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APPLYING BEHAVIOURAL INSIGHTS TO LABOUR MARKET CHALLENGES:

Increasing Career Services Participation and Informing Postsecondary Education Choices

THE BEHAVIOURAL INSIGHTS TEAM

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The Future Skills Centre (FSC) is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead. The Future Skills Centre was founded by a consortium whose members are Toronto Metropolitan University, Blueprint ADE, and The Conference Board of Canada, and is funded by the Government of Canada's Future Skills Program.

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Table of Contents

1

Executive Summary

13

Introduction

15

Empowering Students With Labour Market Information

46

Increasing Uptake Of Career (Employment) Services

81

Conclusion

Executive Summary

Approach and recommendations

The Canadian labour market is evolving rapidly. Canadians need to be well prepared and supported to respond to ongoing uncertainties and shocks. Canadian labour market policy and programming are funded and delivered to do exactly that. However, there are major gaps in the evidence base around how best to inform, empower, and engage Canadians when it comes to making decisions about work.

From June 2022 to October 2023, the Behavioural Insights Team (BIT) worked collaboratively with three Canadian provinces, the Future Skills Centre, and a wide range of stakeholders to generate practical ideas and rigorous, generalizable evidence related to labour market information (LMI) provision and uptake of career services.* Our program of research was unique in adopting an approach rooted in applied behavioural science. It was organized under two workstreams.

Working closely with the Government of British Columbia and partners like Education Planner British Columbia, we co-designed and implemented a multi-phase, mixed-methods research approach to answer three questions:

1. Whether and how LMI helps students make more informed decisions about postsecondary education (PSE);
2. What specific LMI data points are most helpful in empowering students; and,
3. How the LMI should be provided, including who provides it, when it is provided, how it is framed and visualized, and more.

First, we reviewed the existing evidence base on the influence of LMI on PSE choices. We found very few high-quality studies, and the results of those studies were mixed. Some studies showed a positive impact on PSE participation and program selection, others showed no effect at all. In short, there was a major gap to fill.

* The terms “career services” and “employment services” are used interchangeably in this document.

We then conducted interviews with students and their teachers/counsellors in British Columbia, exploring the drivers behind students' decisions to attend PSE and what labour market data points resonate most.
Using these insights, we designed and implemented two randomized controlled trials (RCTs), a highly rigorous method for evaluating the impact of interventions. These were implemented on Predictiv, a platform for running online surveys and trials that BIT developed.

- Our first online trial explored whether and what information about labour market outcomes to share with students to influence their career pathway decisions. We found that providing simple and clearly explained LMI about labour market outcomes has a large effect on encouraging students to pursue fields with stronger prospects. To determine this, we asked students to choose which job they would prefer between pairs of otherwise somewhat similar jobs with quite different labour market outcomes. Those who did not see information about the outcomes selected the job with better prospects 52% of the time; those who did see the information selected it 62% of the time. We also learned that a common measure that combines various indicators into a "holistic job outlook," either on its own or combined with other data points, was more influential than other outcomes, including salary.
- Our second trial examined whether providing information about financial aid would increase the influence of LMI by making the higher opportunity jobs, which had more expensive educational requirements, feel more accessible. We found that even though the information increased students' perceptions of the generosity of available aid, it did not influence their pathway decisions. This suggests an important next step, determining how to make financial aid information more relevant and influential.

There are important limitations to online trials, as they simulate decision-making rather than testing it in the real world. To mitigate this limitation we completed a final, in-classroom study in British Columbia. Receiving open-ended responses from students both confirmed our findings and allowed us to build a nuanced, local understanding of their perceptions of LMI and financial aid information.
Given these results, we recommend that organizations supporting students' PSE decisions:

- Provide LMI to high school students to help them make more informed decisions about occupational pathways and PSE.
- In providing LMI to students, prioritize the following data points: educational and skill requirements, "holistic job outlook," and salary or salary range.
- Do not include more than one or two other data points related to labour market outcomes as they can be difficult to understand and interpret.
- Share localized, disaggregated LMI that provides specific data about career pathways and opportunities in students' locations of interest.
- Provide LMI in ways that are more likely to capture student attention and feel personally relevant. Where it is feasible, we recommend a facilitated, in-classroom approach – where it is not, personalization and interactive components that require students to take actions.
- Keep language simple (maximum Grade 6 reading level) and provide short, clear definitions when they are required.

- Engage trusted messengers (e.g., workers from the field, family, and friends) in LMI delivery.

We also recommend further research to deepen and extend these findings:

- Conduct one or more field trials to measure the impact of these ideas on student outcomes, addressing the key limitation of our study, which examined simulated PSE choices in an online lab environment.
- More precisely, run a large-scale, clustered randomized trial or stepped wedge trial where different schools would be assigned to different LMI options and a control condition.
- Track those students over time to see the differential effect on outcomes like PSE applications and attainment, as well as employment rate and wages.

We started part of our research program by summarizing existing evidence and conducting interviews with policy experts, practitioners, and jobseekers. The goal was to identify what parts of the outreach and engagement process to focus on, and what groups of potential service recipients to prioritize. We ultimately focused on improving outreach to Employment Insurance (EI) applicants by leveraging the Targeting, Referral, and Feedback (TRF) database developed by Employment and Social Development Canada (ESDC). TRF shares information about recent EI applicants with their home province, enabling proactive outreach to recently unemployed residents. We focused on TRF given the ability to engage a large number of jobseekers who could benefit from services and historically low rates of uptake in the program.

Working closely with the Governments of Alberta and Saskatchewan, we rigorously tested options to improve outreach. We focused on email communications to unemployed residents had applied for EI and were part of the TRF database. The emails were developed based on our qualitative research, literature review, and principles from behavioural science.

In Alberta, we worked with 10 service providers contracted by the province to deliver employment services to run an RCT with over 3,800 jobseekers. This RCT tested three new initial outreach emails to TRF referrals, the first communication that people in the TRF database receive. The three emails used different behavioural science principles. For example, one email visualized uptake of employment services as a third and final step in the EI application process. The three new emails were tested against the “status quo” emails each provider was already sending. The results of the trial were ambiguous; overall the status quo emails did about the same as two of the new emails, with a third new email doing worse. The ambiguous results reflect differences across providers; where providers were already adopting best practices, their status quo emails reflected an understanding of local context that we could not recreate. However, two of the new emails represented a major improvement for providers who were not already integrating key practices. These two emails, included in this report, have been shared with providers across the province alongside key communications principles.

In Saskatchewan, we ran a RCT with almost 1,500 jobseekers to test the impact of sending reminder emails to TRF referrals on uptake of career (employment) services. While TRF was designed as an early intervention program, we hypothesized that TRF outreach was coming too soon for many people – before they were ready or motivated. By the time they would be receptive to career (employment) services, the outreach was no longer salient. Our results were promising, albeit inconclusive. There was a 24% relative increase (from 5.1% to 6.7%) in uptake among those who received a follow-up email, but this result was not statistically significant.

Across our work in Alberta and Saskatchewan, we gained insight into key barriers to uptake of employment services and how to mitigate those barriers through engagement and outreach. Our most important recommendations include:

- Ensuring that outreach to engage jobseekers is simple (Grade 6 reading level), personalized, reinforces legitimacy, has a single, clear next step, and emphasizes the most compelling aspects of service (e.g., connections to local employers, flexibility of service provision). Several templates for initial outreach and follow-up engagement that reflect these imperatives are included in this report.
- Broadening early intervention approaches like the TRF database to promote re-engaging jobseekers later in their employment journey given that their motivation or readiness may have increased.
- Integrating income security programs like EI with career and employment services, so that when someone applies for EI they are registered for services and even have an appointment booked by default. More modestly, making it more obvious to EI applicants that they may be contacted by career (employment) services, to add more legitimacy to the eventual outreach.
- Building a provincial or interjurisdictional initiative to advance this research. The initiative would establish and tackle research and development priorities for uptake of career services. It could 1) consolidate research findings, best practices, and resources; 2) provide tools for evaluation / continuous improvement; and 3) support shared technology and service procurement and provision.

Beyond the specific insights, findings and recommendations generated, this research underscored the value of interjurisdictional collaboration – the perspectives and support of our government partners in British Columbia, Alberta, and Saskatchewan have been invaluable. We believe the partner-driven, mixed-methods approach developed and implemented in this work can be applied to other pressing questions in Canadian labour market policy.

Trial results

This section of the Executive Summary provides a bit more detail on the design and results of the four randomized controlled trials conducted over the course of research.

Trial 1: Online RCT Testing Impact of Labour Market Outcome (LMO) Information on Selection of Higher Opportunity Pathway

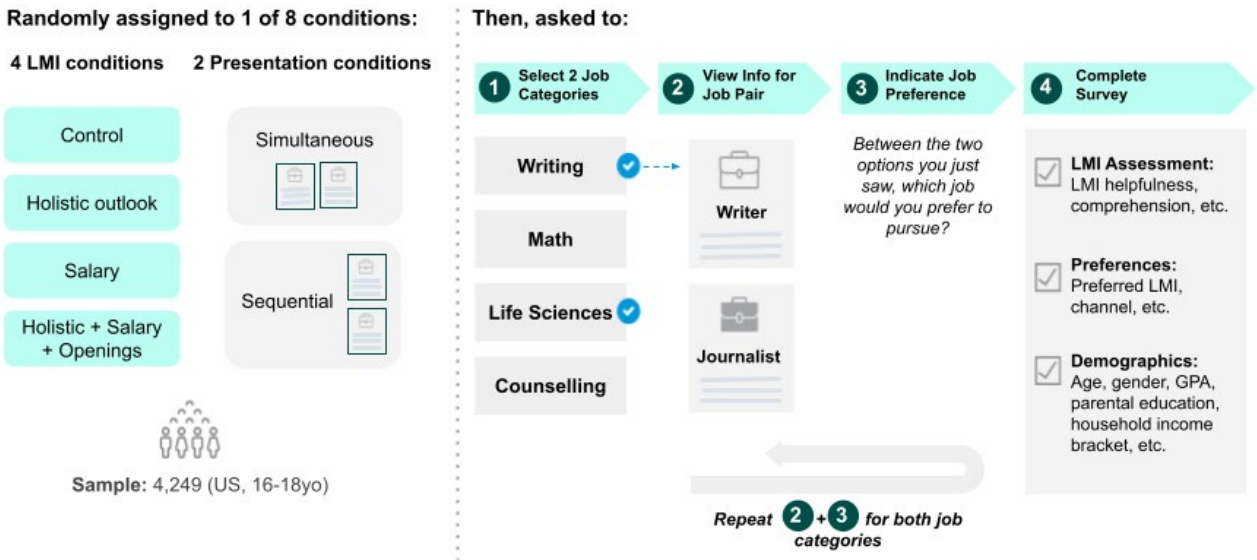
- **Sample:** 4,249 US high school students and recent graduates aged 16-18; note that US students were used a proxy due to limited availability of Canadian students. The follow-up trial described below was with Canadians.

- **Research questions:** Does information about labour market outcomes influence the PSE decisions of graduating high school students? If so, which outcomes are most influential?
- **Design:** The sample was recruited through online panels. Participants were randomly assigned to one of four groups: three treatments and a control. Participants were asked to pick a field they were interested in, then asked to choose between two quite similar jobs in that field with quite different labour market outcomes.

  The control group received basic information about the job (e.g., job duties, education requirements) but no information about labour market outcomes. The treatment groups received the same basic information as well as labour market outcomes: 1) holistic job outlook, 2) salary information, 3) holistic job outlook, salary information, and expected job openings ("combined LMO"). Within the treatment groups, half the participants viewed jobs simultaneously (side-by-side comparison) and half viewed jobs sequentially.

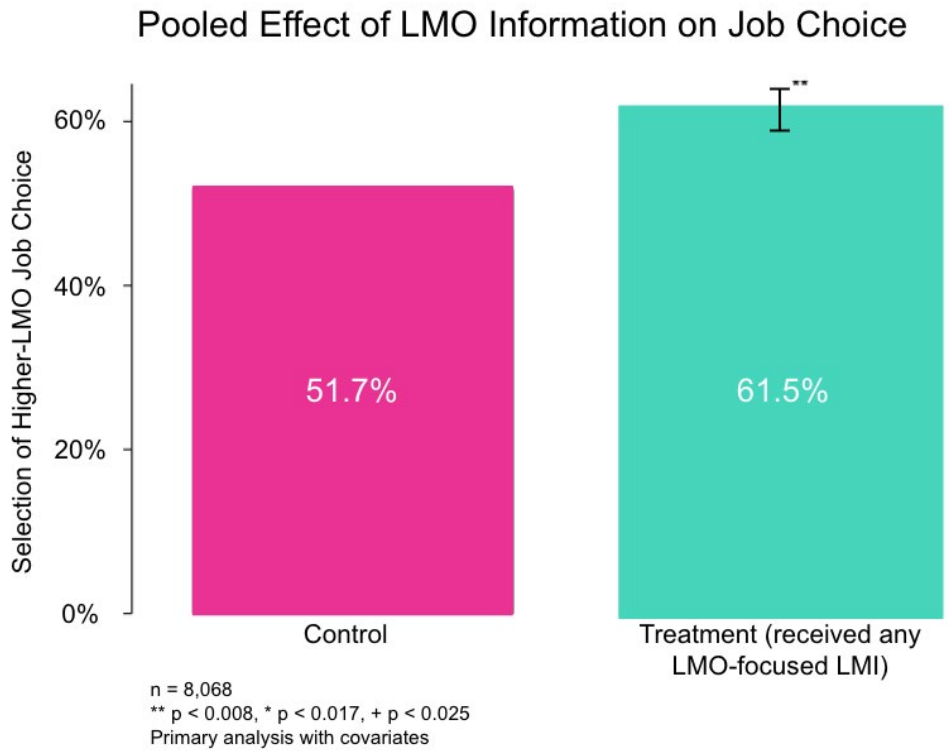
  Participants then completed the exercise again for another field they were interested in. At the end of the study, they were asked about how helpful / understandable they found the LMI and how they prefer to receive LMI.

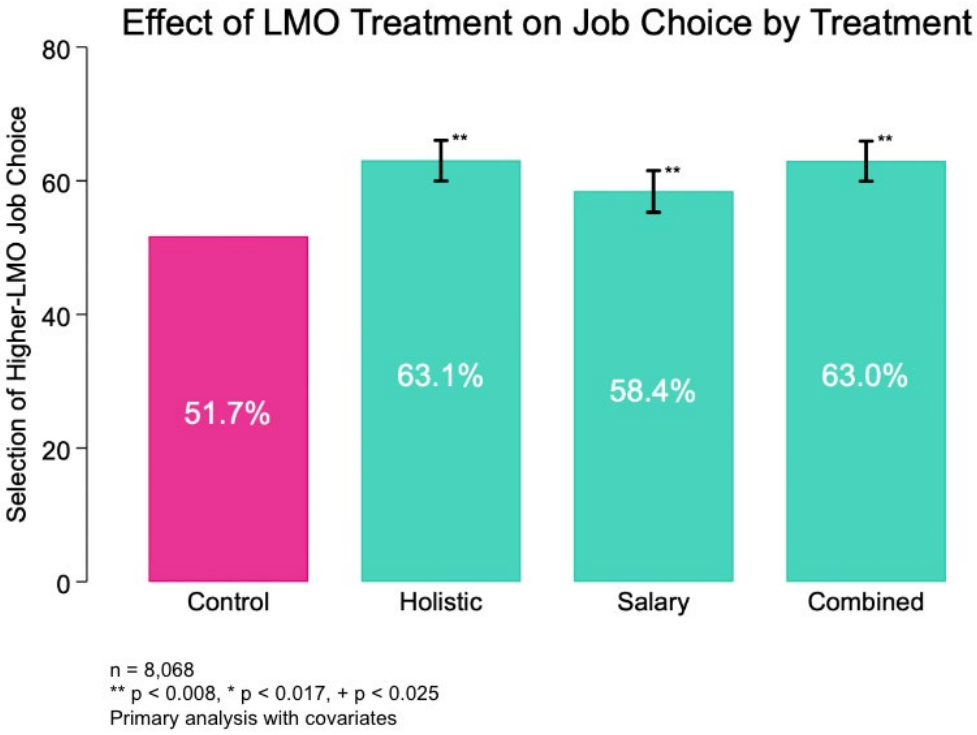
FIGURE 1:
Study design for Trial 1



- **Key results:** Participants who received any LMI about labour market outcomes were about 10 percentage points more likely to pick the job with better labour market outcomes, from 52% to 62%. Holistic job outlook was more influential than salary. There was no difference when the job pairs were showed simultaneously or sequentially.

FIGURE 2:
Impact of labour market outcome information on job choice

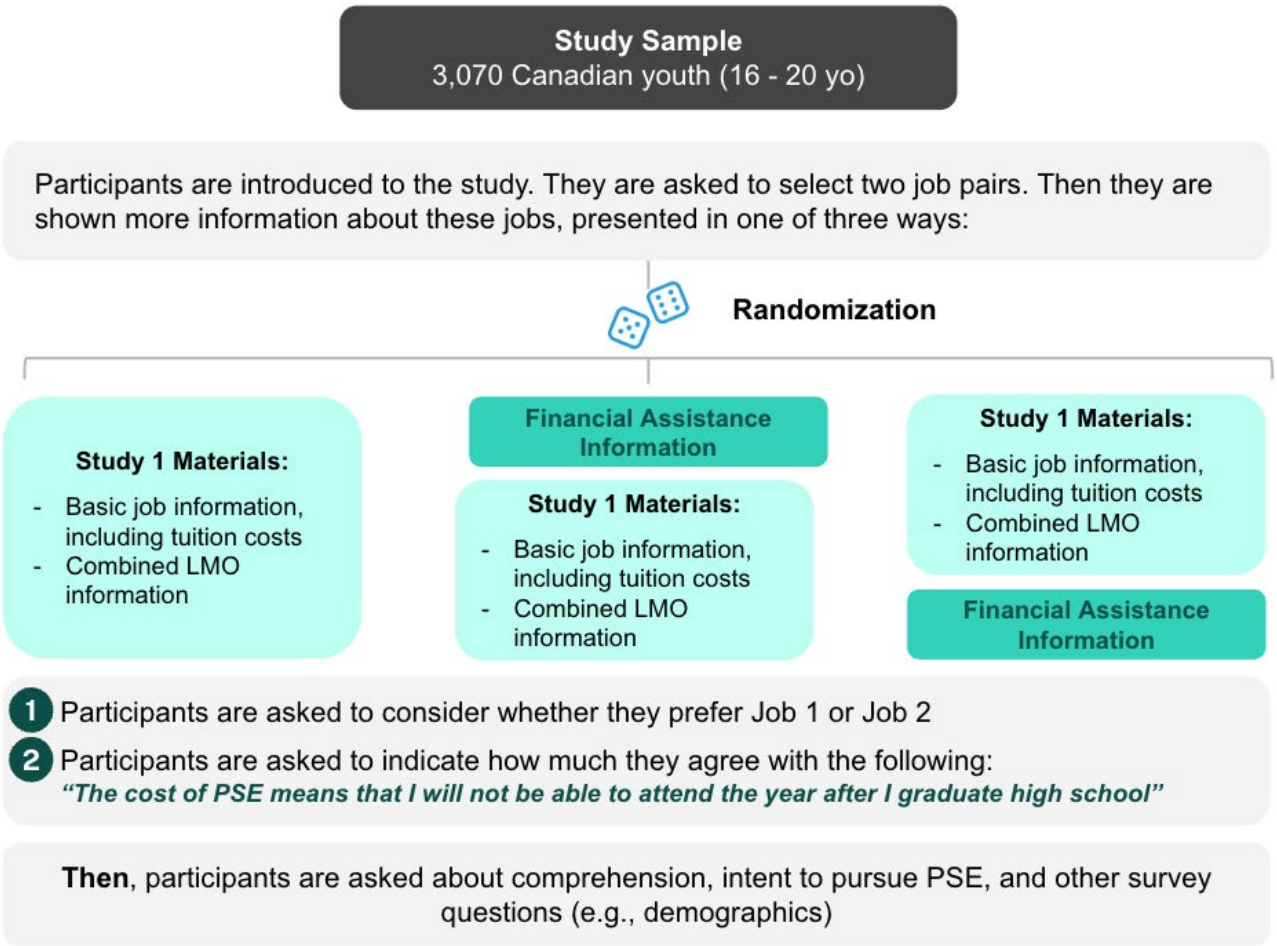




Trial 2: Online RCT Testing Impact of Financial Aid Information and LMO Information on Selection of Higher Opportunity Pathway

- **Sample:** 3,070 Canadian high school students and recent graduates aged 16-20
- **Research questions:** Do young Canadians exposed to information about LMOs select the higher opportunity occupation at a similar rate to US youth? Does providing financial aid information either before or after the LMO information increase the influence of the LMO information?
- **Description:** Participants were recruited and completed the study as in Study 1. However, instead of assigning them to three LMO treatment groups and a control, they were assigned to three groups: 1) a control that only received the combined LMO, 2) a treatment group that saw the financial aid information, then the combined LMO, and, 3) a treatment group that saw the combined LMO and then the financial aid information. At the end of the study participants were asked about how significant a concern affordability was, how generous they found financial aid to be, and their intent to pursue PSE.

FIGURE 3:
Study design for Trial 2



- **Key results:** Like Study 1, providing LMI resulted in about 65% of Canadian youth choosing the higher opportunity job. Providing financial aid information increased the perceived generosity of financial aid from 41% rating it as generous to 54%, but it did not increase the proportion picking the higher opportunity job. This is despite the fact that roughly half of the participants indicated that affordability had a major impact on their PSE decisions. This suggests that more work is needed to design financial aid information provision that feels more personally relevant and actionable.

