



Using Behavioral Insights to Improve Take-Up of a Reemployment Program

Trial Design and Findings

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All errors or omissions are the responsibility of the authors.

The DOL Behavioral Interventions Project

The Department of Labor Behavioral Interventions (DOL-BI) project was launched to explore how insights from behavioral science can be used to improve the performance and outcomes of DOL programs. It is sponsored by the DOL Chief Evaluation Office and executed by Mathematica Policy Research and ideas42. The project team has designed, implemented, and rigorously tested three behavioral trials in selected Labor programs. The project team developed behavioral interventions and executed trials in partnership with (1) the Employee Benefits Security Administration and the Department of Labor's Human Resources division, to increase retirement savings, (2) the Occupational Safety and Health Administration, to boost workplace safety, and (3) the Employment and Training Administration, in collaboration with Michigan Works! Southwest and the W.E. Upjohn Institute, to help unemployed workers become reemployed.

Access reports, briefs, presentations, and infographics on these trials, as well as more tools for applying behavioral insights, by visiting <https://www.dol.gov/asp/evaluation/BISstudy/>.

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I. Introduction

Finding a job after becoming unemployed can be challenging for many individuals. Even as the unemployment rate has decreased during the recovery from the 2007–2008 financial crisis, the average duration of regular unemployment insurance (UI) benefits remains high (15.6 weeks as of January 2017).¹ In response, the U.S. Department of Labor (DOL) helps UI claimants find, apply for, and obtain new employment.

DOL has long sought effective ways to encourage unemployed workers to engage in services that can help them get reemployed. One effective tool for helping unemployed workers find new employment faster, and shorten their duration of UI benefit receipt, is the Reemployment and Eligibility Assessment (REA) program.² The REA program offers mandatory, in-person sessions, during which workforce staff complete several activities with participants—assess their eligibility for UI benefits, provide an orientation to the American Job Center and its services, share labor market information, help them develop a reemployment plan, and make referrals to additional services. Claimants who have not yet found a job and continue to receive UI benefits after the first REA session are required to participate in up to two more sessions. Failure to attend these REA sessions may affect continuance of UI benefits. (The REA program was replaced in 2015 with the Reemployment Services and Eligibility Assessment program, which increased funding to directly provide reemployment services in addition to the usual REA activities).

Given the strong incentives to attend REA sessions, we might expect attendance rates to be high. However, many individuals who are selected to participate in this mandatory program do not schedule or attend their REA sessions. For example, in the first three months of the Michigan Works! Southwest REA program, which began operating in January 2015, only 43 percent of claimants who were required to participate in the REA program scheduled their first session.

Many other programs experience similar issues. Programs that have been shown to work, like the REA program, often still struggle to attract participants. Behavioral science can help us make sense of this perplexing behavior. Despite the benefits of REA participation, many barriers may limit claimants' engagement with the program. To schedule the session, for example, claimants must read a notification letter, understand its contents, and carry out its instructions. Even though each of these steps is simple in principle, a claimant may easily overlook or ignore one of them.

Fortunately, the growing body of behavioral research can help programs communicate more effectively to their participants, which in turn can increase participant engagement. Improved communications can make it more likely that a program participant reads or understands a

About Behavioral Science

Behavioral science studies how people make decisions and act in a complex world. It draws on decades of research in the social sciences to provide a more realistic model of how we make decisions and act in real life. Other approaches commonly assume that we consider all available information, weigh the pros and cons of each option, optimize our choices, and then reliably act on them. In practice, however, people often decide and act with imperfect information or fail to act altogether, even when they may want to. Behavioral interventions test whether aligning policies, programs, and products to these human tendencies can result in improved outcomes.

message. A friendly tone can establish trust. Simple step-by-step instructions can help people comply with program requirements.

In 2014, the DOL Chief Evaluation Office contracted with Mathematica Policy Research and ideas42 to examine the effects of behavioral interventions in DOL programs. DOL was especially interested in testing behavioral interventions that would allow for rapid evaluation and analysis of short-term outcomes and would be easy to replicate and/or scale if found to be effective. The DOL Behavioral Interventions (DOL-BI) team collaborated with the Employment and Training Administration, in a partnership involving the W.E. Upjohn Institute and Michigan Works! Southwest, to assess whether a series of low-cost, behaviorally informed messages could encourage more UI claimants to schedule, attend, and complete their REA sessions. Our tests yielded strong positive results. The recipients of our messages were 15 percentage points more likely to schedule their first REA session and 14 percentage points more likely to complete the REA program.

Trial synopsis

This report presents our findings on the effects of emails designed to encourage UI claimants to (1) schedule and attend REA sessions with Michigan Works! Southwest and (2) persist in efforts that will help them succeed in their job search efforts following REA program completion.

We developed seven emails that were sent to claimants in addition to the standard notification letter issued by the Michigan Unemployment Insurance Agency (UIA). The emails were designed to alleviate specific behavioral bottlenecks that we identified through discussions with Michigan Works! Southwest staff and REA program participants.

The first email introduced claimants to the REA program using a friendly, positive tone and provided clear instructions for scheduling and attending the first REA session. Subsequent emails reminded claimants about upcoming REA sessions and motivated them to persist in their job search after they had completed the REA program. We conducted a randomized trial to test the effectiveness of the series of emails, comparing the attendance rates across 372 UI claimants who received our emails and 375 UI claimants who received only the Michigan UIA notification letter.

Understanding the context

Michigan was one of 44 states that received part of \$80 million in REA grants awarded by DOL in 2015. (See Box I.1 for more information on the REA program). At that time, Michigan began its REA program with plans to serve 9,000 UI claimants across five workforce areas between January and September 2015. Michigan Works! Southwest, which serves Branch, Calhoun, Kalamazoo, and St. Joseph Counties, was one of the five implementing workforce agencies.

Each week, the Michigan UIA selected approximately 25 current UI claimants who had recently begun receiving UI benefits to participate in the REA program and sent them a notification letter.³ The letter instructed claimants to contact their local Michigan Works! agency to schedule an appointment for their first REA session. It also told them that their UI benefits could be terminated if they did not contact the agency within 14 days of the date the letter was sent.

Box I.1. Reemployment and eligibility assessment

The U.S. Department of Labor sponsors reemployment and eligibility assessments (REAs) for UI claimants to validate their eligibility and provide enhanced counseling services to participants with the goal of speeding up reemployment. The REA program has its origins in (1) the Eligibility Review Program (ERP) developed after the increase in UI claims following the 1973 OPEC embargo and (2) the Worker Profiling and Reemployment Services (WPRS) system, established in 1993. The ERP focused on strengthening the procedures for UI eligibility assessments to reduce overpayment, and WPRS included reemployment services. The REA program combined eligibility assessment and reemployment counseling in one package. In fiscal year 2015, the REA program was replaced with the Reemployment Services and Eligibility Assessment program (RESEA). RESEA includes the activities initially conducted under REA (summarized on the first page of this report), as well as increased funding to provide additional reemployment services.

Evaluations of the WPRS program demonstrated the program's cost-effectiveness and reduced total UI benefit receipt and total weeks of UI collected by 2.2 weeks. The reduction largely occurred after claimants had received notice of their reemployment services requirement but before those services had begun, suggesting that the notice increased job search activity before services began. Later evaluations of the REA program showed increases in employment both before and after service began, suggesting that the REA program is effective in helping claimants obtain employment.

Sources:

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- O'Leary, Christopher J. "Policies for Displaced Workers: An American Perspective." Upjohn Institute Working Paper No. 10-170. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2010.
- Poe-Yamagata, E., J. Benus, N. Bill, H. Carrington, M. Michaelides, and T. Shen. *Impact of the Reemployment and Eligibility Assessment*. Columbia, MD: IMPAQ International, 2011.
-

The Michigan Works! Southwest REA program took place over three sessions, though individuals could exit the program earlier if they were no longer eligible for UI payments (for example, if they found a job). During each REA session, claimants would meet individually with a Michigan Works! Southwest staff member for up to one hour.

During the REA sessions, staff:

- Provided an orientation to Michigan Works! Southwest services
- Conducted a UI eligibility assessment
- Verified the participant's monthly record of work search activities
- Confirmed that the participant had an active profile on Pure Michigan Talent Connect (an online database that connects employers and job seekers)
- Developed an Individual Service Strategy for the participant
- Provided relevant labor market information
- Provided referrals to reemployment services or other training (if applicable)

As noted, more than half of the claimants selected for the REA program did not contact Michigan Works! Southwest to schedule their initial session even though failing to do so could result in loss of UI benefits. Michigan Works! Southwest and the Upjohn Institute—a research center focused on employment issues that administers local workforce programs—were interested in testing whether behaviorally informed emails sent in addition to the UIA notification letter could increase claimants' participation in the REA program and REA program completion rates. (Program completion was defined as either completing all three REA sessions or becoming reemployed and no longer collecting UI benefits before the end of the program).

The DOL-BI team worked with the Upjohn Institute and Michigan Works! Southwest to rapidly identify potential behavioral barriers to engagement in the REA program. We interviewed Michigan Works! Southwest and Upjohn staff at the Kalamazoo County office to learn more about the REA program and conducted a site visit that provided an opportunity to meet with REA participants, review program materials and procedures in detail, observe facilities and program services (to the extent possible), and talk to REA program staff. Our team then designed an intervention—a series of seven emails—to mitigate these barriers.

These new communications were sent after the Michigan UIA sent a notification letter to the claimant requiring him or her to schedule the initial REA session:

- The first email provided an alternative introduction to the REA program, focusing on the benefits claimants would receive from attendance and promoting a positive relationship with the local Michigan Works! Southwest staff. If there was no response, a second email was sent one week later as a reminder.
- If the claimants attended their first REA session and continued collecting UI benefits (meaning they had not yet become reemployed), they could receive two additional emails reminding them about their upcoming second and third REA sessions.
- After completing the three REA sessions, if participants had not yet become reemployed, they could receive up to three more “persistence” emails—sent two, five, and eight weeks later—designed to support them in persisting with their job search and provide links to the local job search workshop calendar and information about available reemployment resources.

All emails included instructions explaining how an individual could unsubscribe from further emails.

Research questions and trial design

We worked closely with DOL, Michigan Works! Southwest and the Upjohn Institute to specify the research questions for the trial and the relevant measures for each outcome of interest. The trial was designed to answer four main research questions⁴:

1. **Did the emails improve the initial response/scheduling rate for the UIA notification letter relative to the status quo?** Were REA participants more likely to read and respond to the UIA notification letter as instructed when the UIA letter was paired with our email treatment?
2. **Did the emails improve the attendance rate for the REA sessions?** Were REA participants who received our emails more likely to initiate REA program participation by attending their first REA session?
3. **Did the emails improve the completion rate for the REA program?** Were REA participants who received our emails more likely to persist in the REA program beyond the initial session and complete all three sessions or stop participating because they became reemployed?
4. **Did the effects of the emails substantially differ across key subgroups?** Which subpopulations were more likely to participate in the REA program after receiving the emails? Did the emails fail to influence engagement with the REA program among some subpopulations?

To determine the effectiveness of the emails, we conducted a randomized controlled trial. After the Michigan UIA selected claimants to participate in the REA programs and referred them to Michigan Works! Southwest, half of the claimants were assigned to our treatment group (372 UI claimants) and

sent the emails in addition to the initial UIA notification letter and other communications they typically receive from the Michigan UIA. The other 375 UI claimants were assigned to the control group and received only the initial letter from the Michigan UIA.

