



Behavioral Interventions for Compliance Assistance: Design Report

Final Report

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I. Introduction

A critical goal of the Wage and Hour Division (WHD) of the U.S. Department of Labor (DOL) is to enforce federal labor laws that protect more than 143 million workers in the United States and its territories. In pursuit of this goal, WHD's compliance assistance activities provide education and tools to employers to promote voluntary compliance with the rules and regulations WHD enforces. DOL's Chief Evaluation Office, in collaboration with WHD, contracted with Mathematica Policy Research to design a behavioral intervention (BI) study that, if implemented, would generate evidence on how WHD could increase employer engagement with compliance assistance activities. Mathematica worked in close collaboration with DOL to identify an opportunity to design a BI that would ultimately help WHD promote employer engagement with compliance assistance webinars. This report describes a process for identifying potential BIs and details two possible interventions, including approaches to piloting, implementing, and evaluating the interventions; outcomes of interest, and options for overcoming potential challenges.

To guide this work, we followed a six-step process for designing and conducting BIs. We used this process because it was developed with DOL input and incorporates learning from the agency, and has been used successfully in several behavioral trials to produce meaningful evidence (Lefkowitz et al. 2017). The first three steps in that process serve as the framework for the design presented in this report. Those steps are to (1) understand areas where program performance could be improved, (2) diagnose the potential behavioral bottlenecks in place, and (3) design interventions that address those bottlenecks and evaluations to learn whether the interventions work. The last three steps, (4) support implementation of the BI; (5) test its effectiveness; and (6) learn from and share the findings, could serve as a framework for implementing the study.

The BI study could test whether direct emails to stakeholders can increase engagement with WHD's compliance assistance webinars. Two distinct behavioral trials were designed to test whether emails written using principles of behavioral science are more effective than standard emails at getting employers to register for webinars that provide information on how to comply with federal wage laws. Each one is a randomized controlled trial (RCT), the most rigorous method for accurately estimating the impact of an intervention. The lessons learned from these trials could inform WHD outreach strategies, particularly around the use of behavioral insights to promote participation in compliance assistance.

- The targeted trial is designed to test whether webinar registrations increase when behavioral strategies are applied to emails targeting a given industry. Emails, customized to industry groups, would be sent to employer associations to encourage them to forward the emails to their members and urge those members to register for the webinar. The emails would be sent to employer associations that appear in contact lists maintained by WHD's Compliance Outreach Resource and Planning Specialists (CORPS).
- The national trial would test whether behavioral strategies applied to a more general email can encourage stakeholders to register for a webinar, and would use a rapid-cycle design to investigate whether particular behavioral strategies are more effective than others. It would not target a specific industry or type of stakeholder. Instead, these emails would be sent to a broad set of 130,000 stakeholders on the national Key News listserv maintained by WHD.

This report presents intervention and evaluation designs for the two trials. Section II describes the challenges that WHD currently faces in engaging employers in compliance assistance and discusses

suggestions from past research for potential solutions. Section III discusses current WHD approaches and the behavioral bottlenecks that may be at play. Sections IV and V present the intervention and evaluation designs for each of the trials. The appendix contains exhibits of email templates that could be used in the trials.

II. Overview Of Current WHD Processes

WHD would like to encourage employers' engagement with compliance assistance in order ultimately to increase voluntary compliance. Following the process described in the introduction, Mathematica set out to understand areas where program performance could be improved—the first step in the process. We gathered information from multiple sources. We held fact-finding discussions with WHD national office staff, including key personnel from the agency's communications division; regional CORPS staff; and Granicus, the contractor for WHD's email platform. In addition, we conducted a careful review of available documentation and materials, including email announcements and press releases developed by WHD, as well as relevant BI literature.

This process showed how WHD:

- Has developed a compliance assistance strategy that includes a number of resources to promote voluntary compliance with the rules and regulations WHD enforces. Resources include webinars, press releases, flyers, fact sheets, and interactive processes designed to help employers identify compliance issues and respond appropriately to become compliant. The agency provides these resources online and through the Wage and Hour Publication System.
- Currently uses various approaches to promote engagement with the compliance assistance resources. At the national level, these include (1) sending email announcements about new initiatives to stakeholders on the agency's national Key News listserv, (2) linking to online resources and web pages in press releases published on the DOL website and disseminated by media outlets, and (3) featuring specific resources on the agency's home page and social media accounts. Regionally, the CORPS share materials at the various events they attend and send press releases and resources to stakeholders on their email lists.

WHD believes that these compliance assistance resources can be used more broadly and would like to promote their use, as such resources have the potential to improve compliance efficiently relative to costly investigations. A review of literature on theories of employer behaviors around compliance with rules and regulations supports the potential to use existing WHD compliance assistance resources more effectively to promote compliance (Dolfin et al. 2018). Specifically, the review highlights how rational-choice, social, and behavioral theories provide a lens onto thinking about how employers make compliance decisions and how various types of resources can influence such decisions.

Research also suggests that direct outreach to employers grounded in behavioral insights can promote engagement with compliance assistance. For example, Juras et al. (2015) found that sending letters to employers promoting OSHA's on-site consultation program increased consultation requests. Chojnacki et al. (2017) found that a BI that included several direct communications targeted at employers who were cited for OSHA violations improved compliance with citations. The intervention was designed to prompt employers to expect the coming citation, distill key information, provide concrete action steps, and remind them to act.

Research on BIs addressing individuals' tax compliance reinforces how direct communications can encourage desired actions in this context. The Behavioural Insights Team of the Cabinet Office in the United Kingdom conducted eight BIs targeting tax compliance using modified reminder letters (Behavioural Insights Team 2012). These experiments involved different insights from behavioral science such as social norms, salience, procrastination, complexity (tasks involving high cognitive burden), personalization (using real names and information specific to the recipient rather than generic titles and

general information), and reciprocity (emphasizing services provided). In general, they found positive impacts of these modified messages on compliance behaviors when compared with standard messages. In a review of 32 natural field experiments that used letters to increase tax compliance, most of the studies also found positive impacts (Hallsworth 2014). However, while most of the letters that used deterrence approaches—such as emphasizing the threat of sanctions and penalties—were effective, the results were mixed for letters that used other approaches, such as invoking social norms. Although most of these studies target individuals rather than employers, their focus on tax compliance makes them broadly similar to the subject of compliance with labor laws. In all these studies, the BIs used some form of direct communication to the targeted population, including letters and emails.

Based on this research, and following our fact-finding discussions and review of existing documentation and materials, we identified a particular type of compliance assistance effort that could be improved using a behavioral intervention: encouraging employers to register for and view compliance assistance webinars using email communication. Compliance assistance webinars are recorded presentations that can be viewed at any time. They provide comprehensive information about a regulatory topic in a convenient, interactive format, allowing users to go at their own pace. Webinars were identified as a good entry point for a BI based on several factors, including their potential to reach a large audience of employers and influence their compliance; the ability to measure employers' engagement with them; and WHD's interest in promoting them. In addition, a BI study centered on promoting webinars could inform and potentially improve how WHD develops communications to promote other compliance assistance resources as well.

III. Behavioral Diagnosis

We formulated hypotheses about why employers fail to respond to WHD's approach to disseminating webinars, the second step of the BI development process. Our diagnosis is grounded in the behavioral science literature, the fact-finding discussions we held with national and regional WHD staff, and our review of existing communications. We focused on diagnosing, in the employer's decision-making process, the most likely behavioral bottlenecks that could prevent email communication from encouraging them to participate in compliance assistance. As described below, the diagnosis might be refined after receipt of targeted input from a small group of potential email recipients about the two interventions.

1. **Employer fails to notice the email or thinks it is spam.** Typical email subject lines and press release titles may not grab the attention of employers who are unaware of the content or what it could mean for them. Because people have *limited attention*, they use conscious and subconscious heuristics to decide which stimuli to notice (Kahneman 2011). Communications that do not grab readers' attention cannot inspire desired actions (Levin and Baker 2015).
2. **Employer does not evaluate the information in the email.** Even after noticing a communication, employers may not fully evaluate the information in it. Information in existing WHD communications is typically presented in blocks of paragraphs, without any formatting. Eye-tracking research suggests that people focus on headings, boxes, and images, often ignoring detailed text (Behavioural Insights Team 2012). In particular, the *complexity* of information about regulations or compliance could discourage people from reading through communications (Johnson et al. 2012; Bettinger et al. 2009). In addition, the reading level of WHD written materials is often at a college level, which is considered difficult to read (media articles are typically written at or below a 9th-grade level).
3. **Employer is not compelled to click on the embedded link or register for the webinar.** Existing communications do not emphasize the *salience* of compliance assistance: how it can help employers avoid costly penalties. Even after reading a communication, employers may not be compelled to act if they perceive their own risk of noncompliance to be low; believe their risk of detection is slight or that the impacts of noncompliance are low; or discount that future risk due to present bias (O'Donoghue and Rabin 1999). Finally, they may not view compliance (or engaging in compliance assistance activities) as a social norm in their industry (Hallsworth 2014; Hallsworth et al. 2017).
4. **Employer procrastinates or forgets to view the webinar.** Communications do not typically provide simple action steps or highlight the urgency of acting, both of which can help people overcome their tendency to *procrastinate* in taking action. Even an employer who feels compelled to participate in a compliance assistance activity may not act immediately. People often procrastinate when faced with cognitively challenging tasks, especially when there are "hassle" factors that present unnecessary complications to taking the desired action (Bertrand et al. 2004) or when the cost or effort associated with the task is felt much sooner than the benefit it produces (Laibson 1997; Ariely and Wertenbroch 2002). Without simple action steps or a clear signal of urgency, employers may not prioritize acting quickly and may later forget about the opportunity if they do not receive a reminder.