FIGURE 4:
Impact of financial aid information on simulated job choice

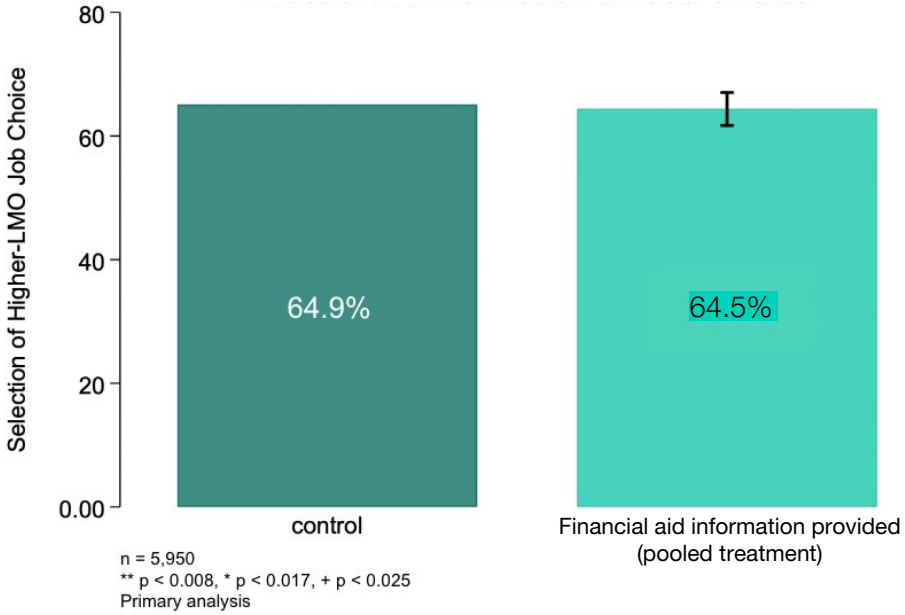
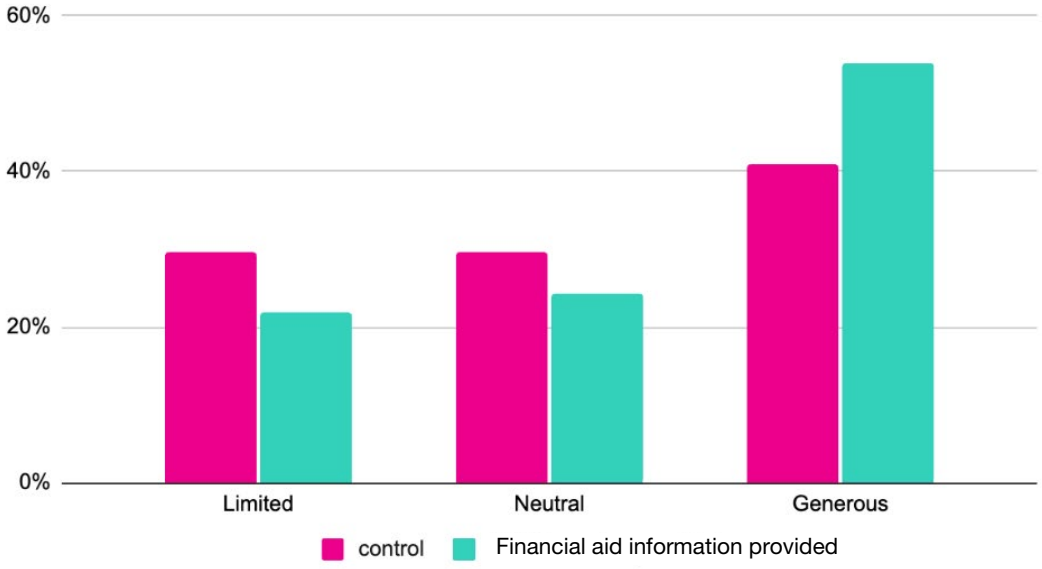


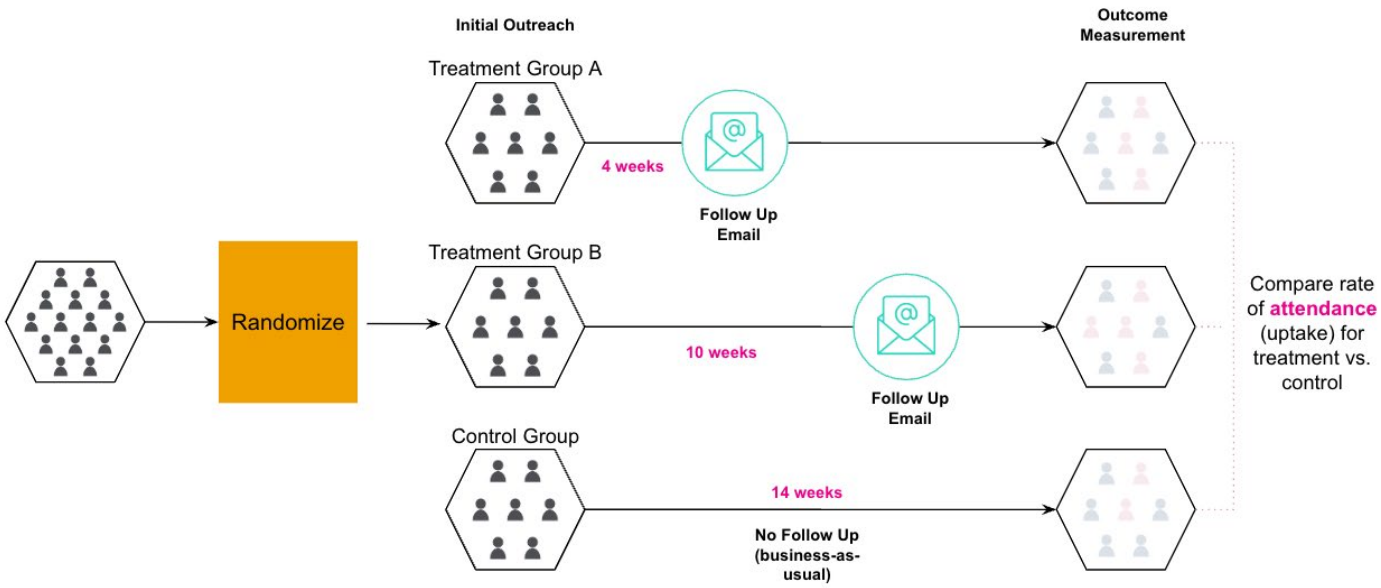
FIGURE 5:
Perceived generosity of financial aid with & without financial aid information



Trial 3: Field RCT Examining the Impact of Behavioural Insights-Informed Follow-up Emails on Uptake of Career Services

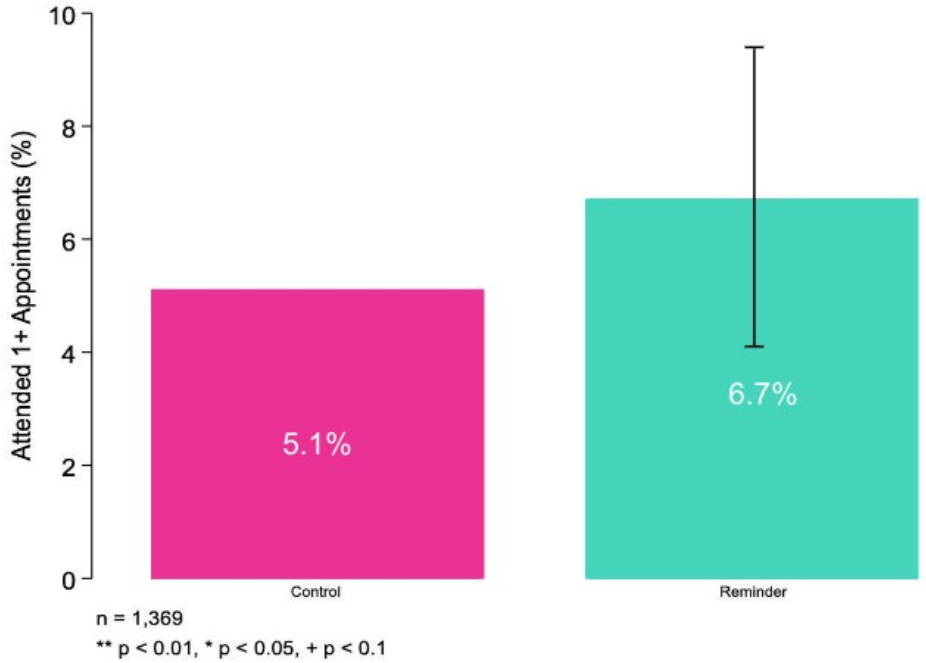
- **Sample:** 1,369 recent EI applicants in Saskatchewan
- **Research questions:** Does sending a follow-up email informed by behavioural science principles to recent EI applicants who have not yet enrolled increase overall uptake? Is it more effective to send the email 4 or 10 weeks after the initial email outreach?
- **Description:** Every week, referrals in the TRF database who had not yet registered for career services were assigned to one of three groups: 1) a control group that did not receive a follow-up email, 2) a treatment group that received a follow-up email after 4 weeks, and 3) another treatment group that received the follow-up after 10 weeks. The follow up emails were sent by the Saskatchewan Ministry of Immigration and Career Training. At the conclusion of the study, the rate of uptake was compared using an administrative data set. Uptake was measured as having attended one or more career services appointments. There was also a secondary outcome measure of the rate of registration for career services, regardless of whether an appointment had been attended.

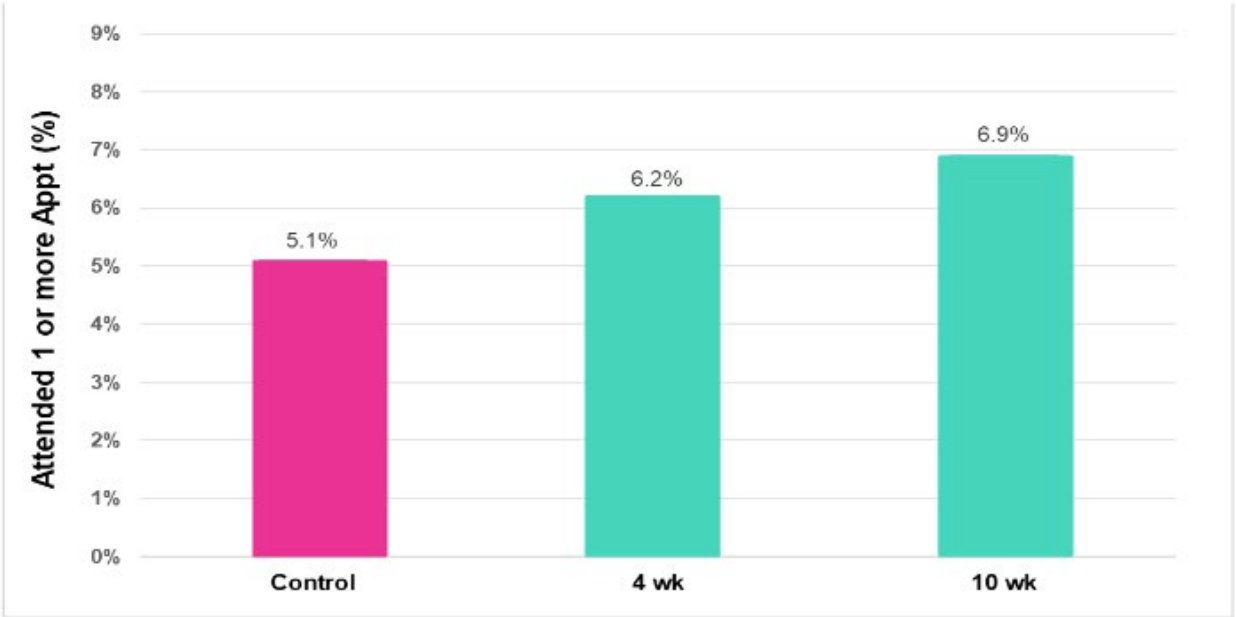
FIGURE 6:
RCT design of trial testing follow-up outreach emails in Saskatchewan



- **Key results:** Approximately 24% more jobseekers who received a follow-up email took up career services (6.7% compared to 5.1%). Attendance was higher among jobseekers who received a follow-up at 10 weeks (6.9% compared to 6.2% who received a follow up at four weeks. However, these results were not statistically significant, so we cannot confidently claim that it was the reminders that increased uptake.

FIGURE 7:
Graphs showing impact of follow-up emails on uptake of career services

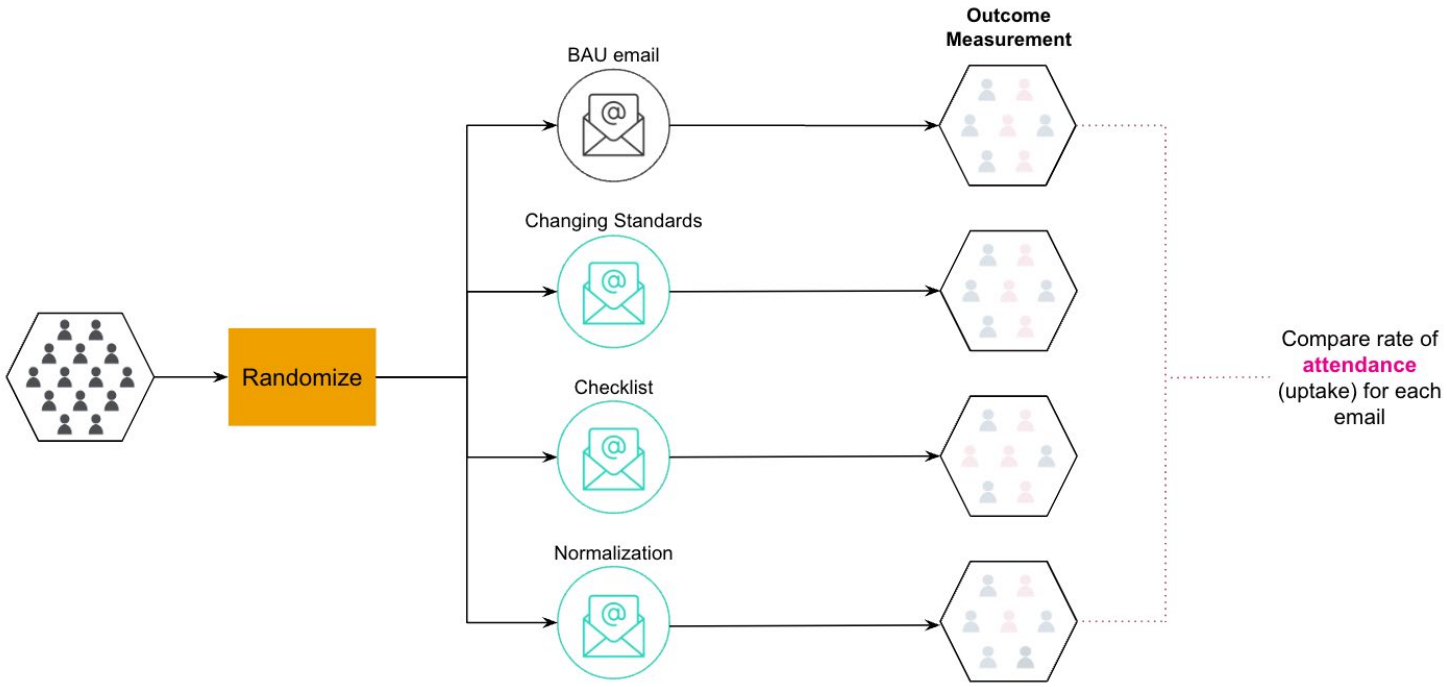




Study 4: Field RCT Examining the Impact of Behavioural Insights-Informed Outreach Emails on Uptake of Employment Services

- **Sample:** 3,816 recent EI applicants in Alberta
- **Research questions:** How do three different initial outreach emails to recent EI applicants, each informed by different principles from behavioural science, impact uptake of employment services when compared to current practices?
- **Description:** Every week we worked with 10 employment services organization to randomly select TRF referrals to receive one of four emails: 1) the "business as usual" (BAU) email the provider was already sending, 2) a "changing standards" email that aimed to have jobseekers re-evaluate the impact of employment services, 3) a "checklist" email that framed uptake as a logical continuation of the EI application process, and 4) a "normalization" email that sought to address stigma. The emails were sent to the assigned group by the employment services providers with BIT's support. At the end of the data collection period, registration and uptake rates (defined as having attended one or more appointments) were obtained through administrative data held by the Ministry of Jobs, Economy, and Northern Development.

FIGURE 8:
RCT design of trial testing initial outreach emails in Alberta



- **Key results:** Overall uptake rates were very similar between the BAU, changing standards, and checklist emails (6.6%, 6.5%, and 6.1% respectively). They were lower for the normalization email (4.7%). These differences were not statistically significant.

  Descriptively, across the 12 programs participating in the trial (delivered by 10 providers), the checklist email performed best for six programs, the BAU email for three (two of which were specific to youth), the changing standards email for two, and the normalization email for one. Our qualitative analysis suggested that the BAU

emails outperformed the new emails where they already reflected key principles including reinforcing legitimacy by describing connections to government, offering value to jobseekers (e.g., through links to job boards), simplicity, and personalization. The changing standards and checklist emails outperformed where the BAU emails did not reflect these principles.

FIGURE 9:
Overall uptake rates by email version

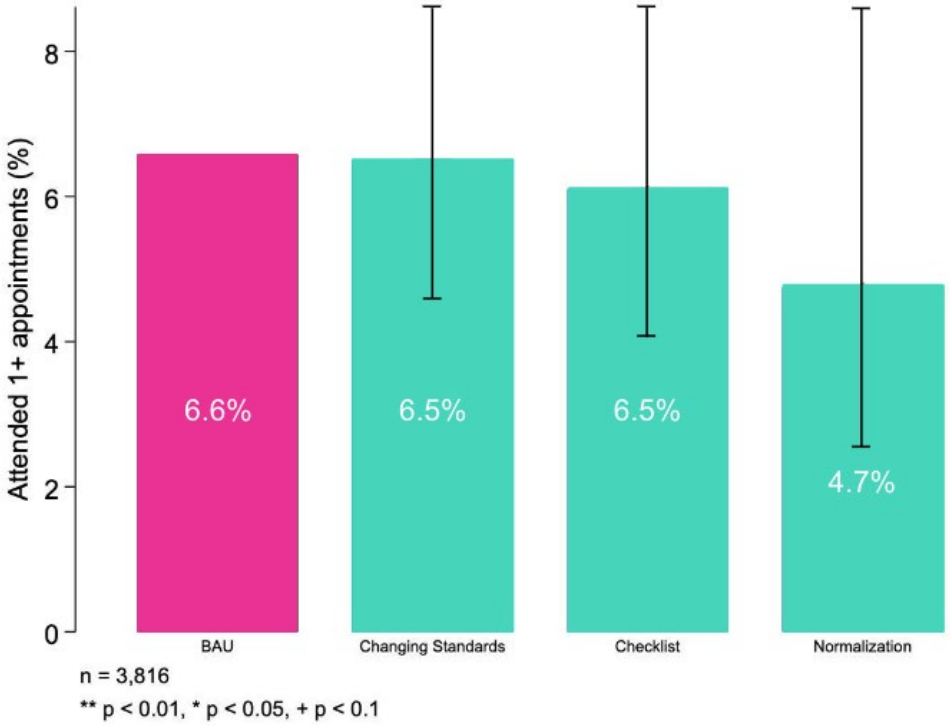
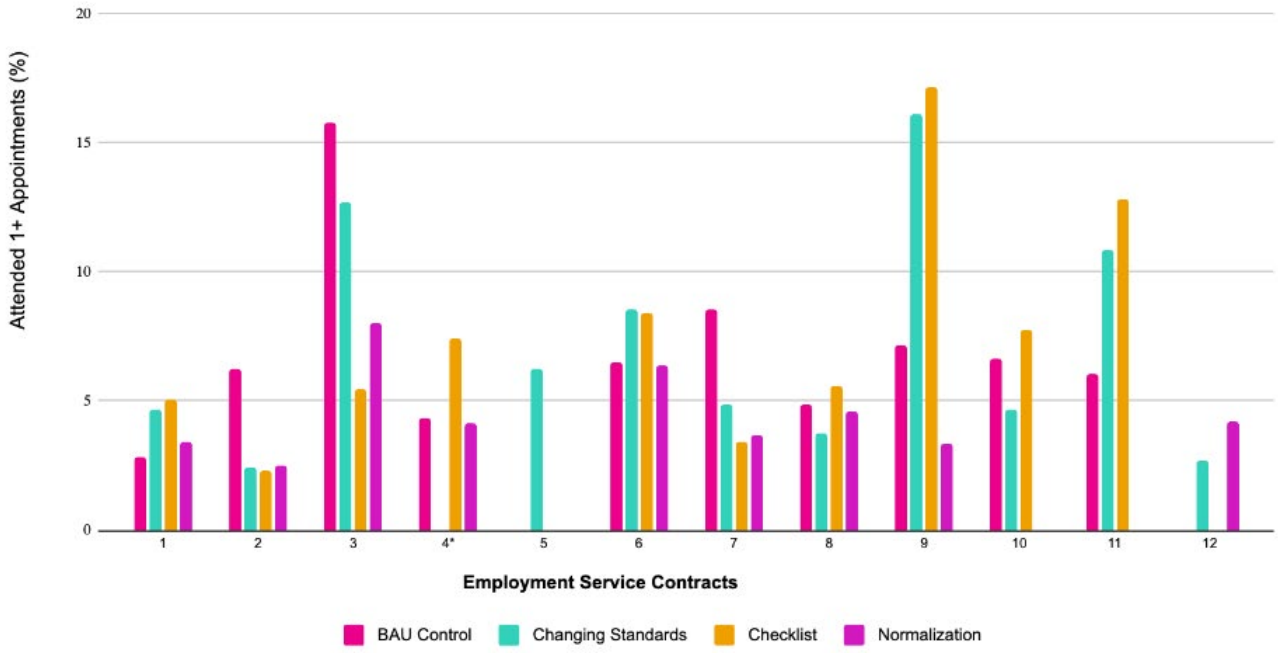


FIGURE 10:
Uptake rates by email version for each program (contract)



Introduction

The Future Skills Centre (FSC) is a pan-Canadian organization working in collaboration with partners to connect ideas and innovations from across Canada's skills and workforce development ecosystem, generating a robust evidence-base for decision makers to deepen our understanding of how global trends impact the economy and to identify the skills that working-age adults require to thrive in an ever-evolving environment.

Funded by the Government of Canada's Future Skills Program, the FSC was established as a consortium between Toronto Metropolitan University (TMU), Blueprint ADE, and the Conference Board of Canada.

The work of the FSC focuses on supporting, testing, and disseminating knowledge that:

- Actively contributes to shaping labour market policies and innovative programs, ensuring that Canada's workforce and training systems remain adaptive and future-ready;
- Empowers Canadians to make informed decisions regarding future skills requirements, enabling them to adapt to the shifting landscape of the labour market and;
- Enhances accessibility of high-quality, in-demand training and support systems, especially for underrepresented and disadvantaged groups like persons with disabilities, racialized communities, and individuals in specific sectors and occupations.

From June 2022 - October 2023, the Behavioural Insights Team (BIT) worked collaboratively with three Canadian provinces, the Future Skills Centre, and a wide range of stakeholders to generate practical ideas and rigorous, generalizable evidence related to labour market information (LMI) provision and uptake of career (employment) services. Our program of research was unique in adopting an approach rooted in applied behavioural science. It was organized under two workstreams.