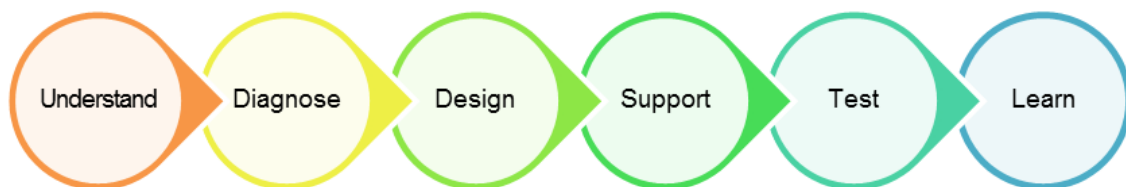
Report roadmap

In this report, we describe the design and implementation of the intervention and discuss the accompanying evaluation, the intervention's outcomes, and the implications of our findings. In Chapter II and Appendix A, we provide more detail on our process for developing the behavioral intervention for those interested in designing similar interventions and tests. In Chapter III and Appendices B and C, we describe the evaluation design so readers can assess the validity of our findings. We discuss our experimental design, the target population, data collection methods, analysis approaches, and baseline equivalence of the study groups. In Chapter IV and Appendix D, we discuss the findings. In Chapter V, we summarize what we learned, how our results may be used, and next steps in exploring how behavioral interventions can engage people in job search activities and make programs more effective.

II. Intervention Design

In developing interventions and a trial to test possible ways of increasing engagement with the REA program, we followed six steps that form the core of our approach (Figure II.1). We began by deepening our understanding of the problem we were attempting to solve and the context in which it occurred. We then diagnosed potential behavioral barriers that may contribute to the problem, designed an intervention that addressed those barriers, and provided support for implementation of the intervention. Finally, we tested the effectiveness of the intervention by using a rigorous trial design and learned from our experimental findings. In this chapter, we discuss the first four steps in this process; the remainder are discussed in the following chapters.

Figure II.1. Using behavioral science to improve programs: Six steps



Understanding the problem and its context

Designing a well-targeted and effective intervention requires a thorough understanding of the problem being addressed. We worked with our partners at the Upjohn Institute and Michigan Works! Southwest to determine how we should approach the design process.

What are the program goals? What would constitute a successful intervention? In addition to improving communications aimed at increasing the number of people who attend REA sessions, our partners wanted to explore whether behavioral strategies might increase job search persistence and reemployment success. Given that existing research supports the REA program's effectiveness, our trial focused on testing whether the behaviorally informed intervention increased REA attendance and completion rates. We also incorporated strategies designed to improve job search persistence following the completion of the REA program.

What are the key operational features and constraints relevant for the design of the intervention? DOL was interested in testing behavioral interventions that would allow for rapid evaluation and analysis of short-term outcomes and that would be relatively easy to iterate or replicate, if appropriate. Given this interest and the already existing demands on local staff resources and system capabilities, we focused on developing interventions that relied on existing systems and administrative data, were low-cost, and required minimal staff effort for implementation. It was a priority that any intervention we designed was low-touch or even potentially automated. In addition, given that the REA program in Michigan was scheduled to conclude in late September 2015, any delays in implementation would reduce the number of people included in the trial (for example, a one-week delay would reduce the number of people in the trial by over 3 percent). Fewer people in the trial would substantially diminish our ability to detect a statistically significant effect of our treatment.

The REA program's limited implementation period in Michigan made it important to monitor weekly referral rates closely and work with the Michigan UIA, if needed, to ensure that the projected number of participants was referred to Michigan Works! Southwest.

Initially, we also discussed potential modification of the current Michigan UIA notification letter (Box II.1), to test whether a letter with a different, friendlier tone could be effective. However, any modification would require substantial collaboration with the Michigan UIA and was beyond the scope of our project. Keeping in mind DOL's interest in identifying tests that allowed for rapid evaluation and analysis of short-term outcomes, we instead focused on developing an intervention that would be delivered in addition to the UIA notification letter, and that could be delivered independently by Michigan Works! Southwest and Upjohn Institute staff.

Box II.1. UIA notification letter excerpt

"You are required to meet active work search requirements to receive unemployment insurance (UI) benefits. Michigan is required to provide reemployment services and in-person reemployment and eligibility assessments (REA) to claimants.

You must contact a Michigan Works! Southwest Agency (MWA) Service Center to schedule your mandatory appointment for an initial REA within 14 calendar days of the mail date of this letter; otherwise, your UI benefits may be stopped. You must take proof of identification and a copy of your most current completed Form UIA 1583, Monthly Record of Work Search, to your REA appointment, and an MWA representative will review the form with you. In addition, submit a copy of the completed Form UIA 1583 to the Unemployment Insurance Agency (UIA) to meet your work search requirement through the UIA website at <http://www.michigan.gov/uia>; select 'UIA Online Services for Unemployed Workers.' Be sure to keep a copy for your records."

Diagnosing why people did not engage with the REA program

Box II.2. Methods used to investigate bottlenecks

- Discussions with Upjohn Institute experts in labor economics
- Review of existing literature
- Discussions with Michigan Works! Southwest staff and administration
- In-person observations at Michigan Works! Southwest/Kalamazoo American Job Center
- In-person interviews with recent REA participants
- Review of materials sent to UI claimants about the REA program

We worked closely with the staff of the Upjohn Institute and Michigan Works! Southwest to identify factors that may explain claimants' failure to participate in the REA program's required sessions. Our efforts included a two-day site visit that allowed us to meet with various Michigan Works! Southwest staff. In addition, we met with REA program participants and developed an understanding of the process by which they learned about the REA program, their beliefs about the program immediately after receiving the Michigan UIA notification letter, and their impressions of the program after completing one or more sessions.

Tapping different methods (Box II.2), we mapped the process by which UI claimants would learn that they had been selected to participate in the REA program and schedule their required session. (Box II.3 provides a listing of the steps involved; Figure II.2 provides a summary map; and Appendix A.1 provides a more detailed process map that we used in the initial stages of conducting a behavioral diagnosis of the process of enrollment in the REA program.) We then used these maps to formulate hypotheses about the behavioral barriers that potentially deter UI claimants from engaging

with the REA program. In refining our focus through ongoing discussions with Michigan Works! Southwest and Upjohn Institute staff, we identified three central themes:



Discouragement and avoidance of unpleasant tasks. Claimants may perceive a punitive tone in the UIA notification letter and may respond negatively. They may not read the entire letter or further engage with the REA program. Individuals often avoid tasks that they find unpleasant.⁵



Inattention, procrastination, or forgetfulness. Claimants may not notice the UIA notification letter or may delay in responding to it and then forget to schedule their REA session. Even if they intend to call Michigan Works! Southwest to schedule an REA session, they may delay because the deadline for responding is not imminent (14 days) such that they could eventually forget to schedule an REA session.



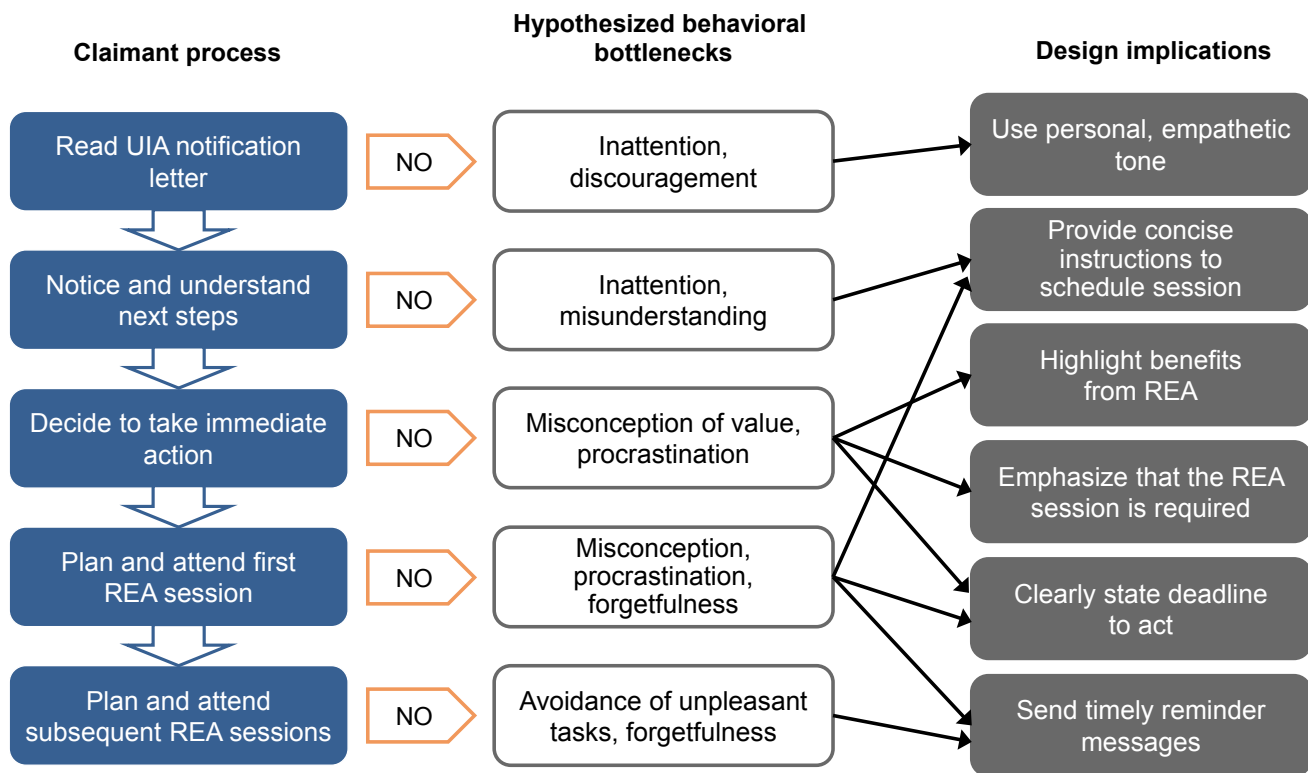
Misunderstanding. Claimants may not understand or may underestimate the potential value of the REA program because the UIA notification letter provides few details about the program. Clearer explanations and making the program's benefits more salient could improve take up.⁶

Box II.3. Steps in the claimant response process

We developed a behavioral map (Figure II.2) that describes (1) the steps a claimant must take to respond to the UIA notification letter per the Michigan UIA's intentions and (2) the barriers that may be getting in the way of a response. The map highlights issues that commonly surface in responding to communications (for example, inattention, misunderstanding, and procrastination). Responding to letters involves a surprisingly complex series of steps, and a lack of response may result from a single misstep:

- **Noticing and opening the letter.** Acting on the letter requires the intended recipient to receive and open it. If the recipient does not know the letter's content or is not expecting to receive the letter, he or she may not realize its importance and may ignore it or even discard it unread.
- **Evaluating and reading the letter.** Even after opening the letter, the recipient may not read it carefully or fully. Rather, the recipient may skim certain components to evaluate its importance. If the letter's importance is not immediately apparent, the recipient may not read the letter in detail.
- **Deciding to take action and taking action.** After reading and evaluating the letter, the recipient must decide what to do about the letter and then take steps to follow through. However, even putting off action for a short time can lead to longer delays and, ultimately, no response.

Elements unique to the REA program or its UI context could further undermine the response process. For example, the claimant may assume that the UIA notification letter is reporting his or her current status and does not require any action. The claimant may be stressed or occupied with his or her job search and ignore any correspondence that does not appear immediately urgent.

Figure II.2. Behavioral diagnosis and intervention design

Designing emails to encourage participation in the REA program

We determined that adding email communications to encourage REA participation was a feasible strategy. Existing studies suggest that email interventions could be effective.^{7,8} All UI claimants are required to provide an email address when they register for services. Therefore, we explored and found it feasible to contact most claimants via email. Our research partner, the Upjohn Institute, was able to access and analyze data on REA client characteristics and program participation records using pre-existing data use agreements with the state of Michigan. It also could assist with trial implementation, allowing us to minimize the burden on workforce staff, since Upjohn Institute staff had access to the Michigan Works One-Stop MIS (OSMIS) and could extract the list of REA claimants for email processing. Further, the Upjohn Institute had authorization to email Michigan Works! Southwest clients, and a subscription to MailChimp, an email marketing platform that allows for email customization and automation and reports response rates. As such, we designed an intervention in which emails would be sent to REA participants that supplemented the Michigan UIA notification letter they also received.

