING &  
SUPPORT WITH TRANSPORTATION AND WORK ITEMS**

---

**YOUR SPOT IS WAITING!**

Call 970-318-6175 to enroll  
Visit us at 1845 S Townsend Ave, Montrose, CO 81401



COLORADO DEPARTMENT OF HUMAN SERVICES

Front of postcard – ABAWDs

**EMPLOYMENT  
FIRST**



**WE CAN HELP YOU MEET YOUR WORK REQUIREMENTS  
TO KEEP YOUR BENEFITS**

---

**FIND AND KEEP A WELL-PAYING JOB  
WITH CAREER COACHING &  
SUPPORT WITH TRANSPORTATION AND WORK ITEMS**

**YOUR SPOT IS WAITING!**

Call 970-318-6175 to enroll

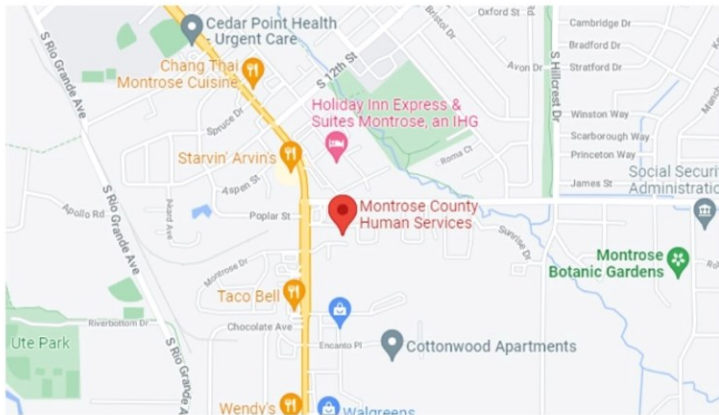
Visit us at 1845 S Townsend Ave, Montrose, CO 81401



COLORADO DEPARTMENT OF HUMAN SERVICES

Back of postcard (same for both ABAWDs and non-ABAWDs)

Visit us to claim your spot in  
Employment First!



Employment First  
Montrose County Human Services  
1845 S Townsend Ave, Montrose, CO 81401



COLORADO DEPARTMENT OF HUMAN SERVICES

Ms. Jane Doe  
111 W 1st St  
Montrose, CO 11111

## Appendix B.

## Supplemental table

**Table B.1.** Impacts of behaviorally informed outreach on the percentage of individuals enrolled in SNAP E&T

	Treatment group	Control group	Difference
<b>All counties</b>			
Treatment group: text only	0.63	0.47	0.16
Number of observations	1,125	1,122	
Treatment group: text and email	0.78	0.47	0.31
Number of observations	1,113	1,122	
<b>Montrose county</b>			
Treatment group: postcard	0.00	0.00	0.00
Number of observations	70	73	

Source: SNAP administrative and SNAP E&T outcome data.

\*\*\*/\*\*/\* Difference between treatment and control group significantly different from zero at the 0.01/0.05/0.10 level, two-tailed test.

---

**Mathematica Inc.**

Our employee-owners work nationwide and around the world.

Find us at [mathematica.org](https://mathematica.org) and [edi-global.com](https://edi-global.com).



Mathematica, Progress Together, and the "spotlight M" logo are registered trademarks of Mathematica Inc.