1. Our first challenge was helping high school students make more informed educational and career pathway decisions through the provision of labour market information. We were interested in identifying how to provide LMI to prospective postsecondary students to influence their decisions related to postsecondary education (PSE), with a particular focus on youth at higher risk of non-participation.

   Working closely with the Government of British Columbia and partners like Education Planner British Columbia, we co-designed and implemented a multi-phase, mixed-methods research approach.

2. Our second challenge was helping increase career (employment) services participation in Saskatchewan and Alberta. After conducting an evidence review and exploratory qualitative research, we focused on enhancing outreach and communications to recent Employment Insurance (EI) applicants.

   We worked with both provincial governments and, in Alberta, third-party employment services providers, to collaboratively develop and rigorously test different options for outreach strategies.

About this report

This report summarizes the work of the Behavioural Insights Team (BIT), funded and supported by the Future Skills Centre, to generate practical ideas and rigorous, generalizable evidence related to LMI provision and uptake of career (employment) services. It is divided into two main sections.

Section 2: Empowering students with LMI begins by summarizing the evidence on where LMI is shown to have an impact (or not) on high school students' preferences, intentions, and choices regarding PSE. Then, using findings from original qualitative and experimental research, we answer three research questions: (1) Does LMI help students make more informed decisions about PSE? (2) What LMI is most helpful in empowering students? and (3) How should LMI be provided to students? Each section concludes with a set of recommendations.

Section 3: Increasing uptake of career (employment) services begins by consolidating findings related to the key barriers and enablers to uptake of career (employment) services. The report then describes our work in Saskatchewan and Alberta, respectively, to develop and test ways to increase participation in those services. We conclude with broad-based recommendations to support uptake of career (employment) services among jobseekers across Canada.

Our findings offer valuable recommendations for policymakers and stakeholders, highlighting ways to strengthen labour market outcomes in Canada. This report is a testament to the collaborative efforts of FSC, BIT, the Governments of British Columbia, Alberta, and Saskatchewan, and other stakeholders, and aims to guide strategies and policies for a more resilient and adaptable Canadian labour market.

2. Empowering Students With Labour Market Information

2.1 Overview

The impact of PSE

Across Canada, PSE is closely tied to labour market outcomes. Canadians who complete PSE experience significantly better labour market outcomes than those who do not. In 2022, Canadians with an undergraduate degree or postsecondary certificate or diploma had lower rates of unemployment (3.7% and 4.2%, respectively) than those with a high school diploma and no PSE (5.6%).[1]

In 2016, average annual salaries for an individual who completed PSE ranged from $47,259 (postsecondary certificate or diploma) to $69,418 (undergraduate degree or above), compared to $35,017 among high school graduates.[2] In addition, median cumulative or lifetime earnings over 15 years are, on average, $520,500 higher for undergraduate degree holders than high school graduates without further educational attainment.[3]

Even a modest boost in helping graduating students make more informed decisions for themselves about what to do after high school can have a meaningful impact at both the individual and societal level.

PSE participation in Canada

PSE participation in Canada has reached an all-time high. As of 2019, 73% of Canadians aged 25 to 34 earned a postsecondary qualification, compared to 59% in 2000.[4]

While this participation rate is high, the picture is not universal. Women are more likely than men to attend PSE in Canada,[5,6] and preferences for field of study or program choice also differ by gender.

Critically, equity-seeking groups, including Indigenous, Black, low-income, rural, persons with disabilities, and first-generation youth (i.e., whose parents did not attend PSE) see lower rates of PSE participation.[7] For example, the PSE participation rate of first-generation youth is only 56%, compared to 75% when youth have at least one parent with PSE.[8, 9] There is no single factor that can explain these differences in participation and attainment, as "... access to and persistence through PSE are the result of a complex set of processes typically starting early in a person's life."[10] In this context, providing accessible LMI to help youth make decisions could play a meaningful, albeit modest, role in addressing the equity-related issues central to Canada's PSE challenges.

Drivers of PSE choices

At an individual level, one of the most important factors in deciding what to do after high school is students' personal interests, or what brings them meaning or enjoyment.[11] Social and parental expectations, or a social environment that encourages PSE is another critical factor – having a parent that completed PSE significantly increases the likelihood of pursuing PSE.[12]

In Canada we see that although financial costs of PSE are only a moderate barrier to participation, they tend to be overestimated by students and can influence PSE decisions, especially those from lower-income families. Misperceptions regarding the cost and affordability of PSE were not the initial focus of our research but came up so frequently in our qualitative work that we integrated the topic into our research scope.[*] [13]

Students also care about finding a good occupational pathway – one where they can find employment, earn a good wage, and experience a positive employment experience.[14] Labour market returns to PSE are high, and students care about these returns.

The potential role of LMI in PSE decisions

Labour market information is data, research, and other information that helps people make informed decisions about the labour market. It includes a wide range of labour market statistics (such as employment rates or trends, job opportunities, or wages and compensation), demographic data about the workforce or specific industries, as well as data such as the education, training, and skills necessary for specific sectors and occupations.[15]

In the student context, LMI may also include information related to postsecondary programs or institutions, such as fields of study, admission requirements, and costs of attending. Given their interest in labour market outcomes, sharing accurate and personally relevant LMI with prospective students about those outcomes could encourage them to consider, enroll in, and complete PSE. It could also help them choose fields of study or programs with higher returns. This idea is understudied, but there are at least indicators of promise. While self-reported data has significant limitations, Labour Market Information Council (LMIC) research indicates that close to two-thirds (62%) of students have used LMI before choosing a postsecondary program. Almost all who used it (98%) report that it affected their decision of how to proceed.[16]

Recognizing the potential value that LMI can offer, significant investments have been made in the availability and quality of Canadian LMI, led by organizations including Statistics Canada, LMIC, and the Council of Ministers of Education, Canada (CMEC). Similarly, public sector organizations, including federal, provincial, and territorial governments across Canada are also investing in channels that provide LMI to prospective students.[17, 18, 19] As a result of these efforts, relevant LMI is more available than ever before.

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* There is growing evidence that rapidly increasing tuition and other costs is impacting access in the United States - this could have a similar impact in Canada if costs continue to rise much higher than inflation. Costs may also serve as a barrier to international students who pay much higher fees than domestic students.

However, the availability of data does not mean that students will engage with it, understand it, and apply it to their choices. As the OECD notes: "Researchers and governments agree that these efforts are often ineffective in informing learners' decisions – access to information is not sufficient to provide effective support to student choice."[20] There is a need for further research to better understand what LMI is useful for students, and how it should be shared for maximum efficacy.

The case for using behavioural science in LMI research & development

This research is motivated by the hypothesis that adopting a behavioural science lens can help determine what LMI to share, as well as when and how to share it. Applied behavioural science is characterized by a deep exploration of the cognitive processes, biases, and environmental factors that shape decision-making. We believe that these factors may be critical in determining the effectiveness of LMI. For example:

- People have limited attention. Individuals' "cognitive bandwidth" is a limited resource, and receiving large amounts of information rapidly depletes it. Students may simply "check out" when presented with LMI that is complex or unintuitively presented. How might we provide LMI about labour market outcomes within the bandwidth students can devote to it?
- People over-value the information that comes to mind easily compared to information that may be more accurate and relevant but is less "available" to them. This availability bias might limit career or educational exploration due to a student's limited exposure to different career and educational options and reinforces the importance of LMI. How might we ensure that LMI is salient around key decisions?

These are just two of the many behavioural barriers that may be important to address in helping students make more informed decisions. The impact of these barriers is heightened when people are experiencing scarcity (e.g., when they are low-income), compounding inequalities in postsecondary participation. Fortunately, the same theories that describe the barriers to accessing and using LMI also offer potential solutions for presenting LMI in ways that are engaging, easy to understand, and encourage action.

Overview of our project

In June 2022, BIT and the FSC began working together to address a pressing research need: identifying how to provide LMI to help high school students make better, more informed decisions for themselves about PSE and plans after high school.

Working closely with the Government of British Columbia, BIT co-developed and implemented a multi-phase, mixed-methods research project to answer the following three research questions:

- Does LMI help students make more informed decisions about PSE?
- What LMI is most helpful in empowering students? What type of information is most influential on students' decisions about life after high school?
- How should LMI be provided to students? How can we effectively present LMI to support students' comprehension and use in decision-making?

Research methods

To explore these questions, BIT implemented a rigorous, mixed-methods research plan:†

1. First, BIT conducted a literature review to better understand the existing evidence base regarding our three questions. Our review primarily examined the effects of the provision of LMI on high school students' preferences, intentions, and choices regarding PSE. We used three main approaches to identify relevant literature for the academic literature review:

    - Google Scholar searches using relevant keywords: We conducted a series of searches related to LMI and used a triage process such that articles that seemed relevant based on their title were considered.
    - "Snowballing": In addition to more structured search-term-based approaches, we found additional articles by reviewing reference lists of 11 selected sources.
    - Elicit.org search tool: This "AI Research Assistant" adapts its search approach as a function of articles prioritized by the researcher. We used this tool as a supplement to our keyword-based approach.

    We also reviewed relevant "grey literature" related to the effects of LMI provision on PSE decision-making and preferences for different types of LMI.

    In total, 37 publications were assessed as relevant and robust and were synthesized in the literature review findings.

2. To complement our literature review, BIT conducted exploratory, in-depth qualitative research with students and their teachers/counsellors in British Columbia (BC). Within the context of our three research questions, this qualitative research aimed to:

    - Understand drivers of high school students' decision to pursue PSE or not, as well as decisions related to their field of study/program choice;
    - Determine what kinds of labour market outcomes (e.g., long-term earnings, job quality, etc.) most influence these decisions;
    - Identify how common approaches to providing LMI are understood and received by high school students (e.g., what they are interested in, what they understand) and how best to deliver LMI to enable decision-making in line with students' long-term best interests; and,
    - Generate practical ideas to inform the design of labour market information options and increase the uptake of PSE.

    From September to November 2022, BIT conducted 21 in-depth, semi-structured interviews. These included seven interviews with British Columbia high school teachers, counsellors, and school district staff, and 14 interviews with students who were in Grade 11, Grade 12, or had graduated in the previous 12 months. Once interviews were complete, we used a reflexive thematic analysis approach to code and analyze the data. Next, BIT conducted two online randomized controlled trials (RCTs) using Predictiv, our in-house online platform for running behavioural experiments. These trials were designed to build on the insights gained from the literature review and interviews.

† Our research methodology and each individual research activity received independent ethics approval from Veritas IRB.

The first RCT was conducted with a sample of U.S. youth, while the second RCT had a Canadian youth sample. The reason for obtaining a U.S. sample in the first study was that we did not have access to enough young Canadians for both. To address the risk that the U.S. sample was not representative of Canadian behaviours, we designed the second RCT to validate the first in a few key areas.

Our first RCT focused on exploring what labour market information to share. We provided LMI to about 4,200 U.S. high school students and recent graduates. Participants were randomized into one of four groups – three treatments and one control group. The control group only received job information (e.g., job title, picture, description, education requirements, cost, and duration), while the treatment groups received the same job information, as well as LMI about labour market outcomes. After seeing the information, students were asked to make a simulated job choice between two similar occupations (one with higher labour market outcomes; the other with lower labour market outcomes). We examined how different LMI types influenced students' choices.

Our second RCT focused on the intersection of LMI and financial aid information, given the prominence of affordability concerns in our qualitative research. It also validated key elements of the previous study's findings with a Canadian sample. In addition to the package of LMI that was most effective in our first RCT, we shared generic (non-personalized), Canadian information about financial aid with about 3,000 Canadian students and analyzed how it impacted occupational pathway preferences. Participants were randomized into one of three groups – a control group that saw no generic financial aid information, or one of two treatment groups that saw generic financial aid either before or after LMI. Like our first RCT, students were then asked to make a simulated job choice between two similar occupations. One occupation had stronger labour market outcomes than the other. We examined how the provision of generic financial aid information influenced students' choices.

3. BIT conducted a qualitative, in-classroom study in British Columbia to build a more nuanced, local understanding of students' perceptions of LMI. This study entailed a 60-minute in-class activity with Grade 11 students in three regular Career-Life high school classes in British Columbia 16- to 18-year-old students were asked to respond to an online survey related to their perceptions of LMI (primarily labour market outcomes, such as salary) and generic financial aid information that we used in previous online studies. Students were also asked more open-ended questions regarding their preferences (e.g., for different kinds of LMI) and reactions to information they were shown (e.g., gauging helpfulness, comprehension, etc.). Again, we used a reflexive thematic analysis approach to identify key themes and analyze the data.

   More details regarding our research methodology are included in Appendix A.

2.2 Does LMI help students make more informed decisions about PSE?

In this section, we present our research findings regarding how LMI influences students' choices in postsecondary education. We first establish the possible impact of LMI within a model of student decision-making. Then, we analyze the evidence of its effects and provide relevant recommendations.

Understanding students' postsecondary decision-making

Given students' interest in labour market outcomes, there is a theoretical argument that LMI could positively impact student choices. However, we should not overstate the potential role; labour market outcomes are only one driver of choices.

Personal factors, such as career interests and passions, are likely the predominant drivers for students' decisions about life after high school. Many young people want to attend PSE primarily because they believe it is required to pursue a career that brings them meaning or enjoyment.[21] They select programs that align with those interests. Our qualitative research indicates that, unsurprisingly, interests are shaped by real-life exposure to different careers. While career interests and goals start to form quite early in life, they become more specific and concrete through a student's high school years. This indicates the potential value of providing LMI at this juncture or even earlier in a student's educational journey.

Social and parental influences, including encouragement and expectations, influence students' decisions related to PSE. As noted, parental PSE attainment is a powerful predictor of participation, even when controlling for other factors (e.g., income). Having a parent with an undergraduate degree increases the probability of going to university by ~30 percentage points, compared to having parents with a high school education or less.[22] In our qualitative research, we see that students often have conversations with parents, close family members, and teachers, in choosing whether to pursue PSE. Discussions of LMI, if they occur, often happen with the same people. If those trusted adults are unable to have these conversations or bring good information to them, students are unlikely to use LMI to support their decision-making.

Geographic factors, such as a student's location and proximity to PSE institutions, can influence decisions to attend PSE and which institution to attend. Students in relatively remote or rural areas are, on average, less likely to participate in PSE. The costs of attending PSE (both economic and personal) are often much higher for remote students. Students may also be more hesitant to move away from support networks or unable to move away from caregiving responsibilities. In addition, local industries in some remote communities may be more likely to hire people into well-paying jobs directly after high school graduation, reducing the need for PSE.

The cost of PSE, even accounting for financial aid, weighs heavily on students' minds. Wealthier students are more likely to attend PSE and increases in tuition reduce PSE participation.[23, 24] However, sufficient aid is generally available to enable participation regardless of income and wealth. In fact, 'middle-income' students are at times dissuaded by tuition increases while other students are not, perhaps because other students can benefit either from needs-based student aid.[25] Overall, among the 25% of youth who do not access PSE, only 22% cite financial constraints.[26] Critically, costs tend to be overestimated, especially by those from lower-income families, so costs may be overrepresented as a barrier in self-reported survey findings.

The misperception of PSE costs points to an important consideration around the cognitive and psychological dimensions of PSE affordability. In our qualitative research, students identified financial constraints as the most significant factor dissuading them from PSE enrollment, especially among low-income students and those with limited parental support. Beyond overestimating the costs of PSE on average, young people describe a strong aversion to student debt, even when the terms of the debt are generous and the financial benefits more than outweigh them. We also found that students have significant misperceptions about the availability and generosity of financial assistance. While these misperceptions related to affordability fall outside the primary scope of our research, which focuses on LMI as a tool for supporting PSE choices, our research suggests they are a critically important piece of the overall PSE participation challenge. We also think they could be tackled alongside information about labour market outcomes holistically, a key direction for further research and development explored in more depth below.

A wide range of other factors including high school grade achievement, family responsibilities, personal identity, feelings of belonging, expectations of PSE, maturity, and mental health also influence students' PSE decision-making. Given the broad array of factors influencing PSE decisions, there are obvious limitations to the potential role of LMI provision. It will not and cannot be a panacea, but as the next section explores, there are reasons to believe it can move the dial.

The role of LMI

Knowing that students care about labour market outcomes, LMI has the potential to be a valuable tool in assisting them with PSE decisions. Reliable information about the labour market can potentially play a role in informing choices by helping students:

1. Identify opportunities, such as learning about and assessing current and future job prospects across various fields of interest;
2. Prepare effectively, by learning more about job descriptions and requirements, and determining how feasible a specific career path might be for them; and,
3. Contextualize costs, including assessing the realistic earning potential of different career paths and considering the potential costs and benefits of PSE.

The use of LMI will look different for youth based on their circumstances and goals. For example, students who want to start earning a healthy salary quickly could use LMI to identify in-demand fields that require shorter educational pathways. Students who need to stay close to home could use LMI to identify occupations and PSE options nearby.

To achieve these potential benefits, useful LMI does not just need to be available, it also needs to be accessed. Ideally, this would happen when students are making decisions about PSE. However, many students and supportive adults, like caregivers and teachers, are uncertain of how to find and use good-quality LMI, and which data sources are trustworthy or verified.[27] When accessed, LMI needs to be understood – a significant barrier we explore more in Sections 2.3 and 2.4, below. Even when it is understood, LMI will need to feel valuable and personally relevant to students to inform choices in practice.

The impact of LMI on PSE decisions

Research on LMI's influence on postsecondary decisions generally focuses on two outcomes of interest: (1) how LMI impacts PSE participation, and (2) how LMI supports decision-making related to field of study/program choice.
On LMI's impact on PSE participation, the evidence is limited in volume and quality, and is mixed. High attention interventions (e.g., delivered in class or involving student input) tend to find positive outcomes. However, these outcomes are usually self-reported rather than behavioural (e.g., intent to pursue PSE rather than PSE attendance):

- A study conducted among high schools in the United Kingdom found that students who received LMI (including costs and benefits of PSE, and financial aid information) via website, video, and a flyer were ~3 percentage points more likely to self-report any plans to pursue PSE after age 16.[28] The intervention also enhanced knowledge in terms of PSE costs, and some self-reported beliefs about the perceived affordability of PSE, value of university education, including its impact on job prospects and earnings based on one's field of study and institution choice. However, LMI did not influence students' preferred subject of study, nor did it influence intentions to apply to university specifically. While this study is promising, its reliance on self-reported outcomes limits the strength of conclusions regarding actual PSE participation.‡,
- A study of household heads in the United States found that showing LMI focused on the returns of PSE increased the intended likelihood of sending their child to PSE by ~5 percentage points and recommending PSE for a (hypothetical) friend's child by ~2 percentage points.[29] Effects were larger for those who did not attend college and/or who had lower incomes. Information on costs of PSE, which were intended to counteract overestimation of the cost of PSE, had mostly insignificant effects.
- In Canada, high school students from disadvantaged schools (e.g., schools with lower academic performance and transition rates to PSE) were shown a video about the benefits of PSE and provided a financial aid calculator for grant/loan eligibility.[30] Those exposed to the video, especially those initially unsure about their own plans, reported significantly higher expected returns and lower concerns about costs, and were more likely to report an intent to complete PSE. Students were also more likely to request information about specific colleges and universities from a list of schools in the region. There was no significant change in expected returns for students who had reported plans to pursue PSE at baseline.

Lower-attention interventions (e.g., a letter or email) appear to be less effective in influencing even self-reported intent to pursue PSE or actual PSE attendance:

- A study in the United States with students who were interested in college but had made little progress toward filling in an application found that receiving a letter from a community college admissions office describing the benefits of PSE, including monetary benefits, did not increase PSE applications.[31]
- Another study from the United States explored PSE enrollment among individuals who received an email that either highlighted the potential earnings of PSE graduates, costs of pursuing higher levels of education, or neither. These variations did not influence enrollment in PSE.[32]

While we cannot definitively rule out effects on participation, the existing evidence base suggests that LMI interventions, especially lower attention ones, are unlikely to shift this outcome. There are a variety of caveats to this finding. The interventions and study designs differed, and each study had its own limitations. The most critical limitation, in our view, is that none of the studies rigorously applied information design or broader behavioural science principles to the development of the LMI interventions. LMI can, however, have a significant impact on students' educational aspirations, perceptions of PSE, and intent to participate in PSE.[33,34] As flagged above, 62% of Canadian students report that LMI has helped them make PSE-related decisions.[35] In other words, the existing evidence, while far from conclusive, suggests that LMI can change attitudes and people's beliefs that LMI changed their own choices. However, it may not affect PSE participation at a meaningful, detectable scale.

Evidence on LMI's role in choosing a field of study or program choice is also limited but points more clearly to a positive impact. It can encourage students to pursue more lucrative degree choices or reassure students that their preferred program choice is sufficiently safe to pursue, even if it is not especially lucrative compared to others.[36, 37, 38, 39]

‡ The authors note that the schools that chose to participate in the trial were more high-performing and were likely more well-off (i.e., fewer students were eligible for free meals) than average.

- Research with undergraduate students at New York University indicates that LMI can influence one's (expected) choice of major. As part of an online survey, students were provided LMI including the employment rate and average annual earnings of people with college degrees. Students revised their beliefs about earnings in response to the LMI, and on average shifted away from choosing intended majors with low average earnings towards those with higher average earnings. However, the authors note that decisions related to choice of major are still largely the result of unobserved "tastes," which may arise because of innate differences or by earlier interactions with peers and parents.[40]
- A study that we conducted presented students aged 12-16 in the United Kingdom (U.K.) with LMI about technical education, including average salary, working hours per week, and expected growth in employer demand over the next six years – all of which included a comparison to the U.K. average.[41] The intervention produced no significant effect on the three primary outcome variables relating to engagement with the information: screens of technical information viewed, total time spent on technical content, and proportion of time spent on technical content. However, it boosted participants' self-reported intent to pursue technical education, as well as their confidence in technical education's job prospects and its potential to lead to their dream job. This was the only study we examined that explicitly applied behavioural insights to the design of the LMI.

Other international studies – including research done in Finland, Chile, and Georgia – support these general findings that LMI may not meaningfully influence application decisions (such as intention to apply for or enroll in PSE) but can influence their intended choice of majors or fields of studies.[42, 43, 44] These new majors sometimes corresponded, on average, to better-paying options, but not always.

When examining this evidence, a few trends emerge on the characteristics of effective LMI interventions. First, data points should be simple and/or personalized.[45] Second, a relatively "high attention" approach that goes beyond a letter or email (e.g., mentorship, tools such as financial aid calculators, etc.), is likely to be more effective. New research highlights the importance of incorporating personal assistance and social connections into interventions aimed at improving long-term education and labour market success.[46] Beyond these principles, there is very little available evidence on what LMI to present to students, as well as how and when to deliver it. We try to address these gaps in Sections 2.3 and 2.4 below.