We ultimately designed a series of seven emails (Figure II.3 and Appendices A.2 through A.8). At the end of our two-day site visit to the Upjohn Institute and Michigan Works! Southwest, we identified the initial design goals and drafted outlines for the emails in a collaborative session with the DOL-BI team and Upjohn Institute staff. The email designs subsequently underwent several rounds of revision as the DOL-BI team rapidly developed iterations of potential email language options with our partners at

the Upjohn Institute and Michigan Works! Southwest, as well as with staff from the Chief Evaluation Office at DOL. We also reviewed the literature to see what strategies had worked in other contexts and could be suitable in this one.

We designed the emails based on the following principles:



A personal and collaborative tone was intended to foster a positive relationship with claimants, capture their attention, and emphasize the benefits of the REA program. A single named individual who served as the REA coordinator sent the emails, which addressed the recipient by his or her first name in order to create a personal connection with the program. Previous studies have used personalization of messages to improve response rates to messaging campaigns.⁹ We emphasized the benefits of participation by highlighting the potential of finding a good job and noted that the program provided free job search assistance, thereby increasing the salience of the benefits. Research has shown that increasing the saliency of economic incentives can affect how people respond to them.¹⁰



Concise instructions were designed to convey the ease of scheduling a session and to encourage claimants to act right away. A bulleted list at the end of the first email gave claimants clear instructions for what to do next. The email also included Google Maps links to the addresses of American Job Centers where they could attend REA sessions. Research has demonstrated that simplifying the process of scheduling appointments and providing people with a map of the relevant location can increase the number of people who keep an appointment.^{11,12}



Reminder emails were designed to reduce the potential for inattention, procrastination, and forgetfulness. Given that even motivated people may forget to respond to a letter, we sent an additional follow-up email one week after the first email, once again prompting claimants to take action. Research has demonstrated that reminder messages can improve responses to action requests.¹³ The reminder emails were similar to the initial email but further emphasized the potential loss of UI benefits by using boldface type to further emphasize the saliency of such a loss.



Planning prompts gave concrete job-search guidance to reduce procrastination. After claimants completed the REA program, if they were not yet reemployed, we sent them up to three additional emails that included links to Michigan Works! Southwest resources and two additional behavioral interventions: (1) planning prompts giving them cues to plan their job search strategies in advance and (2) “fresh start” language to encourage claimants to take action as if they have a clean slate at the beginning of the week. Research has shown that both interventions can increase the likelihood that an individual will take a prescribed action.^{14,15} The three persistence emails were sent the two weeks after completion of the REA program and then at five and eight weeks after program completion.

We structured all the emails to accommodate receipt of the emails on mobile devices as well as on a computer screen. We paid particular attention to the subject line as well as those sections of the email that are visible even prior to an email being opened, using MailChimp’s preview mode which allows users to see how an email will look when delivered to different email platforms. We made sure that these elements of the email included language that was intended to prompt action. All emails also included instructions explaining how an individual could unsubscribe from further emails.

Figure II.3. Behavioral elements in first email

Uses a personal and empathetic tone

Subject: [Schedule your Michigan Works! assessment](#)
 Short preview: [Your personalized Reemployment and Eligibility Assessment](#)

Dear (first_name),

Hi, I'm Darlene at Michigan Works! Southwest. Soon, you will receive a letter from the Unemployment Insurance Agency asking you to schedule a Reemployment and Eligibility Assessment within 14 days. The Michigan Unemployment Insurance Agency requires your participation in REA to continue unemployment benefits, but we at Michigan Works! Southwest view REA as an opportunity to help you get back to work.

Please call me at [269-488-7619](#) for Kalamazoo, [269-592-2049](#) for Three Rivers, or [877-256-8294](#) for Branch and Calhoun counties (whichever office is more convenient for you) as soon as possible to schedule your Reemployment and Eligibility Assessment.

We will work with you one-on-one to help you get reemployed in a good job. We can provide a variety of effective reemployment services at no cost to you. All our services are always provided free. We look forward to meeting you soon.

Sincerely,
 Darlene, REA Coordinator

MICHIGAN WORKS!
 Southwest
 Branch: Calhoun, Kalamazoo & St. Joseph Counties

Clearly lists next steps

What to Do Next:

1. Call me today at [269-488-7619](#) (Kalamazoo), [269-592-2049](#) (Three Rivers), or [877-256-8294](#) (Branch and Calhoun) to schedule your REA appointment. I can be reached during regular business hours, Monday through Friday.
2. Bring the following materials to your appointment:
 - Your government issued photo identification.
 - Your recent monthly record of work search (UIA form 1583).
 - Your resume (if you don't have one, we can help you write one).
3. Come to your appointment at one of the following locations:
 - [Michigan Works!](#)
1601 S. Burdick Street
Kalamazoo, MI 49001
 - [Michigan Works!](#)
16587 Enterprise Dr. #5
Three Rivers, MI 49093
 - [Michigan Works!](#)
210 Vieta Drive
Coldwater, MI 49036
 - [Michigan Works!](#)
135 Hamblin Avenue
Battle Creek, MI 49017

Provides a clear deadline

Emphasizes benefits of participation

Provides more information about what to expect

More Details about Michigan Works! REA:

Our new reemployment services program for REA participants is designed to help easily satisfy your job search requirements and make sure your unemployment benefits are not interrupted. You will meet one-on-one with an experienced reemployment services counselor to review your continued eligibility for UI benefits, discuss your recent job search efforts, and develop a personalized reemployment strategy using variety of employment services available at Michigan Works! Southwest.

Supporting implementation

Once we had developed prototypes of the intervention emails, the DOL-BI team worked with Michigan Works! Southwest to determine how and when the Upjohn Institute should send the emails to help maximize the effectiveness of the intervention and minimize the logistical burden.

Logistics. To send the intervention emails, we used MailChimp, a software program for mass emails that the Upjohn Institute was already using for marketing and other communications. Reliance on an email software program already in use allowed us to minimize the staff time needed to set up a consistent experimental design that could be maintained throughout the trial. It also provided a way to monitor email opening and opt-out rates. We pilot tested the emails to ensure that the messages would be easy to read on a variety of operating systems and hardware, including mobile phones.

Timing. To minimize the time required for Upjohn Institute staff to extract the list of new REA participants from the One-Stop MIS and send emails to these individuals, we determined that all intervention emails should be sent on Mondays. This approach ensured that participants would receive

their first email soon after being sent the Michigan UIA notification letter. It also minimized the complexity of implementing the intervention.

We initially considered a system whereby specific events would trigger emails. For example, if someone had scheduled his or her second REA session, the reminder would arrive two days before the session. However, such a process would have been particularly complex, requiring daily check-ins to determine which participants should receive emails. Instead, we sent all REA emails on Mondays. This way, our partners had to check only for new REA referrals and upcoming REA sessions and then send intervention emails once a week.

Adjusting to low intake rates. As discussed in the next chapter, we worked closely with Michigan Works! Southwest to make sure the study included as large a sample as possible. Initially, UI claimants in Kalamazoo and St. Joseph Counties were the only claimants to whom REA was made available. However, when intake rates lagged below expectations, our program partners at the Upjohn Institute and Michigan Works! Southwest worked with the Michigan UIA to extend REA program eligibility to UI claimants in Branch and Calhoun Counties, allowing us to meet our target study sample size. (Appendix Table B.1 provides more information on program intake flows.)

III. Evaluation Design

To estimate whether our intervention emails worked, we designed and implemented a randomized controlled trial (RCT) in which the treatment group received the emails and the control group received only the standard UIA notification letter from the Michigan UIA without the additional email messaging.

An experimental design

Conducting an RCT allowed us to test whether our behaviorally informed emails caused more UI claimants to schedule and attend their REA sessions. Random assignment is intended to yield treatment and control groups whose members have similar observable and unobservable characteristics, on average. If the two groups are balanced on characteristics, and the only difference between the groups is whether they received the intervention (in this case, the emails), we can reasonably assume that any observed differences in their outcomes were caused by the intervention and not other factors.

Study sample. Our study sample consisted of UI claimants who were assigned to participate in the REA program by the Michigan UIA and were referred to Michigan Works! Southwest. Referrals to the Michigan Works! Southwest REA program began on January 29, 2015, and were initially restricted to UI claimants in Kalamazoo and St. Joseph Counties. Our trial started on March 16, 2015, by which time 115 claimants had already been selected to participate in the program and were not part of our trial (Appendix Table B.1). The program was slated to conclude on September 28, 2015, giving us roughly six months to recruit our sample. Based on discussions with Michigan Works! Southwest, we expected to attract 750 REA participants during the six-month period, assuming 25 applicants per week for approximately 30 weeks. Given the projected sample size, we determined that our intervention would need to cause a sizeable increase in the REA program attendance rate—from 55 to 65 percent—to detect statistically significant impacts. (Power calculations for the trial are included in Appendix B.I.)

Upon learning that referral rates by the Michigan UIA to the Michigan Works! Southwest REA program were lower than expected in Kalamazoo and St. Joseph Counties, we expanded the sample's geographic range to include Branch and Calhoun Counties. The expanded treatment area allowed us to increase the number of participants in the trial. Our final sample included 372 individuals in the treatment group and 375 in the control group, for a total of 747 study participants.

The composition of the evaluation sample was as follows: Seven percent of the sample members were age 24 or younger, 48 percent were between age 25 and 44, and 44 percent were older than age 44. Sixteen percent of our subjects had either not completed high school or only obtained a GED, 32 percent had completed high school, and 52 percent had completed some postsecondary education—either a college degree or a certificate for technical training. Seven percent of our subjects were veterans or otherwise eligible for veteran benefits (Appendix Table B.2).

Random assignment. We conducted random assignment at the individual level. Each week, the Michigan UIA generated a list of UI claimants referred to Michigan Works! Southwest for the REA

program and sent the claimants the initial UIA notification letter. Upjohn Institute staff extracted the list from the Michigan Works One-Stop MIS (OSMIS) by using a web-based report and randomly assigned REA referrals to treatment and control groups (Appendix B.I. provides further detail).

Outcomes of interest. We examined the effects of our intervention emails on the following outcomes:

1. **Scheduled REA:** Whether claimants scheduled the first REA session
2. **REA attendance rate:** Whether claimants attended each REA session
3. **REA program completion:** Whether claimants completed the REA program by either attending the three mandatory REA sessions or discontinuing REA program participation because they reported that they found a job (and were no longer collecting UI benefits)

We collected data on the above outcomes directly from Michigan Works! Southwest administrative data; the workforce staff routinely collected these administrative data in the course of implementing the REAs. In addition, we accessed data from the MailChimp software system on whether treatment group members opened the intervention emails sent to them.

A rigorous analytic approach

Below, we describe the analyses that we conducted. Even when a study carefully adheres to random assignment procedures, events may compromise the equivalence of the study sample and potentially bias findings. We confirmed that attrition in the study sample was low and that the study groups were equivalent at baseline.

Attrition. The study had low attrition. Six claimants (four from the treatment group and two from the control group) did not have a valid customer ID in the database and could not be contacted. We excluded these individuals from the analysis. In addition, 15 individuals who were originally assigned to receive our email interventions could not be contacted because they did not have a valid email address on file. We included these individuals in our analysis because individuals with invalid emails may also have been members of the control group. Our post attrition analysis sample consisted of 747 individuals (375 treatment and 372 control group members).

Inevitably, human error led to emails that were sometimes not sent. All the emails regarding the first REA session as well as the initial reminder were sent with no errors. However, 6.1 percent of individuals who should have received a reminder for their second REA session and 4.9 percent of individuals who should have received a reminder for their third REA session did not receive the respective emails. Most of the errors occurred on October 12, which was a federal holiday (Columbus Day).