Based on this behavioral diagnosis, we worked with WHD to design two types of behavioral interventions that address the bottlenecks, the third step of the BI process. One intervention applies behavioral insights to an email targeted by industry, and the other applies behavioral insights to a broad national email. We discuss the targeted trial in Section IV and the national trial in Section V. Within each section, Section A discusses the design of the intervention email and how it uses behavioral concepts to address behavioral bottlenecks. Section B describes how the intervention might be piloted. Section C details how the

intervention could be implemented. Section D discusses (1) the random assignment design, (2) outcomes and data used to measure them, (3) the statistical power available for the trial as of the writing of this report, and (4) how researchers could analyze the trial data. Section E describes potential challenges for the trial and solutions to them.

IV. Targeted Email Intervention

This intervention uses an email customized to specific industry groups to test whether targeted communications using behavioral insights can improve engagement with compliance assistance resources by increasing registration for a webinar. The email is customized to an industry group by (1) including content from a press release that has information about investigations in a specific industry, and (2) relating the subject of those investigations to the content of the webinar. Customizing information to industry sectors has been shown to increase compliance (Johnson 2018).

Industry-level customization is possible because the CORPS maintain contacts with employer associations in different industries. In addition to allowing for industry-level customization, sending the emails to employer associations allows the BI to take advantage of their membership networks and the built-in trust that may already exist between the associations and their members. However, because the intervention targets employer associations that are already on contact lists of the CORPS, the results of the trial may not generalize to the population of employer associations that the CORPS are not in contact with.

To accommodate industry-level customization and leverage the employer association networks, the intervention seeks to promote two different types of stakeholders to take two different actions. First, the email addresses employer associations and encourages them to forward the announcement within the email to their members. Second, once the announcement is forwarded, it is designed to encourage employers to view the webinar. Since this intervention involves two types of stakeholders and promotes two different actions, we designed behavioral strategies for each one, though some of the strategies overlap.

Exhibits 1–4 in the appendix contain four draft email templates that are designed to overcome bottlenecks for both employer associations and employers. Exhibit 1 contains annotations illustrating the behavioral strategies used in developing the text and designs. At the top of each template is a brief, personalized message addressed to the contact person at the employer association with a direct request to forward the rest of the email to their members. This message is followed by a webinar announcement that clearly targets employers and is easy for employer associations to forward. The four draft templates feature different design options, but all follow this same structure and text.

The draft templates could be refined and customized to different industries based on input from employer associations. Before implementing the trial, researchers could obtain input from employer associations on the design of the BI and email templates, including the industry-specific customization and potential bottlenecks to forwarding the email to employers. The draft templates in Exhibits 1–4 are tailored to the restaurant industry to demonstrate the industry-specific information that the templates would include. However, each template would be customized to the industry groups represented in the employer associations on CORPS' contact lists.

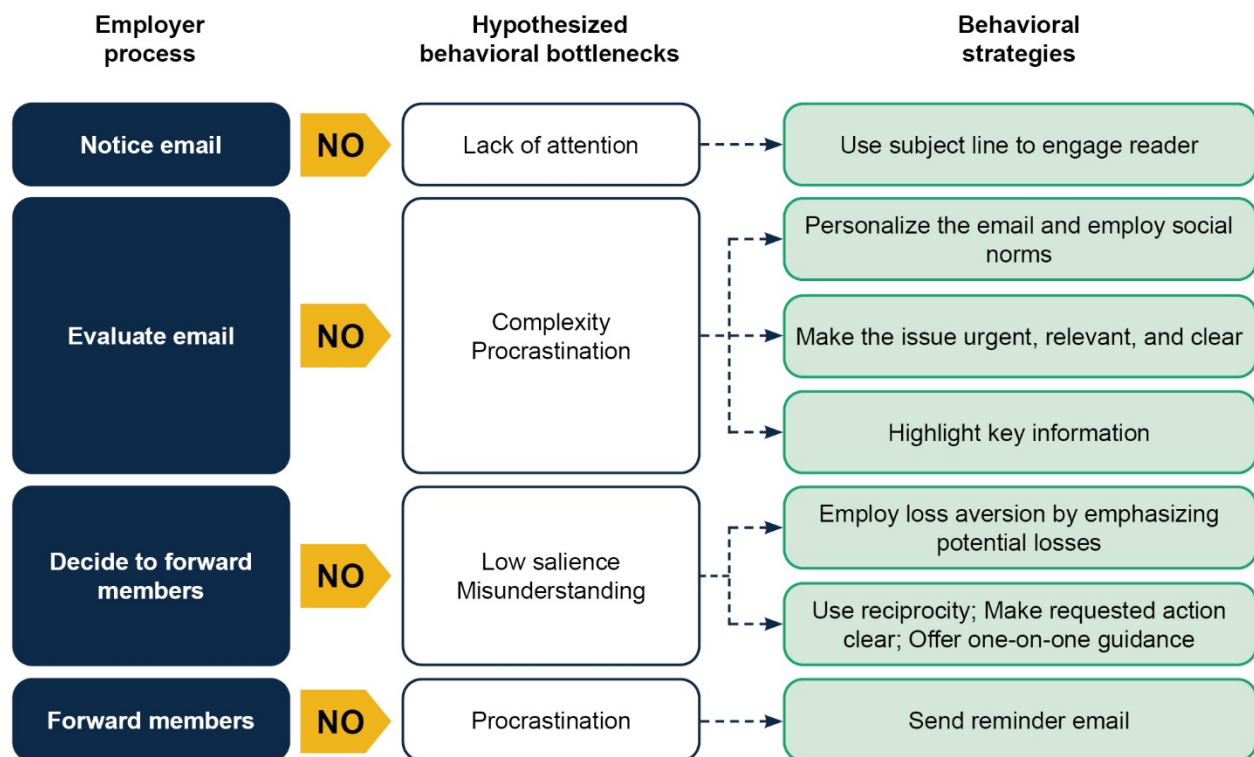
A. Framing the intervention

Because employer associations are the initial recipients of the emails, the first part of the message is targeted to them and is designed to encourage them to forward the announcement to their members. The announcement, which makes up the second part of the email, is designed to encourage employers to view the webinar. We discuss the behavioral strategies deployed for each separately.

1. Framework for employer associations

In designing this BI, we first considered behavioral strategies to encourage employer associations to forward the email. The hypothesized bottlenecks identified in the behavioral diagnosis (Section III) discuss employers because both trials are designed ultimately to encourage them to view the webinar. However, the bottlenecks, such as limited attention, low salience, complexity, and procrastination, are also applicable to employer associations; and several of the steps discussed in the diagnosis section apply to employer associations, such as noticing and evaluating the email. Figure 1 shows the process for the employer association upon receiving the email, including the link between behavioral bottlenecks and the intervention strategies that address them.