Original research on the impact of LMI on occupational pathway decisions

Given the significant limitations of the evidence base, BIT and the Government of British Columbia, with support from the FSC, designed two online RCTs to better understand the impacts of LMI on decisions related to PSE. Aligned with previous research, we considered exploring two specific decisions:

- **PSE participation:** Although the role of LMI in influencing PSE participation is very important, we recognize that existing evidence does not suggest strong effects to date. Other factors related to an individual's personal circumstances may be more deeply influencing their decisions to pursue PSE. Any self-reported outcomes related to PSE participation also come with limitations, recognizing a potential gap between individuals' intentions and actions. As a result, PSE participation was not the primary focus of our study.

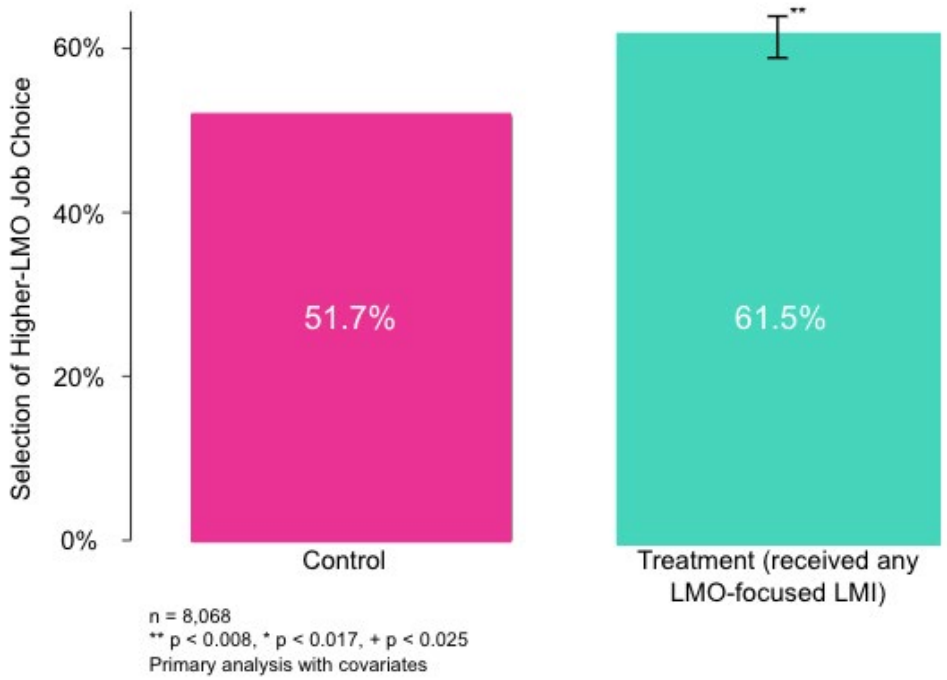
- **PSE field of study/program selection:** Given a more promising body of evidence, the primary focus of our research was the role of LMI in influencing what field of study/program people select after they decide that they will pursue PSE. This research area also aligns with broader policy objectives of the Government of Canada and British Columbia: to support local labour markets and facilitate individuals' transition into higher-opportunity occupations.

To better understand the relationship between LMI and students' PSE decision-making, we presented LMI to ~4,000 high school students and recent graduates across the United States. We asked participants to choose between two quite similar jobs with different labour market outcomes (e.g., family counsellor and employment counsellor). To evaluate the impact of LMI, we structured the study as a randomized controlled trial consisting of four groups: three treatments and one control group.

The control group only received job information (e.g., job title, picture, description, education requirements, cost, and duration), while the treatment groups received the same job information, as well as LMI about labour market outcomes. This included:

- Holistic job outlook, or a simplified rating that summarized job growth trends and future employment prospects;
- Salary information, including average and low/high salary data; or,
- Combined LMI (multiple data points), including holistic job outlook, salary information, and expected job openings in their area in the next five years.

FIGURE 11:
The effect of LMO-focused LMI on job choice



We were testing the hypothesis that providing labour market outcome (LMO)-focused LMI would increase the proportion of students picking the job with stronger labour market outcomes. Additional details regarding our methodology can be found in Appendix A3.

Our results demonstrate large effects on career pathway preferences, at least in this choice simulation. Individuals who received any LMO-focused LMI were significantly more likely to indicate that they would pursue jobs with better LMOs than those who did not receive any LMI. The likelihood increased by ~10 percentage points (from about 52% to 62%).

Our second online randomized controlled trial presented the 'combined' LMI treatment used in our first study to a sample of ~3,000 Canadian students and recent graduates. In that study, about 65% of participants chose the jobs with better LMOs. This suggests that Canadian students are just as keen to use labour market information when making occupational and educational pathway decisions.

Further analysis helped us understand the mechanism through which the LMI influenced choices, and it was quite straightforward. **The LMI increased participants' knowledge of labour market outcomes associated with the jobs, and that information informed and shifted their preferences.** More detailed findings of this study can be found in Appendix A4.

Recommendations

- **Provide LMI to high school students** to help them **make more informed decisions about what PSE programs to prioritize and apply for** (i.e., what occupational pathways to pursue).

  LMI may also be able to increase participation in PSE overall, but the evidence for this is mixed. Barriers to PSE participation are generally too structural for LMI to effectively address on its own, but LMI may be helpful in encouraging participation as part of a broader suite of interventions.

  Note: Discussion on what types of LMI lead to more informed decisions can be found in Section 2.3: What LMI is most helpful in empowering students? Analysis of how and when to provide LMI to students can be found in Section 2.4: How should LMI be provided to students?

- To reduce barriers to PSE access, **incorporate LMI as a core component of career guidance tools and educational courses** for students, both inside and outside the classroom. Higher-attention interventions like those delivered in classroom or through interactive interfaces are more likely to be effective and structuring this as an in-class activity increases equity for students who may have less help navigating LMI at home.

- Provide LMI in ways that are more likely to **capture student attention**. This includes facilitation (e.g., by a teacher in a classroom), video, and interaction (e.g., a tool that students engage with). Avoid passive dissemination approaches (e.g., a letter, report, or static website).

- As described further in the following sections, LMI provision should be informed by best practices in human-centred design, information design, and/or behavioural science. There are significant cognitive and behavioural barriers to understanding and using LMI that should be prioritized in LMI design.

2.3 What LMI is most helpful in empowering students?

In Section 2.2, we described the evidence for the impact of LMI on PSE decisions. Based on pre-existing literature and an RCT conducted for this project, there is clear evidence that LMI can positively influence PSE decisions, especially related to program of study (i.e., occupational pathway). In this section, we examine what specific LMI data points are most desirable and influential. We focus on LMI related to labour market outcomes.

Types of LMI available in Canada

In recent years, organizations including federal, provincial, and territorial governments, not-for-profit organizations (like LMIC), local economic development organizations (such as the Ontario Tourism Education Corporation), sector associations (like the Petroleum Services Association of Canada, the Mining Industry Human Resource Council, and the Canadian Council for Aviation and Aerospace), and others have led efforts to generate and improve the quality of LMI. These efforts bolster the foundational LMI that Statistics Canada has been collecting and publishing for decades.

This has led to the availability of a broad array of indicators. In the table on the next page, we summarize commonly provided data points that are potentially relevant to PSE decisions:

TABLE 1:
Common data points in postsecondary education decision-making

Role of LMI	Type of LMI	Description	Example LMI
1. Identify opportunities	**Job openings**	Unfilled positions for which employers are looking to hire, due to replacement or growth. Labour demand is typically defined as the sum of met demand (i.e., number of people employed in that job) and unmet demand (i.e., number of job vacancies for that job). Job openings data is often presented as a total sum of current openings for a particular job nationally, provincially, or regionally. This data may include forecasting future job openings.	*"In the field of nursing, there are expected to be approximately 250 job openings in your area in five years."*
	Holistic job outlook and trends	The core of any job outlook is information on job growth trends and future employment prospects. It may include projections of: • Total labour demand, including expansion and replacement demand, over a specific period (e.g., the next five years). • Total labour supply, or the number of qualified workers expected to be able to work in that job due to PSE completion, immigration and interprovincial migration, and other entry to the field. A job outlook may also include what workers are paid in that job to provide an overall rating (e.g., "fair"), tag (e.g., "high opportunity occupation"), or ranking with other jobs. Outlooks are often presented alongside job descriptions, salary data, or education or training requirements.	*"Based on employment projections for the next five years, the job outlook for accountants is above average..."*
	Location-based and regional employment information	Details about where specific jobs are available.	*"In the metropolitan area of Ottawa, there is a growing demand for software developers given an influx of tech companies and start-ups."*

Role of LMI	Type of LMI	Description	Example LMI
2. Prepare effectively	**Job descriptions**	A summary of a particular job and how it integrates with other jobs in the kinds of organizations where this role is required. A job description may provide information about where jobs are typically located (e.g., in large urban centres) and may link to current job postings.	*"Journalists research, investigate, interpret, and communicate news and public affairs online and through newspapers, television, radio, and other media. Journalists may work on a freelance basis or for radio and television networks and stations, newspapers, magazines, or online platforms. For current openings in your area, please visit this site."*
	Day-to-day responsibilities	A summary of what a typical day might look like, giving insight into responsibilities in a particular job, work hours and environment, and the skills required to succeed. Day-to-day responsibilities might be written in a rough timetable or delivered visually, like in a day-on-the-job video.	*"On a given day, a statistician might analyze a company's data to find ways to save money or increase sales. Watch this video to learn more about a day in the life of a statistician."*
	Education or training requirements	The level of PSE typically required in this job, a typical PSE program and any required licensing exams, and the average time commitment to complete the education or training. Education requirements may be high-level or may specify the name and institution for an example program (or a list of examples) in the region.	*"Employment counsellors need a bachelor's degree in employment counselling, career development, or a related field, such as human resources, psychology, education, or social services. Some jobs also require a master's degree in counselling psychology or a related field, or certification as a certified career development practitioner (CCDP)."*
	Skills requirements	Specific skills, qualities, and/or competencies required for a particular job. These could include specific technical or soft skills, certain types or levels of previous job experience, subject-matter, or industry-specific knowledge, as well as physical and/or language requirements.	*"Web developers typically need proficiency in programming languages like HTML, CSS, and JavaScript, along with strong problem-solving skills and an understanding of user experience (UX) design."*

Role of LMI	Type of LMI	Description	Example LMI
3. Contextualize costs	**Salary data and earnings potential**	The financial compensation, or remuneration, that employees receive for their work. Wages typically refer to earnings per hour worked; salaries typically refer to a fixed amount per pay period, paid regardless of the actual number of hours worked (e.g., earnings per year or month). Salary data is often presented in graph or chart formatting, as median earnings in a particular job or as a range of earnings for that job.	*"For a medical lab technician, the range of annual salaries is:"* Low | $32,389 Avg. | $55,143 High | $95,249
	Education or training time and costs	Time required to complete education as well as tuition and related costs for a typical program to prepare for a particular job after high school. Costs may be broken out (including books or licensing fees, for instance) or presented as a single sum (e.g., annual costs or total costs).	*"Copywriters usually require a bachelor's degree in English, French, communications, or a similar discipline. The amount of time may vary but in general, a bachelor's degree takes about 4 years. Tuition costs vary between programs, but a bachelor's degree in English can cost about $28,000 total ($7,000 per year). This does not include books, supplies, housing, or other costs."*
	Job reviews or satisfaction indicators	Insights into job satisfaction levels and employees' overall contentment and experiences within their current positions or industries.	*"Construction workers frequently express satisfaction in their jobs due to the tangible results of their work and the sense of accomplishment from building projects. The camaraderie among colleagues on job sites is also noted as a positive aspect of the profession. Watch this video to learn more."*

LMI and student needs

The data points mentioned in the above table and others are typically provided through government websites – however, LMI can also be accessed via databases, mobile or web applications, reports, academic journals, and news stories by providers that include public, not-for-profit, and private sector organizations.

Many of these sources are not useful to most students given their level of complexity, granularity, or specialization. For example, census-level data may be too detailed and complex for students (and supportive adults) to navigate, government reports may be too broad and focused on high-level policy implications, and industry-specific reports may be too targeted and irrelevant to students' needs. Only some sources are useful for students trying to make PSE-related decisions, including online, interactive PSE/career planning tools, and innovative PSE/career planning provided by specific teachers and counsellors in high schools.

When we went into British Columbia classrooms to hear from a small number of Grade 11 students, the vast majority (>95%) from urban and remote high schools said they were thinking about pursuing PSE. They relied on teachers, online searches, and, occasionally, employers, to supply LMI. These students reported that it was easy to get general information about occupational pathways but hard to navigate PSE websites and find sufficient details (e.g., job specifics, education requirements, how to apply). Reflecting their perceptions, LMIC reports that 60% of students have reported difficulty in finding information that meets their needs[47].

Finding and understanding LMI can be overwhelming for students, making it difficult for them to make informed decisions about their education and career paths. Using findings from our qualitative research, literature review, and behavioural science theory, we hypothesize that the following challenges deter student engagement with LMI:

- **The complexity and difficulty of interpreting LMI** may prevent students from effectively using this information. Individuals have limited cognitive resources, and when processing information is too complex or requires extensive effort, it can overwhelm these resources, leading to decision paralysis or avoidance. For example, if a student starts to read a detailed report filled with statistical jargon about job market trends, they are likely to become discouraged or bored and disengage from the information. In addition, some data may be difficult to understand without additional context. For example, a student learning that a career path has 100 job openings in the province may not fully understand whether this is positive or negative. Similarly, salary data may mean very little to students who do not have a grounding in overall salary ranges and the cost of living. Graphs and visual representations can be helpful but may also be easily misunderstood by students skimming the information. As a result, without adequate framing, students may misinterpret data and cannot use it to effectively guide their decision-making.
- **Certain types of LMI may be interesting but not useful** in facilitating decision-making. If LMI does not offer practical guidance or insights to inform decision-making, students may perceive it as irrelevant or inaccurate for them. For example, a student from a more remote area may be shown LMI that presents average salary ranges but doesn't include salary differences across the province and the demand for those jobs in their region. Without this critical context, a student may struggle to make informed decisions about whether they want to pursue that career. In other instances, students may be shown demand for a specific job (e.g., "In the field of nursing, there are expected to be approximately 250 job openings in your area in five years") but not current supply or the ratio of openings to applicants. This would help students truly understand where job opportunities lie.

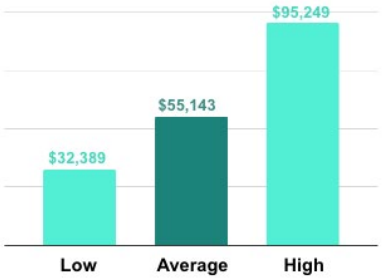
- Some types of **LMI may not align with the specific interests of students.** Behavioural science research shows that people are more likely to engage with and act upon information that is personally relevant to them. If LMI does not directly connect to a student's aspirations or interests, they may immediately lose interest or dismiss it as unhelpful. For example, a student interested in pursuing a degree in computer science or becoming a tattoo artist may 'tune out' when presented with LMI related to the healthcare industry. At this point, they may disengage and stop seeking out LMI that is more aligned with their interests.

However, there is very little research to confirm these hypotheses and set out best practices for what LMI data points to provide. In the literature, many LMI interventions focus on comparing LMI treatment groups to no-LMI control groups, rather than comparing different pieces of LMI presented separately or together.

As described in Section 2.2 above, we conducted a randomized controlled trial to test the influence of LMI on career and educational pathways by simulating choices of two similar jobs with different labour market outcomes. Our literature review, qualitative research, and the availability of provincial data informed the types of LMI we chose to include. We found that providing labour market outcomes-focused LMI had a large, statistically significant influence on students' decisions, increasing their likelihood of choosing jobs with stronger outcomes. As part of this study, we tested three different types of LMI that focused specifically on labour market outcomes:

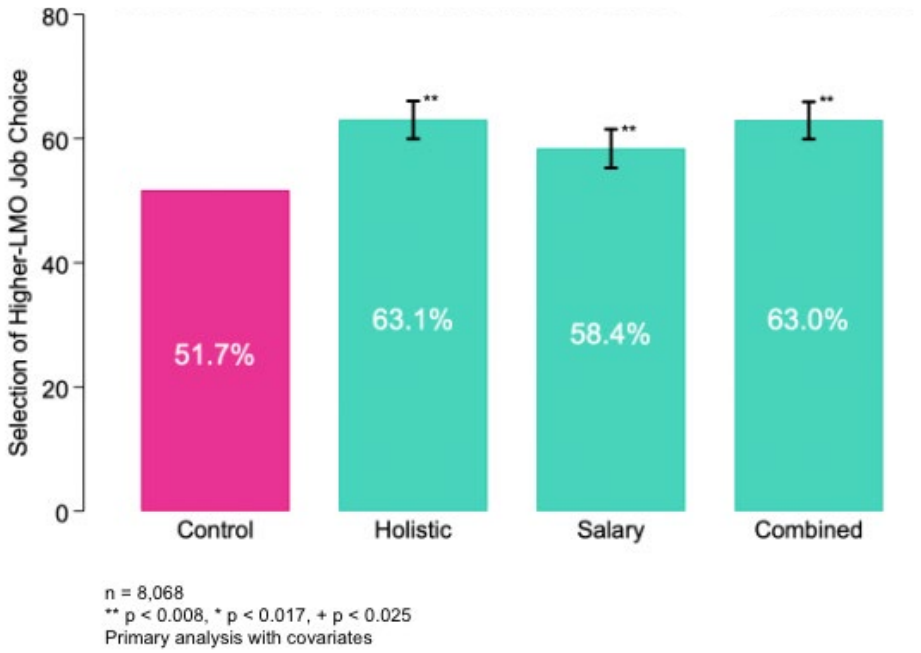
TABLE 2:
Tested labour market information in this study

LMI Type / Intervention	Rationale for Inclusion
Treatment 1: **Holistic job outlook** **What's the overall job outlook?** ABOVE AVERAGE AVERAGE BELOW AVERAGE **Why this rating for medical lab techs?** These ratings are developed by expert analysts who include factors like: • How easy it will be to get a job based on predicted openings and competition • How much the job will pay They look at current data and projections over the next 10 years.	We chose to test holistic job outlook because it presents very important labour market outcomes in a single, easily interpreted (if not understood) data point. It is also commonly provided LMI type in Canada. We were also interested in seeing whether students who received a predetermined assessment (e.g., this job is 'above average') would trust it and find it helpful in their decision-making process. Based on our qualitative research, we included some key context about who calculates holistic outlooks and how it is done without providing too much technical detail.

LMI Type / Intervention	Rationale for Inclusion
Treatment 2: **Salary information (including average and low/high salary data)** **What's the range of salaries for this job?**  **How are low and high salaries calculated?** These ratings are developed by expert analysts who include factors like: • "Low" refers to a salary that is in the bottom tenth (10%) of salaries that people earn for that job • "High" refers to a salary that is in the top tenth (10%) of salaries that people earn for that job	Salary can be a strong motivator for students, and having clear information about potential income can influence higher education and job choices.[48, 49] Previous studies testing the provision of salary information generally use average or mean salary/earnings.[50, 51, 52] In our qualitative research, students indicated a strong interest in receiving salary information as a range. In keeping with insights from our interviews with students and teachers, we added some context intended to help students interpret the graph correctly.
Treatment 3: **Combined LMI (including holistic job outlook (above), salary information (above), and job opening data)** How many tobs will be available in 2028? Analysts predict that there will be about 150 job openings for medical lab techs in your area in 2028. To forecast jobs, economists look at the changing economy, population growth, education requirements, and other factors. These are only estimates.	Limited previous research indicates that different types of LMI appear to be more effective when they are presented together.[53] As noted above, there is a strong theoretical argument to limit the amount and complexity of LMI presented. To thread the needle, we chose to test three relatively simple data points together (in addition to the job information presented to all groups). The data points included the holistic outlook, salary range, and an estimate of the number of local job openings in five years. We included this data point because it is very commonly shared across LMI sources. Based on students' reactions to forecasts in our qualitative research, we acknowledged the inherent uncertainty and described how future job openings are predicted. We wanted to determine whether that would capture the benefits of sharing more information with students without running into issues around cognitive overload.

Although our study could not comprehensively assess every potential LMI data point or combination thereof, the findings were clear and useful. While all LMI conditions positively influenced students' decision-making, the extent to which they did so varied by LMI type. Among the LMI conditions, providing the holistic outlook or combined LMI (holistic outlook with salary and job opening data) had the greatest influence on decision-making. Students who saw these types of LMI were 11 percentage points more likely than the control group to pick careers with better labour market outcomes, a relative 18% increase. Although salary information influenced decision-making, it did not work to the same extent (an increase of 6.7 percentage points).

FIGURE 12:
The effect of LMI treatment on simulated job choice



These results suggest that providing a holistic outlook, either with or without additional data points, is more effective than presenting the salary range. While we cannot be sure of the mechanism, we hypothesize that having a non-numerical assessment (e.g., average or above average) reduces cognitive load, and that students are interested in salary and other labour market outcomes like employment opportunities. An important limitation to our online study is external validity. Participants were provided LMI in a simulated setting, quite different from how they might receive it in real life. There is an opportunity to explore the impact of LMI provision in a more realistic setting, and whether these findings remain consistent.

We were concerned that offering three data points might overwhelm users, but when asked about their level of comprehension, students found the combined LMI as easy to understand as the two other conditions that only had one. However, while three relatively simple, clearly explained data points are not too many, that does not mean there is no limit. To avoid information overload, LMI still needs to be distilled for a student audience and framed in a way that makes it easy to scan, understand, and compare job information. It could be worth testing whether more data points continue to work well, but given the strong theoretical reasons to prefer simplicity, we do not consider this a priority for further testing.

Last, our trials also included exploratory analyses related to the LMI preferences of students. While we prioritized what LMI was most influential due to the policy objective of supporting better labour market outcomes, we also know that capturing student attention will be critical. Unlike in a research setting, students may not always be a captive audience when receiving LMI. Even if LMI is provided in a classroom setting, it does not guarantee that students will pay attention and the challenge will be greater outside the classroom. Our in-classroom research made this quite clear, with British Columbia students reporting, sadly but unsurprisingly, that they find LMI "extremely boring" in general. Including data points that students perceive as important and relevant as well as interesting and interactive delivery of LMI may be key for capturing and focusing students' limited attention.