All our analyses are intent-to-treat; that is, we measured the effects of the email interventions on the entire population assigned to receive the intervention, even if we could not contact the claimant.

Confirming baseline equivalence. Available data on participants' background characteristics included age, education, veteran and dislocated worker status, and county of residence. Michigan Works! Southwest restricted access to gender, race, and ethnicity information. We observed only one marginally significant difference between the control and treatment groups: a slightly larger percentage of people were assigned to the treatment group in Branch County (Appendix C).

Estimating impacts. To estimate impacts and answer the research questions listed in Chapter I, we conducted four analyses on the full samples as well as subgroup analyses. In Table III.1, we describe the comparisons we conducted to answer each research question.

Table III.1. Research questions and relevant analyses

Research questions	Relevant analyses
Did the emails improve the initial response/scheduling rate for the UIA notification letter relative to the status quo? Were REA participants more likely to read and respond to the UI notification letter as instructed when the letter was paired with our email treatment?	Compare treatment and control cases on scheduling of the first REA session (REA1)
Did the emails improve the attendance rate for the REA sessions? Were REA participants who received our emails more likely to initiate REA program participation by attending their first REA session?	Compare treatment and control cases attendance rates of the first, second, and third REA sessions (referred to as REA1, REA2, and REA3)
Did the emails improve the completion rate for the REA program? Were REA participants who received our emails more likely to persist in the REA program beyond the initial session and complete all three sessions or stop participating because they became reemployed?	Compare treatment and control cases on REA program completion
Did the effects of the emails substantially differ across key subgroups? Which subpopulations were more likely to participate in the REA program after receiving the emails? Did the emails fail to influence engagement with the REA program among some subpopulations	Compare treatment and control cases on REA1 scheduling and REA program completion rates on subgroups defined by age and education

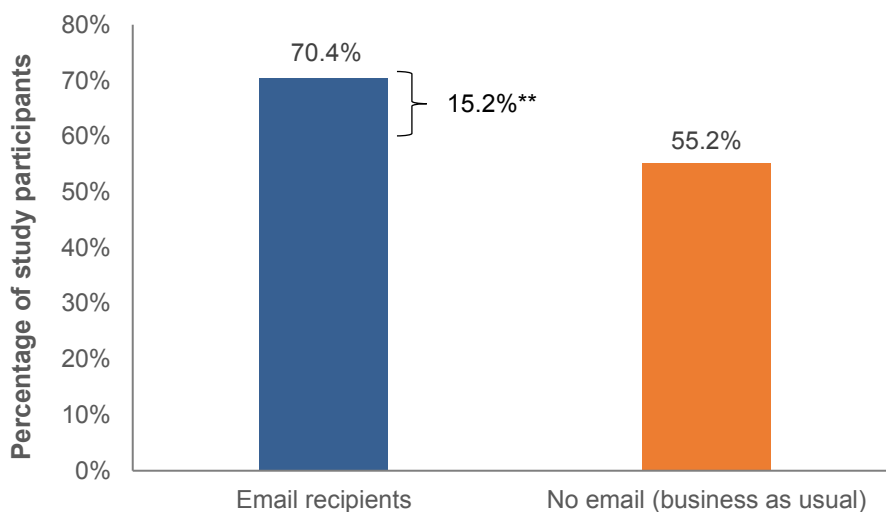
IV. Findings

Results for our trial provide strong evidence that the email interventions encouraged more individuals to sign up for, attend, and complete the REA program. Below, we summarize the impact of the interventions (Appendix D provides detailed impact estimates).

LOW-COST BEHAVIORALLY INFORMED EMAILS INCREASED THE PROPORTION OF UI CLAIMANTS WHO PARTICIPATED IN THE FIRST REA SESSION BY 15 PERCENTAGE POINTS AND INCREASED PARTICIPATION IN REMAINING SESSIONS.

The emails increased the number of UI claimants who contacted Michigan Works! Southwest to schedule their first REA session. Of the 372 claimants assigned to receive the behaviorally designed emails, 262 (70.4 percent) called to schedule their first REA session (Figure IV.1). In contrast, 207 out of the 375 claimants (55.2 percent) who received the Michigan UIA notification letter about the REA program, but not the behaviorally designed emails, called to schedule their first REA session. The emails increased the rate at which claimants scheduled their first REA session by 15.2 percentage points.

Figure IV.1. Impact of emails on percentage of study participants who scheduled first REA session

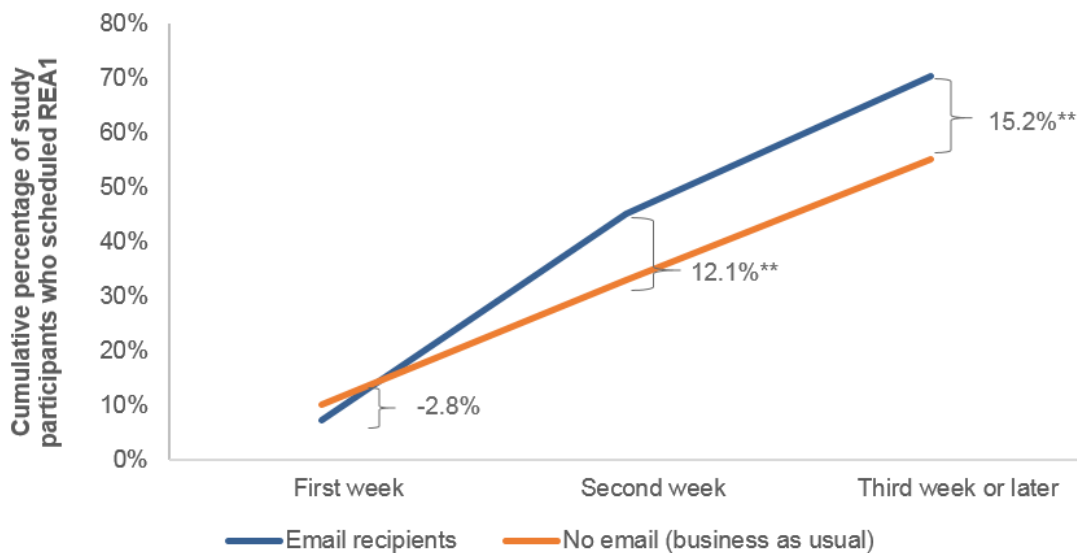


Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Impact may not equal the difference shown between the treatment and control groups because of rounding.

Most email recipients scheduled their first REA session after the first reminder email was sent out. At this point, these individuals could have received two emails from Michigan Works! Southwest: (1) an initial email introducing the REA program and inviting recipients to schedule an REA session and (2) a reminder email if they had not scheduled their first REA session by the following Monday. After receiving the first email, the treatment group claimants scheduled their first REA session at a slightly lower rate than the control group (although the difference was not significant) (Figure IV.2). However, we saw a significant difference in scheduling rates in the second week after both the initial and reminder emails had been sent.

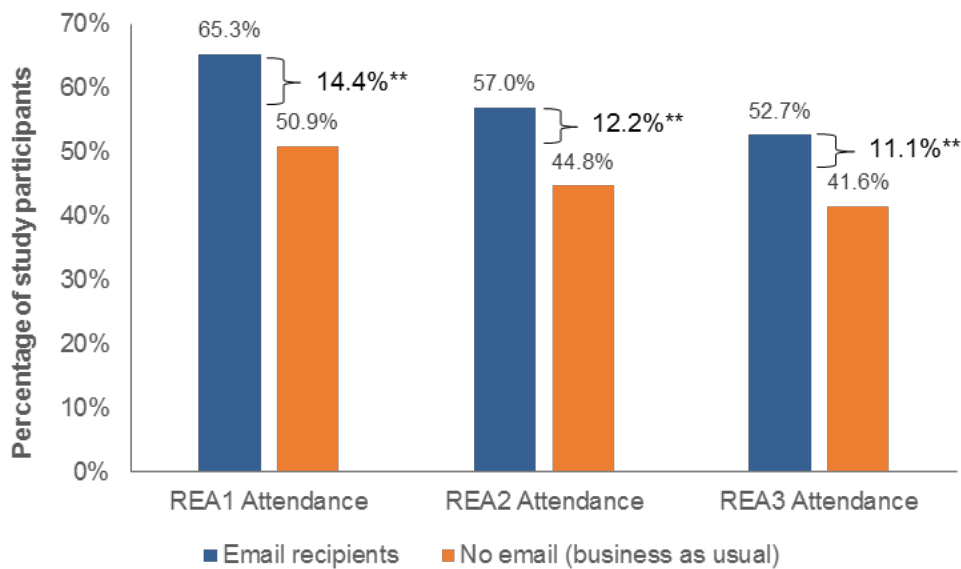
Figure IV.2. Impact of emails on scheduling REA1 session over time



Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Impact may not equal the difference shown between the treatment and control groups because of rounding.

The emails also increased the attendance rates across all three REA sessions. The treatment group's attendance rate for the first REA session was 14.4 percentage points higher than that of the control group (Figure IV.3). Attendance rates for the second and third REA sessions were 12.2 and 11.1 percentage points higher, respectively. All increases were statistically significant. The results are especially interesting because the open rates of the emails were not high. The email open rate for the treatment group was 41.2 percent across all emails sent.

Figure IV.3. Impact of emails on attendance of first, second, and third REA sessions

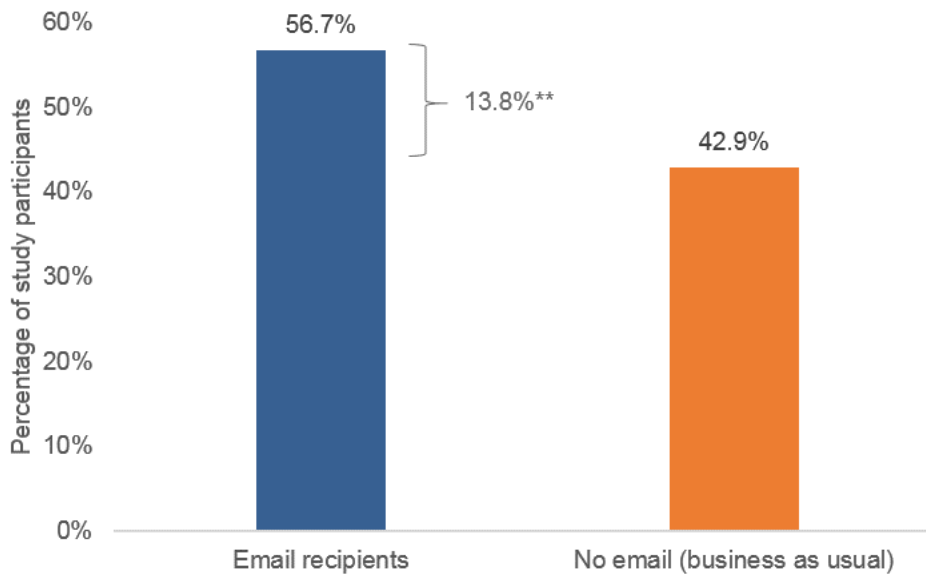
Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Impact may not equal the difference shown between the treatment and control groups because of rounding.

THE EMAILS INCREASED THE PROPORTION OF UI CLAIMANTS WHO COMPLETED THE REA PROGRAM BY 14 PERCENTAGE POINTS.

Claimants could complete the REA program either by (1) attending all three REA sessions or (2) becoming reemployed and no longer collecting UI benefits before the end of the program.

The emails increased completion rates for the REA program. Claimants assigned to receive the email intervention were 13.8 percentage points more likely to complete the program (Figure IV.4).

Figure IV.4. Impact of emails on REA completion rates

Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Impact may not equal the difference shown between the treatment and control groups because of rounding.