Figure 1. Behavioral map for employer associations in targeted intervention



The email message to employer associations incorporates the following behavioral strategies to help overcome the hypothesized bottlenecks and encourage the recipient to forward the webinar announcement:

- **Use a subject line that engages readers.** To overcome the employer association’s limited attention, we developed a subject line designed to grab attention and appeal to the association’s mission to support their members. Because email subject lines are an important factor in determining whether an email is opened, researchers could pilot alternative subject lines with employer associations before finalizing the template.
- **Personalize the email.** The email begins with a personal address to the contact at the employer association, using their first name to encourage them to read on. The email continues to directly address the contact in a personal, relatable tone. Finally, it is signed by a CORPS staff person who has made prior contact with the employer association contact. Personalizing messages, such as by using

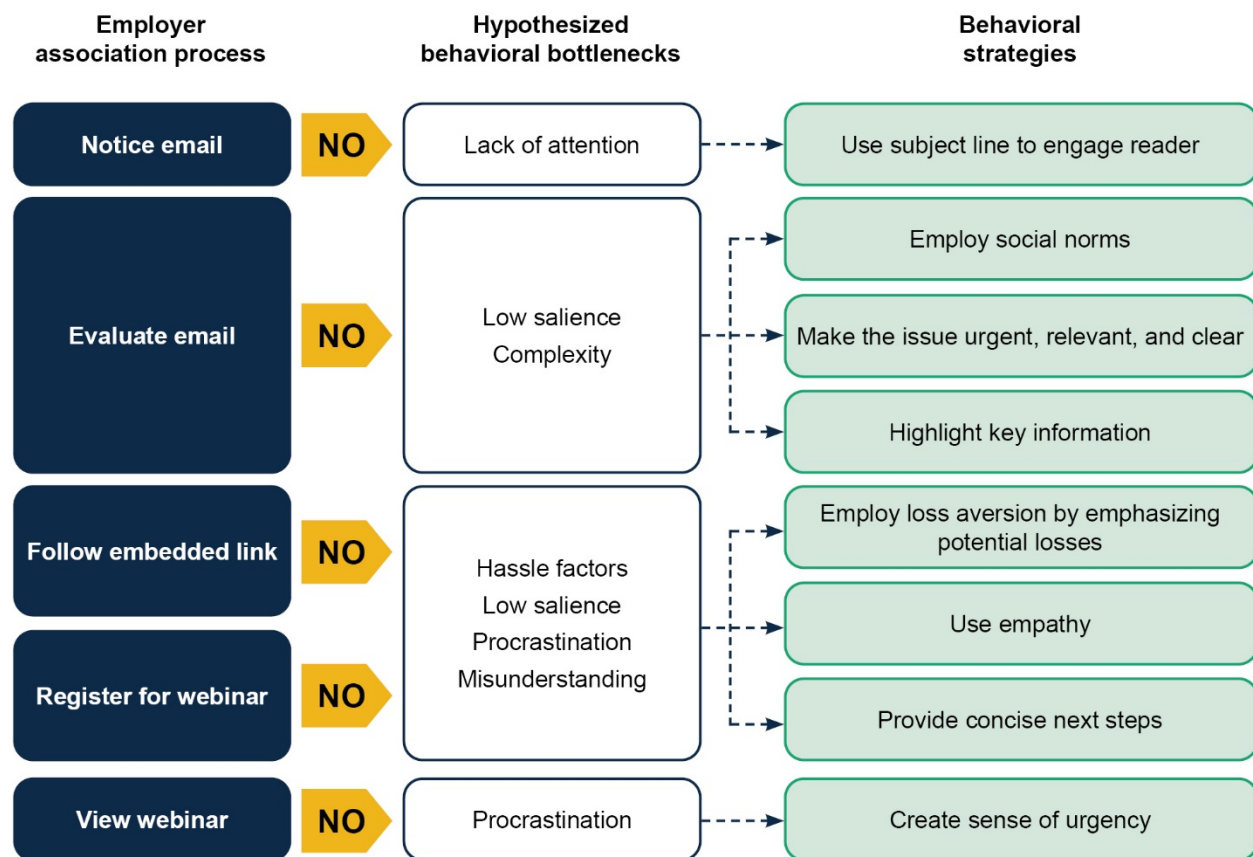
the recipient's name, has been shown to improve response rates for online and written communications (Postma and Brokke 2002; Darling et al. 2017).

- **Make the issue urgent, relevant, and clear.** To encourage the employer association to evaluate the email, we made the information urgent and relevant, focusing early in the text on the possibility that employers in the association's industry might not know whether they are violating federal minimum wage and overtime laws. The message emphasizes the salience of this possibility by highlighting information on the amount of back wages paid by employers in their industry. The text is short and plainly stated, distilling the essential information into a few key points.
- **Highlight key information.** The email makes effective use of formatting to bring attention to the hyperlinks that highlight two key pieces of information: (1) the amount of back wages paid by employers in the association's industry, and (2) the free webinar. The email message is followed by a dividing line and a webinar announcement that the employer association can easily forward.
- **Employ loss aversion.** The text addressed to employer associations emphasizes that their members could "miss out" if they do not receive the webinar announcement. This message follows the information on the amount of back wages paid by employers in their industry to emphasize the possibility that their members could be negatively affected if they are out of compliance and do not receive the webinar announcement.
- **Use reciprocity.** The text frames the webinar as a free resource specifically created for employers in the association's industry to help them avoid costly penalties. This is designed to encourage the employer association to forward the email, as they would be passing along valuable and free information, thus doing a service for their members. In addition, the template thanks the recipient for helping the CORPS pass on this opportunity, provides contact information for the CORPS, and offers to answer any questions. When information about support services is presented this way, people may be motivated to take the encouraged action (Fehr and Gächter 2000; Behavioural Insights Team 2012).
- **Make requested action clear.** The email includes a clear call to action that plainly asks the employer association to "forward the announcement below today."
- **Offer one-on-one guidance.** Providing the option for employer associations to contact the CORPS can serve to answer any lingering questions or misunderstandings that could prevent them from forwarding the announcement to their members. People may also be more likely to respond to messages from public agencies when they are written from a named individual (Behavioural Insights Team 2012).
- **Send reminder email.** If after a determined amount of time (for example, a week) the employer association has not forwarded the email, as part of the intervention they would receive a simple reminder email. Reminders have been shown to influence behavior in multiple contexts (for example, Bhargava and Manoli 2015; Karlan et al. 2016; Gilbert and Zivin 2014).

2. Framework for employers

The second part of the email—the webinar announcement—is designed to encourage employers to take the desired action of registering for the webinar. Figure 2 illustrates the process for employers upon receiving the email forwarded from their association. After noticing and evaluating the email, they must choose to follow the embedded link, register, and participate in the webinar.

Figure 2. Behavioral map for employers in targeted intervention



The following important behavioral principles are implemented in the webinar announcement to employers to help them overcome potential bottlenecks to these actions.

- **Use a subject line that engages readers.** Employer associations may change the subject line before forwarding the webinar announcement to their members. However, if they decide to forward the message with the original subject line, employers would see that the email relates to helping them comply with wage and overtime laws.
- **Employ social norms.** To encourage participation in compliance assistance, the webinar announcement text establishes that it is common for employers in the recipient’s industry to be unaware that they are out of compliance, and that hundreds of business owners have watched DOL webinars. Social norms can be particularly effective at encouraging a desired action when they relate strongly to the target audience (Dolan et al. 2010).
- **Make the issue urgent, relevant, and clear.** To encourage the employer to evaluate the webinar announcement, the text begins with the possibility that the recipient’s business could be violating minimum wage and overtime laws. The text further makes this possibility salient by highlighting information on the amount of back wages paid by employers in their industry and stating that many such employers do not realize they are violating federal minimum wage and overtime laws “until it’s too late.”
- **Highlight key information.** The webinar announcement makes effective use of headings, boxes, and images to highlight key information linked to the other behavioral insights discussed here. For

example, employers may be more likely to notice the hook (“Could *your* restaurant be violating minimum wage and overtime laws?”) because the text is large, bolded, and in color. In turn, this hook employs salience to encourage the recipient to read on. Such formatting can make messages more persuasive by helping readers process the information (Kahneman 2011).

- **Employ loss aversion.** The template emphasizes the potential risk of an investigation and costly penalties to capitalize on loss aversion—the documented tendency to be more sensitive to potential losses than potential gains (Tversky and Kahneman 1991). This information is presented within the context of the recipient’s industry to make it more salient. It can also increase the perceived risk and impact of noncompliance.
- **Use empathy.** The template text identifies with employers, acknowledging that regulations can be confusing, and frames the webinar as a free resource created to help employers in their industry avoid costly penalties. The CORPS we spoke to when diagnosing behavioral bottlenecks stressed that employers may fear that engaging with WHD could increase their risk of an investigation, so to overcome potential misunderstandings, the template emphasizes that information about who registers for the webinar is not shared with investigators.
- **Provide concise next steps.** The webinar announcement for employers includes simple step-by-step guidance to reduce the burden or hassle factors associated with registering for the webinar. Specifying the steps explicitly can make a behavior more likely (Amin et al. 2017). The template’s emphasis on the ease and speed of registration can reduce procrastination as employers become aware that signing up requires minimal effort.
- **Create a sense of urgency.** To limit procrastination further, the template also highlights the increased risk of an investigation if a potential violation remains unaddressed.

B. Piloting the intervention

The study could pilot the email to employer associations with a select group of employer association representatives. As part of this piloting, the study could learn more about fielding the intervention. For example,

- Are employer associations more likely to forward an email from the CORPS, or more likely to take the content and formulate it in their own email? If they are more likely to forward it, would a link that automatically generates a new email to members be a worthwhile feature?
- Do employer associations have one group of “members,” or do they have various audiences they interact with and need more clarity on which ones to forward the announcement to?
- How many members does the typical association have? This would inform the power analysis discussed in Section IV.D.3.
- Do employer associations think that their members are more or less likely to view the webinar if it is clearly branded as a DOL product?
- How frequently do associations send emails to their members, and how often do they send emails informing them of opportunities to learn about regulations?