When surveying preferences, we did not just look at data points related to labour market outcomes. Unlike the experimental part of our study, we did not need to narrow our focus down to that extent. As illustrated in Figure 13, American and Canadian students alike prioritize practical information about how to get into occupations (e.g., educational requirements, timelines, and costs) and the qualitative impressions of people working in the job (e.g., "review of someone in the job"). They are less interested in job opening data.

FIGURE 13:
Usefulness of different LMI types on a scale from 1-5 (online participants in the US and Canada)

Skills required	4.18
Education / training required	4.10
Review of someone in the job	4.04
Average job satisfaction	4.01
Time required to complete education	4.01
Cost to complete education	4.01
Job openings (state)	3.96
Basic job description	3.96
Job flexibility	3.94
Salary (state average)	3.94
Average work hours per week	3.91
Location requirements	3.89
Holistic measure	3.83
Salary (national average)	3.83
Salary (national range)	3.79
Current job openings	3.79
Expected job openings in 5 years	3.63

Education / training required	4.15
Skills required	4.15
Review of someone in the job	4.10
Basic job description	4.03
Costs to complete education	4.01
Time required to complete education	4.01
Job flexibility	4.01
Salary (provincial average)	3.99
Average work hours per week	3.98
Job openings (province)	3 91
Salary (national average)	3.90
Average job satisfaction	3.89
Salary (national range)	3.87
Location requirements	3.87
Holistic measure	3.82
Current job openings	3.74
Expected job openings in 5 years	3.71

In our in-class activities, we showed students visuals of LMI from our online trials and asked for their reactions. These students' preferences closely reflected those of Canadian and American students more broadly: they prioritized information about required education and salary over job openings or holistic outlook. Figure 14 provides more details.

Students also prioritized non-traditional LMI (for example, a "review" of someone in the job, sharing upsides and downsides) to understand if a career path was a good fit for them. They explained that it was helpful to build an understanding of different career paths through visuals (such as "day in the life" videos that depict work in a realistic way). Students who were less likely to pursue an office job identified other types of non-traditional LMI that were personally relevant to them, such as information about work environment, safety, hours, and flexibility.

FIGURE 14:
Usefulness and importance of different LMI types on a scale from 1-6 (in-classroom participants in BC)

Importance of LMI to students

	Urban	Remote	Average
Education details	5.4	5.0	5.15
Average salary	5.0	4.8	4.88
Future job openings	5.0	4.7	4.77
Job summary	4.5	4.7	4.65
Range of salaries	4.8	4.5	4.62
Overall job outlook	3.9	4.7	4.42
Regular day	4.3	4.2	4.19

Perceived usefulness of LMI

	Urban	Remote	Average
Education details	4.8	4.7	4.73
Average salary	4.9	4.6	4.70
Range of salaries	4.8	4.5	4.63
Job summary and regular day	4.6	4.6	4.58
Future job openings	4.1	4.2	4.15
Overall job outlook	3.8	4.2	4.07

All scores are out of 6 based on total number of respondents.

Our in-classroom research, which also included engagement with students in a remote British Columbia community, also demonstrated differences in preferences among urban and rural / remote students. For example, urban students were more interested in salary, and some perceived it as the most useful data when choosing a career path. We noted the importance of regionally focused LMI to accurately reflect the wide variety of communities in the province.

There are differences between what students want to see and what influences their choices. For example, they rate average salary much higher than a holistic outlook, but the outlook is more influential. This demonstrates the importance of going beyond preference surveys to the type of behavioural trial we conducted.

Recommendations

- In providing LMI to students, prioritize the following data points:
  - **Educational requirements**, given their practical use for planning and highest self-reported importance across all studies.
  - **Holistic job outlook**, as part of or all of the labour market outcome related LMI provided to students. If using ratings or scores to represent a job outlook, define these clearly to avoid misinterpretation (e.g., help students understand what “average” means to them).
  - Up to **two other data points** related to labour market outcomes. We suggest this include salary information (presented as a median point estimate or as a range with the median salary visually emphasized), given its appeal, but not anticipated job openings, given its low appeal and the challenges of interpretation.§

§ One opportunity for future research is to contextualize job openings by characterizing the number of openings (e.g., “high” or “higher than average”). However, this is largely captured in holistic outlooks, and we do not consider it a priority.

  - Recognizing data collection challenges, consider providing **day-on-the-job descriptions** or "reviews" of jobs from experienced workers with diverse backgrounds (we provide further insight on "messengers" for LMI below, in Section 3).

- More broadly, we believe the next phase of research in determining what LMI to provide, especially for LMI about labour market outcomes, should comprise **field trials**. There are inherent limitations to the lab environment that we used for our RCT, and it would be valuable to move from simulated occupational pathways to real-world tracking of student outcomes over time.

  A field trial would likely involve a clustered randomized trial where different schools would get slightly different sets of LMI. The students from these schools would be tracked over time to see the differential effect on outcomes including PSE applications and attainment, as well as employment rate and wages.

2.4 How should LMI be provided to students?

In Section 2.3, we synthesized our research findings about the types of LMI that students want and that influence their occupational pathway decisions. In this section, we turn our attention to how best to present LMI to students.

Designing LMI: Facilitation and interactivity

In reviewing previous studies testing the impact of LMI on educational pathway decisions, we identified two broad categories of intervention:

- 'Higher attention interventions' refer to activities that require some level of student engagement or input. These activities can include in-classroom presentations or discussions about LMI, as well as interactive tasks like navigating web pages or responding to online prompts. While this study is promising, its reliance on self-reported outcomes limits the strength of conclusions regarding actual PSE participation.[54, 55, 56]

- 'Lower attention interventions' require lower levels of student engagement, such as sharing LMI via letters or emails.[57,58]

Although non-conclusive, higher attention interventions are generally more effective at influencing students' self-reported outcomes, such as intent to pursue or participate in PSE. Where it is feasible, we recommend a facilitated, in-classroom approach when delivering LMI to students. Several recent studies have found that more intensive interventions that emphasize personal and social connection (e.g., regular advising, tutoring, and group activities) have generated impressive results.[59]

Where it is not feasible, we suggest personalization and interactive components that require students to engage (e.g., indicating preferences, geography, etc.). These types of features were raised by students in our qualitative research and are likely to help them stay engaged and absorb the LMI that is being shared. In recommending higher attention interventions, we have not accounted for the opportunity costs, the additional time and attention that students and teachers would need to dedicate.

Designing LMI: Presentation format

LMI is delivered in formats including written summaries, tables, graphs, infographics, and maps, as well as more interactive options such as videos, mobile applications, or online dashboards. While there is a scarcity of research on the relative effectiveness of these formats, from a theoretical perspective we believe that visual and/or interactive formats are likely to work best. They generally are more engaging and require less cognitive bandwidth to understand – if well designed.

Our online studies asked about 7,000 American and Canadian students about their preferred formats for receiving LMI – and the answers supported our hypothesis. Most reported preferring graphs or tables for salary or other numeric LMI.

In both our online studies and qualitative research, students also reported preferring videos for non-numeric LMI. Where text was necessary, students reported that clear titles and concise contextual information (e.g., "How are low and high salaries calculated?") helped them interpret visual data. We also learned that students have high expectations for distilled, personalized user experiences, shaped by the sophisticated apps and websites they interact with daily.

Designing LMI for high school students requires a strong, consistent focus on understanding and addressing barriers to comprehension. Traditional LMI delivery may assume a baseline knowledge of work that many high school students simply do not have yet; at this stage, many students have not had a job yet, nor gained exposure to certain fields through the adults in their lives. Relatedly, youth may lack important financial context to support their understanding of LMI. In our interviews and in-class activities, for example, some students reported not having a sense of what average salaries and living expenses are in their community, even though they cared about making good decisions for their financial futures. Helpful LMI framing recognizes that youth start from different places in terms of baseline knowledge. It is helpful to understand their specific preferences, and, if feasible, to seek their input and feedback when designing LMI.

FIGURE 15:
Concise explanations to help increase understanding of LMI

Regardless of the format, the presentation of LMI should be simple and intuitive. For example, our 'combined LMI' intervention was carefully designed for a youth audience with a clean layout, and concise explanations geared towards high school students' level of understanding (see Figure 15). Many students reported liking these aspects of the LMI they saw in our qualitative research, and wanted even more specific, streamlined text and visuals if these easy-to-read explanations do not appear to "talk down" to students.

Designing LMI: Timing of LMI provision

The Labour Market Information Council has conducted surveys with students and parents to determine the most suitable timing for delivering LMI – most say that the ideal time is during high school.[60] Studies by the OECD support this view, indicating that early career education fosters students' exploration of their interests and better equips them for the practical aspects of specific jobs.[61] If presented to students earlier in their high school years, it is important to ensure this information is also accessible when students are actually applying to PSE.

Other career practitioners recommend presenting LMI to students even before they enter high school.[62] They note that the relevance of LMI varies from one individual to another, given the different contexts and levels of exposure that students may have to careers, occupations, and workplace environments (e.g., through working part-time, interning, or co-op placements). Introducing students to different types of jobs and careers at an early age may help build a foundation for career guidance later in the student journey. Our original research conducted for this project did not substantively address this question, but our qualitative findings support this consensus.

Designing LMI: Prioritizing diversity, equity, and accessibility

LMI data points cannot stand alone if the goal is to increase knowledge equitably. Not all youth have the ability or attentional capacity to easily navigate complex LMI, or the support of adults with the time and skills to help. Equity-seeking and underrepresented youth face distinct challenges when it comes to understanding LMI.

Barriers such as limited exposure to quality education and career guidance, lower levels of trust in government, and socioeconomic disparities can hinder their ability to access reliable information about career prospects and educational pathways. Additionally, language barriers, cultural nuances, and a lack of representation in who is sharing information can make it challenging for youth to apply labour market data effectively.

The literature demonstrates varying effects that LMI can have on different groups. While some studies show highest effects among those who come from lower socio-economic status backgrounds, others find that higher students from higher income levels are more likely to enroll in PSE after an LMI intervention.[6364] In addition, different kinds of LMI might not be equally meaningful, on average, for members of different groups. For example, survey data from the United States suggest that choice of major might be influenced by expected earnings to a greater extent for men than for women, and for racialized individuals than for white individuals.[65]

To help LMI align with the contexts of the students who are using it, it is important to ensure that it is local, accessible, and promotes inclusiveness among individuals' specific contexts:

- **Local:** Efforts should be made to collect and share disaggregated LMI for individuals who want more localized information. This should be easy to access, reliable, and up to date.

  In our qualitative research, both rural/remote and urban participants reported that job information presented at the provincial/territorial level alone was too high level and of limited use for their decision-making. Students asked for LMI specified to their region, including salary data that accurately reflects earning potential in their community, job opening data that shows where demand is clustered within the province, and education costs that include the cost-of-living expenses for students who are travelling for PSE.

- Accessible: Present LMI in formats that are accessible to individuals with disabilities, such as screen readers, alternative text, and easy-to-read formats, as well as multiple languages to accommodate linguistic diversity.

- Diverse and inclusive: Promoting diversity and inclusion within LMI can include highlighting diversity in career pathways – for example, showcasing diverse role models and success stories to inspire individuals from underrepresented backgrounds. This can help actively challenge stereotypes about certain career paths and industries that may deter individuals from pursuing them. In addition, offering culturally inclusive career guidance can help provide additional support to students with unique challenges. Efforts to understand the specific contexts of different communities can help design LMI that is more relevant to them. To do this meaningfully, it is critical to seek input from diverse voices in the design and development of LMI resources.

Presenting LMI Alongside Financial Aid Information

Our second RCT explored the intersection of LMI and financial aid information. We chose this focus because of the prominence of affordability concerns in our qualitative research. In addition to the "combined" LMI treatment that was effective in our first RCT, we shared generic (non-personalized) information about Canadian financial aid with about 3,000 Canadian students and analyzed how it impacted occupational pathway preferences (see Figure 16). Participants were randomized into one of three groups – a control group that saw no generic financial aid information, or one of two treatment groups that saw generic financial aid either before or after the LMI.

FIGURE 16:
Generic financial aid presented to participants

Loans	• Loans are repayable financial assistance that are available to students with a financial need. • These are repaid once you're working and are low or no interest while you are enrolled in full-time study. You can also access repayment assistance. • The Government of Canada provides up to $11,900 in repayable loans. Provincial and territorial governments also offer additional loans.
Grants	• Grants are also available to students with financial need. Unlike loans, grants do not need to be repaid. • The Government of Canada can provide full-time students with up to $6,000 per 8-month academic year. Provincial and territorial governments, as well as post-secondary institutions, also offer additional grants.

Most students in Canada are eligible for financial assistance.

This means they can get funding from the government to help with costs associated with postsecondary education (like college, university, or apprenticeship).

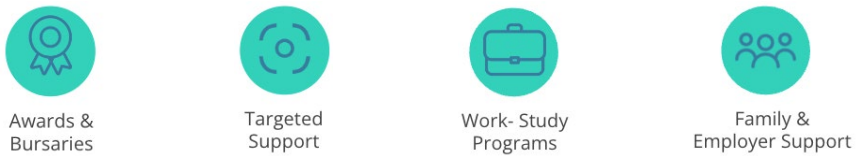
In total, eligible students can receive up to

$17,900

in grants and loans per year.

Over 700,000 Canadian students get funding every year.

In addition, students can also get funding from:



To find out if you are eligible and learn more:

A lot more information is available about financial assistance. Check out:

- Government of Canada Student Grants and Loans website
- Links to provincial and territorial student financial assistance websites
- Search online for the name of the institution you want to attend and "financial assistance"

Like our first RCT, students were asked to make a simulated job choice between two similar occupations. One occupation had stronger labour market outcomes than the other, but also higher associated educational costs (i.e., they required education that was more expensive). This aligns with decisions students may have to make in real life, considering whether to incur higher PSE costs to achieve careers with better labour market outcomes. We examined how the provision of generic financial aid information influenced students' choices, and, specifically, whether it pushed more students to the better LMO (but more expensive) job choice.

Like our first RCT, students were asked to make a simulated job choice between two similar occupations. One occupation had stronger labour market outcomes than the other, but also higher associated educational costs (i.e., they required education that was more expensive). This aligns with decisions students may have to make in real life, considering whether to incur higher PSE costs to achieve careers with better labour market outcomes. We examined how the provision of generic financial aid information influenced students' choices, and, specifically, whether it pushed more students to the better LMO (but more expensive) job choice.

Our findings revealed that **while sharing financial aid information enhanced the perceived generosity of available aid (see Figure 17), it did not have any impact on students' simulated decisions regarding PSE (see Figure 18)**. Even though 50% of our participants acknowledged that cost could potentially limit their PSE choices, the simple and clear (but generic) information we provided did not effectively address this barrier.

FIGURE 17:
Impact of financial aid information on perceived generosity

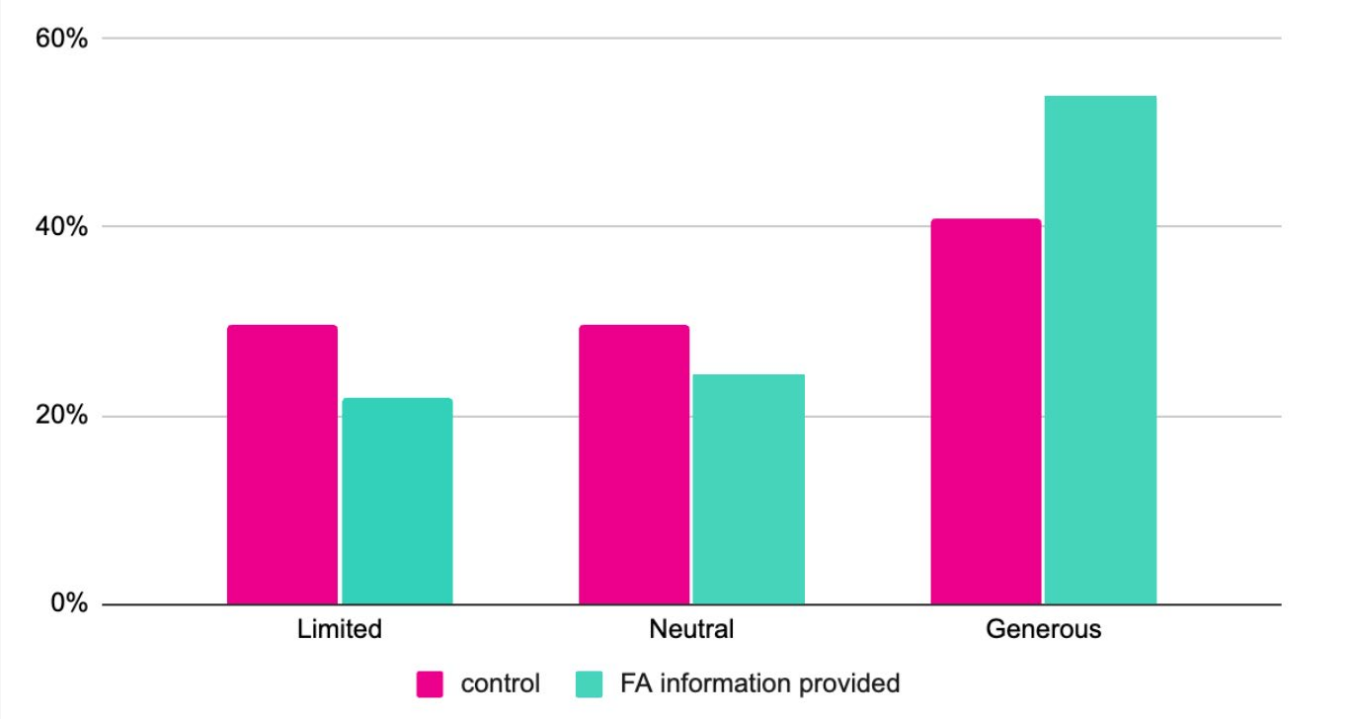
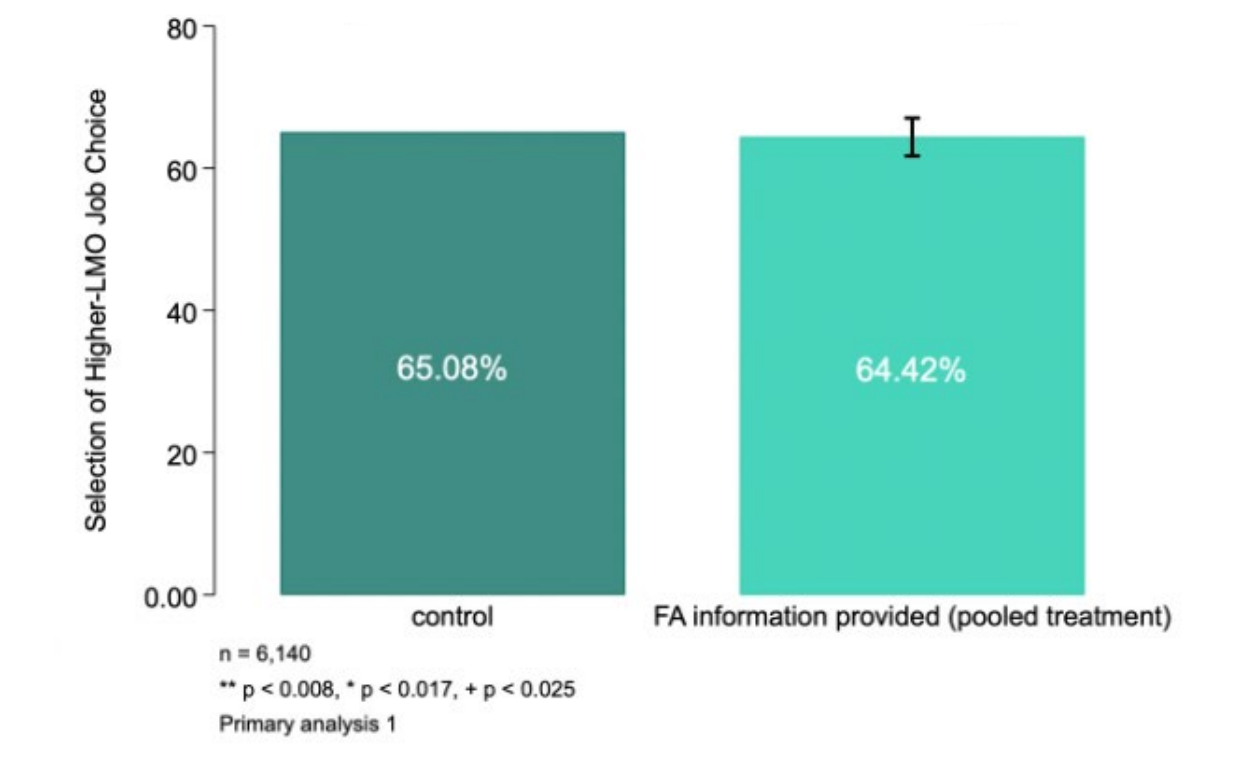


FIGURE 18
Impact of financial aid information on simulated job choice



These findings highlight a need to understand how best to present financial aid information so that it is easy to understand, feels personally relevant, and promotes action (e.g., applications to PSE and student aid). Further research should explore:

- Tailoring financial aid information: Investigating what types of financial aid information should be provided, including how to tailor to a student's specific context or program, and whether it should be aggregated or disaggregated by aid type.
- Timing of information: Determining the optimal points in a student's educational journey to provide financial aid information to maximize its impact.
- Presentation and framing: Exploring the most effective ways to present and frame financial aid information so that it resonates with students and motivates them to act towards pursuing PSE.

By deepening our understanding of these ideas, we can better equip students with the information and support they need to overcome financial barriers and make informed decisions about their postsecondary education.

Designing LMI: Building trust

LMI is generally provided to students by government agencies at the federal, provincial, and territorial levels, PSE institutions, and high schools. Many students also report discussing their plans after high school with trusted members of their social networks, including parents, teachers, or peers. These discussions regularly touch on labour market outcomes albeit qualitatively and anecdotally.

The trust students have in these sources of LMI has a large impact on engagement and whether the information is used in decisions. Our two online studies, one of which had a United States sample and the other a Canadian sample, asked students to rank their level of trust in different LMI sources. As illustrated in Figure 19 below, we find the highest level of trust in workers in the job, followed by close family members (parents). Students report trusting government sources the least of all options in both countries.