Once individuals attended their first REA session, they were equally likely to complete the program regardless of whether or not they received emails. In both the treatment and control groups, about 80 percent of the UI claimants who initiated REA program participation went on to complete the program. The explanation could be that, once an individual attends the initial session, he or she is equally likely to attend subsequent sessions, regardless of whether he or she receives additional emails encouraging attendance. In this scenario, only the first two emails are needed to produce the impact on program completion that we measured.

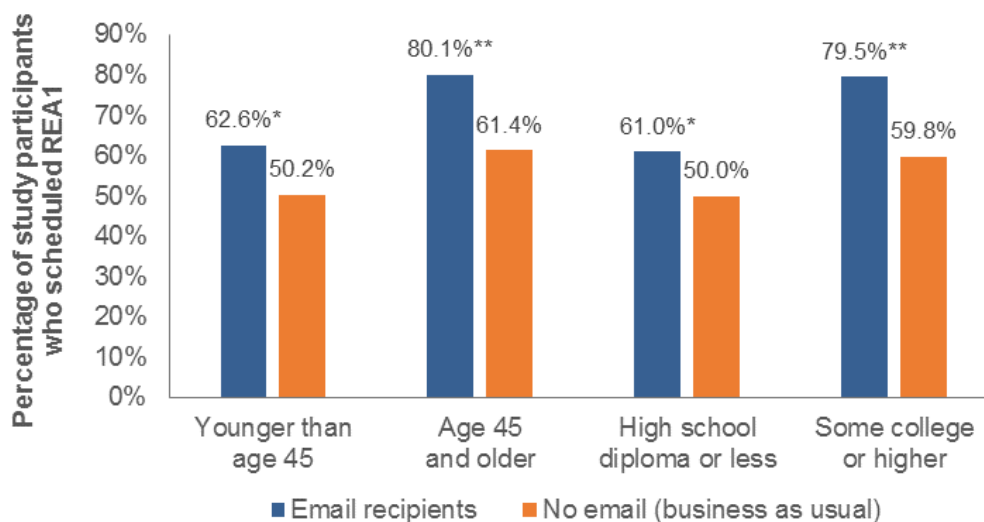
However, given that more treatment group members than control group members attend the first session, it is also possible that those attending the initial session as a result of the initial emails would be less likely to complete the program in the absence of additional emails. If that were the case, then the additional emails may boost the likelihood that these individuals will complete the REA program, resulting in equal completion rates among those attending the first session despite a lower initial likelihood of completion among some treatment group members who attend the first session. Unfortunately, our experiment results do not allow us to disentangle these two effects or allow us to determine which of these two potential explanations is more likely.

OUR STUDY DID NOT FIND ANY STATISTICALLY SIGNIFICANT VARIATION IN IMPACTS BASED ON THE AGE AND EDUCATION LEVELS OF PARTICIPANTS.

We examined the effects of the intervention across subgroups defined by age and education. For both analyses, we split the sample into two approximately equal-sized groups. For education, we compare individuals without a high school diploma, with a high school diploma, or with a GED to individuals who had completed some college courses. For age, we compare those younger than age 45 to those age 45 and older. We conducted these analyses for impacts on two outcomes: the rate at which the first REA session was scheduled (Figure IV.5) and REA program completion rates (Figure IV.6). Due to the small sample size, differences in impacts between the subgroups groups would need to be substantial for us to detect statistically significant results.

The effect of the intervention on scheduling the first REA session was generally positive and statistically significant in all subgroups but differences between subgroups were not significant. Within each subgroup, we see significant differences between treatment and control individuals in the rate at which the first REA session was scheduled. The effects were higher for individuals older than age 45 and for those who had attended some college. However, there were no statistically significant differences in impacts between the subgroups (for example, when comparing impacts for individuals younger than 45 with those for individuals 45 and older or when comparing impacts for those with high school diplomas or less to impacts for those with college degrees or higher).

Figure IV.5. Impact of emails on REA1 scheduling rates

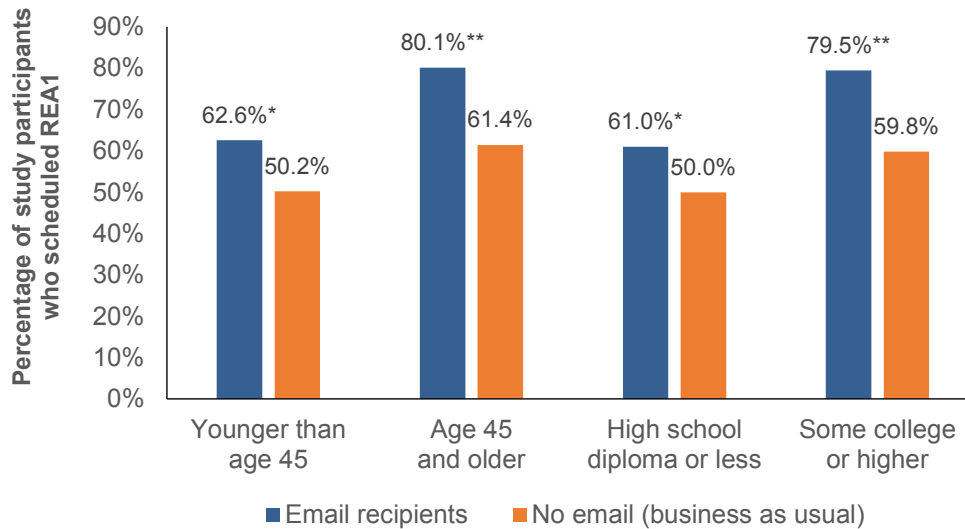


Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Asterisks refer to the statistical significance of the difference between those who received emails and those who did not.

Results were similar for REA program completion rates. For most groups, we continue to see significant differences between treatment and control individuals in the rate at which they completed the REA program. However, the impact is not statistically significant for individuals who had earned a high school diploma or less. Again, the effects were higher for individuals older than age 45 and for those who had attended some college. However, the differences in impacts among the two age subgroups and the two education subgroups were not statistically significant.

Figure IV.6. Impact of emails on REA completion rates



Source: Michigan Works! Southwest administrative data. See Appendix D for detailed tables.

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$. Asterisks refer to the statistical significance of the difference between those who received emails and those who did not.

V. Discussion and Lessons Learned

This chapter discusses the results we found and what they suggest for next steps. We also examine the lessons learned over the course of developing and implementing the trial.

Discussion of results

Our results suggest that sending targeted emails that draw on insights from behavioral science can be a compelling and low-cost strategy for increasing participation in reemployment programs. The emails increased the number of UI claimants who scheduled, attended, and completed the REA program.

Low-cost behaviorally informed emails generated substantial impacts. The intervention increased the rate at which UI claimants engaged with the REA program by 15.2 percentage points and increased the completion rate by 13.8 percentage points. Implementing the intervention was relatively inexpensive, with no direct costs associated with implementation other than limited use of staff time.

Impacts on REA program participation could translate into meaningful savings over the long term. Earlier evaluations of the REA program have shown that cost savings have accrued to DOL. For example, a randomized evaluation of the Nevada REA program showed that participation in REA reduced total UI benefits received by \$588 per claimant.¹⁶ However, REA participants in Michigan and the persons affected by our email interventions may differ from the average REA participant in Nevada. If so, reductions in average total UI payments in Michigan could be higher or lower.

Program effects were strongest after the first two emails. Our results appear to be driven by the increase in program engagement after the second email, reminding the claimants to schedule their first REA session, was sent out. The implication is that many claimants may have intended to respond to the first email or the Michigan UIA notification letter but failed to do so. In such cases, reminders are an effective method to increase the probability of response.

Our intervention has broad relevance and scalability. Our results are especially promising because of the intervention's low-touch, low-cost nature. (See Box V.1. for practitioner perspectives on what made the intervention effective.) Many American Job Centers already have the capability to send mass emails to UI claimants. In addition, a growing menu of affordable technology options can improve the management of mass emails (through, for example, personalization and the tracking of responses). It is therefore possible that many American Job Centers can implement similar mass email strategies and monitor their results. In other words, our findings may be relevant for a broad spectrum of reemployment service programs.

Email interventions may be effective even if many people do not read or open the email. Only 42.3 percent of claimants opened the initial email we sent them about the REA program, and we did not see a substantially different response across the other emails sent over the course of the trial. The average open rate across all emails was 41.2 percent, suggesting that emails can be an effective intervention even if many people do not open and read them. Accordingly, we crafted the email subject

lines and the content specifically for likely preview on a mobile device, assuming that many people would not read the email but might see the subject line. Either our intervention was highly effective among the population that actually opened the email, or the recipient's awareness of a message sent by a recognized sender on a relevant subject—as noted in the recipient's inbox—produced the desired effect.

Strategies to get people “in the door” can have a long-lasting effect. The email messages tested in the trial substantially increased the number of treatment group claimants who scheduled their first REA session. Those attending their first session then continued to participate in the program at the same rate as members of the control group. This suggests that interventions that prompt a simple initial behavior (such as scheduling and attending one meeting) may effectively increase engagement with subsequent actions that require sustained effort (such as attending a series of meetings associated with a program), especially when paired with additional reminders. Michigan Works! staff members also noted that many REA participants seemed more comfortable with the program after implementation of our intervention, though they did not know who was assigned to treatment. (See Box V.1 for practitioner perspectives on what made the intervention effective.)

Further investigation on what made the emails effective may be useful. We observe immediate impacts associated with the first two emails, with a substantial increase in the percentage of people who schedule their first REA session. However, following the initial scheduling, we do not see substantially different behaviors between the treatment and control groups, with approximately 80 percent of those who scheduled an REA session completing the program in both groups. Our experiment design does not allow us to state with certainty the effects of any given email or component of the overall intervention. Further work could examine either (1) the effect of sending a single email introducing the REA program without additional follow-up or (2) the effect of different follow-up emails. It may be possible to achieve similar results with a single email.

Box V.1. Practitioner perspective on the implementation of trials

We spoke with Eric Stewart, the Manager at Michigan Works! Southwest, to get a practitioner's perspective on our intervention. Below are some excerpts from our interview with his views on implementation:

The low cost of implementing the intervention

This was a pretty user friendly, low-cost, low-staff involvement process from our perspective. And that was part of the appeal. The team took a lot of steps in the process of creating the intervention to ensure that it didn't put a substantial burden on the staff.

Why the intervention worked

The REA emails helped to soften language that could turn off job seekers. It was more customer friendly, less formal. You can get a much higher response rate when the message is coming from a person with a name and not an 800 number.

The staff could tell who got the email just because of their demeanor when they came in. Before, people did not like receiving a letter saying they had to come in for the REA – it felt like receiving a jury summons. They were frustrated and didn't understand why they were being put through these extra steps. People who received the email were more willing to ask questions, and felt more comfortable interacting with the staff. The email focused on specific outcomes and claimants came engaged with how we could help them specifically rather than just with questions about the steps.

Lessons learned

While designing and implementing this trial, we drew several important lessons from our collaboration with Michigan Works! Southwest and the Upjohn Institute. For those who might be interested in pursuing such tests, we have reflected further on implementation lessons that we learned in the course of developing the trial. (For a broader discussion of the implementation lessons learned from this trial and from two other trials conducted as part of this project, please see the associated implementation findings report.¹⁷)

In-person brainstorming can speed the development of intervention designs and implementation plans. A two-day site visit to our partners at the Upjohn Institute and Michigan Works! Southwest allowed us to conduct a “deep dive” into the REA program and understand how it operated at Michigan Works! Southwest, diagnose possible causes for poor engagement, identify operational constraints, and propose intervention options. The exchange of information permitted us to identify the basic elements of our trials and draft initial letter concepts in an in-person meeting at the end of the site visit. We completed several iterations of the drafts via email in subsequent weeks and were able—in short order—to develop an intervention that incorporated several behavioral methods and took advantage of our partners’ existing communications and systems.