C. Implementing the intervention

To identify the industries to target in the trial, researchers could collect contact lists from the CORPS, filtering each list to identify employer associations and then grouping the associations by industry.

Researchers could work with WHD to minimize the number of groups and maximize the number of employer associations available for the trial, while keeping the groups narrow enough for the email to be well targeted.

After identifying the employer associations, researchers could gather input from them to tweak and finalize the templates for each industry group so that the information is relevant to the recipients. In particular, researchers could use a different image and press release, and change several words such that the text refers to the relevant industry. Although the emails targeting various industries are intended to be tailored and would thus slightly differ from one another, they would incorporate the same messaging and design elements and would be similar enough that they are clearly part of the same intervention.

To evaluate the effectiveness of the targeted emails that are enhanced with insights from behavioral science, researchers should use an RCT to compare them to targeted emails without behavioral elements. WHD's central email platform would send both types of emails to the employer associations, but the emails would be sent with the CORPS's name listed at the bottom of the email and in the "from" field. The treatment group would receive the emails like the ones displayed in Exhibits 1–4 in the appendix, and would also receive a reminder email sent by the central email platform. The control group would receive email versions of press releases that are germane to the particular industry, with information about the webinar at the end. (Exhibit 5 in the appendix presents an example of an email the control group could receive.) Although the CORPS sometimes email press releases to stakeholders on their email lists, this practice is not systematic, and the control emails would have to be generated for the trial.

D. Evaluating the intervention

The evaluation of the intervention was designed to rigorously answer the primary research questions of interest: Can an email using insights from behavioral science encourage stakeholders to engage with WHD's compliance assistance webinars more effectively than a standard email that contains a press release? Specifically, are employer associations that receive the email designed with behavioral insights more likely to forward it to their members, and are members more likely to register for the webinar? We propose to answer these questions with an RCT, the most rigorous research design to test whether differences in outcomes are caused by the intervention being tested rather than by other factors. Since treatment and control groups would be generated randomly, the validity of the impact estimates would be protected from any underlying differences that may exist among various stakeholders in their propensity to engage with WHD.

1. Random assignment

Once the group of employer associations has been defined, researchers could randomly assign half of them, within each industry group, to receive the treatment emails. That is, each industry group would have the same number of treatment and control employer associations by design. This improves precision by ensuring that the treatment or control group does not, by random chance, end up with a disproportionate percentage of employer associations from any given industry.

Once the random assignment procedure is completed, each of the employer association email addresses would be associated with a treatment condition, the CORPS whose list it originated from, and the contact information for that CORPS. WHD's email platform would use these inputs to generate a treatment or control email automatically for each employer association, where the sender would be listed as the appropriate CORPS, with their name and contact information at the bottom of the email.

2. Outcomes of interest and data to measure them

The emails are designed to persuade employer associations to forward them to their members and encourage those members to register for the webinar. As a result, the primary outcome of interest for the trial is the number of employers, per employer association, that register for the webinar. In addition, whether or not the employer association opened and forwarded the email are key intermediate outcomes of interest. These outcomes represent the mechanisms through which the intervention is designed to encourage employers to register for the webinar.

Examining these intermediate outcomes would inform WHD more precisely about the effectiveness of the intervention. For example, if the intervention was effective in getting employer associations to open the email but did not affect other outcomes, this might suggest that the subject line of the intervention email was effective in getting recipients to read it, but that the content did not persuade them to forward it. If it was effective in getting employer associations to forward the email but did not affect whether or not the employers followed the embedded link, this might suggest that the intervention email was effective for employer associations but not convincing for the employers to whom it was forwarded.

The trial relies on two data sources to measure the outcomes: the email delivery system and the webinar software. The email system collects data for each recipient email address in the trial on the total number of times the email was opened and the total number of times the embedded link to the webinar registration page was clicked on, either by the initial recipient or any additional recipients to whom the initial recipient forwarded the email. To track whether employer associations forward the email, researchers could make inferences from the number of times the email is opened for a given recipient. For example, if the system records one email opening for an employer association, this likely implies that they did not forward it. If it records hundreds of email openings for one employer association, one can infer that the recipient forwarded the email to its members.

Researchers could rely on the webinar software to capture the ultimate outcome of interest, webinar registrations. Each email would contain a link that would be unique for each employer association, such that each webinar view can be attributed to a particular association. The webinar software would record the number of registrations for each employer association. Note that because it is not possible to observe employers that do not register for the webinar, the final outcome of interest is the number of registrations for each employer association; therefore, the unit of observation is the employer association and not the employer. Consequently, this is not a clustered design but rather an individual random assignment design. Table 1 summarizes the source for each outcome, along with the specific data that would be used for each outcome and the measure created for it.

Table 1. Outcomes of interest, data sources, and measures

Outcome of interest	Data source	Data collected	Outcome measure
Intermediate outcomes			
Opening email	Email platform	Number of times email was opened	Whether or not the email was opened at least once
Forwarding email	Email platform	Number of times email was opened	Whether or not the employer association forwarded the email, inferred from whether it was opened multiple times
Final outcome			
Following link embedded in email	Email platform	Number of times embedded link was accessed	Number of employers that accessed the link for each employer association

There are two limitations regarding the outcomes and the way they would be measured:

1. Employers may belong to more than one employer association, which means they could have multiple emails forwarded to them with different registration links. The forwarded emails could all be treatment emails, all control emails, or a mix of both. If an employer receives both types of email, it may or may not present a threat to the method researchers would use to record the outcome. For example, if an employer receives both types of emails but is compelled to take action only by the treatment email, then they would click the treatment email link, and the result captured by the data would be appropriate. However, suppose an employer receives the treatment email first and plans to register for the webinar but does not do so immediately. Further suppose that the employer then receives the control email, which reminds her of her plan to register, upon which she registers. In this case, both emails may deserve “credit” for getting the employer to register, but the data would give credit only to whichever email she clicked on to register for the webinar. If the outcome is measured imprecisely, it may be more difficult to detect a true impact of the intervention.
2. The intervention would ideally convince employers to change their practices to comply with relevant laws. However, registering for the webinar does not necessarily indicate that employers changed their compliance behaviors. For example, there may be specific questions that employers have about federal wage and overtime laws that are not answered in a general webinar. Therefore, some employers may view the webinar but still not be able or willing to address their particular compliance issue. There are no readily available measures of these kinds of behaviors, and creating and collecting such data and then linking them to employers who might receive forwarded emails is not feasible within the scope of this trial.

3. Statistical power

To determine how large the true impact of the behaviorally designed emails would have to be for the trial to have a strong chance of finding a statistically significant impact ($p \leq 0.05$), we conducted a power analysis for the final outcome of interest: the number of webinar registrations per employer association. The power analysis reveals the smallest true impact of the intervention that would result in a statistically significant estimated impact with high probability (80 percent chance). The minimum detectable impact (MDI) depends on, among other features, the sample size and the variation in the outcome.

To estimate the number of recipients available for the trial, we assumed that contact lists could be collected from 35 CORPS and that the lists would have 15 email addresses of employer associations each, on average, for the types of industries WHD would like to target.¹ This would result in 525 employer associations being included in the trial. Since this is an estimate, we also calculated MDIs for trials with more or fewer recipients. Because we do not have a readily available estimate for what the standard deviation (SD) of the number of registrations per employer association in the control group would be, we calculated the MDI in SD, or effect size units. Table 2 displays the MDIs for different total numbers of recipients:

¹ To develop this assumption, we reviewed the contact lists from eight CORPS sent to us by WHD.

Table 2. MDIs (in standard deviations) for different sample sizes

	Total number of employer associations included in trial		
	400	525	700
Minimum detectable impact	0.28 SD	0.25 SD	0.21 SD

Note: MDIs were calculated using a significance level of 0.05 and a power parameter of 0.80. We also assume that half the recipients would be randomly assigned to the treatment group and half to the control group.

Unless the intervention has a sufficiently large true impact, the trial might not provide conclusive evidence about its effectiveness. As an example, if there are 525 employer associations in the sample and the SD of the number of registrations per employer association in the control group is 5, the MDI would be 1.25 registrations. In other words, if on average the employer associations in the treatment group have at least 1.25 more webinar registrations than the associations in the control group, the trial would be likely to detect the impact as statistically significant. While in practical terms it may seem that the trial is sufficiently powered because it can detect an impact this small under this example, 0.25 SD is generally considered to be a large impact in social science research.