FIGURE 19:
Perceived level of trust in LMI sources on a scale of 1-5

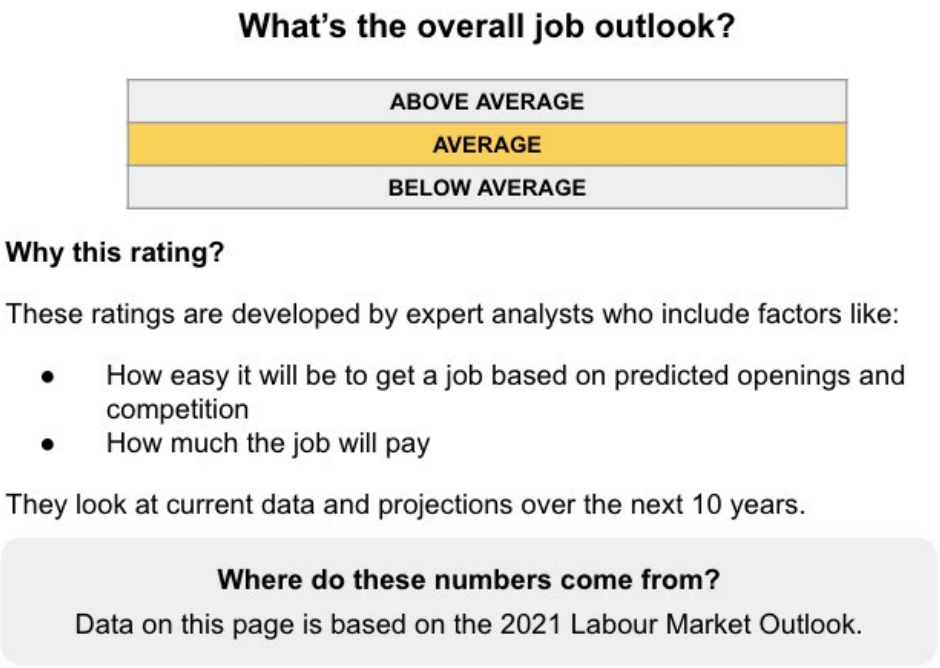
		
Most Trusted (Salary)	• **People in job w/ experience (4.1)** • Parents (4.0) • People in job (3.9)	• **People in job w/ experience (4.3)** • People in job (4.1) • Parents (3.7)
Least Trusted (Salary):	• **Government (3.2)** • People in job who are new (3.4) • Teachers (3.7)	• **Government (3.4)** • Friends (3.6) • Teachers (3.6)
Most Trusted (Non-numeric):	• **People in job w/ experience (4.2)** • People in job (3.9) • Counsellors (3.7)	• **People in job w/ experience (4.4)** • People in job (4.2) • People in job who are new (3.7)
Least Trusted (Non-numeric):	• **Government (3.0)** • People in job who are new (3.5) • Teachers (3.6)	• **Government (3.2)** • Teachers (3.5) • Counsellors (3.6)

Aligned with our findings, survey data from LMIC shows that the most frequently preferred go-to sources for LMI among students are friends and family.[66]

The high level of trust and engagement with friends and family is a double-edged sword. As a non-authoritative source, it can introduce bias and inequality in the LMI people are exposed to and how that LMI is interpreted. On the other hand, it provides an opportunity for authoritative sources of information to engage friends and family as a valuable messenger for high-quality data.

The relatively low self-reported levels of trust in government as a source of LMI are concerning. We sought to address this risk in our LMI interventions by providing transparency into the source and nature of the data, as well as the limitations (see Figure 20). While this represents an evidence-based approach of building trust through operational transparency, we believe there would be significant value in further research to identify drivers of trust and interventions that build trust or mitigate the impact of low trust.[67]

FIGURE 20:
Providing transparency into the source of LMI



Recommendations

- Where it is feasible, we recommend a **facilitated, in-classroom approach** when delivering LMI to students. Provide hands-on follow-up with students who demonstrate a need for extra help and/or personal attention.

  Where it is not, include **personalization** and **interactive** components that require students to take actions. (Note: our analysis did not address opportunity costs of these formats, which should be accounted for in implementation decisions).

  There is a particularly exciting opportunity to develop and deploy LMI tools leveraging large language models (e.g., ChatGPT). We hypothesize it would be immensely valuable to be able to ask questions about LMI in plain language and have them answered conversationally but based on authoritative sources. A student might ask such a chatbot to provide a breakdown on what PSE program will give them the best chance for a career in music production or ask about the distribution of salaries for machinists in British Columbia. Properly trained applications could even synthesize unstructured data, answering questions about common complaints or benefits cited by workers in each field!

- Use visual approaches, especially **video**, when sharing LMI. **Graphs** and **tables** are desirable when presenting numeric LMI but should be designed carefully and tested to ensure they are understood. Provide written explanations or guidance from trusted adults to help students interpret numeric LMI correctly.

- Only share LMI in a static text-based format when required, noting that it is least effective in influencing students' PSE decisions. Make sure to **simplify language** by **avoiding jargon** and technical terms that may be difficult for some students to understand.

  Provide short, clear definitions when they are required. Use **clear sections and titles, bulleted information**, and **front-load short introductory phrases** for LMI, since many students will not read the 'fine print.' Keep all text to a **Grade 6 reading level** and **accessible** to individuals with disabilities (e.g., use of alternative text, easy-to-read formats, as well as multiple languages to accommodate linguistic diversity).

- When designing LMI, **seek input and feedback** from members of equity-seeking groups to ensure it is accessible and inclusive. Employ techniques to address potential biases in traditional LMI delivery – for example, **showcasing diverse role models** and **messengers** and designing **culturally inclusive career guidance**.

- Share **localized, disaggregated LMI** that provides specific data about career pathways and opportunities in students' locations of interest. This should be easy to access, reliable, and up to date.

- **Engage trusted messengers** in LMI delivery. For example, create opportunities for current workers in fields of interest to engage directly with students, equip teachers and counsellors with interactive resources that can support LMI discussions, and/or leverage peer effects by embedding social sharing features in online LMI tools.

- In addition, find pathways to engage parents and other trusted adults in discussions about life after high school, as well as students. For example, design online interactive workshops or websites / mobile apps that parents and students can explore together.

- **Regularly test** LMI presentation styles and **seek feedback** from students and adults (teachers, counsellors, parents). **Gather data** where possible to determine which design elements are preferred and most used. Include channels to quickly gather reactions from students, adapting LMI provision (as feasible) based on their evolving needs, preferences, and expectations.

- While there are practical limitations on updating LMI, ensure that evergreen content **stands up over time** (e.g., does not look too dated to students) and time-sensitive content is **updated regularly and transparently** (e.g., consider mentioning when new data will be available).

3. Increasing Uptake Of Career (Employment) Services

3.1 Overview

Virtually all Canadians experience periods of career indecision, labour force transition (e.g., from school to work), or unemployment. During these periods, participation in career services or employment services can help. International evaluations of employment programs show short and long-term benefits for jobseekers including increased career planning, job search efficacy, higher earnings, and returning to work more quickly following job loss.[68] Recently published evaluations of federally-funded Canadian programs also show positive results in most provinces for most programs.† However, only 19% of Canadian adults and roughly half of young adults (18-24 years) reported using career (employment) services from 2016-2021.[69] These data suggest that, in general, such services are underused by Canadians.*

People who are unemployed are entitled to and may particularly benefit from cost-free, publicly funded services available in all provinces. Even among this population, services are infrequently used or used later than is optimal. A recent Future Skills Centre survey found that only 27% of unemployed Canadians had used career (employment) services in the previous year.[70]

* The terms "career services" and "employment services" are used interchangeably in this document.

† A series of evaluations was published in 2023 and can be found at https://www.canada.ca/en/employment-social-development/corporate/reports/evaluations.html.

Our goal for this project was to develop and test ways to increase service uptake. We were fortunate to have strong partnerships with the Alberta Ministry of Labour and Immigration and Saskatchewan Ministry of Immigration and Career Training, working with policymakers and operational leaders who helped scope, implement, and interpret our research.

To understand how services are delivered and the factors that influence uptake, we interviewed key informants, practitioners, and jobseekers. Based on this exploratory research, BIT and the provincial ministries guiding our work decided to focus on developing and testing email communications sent to EI applicants in the TRF database.‡ TRF is an innovative program developed by ESDC that aims to increase employment services participation by sharing information about recent EI applicants with their home province. By sharing this data, provinces can proactively reach out to recently unemployed residents. We chose to focus on TRF because both provinces (and others across the country) are still learning how to maximize uptake from this source of referrals.

We also wanted to build on exciting research in British Columbia that used behavioural insights to design new outreach approaches for TRF referrals that increased enrollment in BC's flagship provincial program, WorkBC, threefold within a 30-day period.[71] More broadly, there is a growing body of evidence that the form and content of communications sent to jobseekers can increase attendance at and uptake of career-related events and services.[72]

In Alberta, we designed and tested three new versions of the *initial email* sent to TRF referrals. Employment services in Alberta are delivered by contracted service providers, so the Ministry of Labour and Immigration facilitated relationships with 10 providers who graciously tested the new versions against their status quo emails, in addition to informing the design of the new versions. The trial lasted approximately six months, from March - August 2023.

In Saskatchewan, career services are delivered centrally, by the Ministry of Immigration and Career Training. We collaboratively designed a new initial email in Saskatchewan as well, but the focus of our development and testing was a follow-up email sent either 4- or 10- weeks after the initial email. This trial lasted approximately seven months, from February - August 2023.

In both provinces, we tested the effectiveness of new communications through RCTs, which represent a highly rigorous approach to determining the impact of a new approach or "intervention" on outcomes and are sometimes considered the "gold standard" of evaluation methods.

3.2 Exploratory research

In this section, we describe the key barriers and enablers to employment services participation that emerged from our exploratory research, as well as their implications for uptake among TRF referrals. This exploratory research, which included a literature review and interviews, was instrumental in helping us determine where to focus, informing the new approaches we developed, and determining how best to test them.

We reviewed the existing evidence on service uptake to identify: (i) behavioural and motivational barriers that prevent people from engaging in employment services; (ii) facilitators (i.e., enablers) that promote participation; and (iii) promising interventions (policy, program, service delivery, etc.) for addressing barriers to uptake. More than 50 articles, chapters, and reports were included in the review. See Appendix B1 for details of the evidence review methodology.

‡ The Targeting, Referral, and Feedback (TRF) database is a federal database of recent EI applicants, a subset of which is sent to the provinces weekly based on targeting criteria they have set.

We interviewed key informants (e.g., decision makers, contract managers), career development practitioners and organizational leaders, and jobseekers from both provinces. We interviewed four key informants (two per province), nine career development practitioners (six in Alberta, three in Saskatchewan), and 13 jobseekers (five in Alberta, eight in Saskatchewan).§ We spoke with jobseekers who had and had not used services. See Appendix B2 for details of the qualitative research methodology.

Overall, our research identified three key sets of barriers and enablers to jobseeker participation in services:

- Awareness, salience, and understanding barriers and enablers;
- Barriers and enablers related to attitudes and beliefs; and,
- Barriers and enablers to service access.

Awareness, salience, and understanding barriers and enablers

The barriers discussed in this section relate to jobseekers' awareness of employment services, their understanding of what services are offered, and the salience of services at key moments. Overall, jobseekers may not know or recall that such services exist or have enough information to make informed decisions about whether to participate in them.

Jobseekers are not aware of career (employment) services:

Many jobseekers have little or no awareness that career services exist. A representative sample of Canadians found 21% of people who had not used career services said it was because they did not know they existed.[73] We also saw this in our interviews with jobseekers that had not used services. A lack of basic knowledge appears across different settings and populations and is a common barrier for uptake of public programs.[74, 75, 76]

TRF outreach addresses this barrier by proactively contacting jobseekers. However, it does not reach all jobseekers, even among recent EI applicants, and some TRF referrals receive more outreach than others. As the name Targeting, Referral and Feedback suggests, provinces set criteria to target the subset of EI applicants they wish to receive contact information for or to prioritize their outreach. Targeting is typically based on applicants' National Occupation Classification (NOC) code, which identifies the type of work they do, as well as their age and the area they live in.

In Alberta, only those EI applicants who meet criteria set by employment services contractors (e.g., from specific industries or age ranges) will be contacted. Beyond minimum guidelines, service providers can also determine the intensity of their outreach strategy, which may vary between jobseekers. Similarly, in Saskatchewan, workers from non-priority NOCs may receive less intensive outreach (e.g., emails but not phone calls).

The targeting is only as accurate as the data that ESDC receives during the EI application process. Those administering TRF told us that some EI applicants do not select the correct NOC or are unsure how to approach this (e.g., based on their last job or the type of work they want). Some jobseekers who might otherwise be contacted may not be included in TRF outreach because they have incorrectly selected a NOC code that is not included in targeting criteria. Other jobseekers may not be contacted because their contact information is missing or inaccurate (e.g., if they provide someone else's phone number) on their EI application. For instance, about 4% and 7% of the referrals in our sample, in Alberta and Saskatchewan respectively, did not have an email address.

§ We connected with an additional jobseeker who had registered but not attended career (employment) services but were unable to complete the interview.

TRF outreach is inherently an enabler to awareness, at least among those who are ultimately included in the system. However, even if jobseekers are contacted, they still must open and at least skim the email (or answer the phone) to close the awareness gap. Most of us receive more emails, and, perhaps, phone calls, than we care to, and there is always a risk they go unopened. In the context of email outreach, this can be exacerbated by subject lines and email design that does not attract attention. In our interviews, some service providers thought this was a major issue, noting that initial outreach emails were "boring" and would not interest jobseekers (e.g., describing them as "bland" or "government-y").¶ Providers also told us that many jobseekers were surprised or confused by the outreach, suggesting that the part of the EI application process where applicants are informed that they may be contacted by a service provider does not capture attention. **Changes to the EI application that makes it clearer that jobseekers may be contacted could increase uptake** by increasing the perceived legitimacy of the outreach among jobseekers.

Several strategies can increase the chance that recipients engage with email outreach:

- Personalized communications (e.g., using recipients' name) have increased uptake of relevant programs in the United States and United Kingdom.[77, 78] Personalization, as well as visual elements like colour, images, or formatting can focus people's attention. This may be particularly important for unemployed jobseekers as they may have more demands on their attention and less capacity to deal with them.[79]

  Service providers should personalize TRF outreach as much as possible by including the first name of the recipient and sender, and tailoring content to the jobseeker (e.g., providing the location of a local office or industry-relevant information).**

- **Subject lines should be short, attract attention** (e.g., by asking a question or seeming 'important'), **and entice recipients to open the email** (e.g., by suggesting that the content will benefit them).†† However, it's a challenging line to walk because if the subject line appears to spam, it will backfire. The name of the sender is an important signal.

Jobseekers do not think of career services at key moments:

Even if jobseekers have an underlying awareness of career / employment services, the services may not readily come to mind at key moments, such as after losing a job or when looking for one. In other words, services may not be salient in these moments. While it is hard to obtain data on salience, our interviews suggested that publicly funded services do not come to mind for many unemployed people. Every single jobseeker we interviewed noted that the first thing that came to mind was searching for work online themselves. (Jobseekers also said that if they were looking for help with their career, they would start by searching online. This suggests significant potential value in search engine optimization.)

¶ They noted sending a second email that was "catchier" and which they felt was more successful.

** Providers should be careful not to "over personalize" outreach communications as this could decrease responses from jobseekers who are concerned with confidentiality (King, Pealer, & Bernard, 2001). For example, including information about training relevant to the jobseeker's industry would be appropriate whereas referencing their previous workplace may raise concerns.

†† Subject lines should also be short, so they display on mobile phones and convey the most important information in the first few words.

Like the awareness barrier, proactive outreach through TRF offers a compelling solution to the salience barrier, coming shortly after job loss. However, our qualitative research suggested that sometimes the TRF outreach is actually coming too early for a meaningful proportion of EI applicants. Some people who have recently lost a job are too impacted psychologically and/or overwhelmed with everything they must do to be ready to engage in a facilitated job search or upskilling process. We also found that some people are comfortable with the income they receive from EI, and that the key moment for job searching comes later, as they approach benefits exhaustion. In either case, by the time they are ready to get started, the outreach they received no longer addresses the salience barrier.

Jobseekers do not understand what career services are or how they work:

Canadians are not required to participate in career services to receive EI benefits, although they do need to actively look for work. They will only engage in such services if they feel like those services are valuable. Our research found that many **jobseekers misunderstand the nature of the services available, leading them to undervalue them** and decide not to participate.[80, 81] Specific misunderstandings include beliefs that career or employment services:

- Only provide help with resumes;
- Are “temp” agencies or recruiters;
- Are not available where they live (i.e., exist only in urban centres);
- Do not exist for people “like them” (e.g., only for youth and newcomers);
- Would require a lot of time or effort to access;
- Require already having a resume or cover letter;
- Are not free; and,
- Do not support career transitions, only finding work in their previous field.

These misperceptions are exacerbated by several factors:

- Jobseekers may find the **terms used to describe services unclear or confusing**. A case study of a training program for unemployed adults found that participants interpreted the program’s goals (‘employability’ ‘leading to employment’) differently which led to different motivations for enrollment and expectations for service (e.g., expecting direct employment versus upskilling).[82]
- Some jobseekers are confused when **too much information is given at the outset**. Career development practitioners noted that jobseekers were more likely to call to register, and less confused when they did, when outreach emails included less information.
- Jobseekers **may also have difficulty finding specific information about the services offered**. People we interviewed in Alberta said that it was hard to find information about what was available, particularly for specialized programs. Similarly, in Saskatchewan jobseekers said that having more information about the types of training and vacancies would have helped them decide whether to enroll. This suggests that phone outreach may be particularly helpful as practitioners can answer jobseekers’ questions and direct them to appropriate information and services.

Like awareness barriers, TRF outreach offers an opportunity to address barriers related to understanding. Simple communications that target key gaps and misunderstandings may partially address this barrier but again, only for jobseekers who receive and engage with outreach. Additionally, static communications may not be able to address jobseekers' specific concerns, particularly if other barriers are present, such as low literacy or excessive demands on attention (e.g., related to childcare). These individuals may benefit from speaking with someone directly.

Barriers and enablers related to attitudes and beliefs

The barriers discussed in this section focus on how jobseekers perceive career services. Our research found that some jobseekers believe these services are not useful enough to be worth their time, do not trust government services or the legitimacy of the outreach communications, or stigmatize people who receive support. Other jobseekers believe that the services are not relevant to their context, or that they do not really need them. These beliefs are important barriers to participation, and approaches that address them are enablers.

Jobseekers have differing perceptions of the effectiveness of career services:

Research from Australia with people navigating career transitions (i.e., high school seniors, university graduates, and mid-career adults) suggests that **a primary reason people do not use services is because they believe it will not be helpful**.[83] Jobseekers may have low expectations based on past experiences, information from others, or assumptions about the practitioners' competence.[84, 85] We spoke with jobseekers who felt that career services had not been helpful in the past, either for them or people in their family or community. Jobseekers may also think that other activities are more helpful and opt for these instead.[86]

It can be challenging to counteract these perceptions without exposing people to career services. However, it may be helpful to emphasize the specific services that people do value in outreach communications. For example, jobseekers tend to particularly value:

- Connecting with local employers (e.g., at job fairs and placement programs);
- Finding out about jobs that may not be widely posted;
- Services that help them improve their skills;
- Receiving financial support for the job search (e.g., for work clothes and transportation to interviews); and,
- Obtaining financial support for attending training programs or school.

As noted in the previous section, many jobseekers do not know that these benefits are generally offered, so highlighting them can increase perceived value. Jobseekers told us that specific examples of benefits that people like them had experienced from participating in services (e.g., through testimonials or reviews) would make a service seem more reputable and appealing.

Jobseekers think employment services are not helpful for them personally, or that practitioners cannot provide advice or connections in their field:

Some jobseekers we interviewed had generally positive perceptions of career services but felt like they were not suited to their personal circumstances. While this may be the case for some jobseekers, it also represents a barrier to uptake for people who base this opinion on inaccurate perceptions.

For example, some jobseekers believed service providers did not have the familiarity with their field to advise them in situations where we believe this is not the case. Some believed providers only had connections to employers or job postings outside their field or that did not match their skills and qualifications (e.g., only minimum wage jobs). These jobseekers said that they would be more interested in engaging in services if they knew that practitioners could provide them with appropriate help; they were not interested in what they perceived as the "basic jobs" available through supported employment.

This suggests that finding ways to personalize outreach communications to highlight industries that the recipient is likely to be interested in may be helpful. This data is available through TRF (e.g., prior occupation) but may be inaccurate or too specific due to how it is obtained, and most providers lack the technical capabilities for customization in outreach emails. During the outreach process, there may also be value in providing examples of the type of work or training that similar clients have found, particularly those that are not minimum wage jobs. Jobseekers tend to have unrealistic expectations of how successful their unassisted job search will be (e.g., how quickly they will find work, what type of work) and unsurprisingly, people tend not to use public programs they do not perceive a need for.[87, 88, 89] This is a specific example of a very widespread bias, called optimism bias or overconfidence bias.[90] It is backed by survey data, with almost half of Canadians who had not used services reporting it was because they did not feel the need to attend.[91]

This was something that came up repeatedly in our interviews as well. Some jobseekers may indeed have no need for support (and our interviews occurred during a very "hot" labour market), but it is also a barrier for those who are just overconfident.

For those who are overconfident, TRF outreach may come too soon after applying for EI. They may need more time conducting unassisted job search activity before becoming receptive to services. This is an idea we directly tested in Saskatchewan, as described further in Section 3.3, below. We found compelling but not definitive evidence that re-engaging jobseekers after 4 or 10 weeks has a positive impact on uptake. We believe that declining overconfidence over time is responsible for some of this impact.