Monitor interventions and prepare to adapt to meet changing needs. As of June 8, only 16 UI claimants, on average, were referred to the REA program at Michigan Works! Southwest each week, substantially below the 25 claimants we had initially expected. The low numbers reduced our trial’s ability to measure the effect of the intervention. We worked with our partners and the Michigan UIA to expand the REA program’s geographic reach and to modify the email intervention to fit the expanded geographic base. Following the expansion, the REA program had an average of 33 referrals a week, double the initial caseload.

Partners can continue to develop and implement interventions on their own. Following our trial, the Upjohn Institute and Michigan Works! have continued to use behavioral insights to modify and improve their programs. In July 2015, they designed and implemented a reminder program aimed at increasing participation in Partnership·Accountability·Training·Hope (PATH), a welfare-to-work program. Like our REA trial, this intervention tested the effectiveness of small changes in communication to improve engagement with program services. Moreover, the success of the trial reported here has encouraged our partners to “take a giant step back...and rethink how we approach all of our work,” according to Eric Stewart, the manager at Michigan Works! Southwest. (See Box V.2 for additional insights on the wider benefits of these trials). The experience demonstrates how exposing workforce development and other social agencies to the behavioral diagnosis, design, and evaluation process may have benefits beyond the individual trials themselves (Box V.2).

Box V.2. Practitioner perspective on the benefits of these trials and behavioral science

Eric Stewart, the Manager at Michigan Works! Southwest also shared his perspective on the benefits of local workforce staff involvement in the application of behavioral science and more broadly the benefits of such research collaborations. Below are some excerpts from our interview:

Behavioral Insights

This trial helped us take a giant step back from our customer process and rethink how we approach all of our work. Finding simple changes like this is becoming a standard approach we are applying widely. These principles have infused every aspect of our work. . . It was a catalyst for our involvement in additional pilot initiatives.

Benefits of Research Collaborations

This project didn't just inform researchers, but can inform practitioners on the front lines. You and DOL should do everything you can to get more practitioners involved [in research trials]. It informs practice on the front line. Very rarely are practitioners' opinions sought out to test new strategies. And often it's a local thing. Very rarely does it make it to the national stage. We got to do a big presentation at a state-wide workforce conference and heard the project being mentioned during a visit to the national DOL office. You've got to find a way to infuse these approaches into the statewide workforce systems.

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- ² Michaelides, M., Poe-Yamagata, E., Benus, J., & Tirumalasetti, D. Impact of the Reemployment and Eligibility Assessment (REA) Initiative in Nevada. Employment and Training Administration Occasional Paper, 8. 2012.
- ³ We have limited information on the selection criteria for REA participants in Michigan. Based on the information provided, it appears that REA participants in Michigan were selected among those UI claimants who had two to four weeks of paid certifications (i.e., had begun receiving benefits recently), were new claimants, belonged to eligible locales and who did not have a labor market waiver or job attached waiver, were not short term layoffs or temporary layoffs, were not approved for training, did not belong to a union, and were not referred to profiling services (that is, were not at the top of the profiling score distribution).
- ⁴ Further research may examine the effects of the intervention on long-term employment and wage outcomes.
- ⁵ Karlsson, N., G. Loewenstein, and D. Seppi. "The Ostrich Effect: Selective Attention to Information." *Journal of Risk and Uncertainty*, vol. 38, no. 2, 2009, pp. 95–115.
- ⁶ Bhargava, S., and D. Manoli. "Psychological Frictions and the Incomplete Take-Up of Social Benefits: Evidence from an IRS Field Experiment." *The American Economic Review*, vol. 105, no. 11, 2015, pp. 3489–3529.
- ⁷ Social and Behavioral Sciences Team. "Annual Report." Executive Office of the President, National Science and Security Council: September 2015.
- ⁸ Goda, G.S., C.F. Manchester, and A. Sojourner. "What Will My Account Really Be Worth? An Experiment on Exponential Growth Bias and Retirement Saving." NBER Working Paper No. 17927. Cambridge, MA: National Bureau of Economic Research, 2012, pp. 1–43.
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- ¹⁰ Chetty, R., A. Looney, and K. Kroft. "Salience and Taxation: Theory and Evidence." *The American Economic Review*, vol. 99, no. 4, 2009, pp. 1145–1177.
- ¹¹ Milkman, K.L., J. Beshears, J.J. Choi, D. Laibson, B.C. Madrian. "Using Implementation Intentions Prompts to Enhance Influenza Vaccination Rates." *Proceedings of the National Academy of Sciences*, vol. 108, no. 26, 2011, pp. 10415–10420.
- ¹² Karlan, D., M. McConnell, S. Mullainathan, and J. Zinman. "Getting to The Top of Mind: How Reminders Increase Saving." *Management Science*, vol. 62, no. 12, 2016, pp. 3393–3411.

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¹⁶ Michaelides et al., 2012.

¹⁷ Lefkowitz, J., M. Darling, G. Chojnacki, I. Perez-Johnson, S. Amin, M. Manley. "Using Behavioral Science to Strengthen Labor Programs: Lessons Learned." Washington, D.C.: Mathematica Policy Research, May 2017.

APPENDIX A

BEHAVIORAL INTERVENTION DESIGN

Exhibit A.1. Behavioral map of REA enrollment process

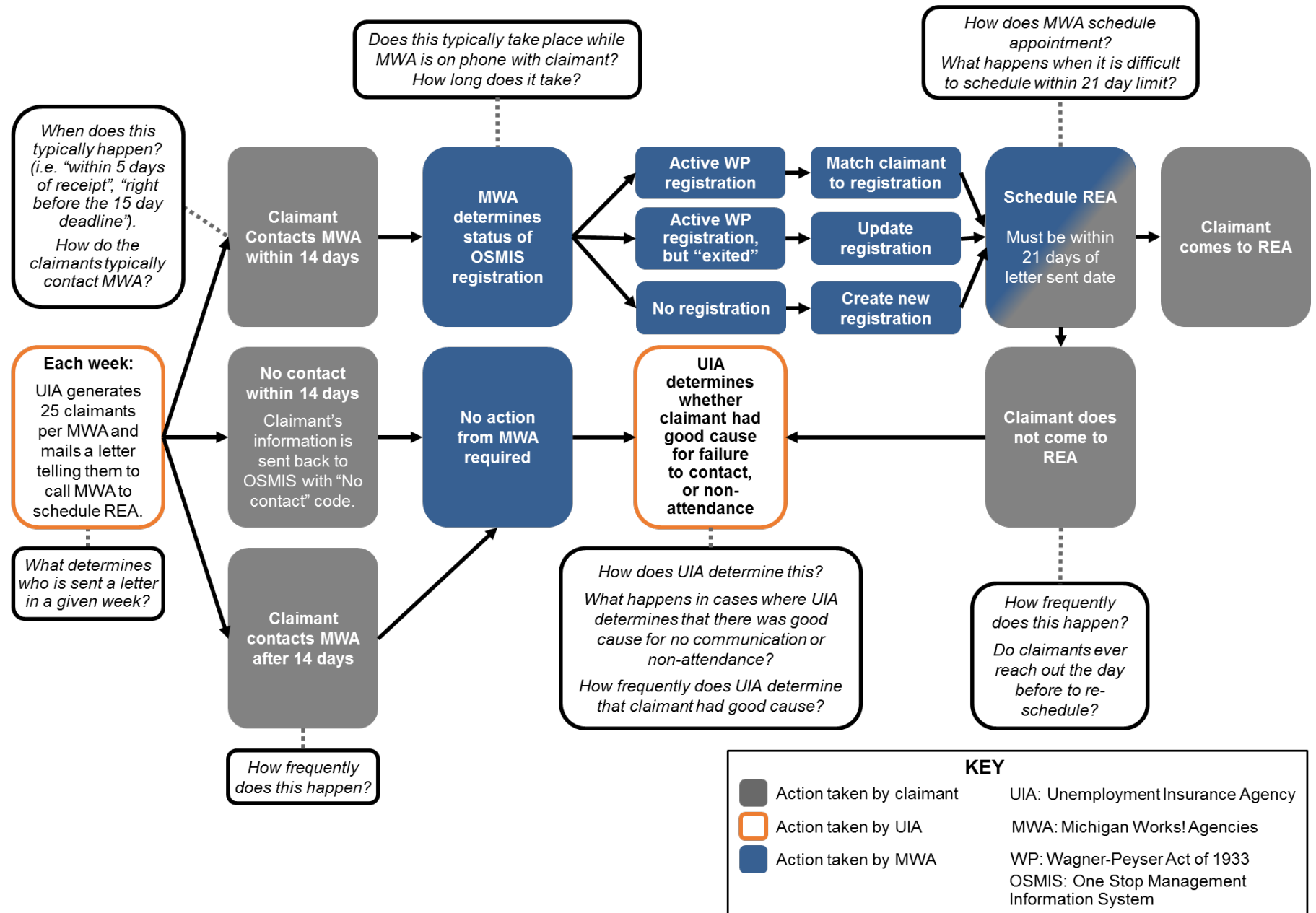


Exhibit A.2. First email: Asking claimant to schedule REA1

Subject: [Schedule your Michigan Works! assessment](#)

Short preview: [Your personalized Reemployment and Eligibility Assessment](#)

Dear (first_name),

Hi, I'm Darlene at Michigan Works! Southwest. Soon, you will receive a letter from the Unemployment Insurance Agency asking you to schedule a Reemployment and Eligibility Assessment within 14 days. The Michigan Unemployment Insurance Agency requires your participation in REA to continue unemployment benefits, but we at Michigan Works! Southwest view REA as an opportunity to help you get back to work.

Please call me at [269-488-7619](tel:269-488-7619) for Kalamazoo, [269-592-2049](tel:269-592-2049) for Three Rivers, or [877-256-8294](tel:877-256-8294) for Branch and Calhoun counties (whichever office is more convenient for you) as soon as possible to schedule your Reemployment and Eligibility Assessment.

We will work with you one-on-one to help you get reemployed in a good job. We can provide a variety of effective reemployment services at no cost to you. All our services are always provided free. We look forward to meeting you soon.

Sincerely,
Darlene, REA Coordinator



What to Do Next:

1. Call me today at [269-488-7619](tel:269-488-7619) (Kalamazoo), [269-592-2049](tel:269-592-2049) (Three Rivers), or [877-256-8294](tel:877-256-8294) (Branch and Calhoun) to schedule your REA appointment. I can be reached during regular business hours, Monday through Friday.
2. Bring the following materials to your appointment:
 - Your government issued photo identification.
 - Your recent monthly record of work search (UIA form 1583).
 - Your resume (if you don't have one, we can help you write one).
3. Come to your appointment at one of the following locations:
 - [Michigan Works!](#)
1601 S. Burdick Street
Kalamazoo, MI 49001
 - [Michigan Works!](#)
16587 Enterprise Dr. #5
Three Rivers, MI 49093
 - [Michigan Works!](#)
210 Vista Drive
Coldwater, MI 49036
 - [Michigan Works!](#)
135 Hamblin Avenue
Battle Creek, MI 49017

More Details about Michigan Works! REA:

Our new reemployment services program for REA participants is designed to help easily satisfy your job search requirements and make sure your unemployment benefits are not interrupted. You will meet one-on-one with an experienced reemployment services counselor to review your continued eligibility for UI benefits, discuss your recent job search efforts, and develop a personalized reemployment strategy using variety of employment services available at Michigan Works! Southwest.

Exhibit A.3. Second email: reminding claimant to schedule REA1

Subject: [Reminder to schedule your Michigan Works! assessment](#)

Short preview: [For your personalized Reemployment and Eligibility Assessment](#)

[first_name]

Last week I sent you an email about scheduling your Reemployment and Eligibility Assessment (REA) at Michigan Works! Southwest. I haven't heard from you yet. Please call me at [269-488-7619](tel:269-488-7619) for Kalamazoo, [269-592-2049](tel:269-592-2049) for Three Rivers, or [877-256-8294](tel:877-256-8294) for Branch and Calhoun counties (whichever office is more convenient for you) as soon as possible to schedule your REA if you're still looking for work.