4. Analysis

To analyze the results of the trial, we recommend that researchers use the RCT-YES software, which Mathematica developed for the Institute of Education Sciences for the purposes of analyzing RCTs (Schochet 2016). The methods deployed by RCT-YES rely only on the principles of the random assignment design and none of the usual assumptions underlying ordinary least squares (OLS) and other model-based estimation, such as normally distributed error terms.² Using a design-based analytic approach is especially important in this trial, where outcomes like the number of registrations per employer association and whether or not an employer association forwarded the email are unlikely to have a normal distribution.

Although the design-based methods are built from different assumptions, the designed-based estimator for the treatment effect is the familiar difference in average outcomes between the treatment group and the control group, just as it would be using OLS:

$$\hat{\delta} = \bar{Y}_T - \bar{Y}_C$$

Here, $\hat{\delta}$ is the estimated impact, \bar{Y}_T is the average outcome in the treatment group, and \bar{Y}_C is the average outcome in the control group.³

² Typical assumptions underlying model-based estimation include linearity, normally distributed error terms with constant variances, and constant treatment effects. The alternative design-based methods used in RCT-YES build on the research of a number of prominent statisticians and econometricians, including Imbens and Rubin (2015); Freedman (2008); Heckman (2008); and Imai et al. (2009).

³ The estimate of the variance of $\hat{\delta}$ is different from what it would be under OLS (see Schochet 2016 for more details). Since the estimated variance of the impact is used to calculate t -statistics, confidence intervals, and p -values that determine statistical significance, these parameters are also different under RCT-YES. These differences are due to the lack of an assumption about the distribution of the outcome and the fact that the design-based method allows the treatment group variance to be different from the control group variance.

E. Overcoming challenges

There are some challenges associated with the targeted trial:

1. Statistical power is limited. With a limited number of employer association email addresses available from each CORPS, the statistical power available for the trial is quite limited. In other words, the intervention could have a sizable impact, but researchers would not be able to determine whether the estimated impact was due to a true impact or simply random chance. At the start of the trial, researchers should update the power calculations based on the actual number of employer associations in the CORPS email lists to confirm that the trial would generate useful results and work with DOL to determine whether it should move forward with it.
2. The success of this trial depends on the decision of employer associations to forward the email to their members. Although incentivizing employer associations to forward the email (for example, by offering recognition or a prize) might be appealing, such incentives can be politically challenging. For example, an association that is recognized might have members with high rates of noncompliance. Before finalizing the design of this trial, researchers should interview a small group of employer associations to obtain their feedback on the process of forwarding emails and pilot the template designs. Researchers could use their input to assess whether the intervention appears viable, identify ideas to encourage cooperation, and refine plans accordingly.
3. The templates require customization. Several words in the email template must be altered for each industry, and different press releases must be identified for each. After analyzing the employer associations in the CORPS email lists, researchers should work with WHD to identify the set of industry groups that minimize the amount of customization necessary while maximizing the number of associations that can be included in the trial. Researchers could hold discussions with a select group of employer associations on how best to customize the emails, including whether they should be translated to other languages, so that they are well targeted and retain the behavioral components we have designed.
4. The emails can be sent only to employer associations that are already on the CORPS contact list. Therefore, they would reach employer associations that have already engaged with WHD in some capacity and might be more likely to do so again. For this reason, the results of the intervention may not apply to employer associations that have not had any contact with WHD.

Another way to address many of the challenges associated with the targeted trial is to conduct a second national BI, described in the next section. This national trial has a large sample size, does not require recipients to forward the message as an intermediate step, and does not include customization. Furthermore, it could provide useful information about the types of messaging strategies that are most effective before finalizing and testing the targeted trial.

V. National Email Intervention

The second trial uses the Key News listserv of email addresses maintained by WHD's national office to overcome the challenges presented by the first trial. This listserv contains about 130,000 email addresses for a variety of WHD stakeholders, including employers, employer associations, advocacy groups, and others, providing more than ample sample size for the study. In addition, the emails sent to the listserv would be general, rather than targeted, because stakeholders from many different industries and sectors are on the list and WHD does not have any information about recipients, other than their email address, to use for the purposes of targeting. Finally, if a general email to the national listserv designed based on insights from behavioral science is effective at getting employers to register for a webinar, then in the future it may be much easier to scale than the targeted emails, because it does not require customization.

A. Framing the intervention

This trial is designed to test whether a more general email communication sent to a broader audience could be improved with insights from behavioral science. The hypothesized behavioral bottlenecks that recipients on the national listserv might experience when receiving an email communication are the same as those of the employers in our earlier behavioral diagnosis (as summarized in Figure 2): lack of attention, low salience, complexity, hassle factors, procrastination, and misunderstanding. As a result, the email template in the national intervention addresses these bottlenecks using many of the same design elements outlined for the targeted intervention.

The template for the national intervention (Exhibit 6 in the appendix) consists of a webinar announcement that is very similar to the one in the targeted intervention, but without any industry-specific customization. Rather, the text in the national intervention is adapted to be general to any industry. For example, this email provides information about back wages paid by employers in all industries rather than just one particular industry. Aside from this adaptation, all the design elements in the national email template are the same as in the targeted email template discussed above, including generating a subject line that grabs readers' attention; making the issue urgent, relevant, and clear; highlighting key information; and emphasizing loss aversion, empathy, and social norms.

One advantage of this trial design is that the large sample size available allows researchers to test and refine the template using a rapid-cycle design: a series of tests we can use to iteratively evaluate and improve the email template as necessary, based on the results. This rapid-cycle testing is more likely to lead to the development of an effective email template than conducting only one test of one behaviorally informed email, because it allows researchers to learn from the results of an initial test and improve the intervention. Rapid-cycle testing like this is not feasible in most settings, where sample sizes are limited or there are long lags between when the intervention is delivered and when outcomes are measured. But it is feasible in this trial because of the large number of available email addresses and the relatively short period between the sending of the emails and the measuring of the outcomes.

Once the tests reveal that a particular email template has proven to be effective, researchers could also incorporate multiple treatment arms into the trial. The multiple treatment arms can illuminate which behavioral concepts drive recipients to take the desired actions. For example, researchers could test whether an email that stresses only deterrence is more effective than one that emphasizes empathy and social norms, and compare each one to the primary email template that features all the strategies in combination. This is a key question raised in the behavioral literature on tax compliance, where it is still

unclear whether non-deterrence approaches are as effective as deterrence approaches in increasing compliance (Hallsworth 2014). We explain the evaluation design in more detail in Section IV.C.

B. Piloting the intervention

Before finalizing the design of the templates, researchers should pilot the email with a small group of recipients (which could include WHD staff and members of the study team) to test the technical features of the emails. For example, researchers could:

- Confirm that the Granicus email platform would produce reliable data by conducting a pilot test in which emails are sent to project staff involved in the trial. These staff would open the pilot email, forward it, and register for the webinar, keeping track of which of these activities they performed. The data would then be collected as planned, and the outcome data would be compared with staff records of their activities.
- Conduct tests to ensure that images in the template appear as intended across various email platforms, including Outlook and Gmail.
- Explore the technical feasibility of adding a link to the email template that allows recipients to save a webinar appointment or reminder on their calendars. This could reduce the possibility of procrastination.

In addition to conducting these technical tests, researchers should pilot different versions of the template with a select group of employer and employer association representatives. As part of this piloting, the study could learn more about fielding the intervention. For example,

- What are their reactions to different types of messaging strategies, particularly those where behavioral insights are ambiguous about their effects? For example, it is unclear whether emphasizing that the webinar is free could be helpful or harmful. Similarly, the emphasis on DOL and the confidentiality of the webinar might be interpreted differently from what was intended. Researchers could also pilot different versions of the messaging strategies in the email template, such as reciprocity and salience. For example, a different way to make the email salient could be to open with a difficult compliance question that convinces the recipients that they need to learn about WHD rules and regulations. Finally, a pilot could provide an opportunity to test other potential strategies, such as commitment and consistency messaging.
- Would they find it useful to receive the information from the webinar in an email attachment (for example, in a flyer or document)? This could become an additional treatment arm in this trial. Although receiving an attachment could make it easier for recipients to access and share the information, it might make it more difficult for researchers to measure outcomes.
- Would they find it useful to receive a certificate of completion which recognizes that they completed the webinar? This could become an additional treatment arm in this trial.

C. Implementing the intervention

To implement the national intervention trial, researchers would work with WHD's communications office, which oversees the Key News listserv. Implementation would be more straightforward than in the targeted intervention trial, as researchers would not need to gather CORPS' contact lists, create groups of employer associations, and tailor the templates for each group of employer associations. However,

researchers should still follow a similar process of discussing and piloting the template with employers and employer associations before finalizing its design and testing its effectiveness.

For the first test in the rapid-cycle design, the treatment group would receive the primary template discussed above (Exhibit 6 in the appendix), and the control group would receive a general email announcement about the webinar (including a link to it) that resembles a typical WHD email announcing other resources.