There is stigma associated with receiving support:

Stigma deters some people from participating in employment services.[92, 93] There are two primary ways that stigma can create barriers to participation:

- Some people may believe that requesting or requiring help implies a personal failure, creating feelings of shame or self-imposed stigma. They will avoid these feelings and convince themselves that they are able to build their skills and find work themselves.
- Alternatively, they may be concerned about how other people will judge them for participating in services. A research synthesis on barriers to uptake and a qualitative study have found that negative social pressure, embarrassment, and concerns about being seen as weak limit participation.[94] [95]

Stigma is challenging to address through outreach and engagement efforts, as it tends to be deeply held. This issue is exacerbated in cases where language used in outreach communications feels patronizing to recipients, a theme that arose on one or two occasions in our qualitative research. This is an issue that persists beyond uptake into service provision. Some career services practitioners indicated that language in the documentation required of jobseekers seems to place blame on the individual (e.g., "your barriers") and can be overly directive (e.g., "you must"). They noted that this language could also contribute to jobseekers' concerns that practitioners would "police" their efforts to find work. Communications that convey respect may help build rapport and address stigma (or at a minimum will not contribute to it). For example, research that BIT conducted with job centres in the UK referred to people as jobseekers rather than claimants (of benefits) to address this barrier.[96]

Another strategy to address stigma is to normalize participation by, for example, emphasizing how many people access services or the wide range of people who access services, assuming these data points are impressive. However, as described in Section 3.4 below, we tried this approach in Alberta and found it was ineffective; at least in how we implemented it. Addressing stigma may require more intensive and sustained approaches to normalization. We have seen societal shifts in stigma related to psychological counselling, for example, but those shifts have taken decades to emerge despite significant media attention. Service providers may be able to address stigma in part through outreach that leverages people in jobseekers' own social circles (e.g., word-of-mouth referrals) or organizations that jobseekers may already be associated with.[97, 98]

Jobseekers may not have trust in government services and outreach communications:

In our interviews, career development practitioners hypothesized that a distrust in government may lead some referred jobseekers to choose not to participate. However, they did not know how much, if at all, it affected their outreach efforts. Distrust has been documented as a barrier to uptake for some populations (e.g., men in college).[99] More generally, people receiving unemployment benefits may believe that practitioners will monitor their activities and report them to the government. This perception and a dislike of being monitored may be a barrier for some.[100]

On the other hand, the fact that the programs are funded and/or delivered by the government may legitimize the outreach communications and the programs themselves. As noted above, our qualitative research found that jobseekers do not generally anticipate communications from career service providers after applying for EI. There is a real risk that jobseekers believe the outreach communications they receive, especially by email, are "spam" messages or solicitations from private career development or placement agencies. This may be a greater issue in Alberta, where the communications come from third-party service providers and not a government agency (as in Saskatchewan). More broadly, the perceived legitimacy of outreach communications is an established barrier to uptake of public services. Research BIT conducted in the United States about a supplementary government health insurance program found that making unexpected communications more formal and more clearly tied to government increased uptake compared to a more private sector, "marketing" approach. This has been termed the "formality" effect.[101] In general, jobseekers we interviewed felt that an endorsement from the government would increase the perceived legitimacy of a particular service and valued communications (and websites) that seemed "official."

Given these contradictory potential barriers of distrust in government services and the perception of communications as spam, our research team, and the practitioners we interviewed were unsure whether emphasizing connections to the relevant federal and provincial and territorial governments (e.g., by using logos) was helpful or harmful to uptake.

The original research we conducted in Alberta, discussed further in **Section 3.4**, sheds some light on this trade-off. The highest performing outreach email that any of the 10 providers used strongly emphasized connections to government. One of the emails that we developed and tested across providers sought to normalize participation through the subject line *"join [hundreds] of Albertans accessing free employment services."* It ended up being the worst performing of the messages we developed, and we hypothesize that it is because it sounded like a marketing email and was more likely to be considered "spam." While these are not definitive findings, overall, **we believe that the perceived legitimacy of the communications is a greater barrier than distrust in government.**

Even if this is true in general, certain groups, such as Indigenous jobseekers, might respond differently based on historical context, past experiences, and norms within their community. Those conducting outreach will need to consider unique dynamics in their target population.

Barriers and enablers to service access

The barriers discussed in this section prevent jobseekers from accessing career services or make it harder for them to do so. They include structural and environmental factors (e.g., accessibility), frictions in the registration process, as well as cognitive or psychological barriers (e.g., not having the mental "bandwidth" to participate). The enablers discussed in this section range from how services are delivered by individual practitioners to actions that can be taken at the provincial and federal government levels.

These barriers are particularly tied to broader equity issues. They disproportionately affect jobseekers navigating multiple barriers to labour market attachment, including people with disabilities, newcomers, racialized jobseekers, people experiencing homelessness or poverty, and those who live in remote communities.

Jobseekers may not be able to access services due to structural and environmental factors:

Structural and environmental barriers are factors in jobseekers' social and physical environments, including how services are provided, that can make it more difficult for them to receive support. This includes:

- Services offered in an inconvenient or inaccessible **location**;
- Lack of accessible, affordable, and reliable public **transportation**;
- **Limited availability of appointments** (e.g., having to wait several weeks for the next available spot);
- **Eligibility criteria** that limit participation from more barriered jobseekers (e.g., services are only available for people on EI or with a fixed address); and,
- Other **accessibility barriers**, including a lack of services in the jobseekers' chosen language or at different times of day.

Some service providers we spoke with have flexible service offerings (e.g., phone and virtual appointments), which they felt enabled them to connect with more jobseekers, particularly in rural areas. Saskatchewan's services, SaskJobs - Career Services, has recently implemented an innovative approach where they offer same-day appointments to jobseekers when they call to register. This eliminates the 'waiting period' during which someone might become less motivated, forget about their appointment, or rethink their decision to receive services. We recognize that approaches like this may require policy changes and additional resources.

Among Canadians who had not used career services, 21% said this was due to practical barriers like time and cost.[102] When jobseekers have limited resources (material and social), navigating structural barriers like time and cost gets even harder.[103][104] Resource constraints that can affect uptake include:

- Lack of time to attend appointments or complete administrative tasks (e.g., due to time of day, inflexible service delivery options, or caretaking responsibilities);[105]
- Financial constraints (e.g., funds for associated costs like printing, transportation, or childcare);
- Lack of a vehicle/mobility device; and,
- Limited access to technology (including both devices and internet access).

Structural barriers may be best addressed through "top down" solutions such as policy changes that increase income security. However, service providers can address some challenges by changing how services are provided or offering additional support that would facilitate access. For example, providers could offer:

- Appointments at non-standard hours or at a satellite location like a local library to address barriers related to time, transportation, or mobility; and/or
- Supports such as bus tokens or taxi vouchers to assist with travel or vouchers to hire relief caregivers so that jobseekers can attend appointments, job fairs, or interviews.

Many already do, but innovative and flexible service offerings may be constrained by funding requirements (e.g., where jobseekers must attend all sessions for the provider to receive compensation). More generally, funding structures (e.g., payment for outcomes) can create incentives that undermine the equitability and quality of service received, although such issues were out of scope in the current project.[106]

The provision of "wraparound" services like childcare, psychological counselling, and financial supports are likely to be the most effective approach to mitigating these barriers. Co-location is an effective model to providing wraparound services by pairing employment services with other supports that jobseekers may need (e.g., newcomer centres, legal aid, and tax clinics).

Beyond the services and supports available, jobseekers may have negative and inaccurate beliefs about the structure or modalities of career services. They may believe that they can only access services in-person at provider sites during working hours. Most providers in Alberta and Saskatchewan offer meaningful flexibility in how services are provided, offering online and phone modalities as well as flexible hours. Highlighting these features is likely to be helpful.

Jobseekers may have limited cognitive bandwidth or barriers related to psychological readiness:

Unexpected job loss or prolonged unemployment can negatively affect jobseekers' mental health and strain their cognitive and emotional resources.[107][108] All people have a finite amount of mental energy or "cognitive bandwidth" to pay attention, process information, complete tasks, and make decisions. Jobseekers may have additional demands on their cognitive resources, like financial stress, that affects their ability to make decisions and evaluate options.[109, 110] Increased stressors and mental health difficulties during job loss can also have negative effects on jobseekers' motivation and readiness to engage with career services.[111] For example, both jobseekers we interviewed that registered for but did not attend career (employment) services expressed significant challenges with anxiety and other personal circumstances that made participation difficult. As noted above, a lack of motivation can also stem from some jobseekers being satisfied with the level of benefits offered by EI.

To address issues related with cognitive load, it is critical to simplify the service uptake process, including communications, to the greatest extent possible. We strongly recommend that communications be concise and written in plain language (e.g., ideally Grade 6 reading level or lower).

Increasing jobseeker motivation is challenging in the context of outreach communications. One very promising approach was developed by the Government of British Columbia, with research led by Dr. Vince Hopkins. People are inherently motivated to complete a process they have started, a concept called "set completion." The closer they believe they are to completing that process (i.e., alternatively, to achieving a goal), the greater that motivation becomes; psychologists have termed this the "goal-gradient hypothesis."[112] The Government of British Columbia effectively encouraged TRF referrals to engage employment services offered through WorkBC by framing uptake of service as completing the process of applying for EI (see Figure 21 in **Section 3.3** for an image of the adapted email). This is an approach we sought to further test in both Alberta and Saskatchewan, as described further below.

Administrative frictions during registration can prevent jobseekers from services:

Administrative frictions, or all the steps and tasks required to enroll in employment services, can prevent or delay jobseekers from accessing services. This is particularly true when people have limited cognitive bandwidth.[113, 114]

Processes that are time-intensive or needlessly complicated can deter jobseekers from accessing services. Evidence from uptake of social benefit programs, including employment services, generally show that the more steps that people must take to enroll or access a service, the lower the uptake. [115] Even though career services may seem so valuable to providers and policymakers that they assume people will persevere through frictions, this is often not the case.

Application and registration processes that reduce the amount of information that jobseekers must provide, eliminate steps, or aid with registration have successfully increased uptake of career (employment) services in similar settings.[116][117][118] Prior to registration, outreach emails should make it clear to people what they should do (i.e., clear call to action) and make it easy for them to do it. Outside of outreach communications, jobseekers we interviewed felt that having a transparent process and easily accessible services available on career websites would be helpful for proactive jobseekers.

3.3 Developing and testing new approaches in

Integrating EI and career services registration and uptake

A structural option for eliminating multiple barriers to uptake is to combine EI (or even social assistance) applications with registration for career services. The model would work something like this:

1. A jobseeker applies for EI and is asked to consent to registering for publicly funded career (employment) services at the same time.
2. If they do consent, as part of the joint application, they specify the type of career (employment) services they would be interested in and provide any necessary additional information beyond what is required for EI (e.g., availability).
3. The jobseeker is now registered for career (employment) services in addition to having applied for EI.
4. After their EI application is approved or while it is in progress, the jobseeker would receive an email and SMS (followed by a phone call, if they do not respond) from a career development professional. The communication would link them to a site where they can learn more about the career (employment) services, reschedule or cancel their appointment, or get in touch with a practitioner to learn more about services.

Such an approach would reflect emerging best practice. A Canadian review of the evidence on uptake of public programs suggests using a joint application process for related programs and defaulting some people into services are best practices.[119] There are of course a myriad of logistical and jurisdictional challenges that would need to be navigated to establish and operate such a system, but we believe the range of barriers this would address means further consideration and development is worthwhile.

Saskatchewan

Context

In Saskatchewan, career services are primarily provided through programs offered by the Ministry of Immigration and Career Training and TRF outreach is centralized within the Ministry by SaskJobs - Career Services. The Ministry engages TRF referrals through an initial email, then may follow up by email, letter, or phone call. Referrals who previously worked in certain NOC codes are designated as "high priority" based on current labour market needs. For example, if employers have a strong demand for machinists, those who previously worked in those roles will be categorized as high priority. High priority referrals receive more intensive outreach (e.g., phone calls in addition to an email). Like other jurisdictions across Canada using TRF, Saskatchewan has experienced a low rate of uptake and has prioritized increasing it.

Our research with Saskatchewan focused on two parts of their outreach strategy:

- First, we worked together to refine the initial outreach email sent to all TRF referrals. The Ministry implemented the new email in February 2023. We did not experimentally evaluate this new email, but we were able to compare rates of uptake before and after implementation.
- Second, we developed a follow-up email to encourage uptake among jobseekers who had not taken up services after receiving the initial outreach. We rigorously evaluated the impact of this follow-up email in a randomized controlled trial that ran from February to August 2023. The trial compared uptake rates among three groups of TRF referrals: one group did not receive a reminder, one group received a reminder four weeks after the initial communication, and the last group received a reminder 10 weeks after the initial communication.

Updating the initial email sent to TRF referrals

Intervention design

The outreach email that was sent to TRF referrals prior to March 2023 is shown in Figure 21 below.

FIGURE 21:
Initial outreach email sent to TRF referrals in Saskatchewan (prior to March 2023)

Subject line: Saskatchewan Ministry of Immigration and Career Training Referral

Hello,

This email is a follow-up to your application for Employment Insurance Benefits through Employment and Social Development Canada. You were selected and referred to the Province of Saskatchewan's Career Services (CS) Branch when you applied. Career Services is a resource available to provide assistance with all aspects of your career development journey.

Why should you engage with us? Earlier access to programs and/or services can help you return to work more quickly. We would like to invite you to contact Career Services to engage with a career development professional from the comfort of your home. Our programs and services can help you transition to a new career, decide on what career is next, how to job search in today's online world, learn about education options to enhance your skills and how to take your career to the next level. Our professional staff will work with you to develop your individual career plan, provide services and help you access programs that will benefit your future. We look forward to hearing from you soon.

To find out more about some of the services we offer, please visit: https://www.saskatchewan.ca/residents/job-working-and-training/saskjobs-career-services or contact us by email or telephone.

SaskJobs

Career Service Delivery Team
Career Services
Toll free: 1-833-613-0485 (option 3)
Email: careerservices@gov.sk.ca

SaskJobs - Facebook | SaskJobs - YouTube | Saskatchewan Immigration - YouTube

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We identified several areas for improvement in this email:

- The language and syntax are somewhat complex, with a Flesch-Kincaid grade level of 10.5, well above the target grade level of 6 that we recommend.
- The approach is text-heavy and does not use formatting or visual features to indicate what information is most important to those who only skim it.
- The next steps are not clearly called out, and it is ambiguous whether the key action is to consult the linked website or call/email; it is also somewhat unclear that calling or emailing is the next step for those who do want to enroll in services.
- There is relatively little explanation of the specific services that a participant will receive, making it harder for recipients of the email to understand the value of the services.

To address the potential issues identified with the draft above and implement some of the best practices identified in our research, we developed a new initial email (see Figure 22).

FIGURE 22:
New initial TRF outreach email sent to TRF referrals in Saskatchewan (revised by BIT in March 2023)

Subject line: You're one step away from valuable job resources!

Hello,

You're receiving this email because you may have applied for a federal benefit program, Employment Insurance (EI).

Thank you for taking this first step. I recognize this may be a difficult time for you.

I wanted to let you know about **SaskJobs – Career Services**, a provincial government service that may also be helpful. We're here to help, whether you want to improve your skills, explore career options, or find a job when the time is right.

Take one final step to access job training and direct links to employers:

- ✓ Applied to federal benefits
- ✓ Opened this email
- ❑ **Call 1-833-613-0485 (press option 3)** to speak with a team member.

Why use SaskJobs – Career Services?

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, like career counselling and resume help
- Valuable opportunities, like **training**
- **Phone, online or in-person** services

SaskJobs

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This new email borrowed heavily from the most effective outreach email tested for TRF referrals in British Columbia by WorkBC, previously discussed in Section 3.2 on barriers and enabler to access.

The key design features and supporting rationale for this email included:

- The subject line of the email and bolded sentence above the checklist frame registering for service by calling the required number, our call to action, as the last step in a series of tasks that the jobseeker has already started.

  People are more motivated to complete or carry on with tasks when they have already put in some effort, and the closer people are to achieving a goal, the more effort they tend to put in.[120] Putting the call to action as the last step in a process that the jobseeker started and has almost finished encourages uptake.

- The subject line and sentence above the checklist create a sense of momentum by reminding people that they have already done most of the work and only need to do one more thing to access services. Reminding jobseekers of the actions they have already completed could boost feelings of self-efficacy for some people and address motivational barriers by fostering a sense of accomplishment.

- The email is more concise and uses simpler language than the previous outreach email, reducing cognitive load. This email is 30% shorter than the previous email and has a Flesch-Kincaid grade level of 7 (compared to 10.5).

- The email highlights some of the specific elements of career services that our research, especially our qualitative research, suggested were most compelling to jobseekers, like connections to employers and training opportunities.

- Ideally, the email would have also been personalized (e.g., used the recipient's first name) but email system limitations ruled this out.

Results

We compared career services uptake before and after the new outreach email was implemented. The Ministry provided historical data on uptake among priority TRF referrals (i.e., who receive emails and phone calls) from April 2021 to June 2022. We compared this to the rate of uptake in a subset of jobseekers in our sample that were like those in the historical data. We only looked at jobseekers in the control group to ensure we were not conflating the effect of reminders with the effect of the email and to make the groups as similar as possible. Likewise, for this comparison we defined uptake as having booked an appointment (i.e., having registered) to match the historical data.

Prior to implementing the new email, uptake among priority TRF referrals was 2.0% from April 2021 to March 2022 and 6.0% from April to June 2022.[121] We hypothesize that the uptake rate among non-priority referrals was lower as they would not have received a phone call.

After implementing the new initial outreach email, from February to May 2023, uptake rose to 7.5% among priority referrals (a 25% relative increase) and 6.4% of all referrals (see Figure 23). We cannot be certain this large increase was due to the new email, but it seems plausible as we are not aware of compelling alternative explanations; primarily, we do not believe this was due to significant labour market changes as we looked at the average unemployment rate, a proxy for the challenge of finding employment, and it was unchanged from the 2022 period. Qualitative feedback from the Ministry was that staff felt the new email was increasing jobseeker engagement and an improvement on the previous one. The Ministry continues to use the new outreach email.

Developing and testing a follow-up email

Intervention design

Our exploratory research found that some individuals may be contacted too soon after becoming unemployed to consider and take up career services (e.g., due to the shock of job loss). Other people may not see the need for support until they have struggled with a self-directed job search for a while. We also learned that some EI recipients become much more motivated to engage in job search activities as their benefits get nearer to exhaustion. People in each of these groups are unlikely to remember or think about the outreach they received after applying for EI by the time they are ready to take up services. We hypothesized that a follow-up email would help get more of these folks enrolled and we designed an experiment to test if and when a follow-up email should be sent before recommending a substantial new business process.

FIGURE 23:
Uptake of career (employment) services before and after new initial outreach email

Date Range	Priority TRF Uptake Rate
Apr 2021 - Mar 2022	2.0%
Apr 2022 - Jun 2022	6.0%
New initial outreach email implemented	
Feb 2023 - May 2023	**7.5%**

The follow-up email we developed is recreated in Figure 24. It includes many of the design features we implemented in the new initial outreach email described above, while also including new features specific to the context of a follow-up email. Highlights include:

- The subject line evokes a sense of reciprocity or social responsibility by noting that someone is waiting for a response.
- The email is concise and uses simple language to reduce cognitive load. It has a Flesch-Kincaid grade level of 6.
- It references social proof by stating they have “helped thousands of people”.
- It highlights several of the aspects of the program that are most compelling and important to jobseekers, including connections with employers, training opportunities, and the flexibility of service options.

FIGURE 24:
Follow-up email sent to jobseekers in Saskatchewan

Subject line: SaskJobs – Career Services is waiting to hear from you!

Hello,

In case you missed our last email, here's a quick reminder that we're here to help you find your next job. Why use SaskJobs – Career Services? We've helped thousands of people with:

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, like career counselling and resume help
- Valuable opportunities, like **training**
- **Phone, online or in-person** services

Call 1-833-613-0485 (press option 3). If you haven't signed up yet, let's get started.

Looking forward to meeting you!

SaskJobs

Career Service Delivery Team
Career Services
Toll free: 1-833-613-0485 (option 3)
Email: careerservices@gov.sk.ca

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We sent the follow-up email at two different times, either 4 or 10 weeks after jobseekers were originally contacted. We hypothesized that the:

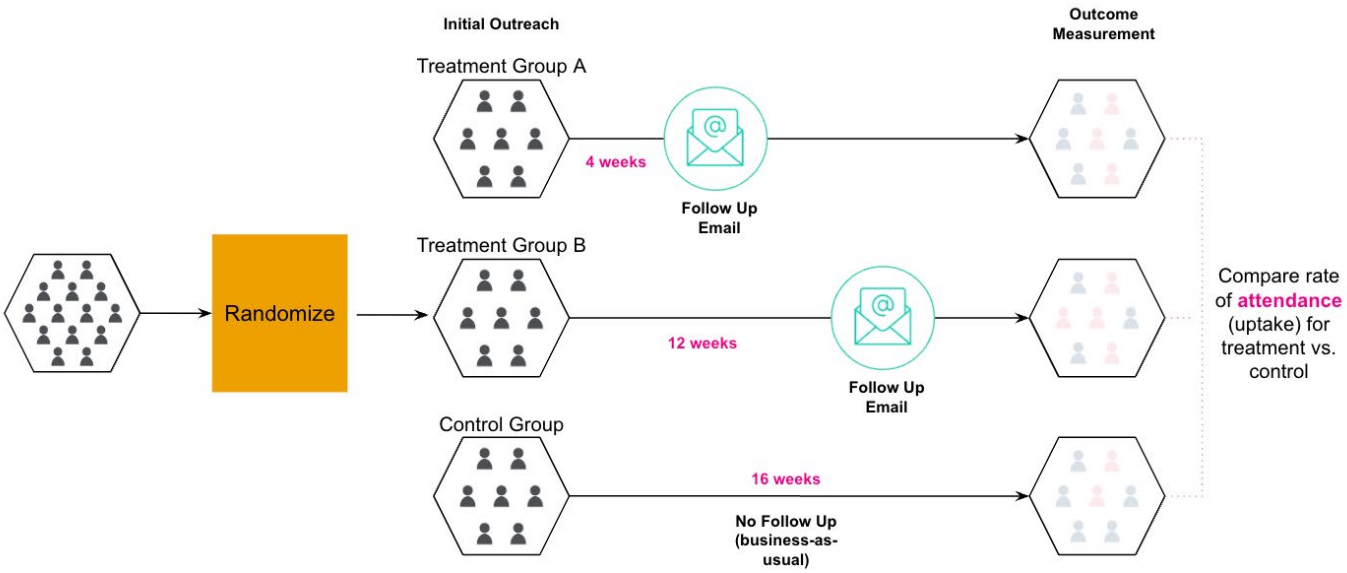
- 4-week follow-up would target jobseekers who needed time to adjust to the shock of job loss before engaging with career services.
- 10-week follow-up would target jobseekers who did not think career services would be useful until they engaged in a self-directed job search without success. We also thought the 10-week reminder would capture jobseekers who were not motivated to start their job search until they were closer to exhausting their benefits.

Trial design

We conducted a randomized control trial (RCT) to evaluate the impact of follow-up emails on uptake, as illustrated in Figure 25. Incoming TRF referrals were randomly assigned to one of three groups: one group got a follow-up email 4 weeks after receiving the initial outreach email; the second group got a follow-up email 10 weeks after; and, a third group did not get a follow-up email at all (our "control group").

Emails were sent in weekly batches for 11 weeks, from late February to early May 2023. Our primary outcome was whether the referral had attended a career services appointment, and we also looked at whether they registered.‡‡

FIGURE 25:
RCT design of trial testing follow-up outreach emails in Saskatchewan



The Ministry played a foundational role implementing the trial, including supporting randomization, sending emails as set out in the research plan, and obtaining outcome data.