The deadline for your REA is rapidly approaching and we want to make sure you don't lose this opportunity to work one-on-one with our team to make your job search as easy as possible. **If you don't call this week, you may lose access to your unemployment benefits.**

We look forward to meeting you soon.

Sincerely,
Darlene, REA Coordinator



What to Do Next:

1. Call me today at [269-488-7619](tel:269-488-7619) (Kalamazoo), [269-592-2049](tel:269-592-2049) (Three Rivers), or [877-256-8294](tel:877-256-8294) (Branch and Calhoun) to schedule your REA appointment. I can be reached during regular business hours, Monday through Friday.
2. Bring the following materials to your appointment:
 - Your government issued photo identification.
 - Your recent monthly record of work search (UIA form 1583).
 - Your resume (if you don't have one, we can help you write one).
3. Come to your appointment at one of the following locations (click the link for addresses):

[Michigan Works! Kalamazoo](#)

[Michigan Works! Three Rivers](#)

[Michigan Works! Branch County](#)

[Michigan Works! Calhoun County](#)

More Details about Michigan Works! REA:

Our new reemployment services program for REA participants is designed to help easily satisfy your job search requirements and make sure your unemployment benefits are not interrupted. You will meet one-on-one with an experienced reemployment services counselor to review your continued eligibility for UI benefits, discuss your recent job search efforts, and develop a personalized reemployment strategy using variety of employment services available at Michigan Works! Southwest.

Exhibit A.4. Third email: reminding claimant to attend REA2

Subject: [Reminder: Your next Michigan Works! assessment is tomorrow](#)

Short preview: [For your second Reemployment and Eligibility Assessment](#)

[first_name]

The Michigan Works! team enjoyed meeting you during your REA. We hope the program has been valuable so far and will continue to serve as a useful resource in your path towards reemployment. I'd like to remind you that **your second REA meeting is tomorrow.**

If you have any questions regarding your meeting tomorrow, please call me at [269-488-7619](tel:269-488-7619) (for Kalamazoo), [269-592-2049](tel:269-592-2049) (for Three Rivers), or [877-256-8294](tel:877-256-8294) (for Branch and Calhoun counties). We greatly appreciate your continued participation and look forward to seeing you again!

Sincerely,
Darlene, REA Coordinator



How to Prepare Before Your Meeting:

1. Bring the following materials to your appointment:
 - Your government issued photo identification.
 - Your recent monthly record of work search (UIA form 1583).
 - Your resume (if you don't have one, we can help you write one).
2. Spend about 30-60 minutes searching for job openings that you can discuss with your counselor on Pure Michigan Talent Connect at: <http://www.mitalent.org/job-seeker/>
3. Come to your appointment at one of the following locations (click the link for addresses):

[Michigan Works! Kalamazoo](#)

[Michigan Works! Three Rivers](#)

[Michigan Works! Branch County](#)

[Michigan Works! Calhoun County](#)

Exhibit A.5. Fourth email: reminding claimant to attend REA3

Subject: [Reminder: Your next Michigan Works! assessment is tomorrow](#)

Short preview: [For your third Reemployment and Eligibility Assessment](#)

[first_name]

The Michigan Works! team enjoyed meeting you during your REA. We hope the program has been valuable so far and will continue to serve as a useful resource in your path towards reemployment. I'd like to remind you that **your third REA meeting is tomorrow.**

If you have any questions regarding your meeting tomorrow, please call me at [269-488-7619](tel:269-488-7619) (for Kalamazoo), [269-592-2049](tel:269-592-2049) (for Three Rivers), or [877-256-8294](tel:877-256-8294) (for Branch and Calhoun counties). We greatly appreciate your continued participation and look forward to seeing you again!

Sincerely,
Darlene, REA Coordinator



How to Prepare Before Your Meeting:

1. Bring the following materials to your appointment:
 - Your government issued photo identification.
 - Your recent monthly record of work search (UIA form 1583).
 - Your resume (if you don't have one, we can help you write one).
2. Spend about 30-60 minutes searching for job openings that you can discuss with your counselor on Pure Michigan Talent Connect at: <http://www.mitalent.org/job-seeker/>
3. Come to your appointment at one of the following locations (click the link for addresses):

[Michigan Works! Kalamazoo](#)

[Michigan Works! Three Rivers](#)

[Michigan Works! Branch County](#)

[Michigan Works! Calhoun County](#)

Exhibit A.6. Fifth email: encouraging claimant to persist in job search (1)

Subject: [Michigan Works!: Make the most of your job search starting this week](#)

Short preview: [Creating your personal job search plan](#)

[first_name]

Congratulations on completing the Michigan Works! Reemployment Program. Our team has enjoyed working with you and hopes that our services strengthened your reemployment efforts.

It's the start of a new week and this is a great time to take your job search to the next level by setting goals and making plans to reach them. What do you want to achieve in your job search this week? How will you do it? Will you submit job applications, revise your resume, or attend a job search workshop? These services are always available at your local Michigan Works! office. Please go to our website to see dates for upcoming special reemployment events: [Schedule of Events](#)

As you continue your job search, making a written plan of when, where, and how you will search increases the chances of reemployment success. Use all the tools available to you. For example, you can use the format of your UI 1583 Form (Monthly Record of Work Search) to plan your job search (and then record what you did).

As always, our team remains committed to helping you succeed. Please come visit our office or contact us if you need any additional help with reemployment.

Sincerely,

Your REA team

CareerServices@michiganworks14.org



[Michigan Works! Kalamazoo](#)

Tel: 269-383-2536

[Michigan Works! Three Rivers](#)

Tel: 269-273-2717

[Michigan Works! Branch County](#)

Tel: 517-278-0200

[Michigan Works! Calhoun County](#)

Tel: 269-660-1412

Exhibit A.7. Sixth email: encouraging claimant to persist in job search (2)

Subject: [Michigan Works!: A new week, a new plan](#)

Short preview: [Creating your personal job search plan](#)

[first_name]

It's that time again! A new week, a new job search plan. Think about the steps you planned a few weeks ago. Did planning help you to be more successful in your path towards becoming reemployed? What can you change this time around to make your job search even more effective? Again, you can use your UI 1583 Monthly Record of Work Search as a format for planning employer contacts—what companies will you contact and when?

Want ideas for other job search strategies? Check out the schedule of events to be held at your local Michigan Works! Southwest office. Pick the ones you like and include them in this week's job search plan: [Schedule of Events](#). You can also look at recent Michigan Works! [success stories](#) for inspiration.

Our team is eager to help you reach your goals. Please call if you need any assistance.

Sincerely,

Your REA team

CareerServices@michiganworks14.org



[Michigan Works! Kalamazoo](#)

Tel: 269-383-2536

[Michigan Works! Three Rivers](#)

Tel: 269-273-2717

[Michigan Works! Branch County](#)

Tel: 517-278-0200

[Michigan Works! Calhoun County](#)

Tel: 269-660-1412

Exhibit A.8. Seventh email: encouraging claimant to persist in job search (3)

Subject: [Michigan Works!: Keep up the good work](#)

Short preview: [Additional services: let us help you succeed](#)

[first_name]

We hope your job search has been going well and would like to continue working together to help you reach your employment goals. As you may know, the maximum potential UI benefit duration is only 20 weeks, but Michigan Works! Southwest is *always* available with services and staff to help you find employment.

With the support of our dedicated team and a wide variety of reemployment services, we've connected countless job seekers to new careers with excellent pay and benefits. Recent participants have reported an increased confidence in presenting themselves to employers. Many have expressed appreciation for the help they received from our staff. Want to see results? Read some of our success stories here: [Personal Stories](#).

This is the last e-mail you will receive from us as part of the REA program. **However, we are always here to help you get back to work in a good job.** What opportunities will you take advantage of? Take a look at our [schedule of events](#) or "like" us on [facebook](#). Please reach out if we can help your job search in any way.

Sincerely,

Your REA team

CareerServices@michiganworks14.org



[Michigan Works! Kalamazoo](#)

Tel: 269-383-2536

[Michigan Works! Three Rivers](#)

Tel: 269-273-2717

[Michigan Works! Branch County](#)

Tel: 517-278-0200

[Michigan Works! Calhoun County](#)

Tel: 269-660-1412

APPENDIX B

EVALUATION DESIGN AND ANALYTIC METHODS

This appendix provides technical details on our evaluation design, data, and analytic methods to supplement the information provided in Chapter II.

I. Experiment Design

A. Data and sample selection

Michigan Works! Southwest began to operate the REA program on January 29, 2015. The program operated for almost nine weeks and served 115 individuals before our trial began. The first emails as part of our intervention were sent out on Monday, March 30. The intervention was initially limited to UI claimants in Kalamazoo and St. Joseph Counties, but we expanded our sample frame. As of July 20, we began to recruit claimants from Branch and Calhoun counties. In Table B.1, we show the week-by-week inflow of claimants into the REA program before and after the intervention.

Table B.1. REA inflow for analysis sample

Date	REA participants invited before intervention (excluded from analytic sample)	Control group	Treatment group	Events
1/29/2015	17	-	-	Beginning of REA enrollment
2/2/2015	1	-	-	
2/9/2015	23	-	-	
2/16/2015	24	-	-	
2/23/2015	25	-	-	
3/2/2015	17	-	-	
3/9/2015	8	-	-	
3/16/2015	-	8	7	Beginning of behavioral intervention
3/23/2015	-	10	4	
3/30/2015	-	10	7	
4/6/2015	-	4	4	
4/13/2015	-	10	9	
4/20/2015	-	5	5	
4/27/2015	-	8	7	
5/4/2015	-	9	10	
5/11/2015	-	9	10	
5/18/2015	-	9	10	
5/25/2015	-	10	10	
6/1/2015	-	11	11	
6/8/2015	-	6	7	
6/15/2015	-	10	9	
6/22/2015	-	13	13	
6/29/2015	-	16	17	
7/6/2015	-	10	10	
7/13/2015	-	14	14	
7/20/2015	-	18	18	Expansion to Branch and Calhoun counties
7/27/2015	-	19	19	
8/3/2015	-	19	20	
8/10/2015	-	19	19	
8/17/2015	-	19	20	
8/24/2015	-	17	18	
8/31/2015	-	18	19	
9/7/2015	-	20	20	
9/14/2015	-	16	17	
9/21/2015	-	20	20	
9/28/2015	-	18	18	End of REA program and behavioral intervention
Total	115	375	372	

Note: The table only includes the analysis sample. 6 claimants (4 in the treatment group and 2 in the control group) did not have customer ids in the system and were excluded from the final analysis sample which has 747 individuals.

Data sources for the study included Employment Services (ES) data, such as demographic variables, and the state of Michigan's One-Stop Management Information System (OSMIS), which tracked progress in the REA program. Our analysis data exclude six individuals who were assigned to the REA but whose customer IDs could not be found in the ES data extract.

In Table B.2, we summarize some of the characteristics of the analytic sample (only those assigned to treatment and control) using all available observations discussed above. The data available for the analysis pertain to age, education, veteran and dislocated worker status, and county of residence. Access to gender, race, and ethnicity information was restricted.

Table B.2. Characteristic information at baseline

Characteristic	Total
Sample size (N)	747
Age	
Average age	42.49
Age 24 and younger (%)	7
Age 25 through 44 (%)	48
Age 45 and older (%)	44
Education	
Less than high school diploma (%)	6.3
GED (%)	9.5
High school graduate (%)	32.1
Some college, associate's degree, certificate (%)	30.9
Bachelor's degree or higher (%)	21.2
Veteran status	
Veteran or eligible person (%)	7.4
Reason for unemployment	
Plant closure (%)	7.9
Layoff/termination (%)	51.9
Not a dislocated worker (%)	40.2
Location	
Kalamazoo County (%)	68.5
Calhoun County (%)	19.4
St. Joseph County (%)	7.6
Branch County (%)	4.1
Barry County (%)	0.3

Note: One individual included in the REA study's control group in Barry County, which was not otherwise a part of the trial.