D. Evaluating the intervention

As with the targeted trial, the national trial would be an RCT to generate rigorous evidence. It is designed to test whether emails sent directly to employers that incorporate behavioral insights are more likely than standard emails to encourage employer engagement. It focuses on whether the recipient opens the email, follows the embedded link, and registers for the webinar.

To increase the likelihood that the trial would develop an effective intervention, we designed rapid-cycle tests that exploit the large sample size available. First, researchers would examine the impact of the treatment email from Exhibit 6 against the control email with the general announcement. If that test shows a positive impact on the desired actions, they would test additional treatment emails to gain a deeper understanding of the particular behavioral strategies that are most effective. If instead the test does not reveal a positive impact, they would modify the treatment email and conduct a second test, iterating until they have either found an effective treatment or used all the email addresses available for the trial. This rapid-cycle design is described in further detail in the following sections.

1. Random assignment

Stakeholders on the Key News listserv would be randomly assigned into treatment and control conditions, as with the targeted trial. However, with roughly 130,000 email addresses on the list, assigning stakeholders to just two different conditions would result in excess statistical power: the power for the trial would be only slightly greater than if we used only 60,000 total email addresses. Instead of randomly assigning recipients to only two groups, a better use of the available sample size and statistical power would be to conduct more tests.

Researchers would begin with a random sample of 10,000 of the 130,000 email addresses, a sample large enough to detect relatively small impacts but not so large as to have excess power. They would further randomly assign these 10,000 email addresses into a treatment and a control group. The treatment group would receive the email from Exhibit 6, and the control group would receive the email with the general announcement. Researchers would analyze the outcome measures, described in further detail in the next section, and test for a treatment effect using the RCT-YES software and methods described in Section IV.C.4.

If researchers find a significant impact, they would take the remaining 120,000 email addresses and randomly divide them into three treatment and two control groups. Researchers would generate two additional treatment emails to obtain evidence about the effectiveness of particular messaging strategies (labeled *Treatments B* and *C* in Figure 3 below). One treatment group would receive a version of the behaviorally modified email that stresses only the potential penalties and other risks associated with being out of compliance with WHD regulations (Treatment B). For example, the heading of the announcement in the first treatment email could be:

Could your business be at risk of facing large penalties for minimum wage and overtime violations?

As a contrast to this deterrence-focused approach, the second treatment group could use a version with only the language emphasizing empathy and social norms (Treatment C). For example, the heading for the second treatment group email could be:

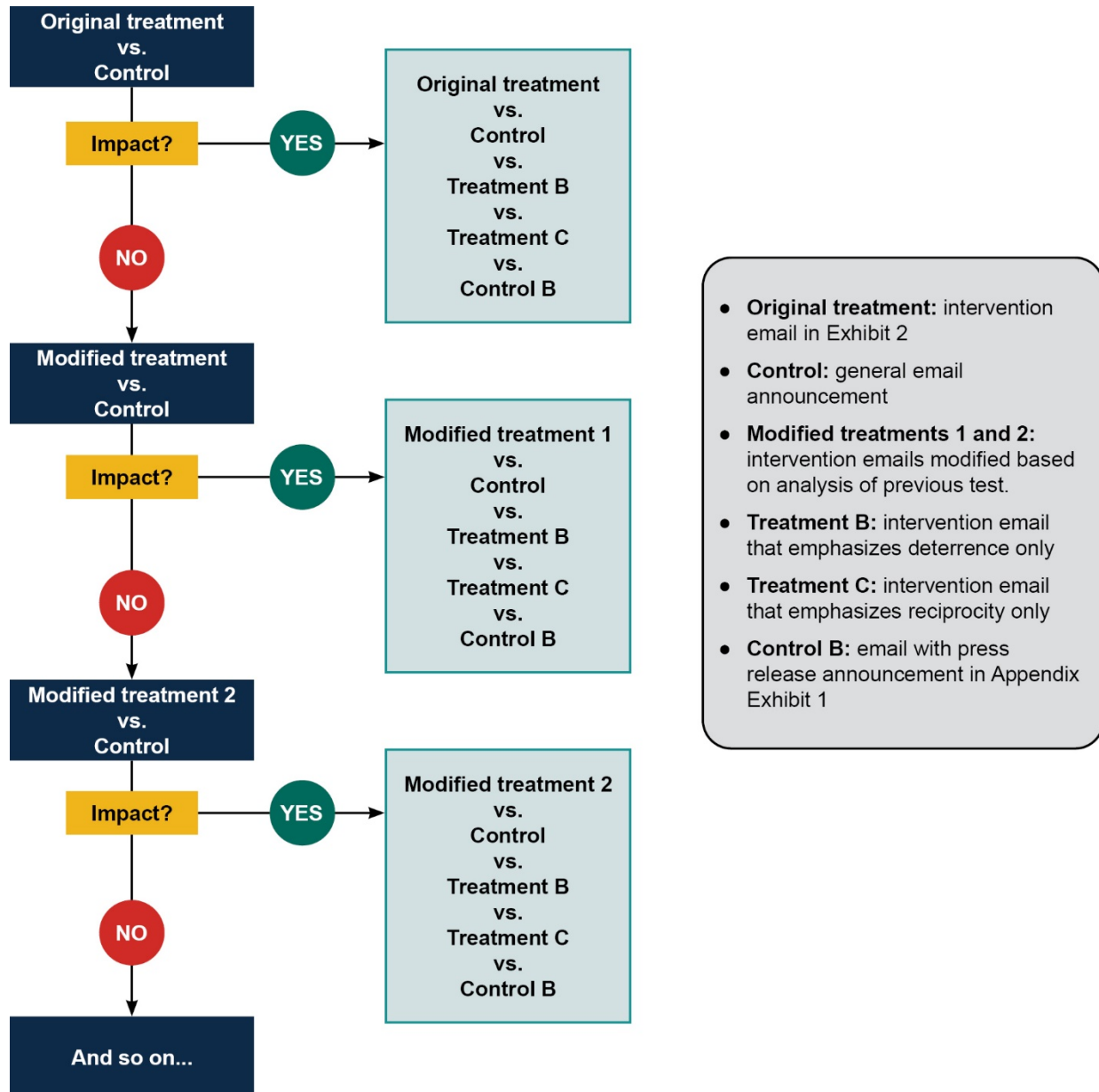
Want to make sure your business is in compliance with minimum wage and overtime laws? This new webinar can help.

The third treatment group would receive the same treatment email as in the first test, which combines multiple messaging strategies. Researchers would assess whether an email that emphasizes only deterrence is more effective than a non-deterrence approach, and compare each to the email that features both messaging strategies. These contrasts would allow researchers to distinguish which behavioral strategies are particularly effective in persuading stakeholders to take the desired actions.

In addition, researchers would compare these three treatments to two control groups that receive different versions of the “standard” communication, as described above. One control group would receive the general announcement, and the other would receive an email containing text from a national press release that summarizes recent enforcement activities across the country (labeled *Control B* in Figure 3; see Exhibit 7 in the appendix for an example). Comparing the outcomes of the two control groups would help WHD understand whether using content from a press release with information about national results of investigations is more effective than using a general announcement to promote compliance assistance tools.

If the first test does not reveal a meaningful positive impact of the behaviorally informed email compared to the control email, researchers would modify the behavioral strategies used in the treatment email. Researchers would examine the impacts on intermediate outcomes of interest, such as opening the email and following the embedded link, which may inform them about which aspects of the treatment email are not effective. For example, if we find in early tests that open rates are too low, we can focus on tweaking the “from” and subject lines, which is the first content recipients see. Researchers would then randomly select a new sample of 10,000 email addresses and conduct the same test, but using the new behaviorally modified email as the treatment (labeled *Modified treatment 1* in Figure 3 below). Depending on the results of the second test, we would either (1) proceed with the contrasts of multiple treatment and control groups described above, or (2) modify the treatment email and repeat the process again. The tests of the rapid-cycle design, and how their results determine the next test in the cycle, are illustrated in Figure 3.

Figure 3. Sequential design for national email intervention



Because of the sample size available for this trial and the different types of messages possible, researchers could also consider testing additional treatment arms beyond those outlined in this design report. In particular, the initial pilot with employer and employer association representatives could suggest alternatives to messaging similar concepts, as well as surface new messaging strategies that could be formally tested. An alternative to this multi-arm approach would be to create a factorial design that isolates the effects of particular variants relative to all others. However, a factorial design would generate many different arms that are only slightly different from one another, and not all arms might be of interest for determining the most effective messaging strategies for WHD.

The proposed rapid-cycle, multi-arm approach would reveal information about the type of announcement template that is most effective, which could in turn inform the design of the industry-specific templates

used in the targeted trial. It may be particularly useful to understand the effects of messages that emphasize deterrence, reciprocity, or both. Although the initial template for the targeted trial relies on a mix of both strategies, deterrence messaging could potentially lead to an “ostrich effect,” wherein people do not deal with an issue because it is unpleasant (Karlsson et al. 2009). For this reason, we recommend conducting the national trial before finalizing the design of the targeted trial.

2. Outcomes of interest and data to measure them

The outcomes of interest for the national intervention trial are similar to those of the targeted intervention trial. The primary outcome of interest is whether or not the recipient of the email registered for the webinar. Intermediate outcomes include whether the recipient opened the email and followed the embedded link. Because the unit of observation in this trial is the ultimate recipient whose actions we are measuring—in contrast to the targeted trial, where the unit of observation is the employer association, and we are focused on employer registrations—the outcome of interest is *whether* the recipient registered for the webinar rather than the *number* of registrations associated with each recipient. The outcome data would be collected using the same sources as the targeted trial: the email platform and the webinar software.

3. Statistical power

The statistical power for the national intervention trial is different from that of the targeted trial for several important reasons. The trial (1) has a considerably greater total sample size, (2) uses binary outcomes rather than counts, and (3) randomly assigns recipients into more than two groups. Using the same general parameters we used for the targeted trial, and assuming that the proportion of recipients in the control group that register for the webinar is less than or equal to 3 percent, our power analysis reveals an MDI of no more than 1 percentage point with the subsample of 10,000 email addresses. This is equivalent to 0.06 SD, considerably lower than the 0.25 SD found for the targeted trial. This low MDI implies that it is unlikely that the national trial would not detect a true impact, even if modest.⁴

We also considered the statistical power for the subsequent tests in the sequential trial design. If the first test does not find a significant impact, the next test in the sequential trial would have the same design and thus the same power. If the first test does find a significant impact, researchers could proceed with the comparisons of multiple treatment and control groups. For these contrasts, our power analysis adjusts for the fact that we plan to examine multiple contrasts between the treatment and control groups, rather than just one contrast between one treatment group and one control group. If there were no true differences among any of the groups, the probability that we would mistakenly deem at least one of five contrasts to be statistically significant is about 23 percent, much greater than the 5 percent that would be expected if we conducted only one contrast. To lower the probability of making this error, we use a significance level for each contrast of 0.01 (or 0.05 divided by the number of contrasts), which decreases the overall error rate from 23 percent to the desired 5 percent (see Schochet 2009 for a detailed presentation of this issue). Even after making this adjustment, the MDI for one of these tests is still about 1 percentage point (or 0.07 SD).

⁴ A 1-percentage-point impact from a control group average of 3 percent might seem large, as it represents a 33 percent increase (or decrease) from the baseline rate. However, increasing the rate of webinar registrations from 3 percent to, for example, 3.5 percent is unlikely to be viewed as a substantively important change in outreach effectiveness, so it is not important for the study to be able to detect such an effect.

4. Analysis

As with the targeted intervention trial, researchers should use RCT-YES to analyze data from the national intervention. RCT-YES has a built-in feature to adjust for multiple contrasts, setting the significance level for each contrast to the value necessary to achieve an overall error rate of 5 percent.

E. Overcoming challenges

There are also some challenges associated with the national trial:

1. The Key News national listserv may contain recipients that are not employers or other stakeholders that the intervention and webinar are designed for. Although the listserv contains no recipient information to identify employer or other stakeholders of interest, researchers could exclude from the trial any email addresses associated with government employee (those with a “.gov” suffix).
2. Some email systems could mistakenly identify the behaviorally modified email as spam. Email systems use algorithms to identify spam emails, and an email offering a free service could trigger such an algorithm. To minimize this possibility, researchers could send the emails to a number of private email addresses, such as those of a company or popular services (for example, Gmail, Yahoo, AOL), to determine whether they are treated as spam. Researchers could make any necessary changes to the emails so that they are not be misidentified in this way.
3. As with the targeted trial, the emails can be sent only to those stakeholders that have already had some contact with WHD. Therefore, the results may not generalize to the full population of stakeholders that are part of the regulated community WHD oversees. However, in light of the large number of email addresses in the Key News listserv, these recipients may represent a broader swath of stakeholders with varying levels of contact with WHD than in the targeted trial.

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Appendix

Exhibits Referenced In The Text

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This appendix contains exhibits referenced in the text. These graphics are placed in an appendix to facilitate easier exposition of the intervention and evaluation designs in the text. Exhibits 1–4 present four design options for the email templates used in the targeted interventional trial. Exhibit 1 contains annotations highlighting the behavioral strategies employed in all of the templates. Exhibit 5 is an example of an email based on a press release that would be sent to the control group employer associations in the targeted trial. Exhibit 6 is a draft of the template that would be sent to the treatment group in the national trial. It follows the same general design as Exhibit 1, but is addressed to a national audience, rather than one specific to any particular industry. Exhibit 7 is an email with the contents of a national press release highlighting the results of WHD’s investigations for the 2018 fiscal year. This email would be sent to the second control group for the national intervention trial. It is very similar to the control group email for the targeted trial, except that it is based on a national press release rather than a press release specific to a particular industry.

Exhibit 1. Example email 1 for targeted intervention

From: [CORPS name] Personalize
Sent: [Date]
To: [Recipient name]
Subject: Help your members comply with wage and overtime laws Engage reader

Hi [First Name], Personalize

Many restaurant owners don't realize they're breaking federal minimum wage and overtime laws until it's too late. Did you know [restaurant owners paid over \\$2 million in back wages](#) in the last 5 years? Anchor to this idea Create sense of urgency

That's why I'm spreading the word about a [free webinar](#) DOL is offering to help your members avoid costly penalties. Appeal to reciprocity Saliency; loss aversion

Forward the announcement below today so your members don't miss out. Make action clear

Thanks for helping to make sure restaurant owners are aware of this opportunity. Let me know if you have any questions, otherwise I'll check in with you next week. Combat procrastination

[CORPS name] Personalize
 Community Outreach Resource & Planning Specialist
 U.S. Department of Labor, Wage and Hour Division
 [Phone number]



Could your business be violating minimum wage and overtime laws?

DOL knows minimum wage and overtime laws can be confusing. That's why DOL created a [free webinar](#) for restaurant owners like you! Anchor to this idea Social norms

Learn about the most common violations and how to avoid costly penalties. Reciprocity and appeal to identity

DOL Webinar on Minimum Wage and Overtime Laws

- Signing up is free and easy. Clear action steps
1. Follow this [link](#)
 2. Watch the webinar

Sign up to join the hundreds of restaurant owners who have watched DOL webinars! Social norms

- 4 GREAT REASONS TO SIGN UP NOW:** Engage reader
1. **Many restaurant owners don't realize they're violating the law until it's too late.** Did you know restaurant owners had to pay over \$304 million in back wages in the last 5 years? Loss aversion Make issue salient and urgent
 2. **Your risk of an investigation goes up the longer you have a violation.** So don't delay in finding out whether your business is in compliance! Show ease of action
 3. **You can view the webinar at your own pace.** Set aside 45 minutes to view it all at once, or break it up. It's up to you.
 4. **It's confidential.** Information about who takes it is not shared with DOL. Combat misunderstanding



Exhibit 2. Example email 2 for targeted intervention

From: [CORPS name]
Sent: [Date]
To: [Recipient name]
Subject: Help your members comply with wage and overtime laws

Hi [First Name],

Many restaurant owners don't realize they're breaking federal minimum wage and overtime laws until it's too late. Did you know [restaurant owners paid over \\$2 million in back wages](#) in the last 5 years?

That's why I'm spreading the word about a [free webinar](#) DOL is offering to help your members avoid costly penalties.

Forward the announcement below today so your members don't miss out.

Thanks for helping to make sure restaurant owners are aware of this opportunity. Let me know if you have any questions, otherwise I'll check in with you next week

[CORPS name]
 Community Outreach Resource & Planning Specialist
 U.S. Department of Labor, Wage and Hour Division
 [Phone number]

COULD YOUR RESTAURANT BE VIOLATING MINIMUM WAGE AND OVERTIME LAWS?

DOL knows minimum wage and overtime laws can be confusing.
 That's why DOL created a [free webinar](#) for restaurant owners like you!



FREE DOL WEBINAR: MINIMUM WAGE AND OVERTIME LAWS

Learn about the most common violations in your industry and how to avoid costly penalties.

Signing up is free and easy: **1. Follow this [link](#)** **2. Watch the webinar**

Sign up to join the hundreds of business owners who have watched DOL webinars!

4 GREAT REASONS TO SIGN UP NOW.

- **Many restaurant owners don't realize they're violating the law until it's too late.** Did you know [restaurant owners had to pay over \\$2 million in back wages](#) in the last 5 years?
- **Your risk of an investigation goes up the longer you have a violation.** So don't delay in finding out whether your business is in compliance!
- **You can view the webinar at your own pace.** Set aside 45 minutes to view it all at once, or break it up. It's up to you.
- **It's confidential.** Information about who takes it is not shared with DOL.