B. Power analysis

We expected to be able to include 25 people for participation in the study each week, continuing for 30 weeks. We therefore estimated that the study sample would comprise 750 individuals, 375 in the treatment group and 375 in the control group.

We conducted a power analysis in STATA by using the “power” command. For our hypothesized effect size, we used a 10 percentage point increase in the rate at which people scheduled their first session. The effect size reflected the conversations with our partners about what increase would be considered meaningful. The effect size represented an increase from 55 to 65 percent in the observed current rate. Accordingly, we estimated that we would have an 80 percent probability of detecting such an effect at a 5 percent significance level.

C. Random assignment

The Upjohn Institute conducted random assignment every week when new individuals were assigned to participate in the REA program. Using a web-based report exported to Excel, Upjohn Institute staff extracted the list of REA claimants weekly from OSMIS and then assigned individuals to the treatment or control group by using the excel RAND() function, which generates a random number uniformly distributed between zero and one.

Initially, individuals assigned to a random number below 0.5 were placed in the control group, and individuals with a number of 0.5 or greater were assigned to the treatment group. However, such a method of assignment led to a disparity between treatment and control groups, with more individuals randomly assigned to treatment than to control.

Beginning with the April 6, 2015, cohort, we modified the approach to provide a more balanced assignment given the small inflow counts. Once random numbers were generated for all persons in the weekly extract, we sorted the data by that random number (lowest to highest). The first person was assigned to the treatment group, the second to the control group, the third to the treatment group, and so on.

D. Outcomes

Our study focuses on three outcomes:

1. **Scheduling the initial REA session:** Whether an individual contacted Michigan Works! Southwest to schedule their first REA session
2. **Attendance at REA sessions:** Whether an individual attended the first, second, and third REA sessions (REA1, REA2, and REA3)
3. **Completion of REA program:** Whether an individual completed all three REA sessions or found employment

Future analyses may examine the effects of the intervention on UI claims and wages after the interventions.

Contamination occurs when (1) individuals assigned to a treatment arm do not receive the intended treatment or (2) individuals assigned to the control arm receive one of the treatment interventions. Contamination reduces estimates of the effectiveness of an intervention relative to the intervention’s true effects.

We have no indication that any contamination of the second type occurred. However, some individuals assigned to treatment were not treated or did not receive the full treatment. First, 15 individuals assigned to the treatment group did not receive any emails: 4 individuals did not have an email address at randomization, and 11 had an invalid email address. Second, some individuals did not receive one or more of the email messages. All individuals assigned to the treatment group who had a valid email address were sent the first and second emails, asking them to schedule the first REA session. However, 14 (out of 239) individuals were not sent the email reminding them to attend their second REA session, and 10 (out of 211) did not receive the email reminding them to attend the third REA session. Most omissions occurred because the reminder emails were not sent out on Columbus Day, October 12, which was a federal holiday. In addition to individuals with invalid addresses, some individuals assigned to the treatment group could have had valid but inactive email addresses and never saw the email reminder.

In all cases, our analysis includes all people who were assigned to the treatment or control condition, irrespective of whether they were able to receive the email intervention. If the intervention were replicated with a different sample, it is likely that the sample will also contain some invalid email addresses. Therefore, our findings should be considered “intent-to-treat” estimates—that is, they measure impacts among those intended to be treated rather than among those who were actually treated. Impacts among those actually treated could potentially be greater than the impacts we report.

II. Analytic Methods

We list in Table B.3 the analyses we conducted to examine impacts of the email interventions.

Table B.3. Description of analyses

Analysis number	Effect studied	Groups compared
1	Open rates	n/a (all treatment)
2	Scheduling first REA session	Treatment and control
3	REA attendance rates	Treatment and control
4	REA completion rates	Treatment and control

The study’s principal experimental impact estimates, calculated in analyses 2 through 4, use a simple test of proportions to measure impacts on the binary REA outcomes (measures of whether a claimant scheduled or attended REA sessions or successfully completed the REA program). The test statistic in these estimated impacts on binary outcomes is calculated as follows:

$$(1) \quad z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}_P \hat{q}_P \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

where

$$(1a) \quad \hat{p}_P = \frac{x_1 + x_2}{n_1 + n_2}$$

x_1 and x_2 are the total number of successes in the relevant treatment and control group, and

(1b)
$$\hat{q}_P = 1 - \hat{p}_P$$

Aside from analyzing effects for the full study sample, we examined effects among subgroups with the following characteristics:

- Younger and older than age 45
- High school graduate (or less education) and some college (or more education)

APPENDIX C
BASELINE EQUIVALENCE

In this appendix, we provide a detailed table and additional information to supplement the discussion of baseline equivalence in Chapter III.

The validity of our impact estimates depends on whether the treatment and control groups in the analysis sample had similar characteristics at baseline. To help verify that groups were similar, we assessed whether the two groups showed statistically significant differences in observable baseline characteristics.

Table C.1. Differences between treatment and control group members in baseline characteristics

Characteristic	Control group	Treatment group	Difference
Sample size (N)	375	372	
Age			
Average age	42.4	42.6	0.1
Age 24 and younger (%)	6.1	8.1	1.9
Age 25 through 44 (%)	49.6	47.3	-2.3
Age 45 and older (%)	44.3	44.6	0.4
Education			
Less than high school diploma (%)	6.7	5.9	-0.8
GED (%)	7.7	11.3	3.6
High school graduate (%)	32.5	31.7	-0.8
Some college, associate's degree, certificate (%)	32.5	29.3	-3.2
Bachelor's degree or more (%)	20.5	21.8	1.2
Veteran status			
Veteran or eligible person (%)	6.4	8.3	1.9
Reason for unemployment			
Plant closure (%)	8.0	7.8	-0.2
Layoff/termination (%)	50.9	53.0	2.0
Not a dislocated worker (%)	41.1	39.2	-1.8
Location			
Kalamazoo County (%)	68.8	68.3	-0.5
Calhoun County (%)	21.1	17.7	-3.3
St. Joseph County (%)	6.9	8.3	1.4
Branch County (%)	2.7	5.6	3.0*
Barry County (%)	0.5	0.0	-0.5

Note: The "difference" column shows the arithmetic difference between values for the two groups. Because values in the "difference" column are rounded to the nearest tenth after being subtracted, they may not always be the same as the differences between the rounded values for each group. Significance levels: * $p < 0.05$, ** $p < 0.01$. One individual included in the REA study's control group in Barry County, which was not otherwise a part of the trial.

We observe one significant difference between the subgroup in the treatment and control group: a higher percentage of individuals in the treatment group originated in Branch County.

APPENDIX D

DETAILED TABLES ON STUDY FINDINGS

In this section, we present detailed tables of impact estimates and summaries of key findings organized by our research questions.

A. RQ1: Did the emails improve the initial response/scheduling rate for the UIA notification letter relative to the status quo?

Before turning to impact, we examine the open rates for emails, which we obtained through MailChimp. We see a fairly consistent pattern in email open rates, with rates for any given email ranging from 32.9 to 47.7 percent (Table D.1). The average open rate across all messages was 41.2 percent. We expected that some individuals might not choose to open the email. Our designs therefore included short subject lines that conveyed the importance of the message, even if the recipient looked only at the email title. In addition, we used the “short preview” feature from MailChimp to provide additional context for people who merely skimmed their inbox.

Table D.1. Summary of open rates

Email message	Total emails sent	Total emails opened	Email open rates
REA1	357	151	42.3%
REA1 (reminder)	238	94	39.5%
REA2	216	103	47.7%
REA3	195	88	45.1%
Persistence 1	177	71	40.1%
Persistence 2	146	48	32.9%
Persistence 3	116	41	35.3%
Total	1,445	596	41.2%

In Table D.2, we show the impact of the intervention on scheduling each REA session.

Table D.2. Impact on scheduling REA sessions

Outcome	Control group	Treatment group	Difference
Scheduled REA1	55.2%	70.4%	15.2%**
Scheduled REA2	50.7%	64.2%	13.9%**
Scheduled REA3	44.8%	56.7%	11.9%**
N	375	372	

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

Across all three sessions, individuals who were assigned to receive the email intervention were more likely to schedule their REA session.

B. RQ2: Did the emails improve the attendance rate for the REA sessions?

In Tables D.3 and D.4 we examine the impact of the intervention on attendance at REA sessions and no-show rates.

Table D.3. Impact on attending REA sessions

Outcome	Control group	Treatment group	Difference
Attended REA1	50.9%	65.3%	14.4%**
Attended REA2	44.8%	57.0%	12.2%**
Attended REA3	41.6%	52.7%	11.1%**
N	375	372	

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

Table D.4. No-show rates

Outcome	Control group		Treatment group		Difference
	%	N	%	N	
Did not attend scheduled REA1	7.7%	207	7.3%	262	-0.005
Did not attend scheduled REA2	11.6%	190	11.3%	239	-0.003
Did not attend scheduled REA3	7.1%	168	7.1%	211	0.000

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

We continue to see a statistically significant positive impact from the intervention on REA sessions that are attended. The impact of the intervention on session attendance is similar to the impact on scheduling an REA session. Across the treatment and control groups, we do not see a significant difference in the percentage of individuals who did not show up for a scheduled REA session.

C. RQ3: Did the emails improve the completion rate for the REA program?

Individuals are considered to have completed the REA program if they exited as a result of finding employment before completing the third REA session. As such, to measure completion rates, we must add those who completed all three sessions to those who reported that they found employment.

Table D.5. REA program completion rates

Outcome	Control group	Treatment group	Difference
Attended REA3	41.6%	52.7%	11.1%**
Reported finding employment before REA3	1.3%	4.0%	2.7%*
Completed REA program	42.9%	56.7%	13.8%**
N	375	372	

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

We continue to see an increase in completion of the REA program in its entirety (Figure D.5). More individuals in the treatment group report that they found employment. The outcome may indicate greater engagement with Michigan Works! Services and, in turn, higher rates of reporting employment outcomes.

D. RQ4: Did the effects of the email substantially differ across key subgroups?

Table D.6. REA scheduling and completion by age

Outcome	Younger than age 45			Age 45 and older			Difference-in-difference
	Control group	Treatment group	Difference	Control group	Treatment group	Difference	
Scheduled REA1	50.2%	62.6%	12.4%*	61.4%	80.1%	18.7**	6.3%
Completed REA program	35.4%	47.1%	11.7%*	52.4%	68.7%	16.3%**	4.6%
N	209	206		166	166		

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

When we separate our analyses by age, we see that the impacts on both scheduling the first REA and completing the REA program are positive and statistically significant for each subgroup. Although the magnitude of impacts is greater for those older than age 45, the differences between the two groups above and below age 45 are not statistically significant.

Table D.7. REA scheduling and completion by education

Outcome	High school diploma or less			Some college or higher			Difference-in-difference
	Control group	Treatment group	Difference	Control group	Treatment group	Difference	
Scheduled REA1	50.0%	61.0%	11.0%*	59.8%	79.5%	19.7%**	8.7%
Completed REA program	37.5%	47.3%	9.7%	47.7%	65.8%	18.1%**	8.3%
N	176	182		199	190		

Note: Significance levels: * $p < 0.05$, ** $p < 0.01$.

When we separate our analyses by education, we see that there are positive and statistically significant impacts on scheduling the first REA session for each subgroup. Although the more educated population (some college or higher) tends to register larger impacts on scheduling the first REA session than those with a high school diploma or less, the difference between the groups is not statistically significant. Impacts on REA program completions are statistically significant only for those with a college education. Again, the differences between the two groups on this outcome are not statistically significant.

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