Exhibit 3. Example email 3 for targeted intervention

From: [CORPS name]
Sent: [Date]
To: [Recipient name]
Subject: Help your members comply with wage and overtime laws

Hi [First Name],

Many restaurant owners don't realize they're breaking federal minimum wage and overtime laws until it's too late. Did you know [restaurant owners paid over \\$2 million in back wages](#) in the last 5 years?

That's why I'm spreading the word about a [free webinar](#) DOL is offering to help your members avoid costly penalties.

Forward the announcement below today so your members don't miss out.

Thanks for helping to make sure restaurant owners are aware of this opportunity. Let me know if you have any questions, otherwise I'll check in with you next week

[CORPS name]
 Community Outreach Resource & Planning Specialist
 U.S. Department of Labor, Wage and Hour Division
 [Phone number]

DOL knows minimum wage and overtime laws can be confusing.
 That's why DOL created a [free webinar](#) for restaurant owners like you!

Learn about the most common violations in your industry and how to avoid costly penalties. Sign up to join the hundreds of business owners who have watched DOL webinars!

Signing up is free and easy: **1. Follow this [link](#)** **2. Watch the webinar**

Four great reasons to sign up now.

- 1** Many restaurant owners don't realize they're violating the law until it's too late. Did you know [restaurant owners had to pay over \\$2 million in back wages](#) in the last 5 years?
- 2** Your risk of an investigation goes up the longer you have a violation. So don't delay in finding out whether your business is in compliance
- 3** You can view the webinar at your own pace. Set aside 45 minutes to view it all at once, or break it up. It's up to you.
- 4** It's confidential. Information about who takes it is not shared with DOL.



Exhibit 4. Example email 4 for targeted intervention

From: [CORPS name]
Sent: [Date]
To: [Recipient name]
Subject: Help your members comply with wage and overtime laws

Hi [First Name],

Many restaurant owners don't realize they're breaking federal minimum wage and overtime laws until it's too late. Did you know [restaurant owners paid over \\$2 million in back wages](#) in the last 5 years?

That's why I'm spreading the word about a [free webinar](#) DOL is offering to help your members avoid costly penalties.

Forward the announcement below today so your members don't miss out.

Thanks for helping to make sure restaurant owners are aware of this opportunity. Let me know if you have any questions, otherwise I'll check in with you next week

[CORPS name]
 Community Outreach Resource & Planning Specialist
 U.S. Department of Labor, Wage and Hour Division
 [Phone number]

DOL knows minimum wage and overtime laws can be confusing.

That's why DOL created a [free webinar](#) for restaurant owners like you! Learn about the most common violations in your industry and how to avoid costly penalties.

DOL Webinar on Minimum Wage and Overtime Laws

Signing up is free and easy:

1. Follow this [link](#)
2. Watch the webinar

Sign up to join the hundreds of business owners who have watched DOL webinars!

Four great reasons to sign up now:

- 1**

Many restaurant owners don't realize they're violating the law until it's too late.
 Did you know [restaurant owners had to pay over \\$2 million in back wages](#) in the last 5 years?
- 2**

Your risk of an investigation goes up the longer you have a violation.
 So don't delay in finding out whether your business is in compliance
- 3**

You can view the webinar at your own pace.
 Set aside 45 minutes to view it all at once, or break it up. It's up to you.
- 4**

It's confidential.
 Information about who takes it is not shared with DOL.



Exhibit 5. Example of control group email for targeted intervention

From: [CORPS name]

Subject: U.S. Department of Labor Undertakes Education and Enforcement Initiative To Improve Compliance

Please forward this email to your members:

In an effort to inform employers and employees about federal wage laws, the U.S. Department of Labor's Wage and Hour Division (WHD) is engaged in an education and enforcement initiative. WHD is focused on providing compliance assistance information to employers and industry stakeholders through educational outreach events, as well as conducting investigations at individual restaurants.

The initiative includes outreach to a wide variety of organizations to identify multiple channels to place information into the hands of employers and to provide them the tools they need to comply with the law. WHD is engaged with employer organizations, community organizations, and other government agencies to ensure a wide distribution of information describing requirements under the Fair Labor Standards Act (FLSA).

"These initiatives raise awareness among employers, employees, community organizations and others regarding federal wage and hour laws," said David King, Wage and Hour District Director in Minneapolis. "The ultimate goal is to increase industry-wide compliance. We want to make sure everyone knows the rules, and follows the rules."

The FLSA requires that covered, nonexempt employees be paid at least the federal minimum wage of \$7.25 per hour for all hours worked, plus time and one-half their regular rates for hours worked beyond 40 per week. An employer of a tipped employee is required to pay no less than \$2.13 an hour in direct wages, provided that amount plus the tips received equals at least the federal minimum wage of \$7.25 per hour. If an employee's tips, combined with the employer's direct wages, do not equal the minimum wage, the employer must make up the difference. Employers also are required to provide employees notice of the FLSA tip credit provisions and to maintain accurate time and payroll records.

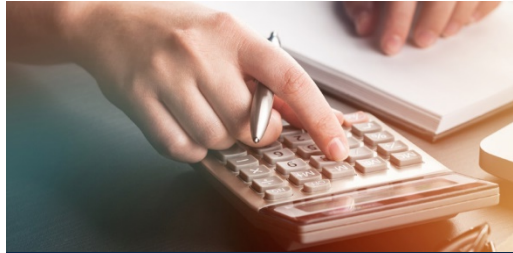
In the past five years, violations have resulted in more than \$2 million in minimum wage and overtime back wages found for 2,571 restaurant workers. Common violations include failure to pay employees for work they perform either before or after their scheduled shifts, and failure to pay overtime for working beyond 40 hours per week.

"The Wage and Hour Division is committed to ensuring employees receive all the wages they have rightfully earned," said Ruben Rosalez, Acting Regional Administrator for the Wage and Hour Division in Chicago. "We are also determined to ensure that employers who fail to comply with the law do not gain an unfair competitive advantage over those who do. Employers can avoid wage violations by reaching out to us for assistance to ensure they are in compliance with the law."

For more information about the FLSA and other federal labor laws, register for this [free webinar](#). Or call the division's toll-free helpline at 866-4US-WAGE (487-9243).

Exhibit 6. Example email for national intervention

From: Wage and Hour Division, Department of Labor
Sent: [Date]
To: [Recipient name]
Subject: Learn how to comply with minimum wage and overtime laws



Could your business be violating minimum wage and overtime laws?

Engage reader

Anchor to this idea DOL knows minimum wage and overtime laws can be confusing. That's why DOL created a **free webinar** for business owners like you!

Reciprocity and appeal to identity Learn about the most common violations and how to avoid costly penalties.

DOL Webinar on Minimum Wage and Overtime Laws

Clearly state topic

Signing up is free and easy:

1. Follow this [link](#)
2. Watch the webinar

Clear action steps

Sign up to join the hundreds of business owners who have watched DOL webinars!

Social norms

4 GREAT REASONS TO SIGN UP NOW

1. **Many business owners don't realize they're violating the law until it's too late.** Did you know business owners had to pay over \$304 million in back wages in the last 5 years?
2. **Your risk of an investigation goes up the longer you have a violation.** So don't delay in finding out whether your business is in compliance!
3. **You can view the webinar at your own pace.** Set aside 45 minutes to view it all at once, or break it up. It's up to you.
4. **It's confidential.** Information about who takes it is not shared with DOL.

Social norms

Loss aversion

Make issue salient and urgent

Show ease of action

Combat misunderstanding



Exhibit 7. Second control group email for national intervention trial, based on national press release

From: United States Department of Labor

Subject: U.S. Department of Labor Announces Record \$304 Million in Recovered Wages

U.S. Department of Labor Announces Record \$304 Million in Recovered Wages for Workers in Fiscal Year 2018

The U.S. Department of Labor today announced that the Wage and Hour Division (WHD) recovered a record \$304 million in wages owed to workers in Fiscal Year 2018. WHD also set a new record for compliance assistance events in FY 2018, holding 3,643 educational outreach events – including on the ground presentations and trainings – to help job creators understand their responsibilities under the law.

“Through vigorous enforcement and compliance assistance, the Department of Labor is committed to ensuring that workers receive the wages they have earned,” said U.S. Secretary of Labor Alexander Acosta. “These record-breaking numbers confirm the Department’s strong commitment to enforcing the law and providing employers with the tools they need to comply with the law.”

For more information about the FLSA and other federal labor laws, register for this [free webinar](#). Or call the division’s toll-free helpline at 866-4US-WAGE (487-9243). Information also is available at <http://www.dol.gov/whd>.

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