Results

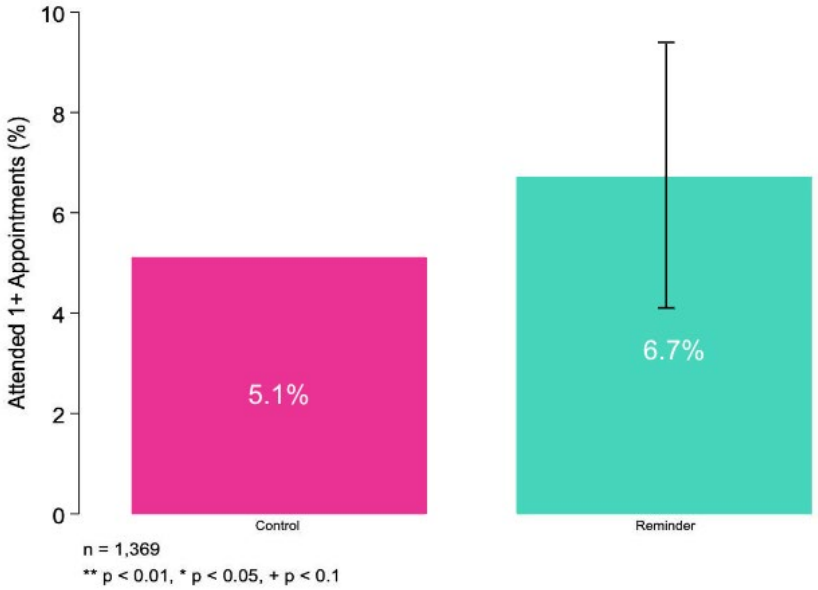
The results presented below come from a total sample of 1,491 jobseekers. After cleaning the data, we retained 1,369 for the analysis, with 122 observations dropped due to duplicate referrals or missing email addresses. Jobseekers ranged from under 25 to 55+ years old and were approximately evenly represented across age groups. We had a roughly even split of men and women, with slightly more women in the sample (56%). Just over half of jobseekers had a high school (or equivalent) education and about 26% had a college, CEGEP, or university education. A minority (6% of less) had completed only primary school, an apprenticeship, or another form of education. See Appendix B3 for detailed demographics.

Our primary outcome was uptake, which we defined as having attended a career services appointment.[122] As

‡‡ We selected attendance as our primary outcome because it was a direct measure of the behaviour we are interested in, and from a service provision perspective, increases to registration are only helpful if more people ultimately enter service. Registration was our secondary outcome because it is a necessary first step to attendance and one that outreach communications are most directly related to (e.g., large increases in registration that do not convert to service might suggest there are other issues in the conversion process that need to be addressed).

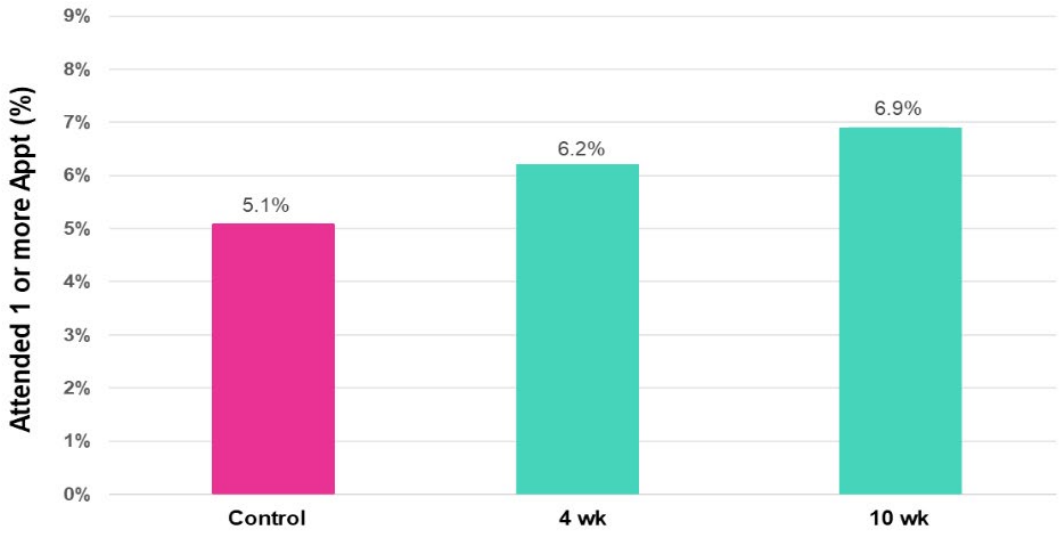
illustrated in Figure 26 below, 5.1% of jobseekers who did not get a reminder attended an appointment compared to 6.7% of those who did (24% more people). However, this increase was not statistically significant, meaning that we cannot confidently say that the reminders increased attendance. One of the reasons these results were not statistically significant is the sample size: we had anticipated about 5500 referrals during the data collection period based on historical trends but received just under 1,500. This is a good thing, indicating the strength of Saskatchewan's labour market during the period in question, but was certainly a challenge for the precision of our measurement!

FIGURE 26:
Impact of follow-up emails on uptake of career services



When looking at the 4- and 10-week reminders separately, we see that attendance was highest among jobseekers who received a reminder at 10 weeks, although both were higher than the control (see Figure 27). Compared to 5.1% of jobseekers who did not get a reminder, 6.2% of those reminded at 4 weeks and 6.9% of those reminded at 10 weeks attended an appointment. Again, these differences were not statistically significant.

FIGURE 27:
Impact of follow-up emails on uptake of career services by email timing



There are two primary explanations when the results of a trial are not statistically significant. It could mean that the follow-up emails do not make a difference and that the increase was purely due to chance, or that reminders do work but our sample was too small given the size of the observed effect to detect it. We believe that the latter explanation is more plausible in this case given relevant evidence from other jurisdictions[123] and behavioural science theory, alongside the fact we had a much smaller sample than we had anticipated, as described above.

We also compared the proportion of jobseekers in each group who had registered in career services. This was our secondary outcome because it is a necessary first step to attendance and one that outreach communications are most directly related to, but ultimately less important than attendance at an appointment, our primary outcome of interest. We saw very similar trends to the results looking at attendance, with a modestly higher proportion of people registering among those who received a follow-up email, 21.0% compared to 19.3%.

When looking at the 4- and 10-week reminders separately, we see that registration was highest among jobseekers who received a reminder at 4 weeks, although both were higher than the control.

Recommendations

This section focuses on recommendations for follow-up communications. Broader recommendations encompassing our work in both Saskatchewan and Alberta follow in ***Section 3.5***.

We recommend that Saskatchewan and other provinces implement a systematic approach to following up with TRF referrals that do not immediately take up services. While the evidence we have is not definitive, it adds to a growing base of empirical findings and theoretical considerations for addressing common barriers to participation.

However, we would caution against implementing a follow-up process if the operational costs are high. Given the possibility for process automation and near zero-cost of sending emails beyond salaries and wages, we think high costs can be avoided. Indeed, Saskatchewan has already implemented operational improvements to make emailing easier and is planning to continue with the follow-up email process.

There is much less information available to inform the timing of the follow-up, and it's an area we would love to see further testing around. Our best guess is to send follow-up emails about 8-10 weeks after sending the initial email, to capture more people who are motivated by EI benefits exhaustion and by challenges in their self-directed job search.

More broadly, we would recommend looking at other parts of the career services journey experience to see whether reminders and follow-up communications might help. For example, our research found a large gap between the proportion of people registering for services (around 20%) and those attending an appointment (about 6%). While some of this gap can be explained by the timing of our measurements, some cannot. It may be helpful to send reminders to those who are registered but have not attended to book, and then to show up once they have. There is also very strong evidence that well-crafted reminders informed by behavioural science can increase attendance at job search activities and events.[124]

3.4 Developing and testing new approaches in Alberta

Context

In Alberta, employment services are provided by organizations that are contracted by the Ministry of Jobs, Economy, and Northern Development (the Ministry). A subset of these service providers participate in TRF, receiving contact information for TRF referrals and reaching out to them. The referrals they receive are based on 'targeting' criteria they have set, aligning with the populations they serve (e.g., workers over 40 years old, construction workers). While there is some variation, providers typically contact referrals by email first, followed by additional attempts to contact them by phone. Like Saskatchewan, uptake within TRF is generally low (e.g., 5 to 10%).

To increase uptake, we developed three options for initial emails for the 10 participating providers to test against their status quo initial email. These emails were informed by relevant principles from behavioural science, the exploratory research we conducted (e.g., literature review and qualitative interviews), and feedback from the Ministry and the providers themselves. The following sections describe the emails that we developed, how we tested them, what we found, and our associated recommendations.

Developing and testing new initial outreach emails

Intervention design

All three of the initial outreach emails that we developed implemented key best practices from the behavioural science and information design literature. They were concise, used plain language, and had a clear call to action. We believe these practices are critical in reducing the cognitive load required to engage with and follow-up on the communication. The emails also highlighted several of the aspects of the program that are most compelling and important to jobseekers, including connections with employers, training opportunities, and the flexibility of service options. These aspects are presented in a bulleted list with the key benefits in bold, again to decrease the cognitive work required for jobseekers to process critical information.

Beyond this common core of practices, each of the three versions had a unique emphasis targeting one or more of the other key barriers described in Section 3.2:

1. Changing Standards email:

The Changing Standards email (see Figure 28) was designed to address jobseeker perceptions that employment services are not valuable generally or not relevant in their personal situation.

FIGURE 28:
"Changing Standards" email

Subject line: [name], the job market is changing

Hello [name],

You're receiving this email because you may have applied for a federal benefit program like Employment Insurance (EI).

What employers are looking for is changing. Don't get left behind. At [provider name], we help give you an edge in this competitive job market.

We are experts that provide:

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, like career counselling and resume help
- Valuable opportunities, like **training**
- **Phone, online or in-person** services

Call 555-5555 to book your first meeting today.

[signature block]

This is a government-funded service.

The unique design features (and supporting rationale) for this email included:

- The subject line aimed to get recipients curious about the information in the email so that they were more likely to open it. Similar statements have been used on the outside of envelopes to encourage people to open letter mail and engage with the contents (e.g., a U.S. study found that a 'teaser' statement increased the chance that someone would respond to a survey threefold).[125]
- The subject line and bolded sentences in the second paragraph encouraged people to re-evaluate their perceptions of the labour market and the value of employment services in that context. It implicitly challenges people to update their perceptions that employment services are not helpful by highlighting how employer expectations are changing (e.g., if the standards are changing, they may need to update their resume and could benefit from professional advice).
- These key lines also create a sense of urgency and tap into "regret aversion" by evoking the idea of being "left behind." Regret aversion describes how people seek to avoid having regrets in the future and is related to the fundamental concept of "loss aversion" described by Kahneman and Tversky.[126]

2. Checklist email:

The Checklist email (see Figure 29) was designed to address barriers related to cognitive load and motivation. It is an adaptation of the best performing email from a similar trial on employmen) services uptake in British Columbia, previously described above. It is very similar to the initial email implemented in Saskatchewan.

FIGURE 29:
"Checklist" email

Subject line: [name], you're one step away from valuable job resources!

Hello [name],

You're receiving this email because you may have applied for a federal benefit program like Employment Insurance (EI).

Thank you for taking this first step. I recognize this may be a difficult time for you.

I wanted to let you know about [provider name], a government-funded service that may also be helpful. We're here to assist – whether you want to improve your skills, explore career options, or find a job when the time is right.

Take one final step to access job training and direct links to employers:

- ✓ Applied to federal benefits
- ✓ Opened this email
- ❑ **Call 1-833-613-0485 (press option 3)** to speak with a team member.

Why use [provider name]?

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, like career counselling and resume help
- Valuable opportunities, like **training**
- **Phone, online or in-person** services

[signature block]

The unique design features (and supporting rationale) for this email included:

- The subject line and bolded sentence above the checklist frame the call to action as the last step in a series of tasks that the jobseeker has already started. People are more motivated to complete or carry on with tasks when they have already put in some effort, and in fact, the closer people are to achieving a goal, the more effort they tend to put in.[127] By putting the call to action as the last step in a process that the jobseeker started and has almost finished, it encourages them to complete the process and contact employment services.
- This framing also suggests to jobseekers that employment services follow from and are part of the EI benefits 'package', which may encourage some people to take them up.
- The subject line and sentence above the checklist also create a sense of momentum by reminding people that they have already done most of the work and only need to do one more thing to access employment services. Reminding jobseekers of the actions they have already completed could boost feelings of self-efficacy for some people and address motivational barriers by fostering a sense of accomplishment.
- The email is concise and uses simple language, reducing cognitive load. It has a Flesch-Kincaid grade level of seven.

3. Normalization email:

The "Normalization" email (see Figure 30) addresses barriers related to stigma and negative beliefs associated with "needing help." We further increased perceptions of helpfulness by leveraging "social proof" and highlighting key benefits.

FIGURE 30:
"Normalization" email

Subject line: [name], join [hundreds] of Albertans accessing free employment services

Hello [name],

You're receiving this email because you may have applied for a federal benefit program like Employment Insurance (EI).

Whether it's friends, family, or an employment professional, a little help can go a long way. At [provider name], we've helped [hundreds / thousands] of Albertans find work or training.

We are experts that provide:

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, like career counselling and resume help
- Valuable opportunities, like **training**
- **Phone, online or in-person** services

Call 555-5555 to book your first meeting today.

[signature block]

This is a government-funded service.

The unique design features (and supporting rationale) for this email included:

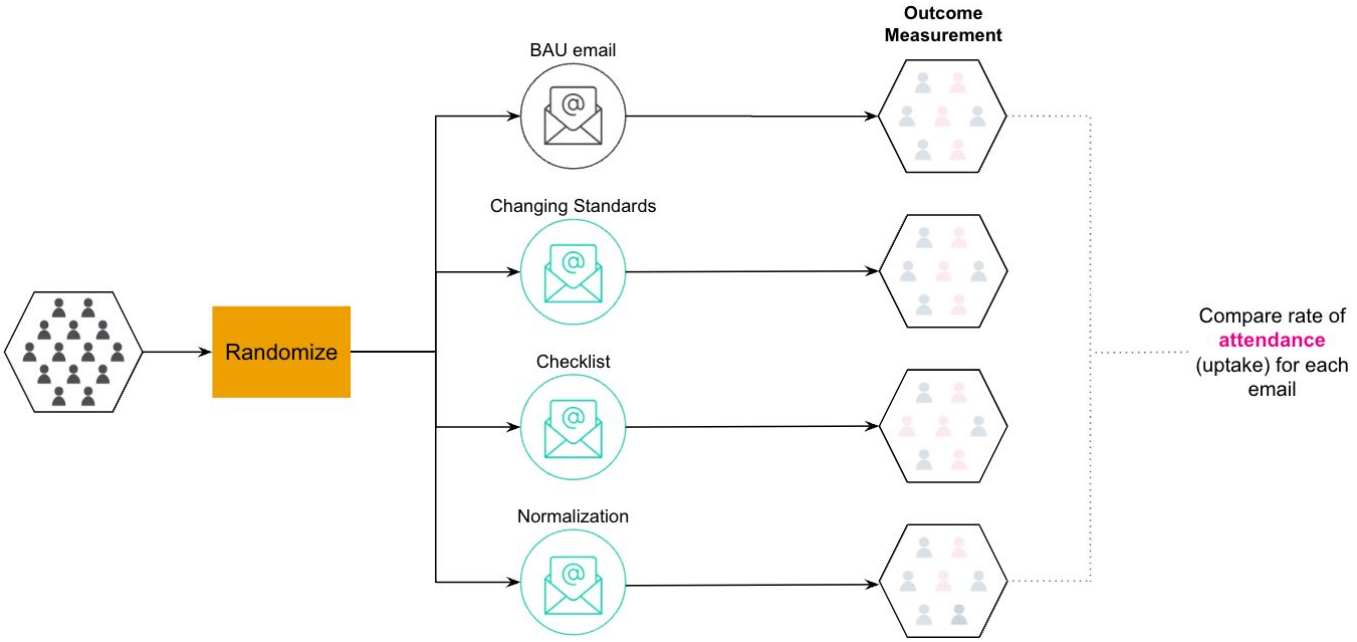
- This email leverages "social norms," references to the behaviour of others, to increase the perceived value of employment services and mitigate stigma. More specifically, the subject line and second paragraph state that many other residents of the province have taken up services. Similar statements have had a powerful influence on behaviour in a wide range of contexts,[128] from tax compliance,[129] to physician prescribing.[130]
- Providers tailored these social norms statements by adjusting the number of jobseekers helped and adding additional descriptors relevant to their program to increase the perceived relevance to the jobseeker (e.g., "hundreds of Albertans over 40").

Trial design

We tested whether the new emails increased uptake compared to the emails that service providers were already sending (our business-as-usual "control" group), which varied by provider. Over five months, we randomly assigned incoming TRF referrals to receive one of the three new emails or providers' business-as-usual email. Other than sending out the assigned email, providers otherwise conducted outreach as usual (e.g., follow-up calls were conducted the same way regardless of the initial email received). Four weeks after the initial email was sent, we measured uptake.

See Figure 31 below for a visual depiction of the evaluation approach. As we did in Saskatchewan, our primary outcome was whether the recipient attended an employment services appointment, and we also looked at registration rates.

FIGURE 31:
RCT design of trial testing initial outreach emails in Alberta



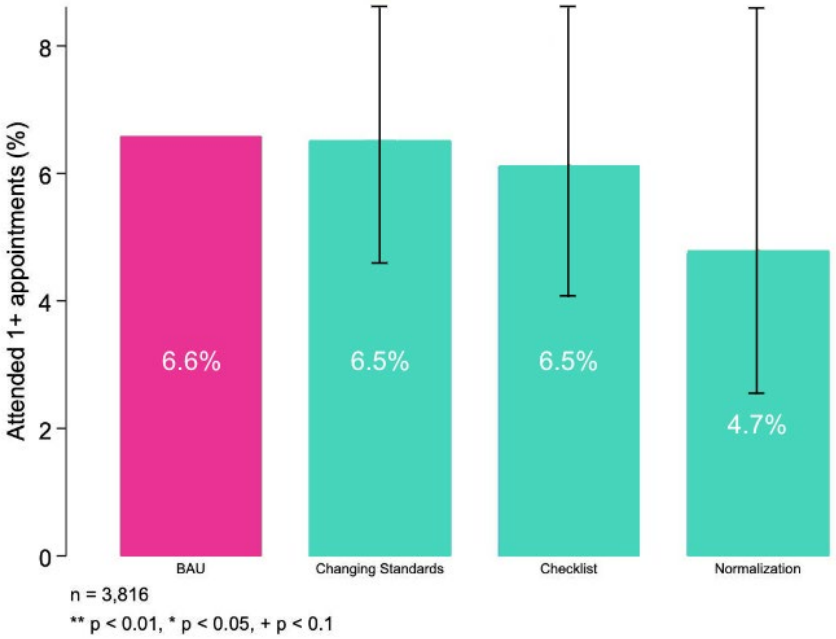
The Ministry played a foundational role implementing the trial, including recruitment of service providers, supporting randomization, providing ongoing feedback on implementation, and obtaining outcome data. The ten employment service providers were also crucial, providing feedback on the emails, sending the emails as set out in the research plan, and participating in trial monitoring and data auditing activities.

Results

The results presented below come from a total sample of 4,364 jobseekers. After cleaning the data, we retained 3,816 for the analysis, with 548 observations dropped due to duplicates, missing email addresses, and cases where providers would not be sending one of the trial emails (e.g., referrals outside of a providers' service area might get an informational email instead). Jobseekers ranged from under 25 to over 55 years old, with almost three-quarters (73.2%) of the jobseekers under 44. We had slightly more men in the sample (56%). Almost half of the sample had a high school or equivalent education and another 43% had a college, CEGEP, or university education. A minority (4% or less) had only completed primary school, had completed an apprenticeship, or another form of education. See Appendix B5 for detailed demographics.

As in Saskatchewan, our primary outcome was uptake, defined as having attended an employment services appointment. As illustrated in Figure 32, 6.6% of people who received the business-as-usual (BAU) emails attended an appointment, compared to 6.5% of the Changing Standards group, 6.1% of the Checklist group, and 4.7% of the Normalization group. The differences in attendance are not statistically significant so we cannot conclude that the new emails performed differently than the BAU emails. Even descriptively, outside of any statistical analysis, the numbers for the BAU, Checklist, and Changing Standards emails were very similar.

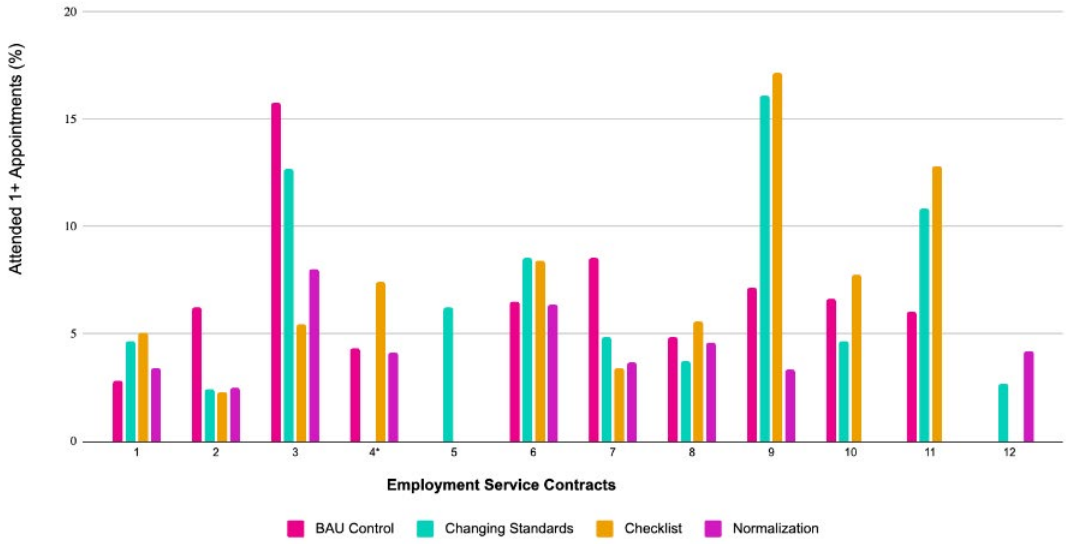
FIGURE 32:
Impact of new vs. business-as-usual emails on uptake



These results aggregate 13 different tests conducted with the 10 participating providers (some of the providers had more than one contract / program, and it was easier to test them separately). While the sample sizes are smaller when looking at the results by contract, and therefore "noisier", it is still instructive. As illustrated in Figure 33:

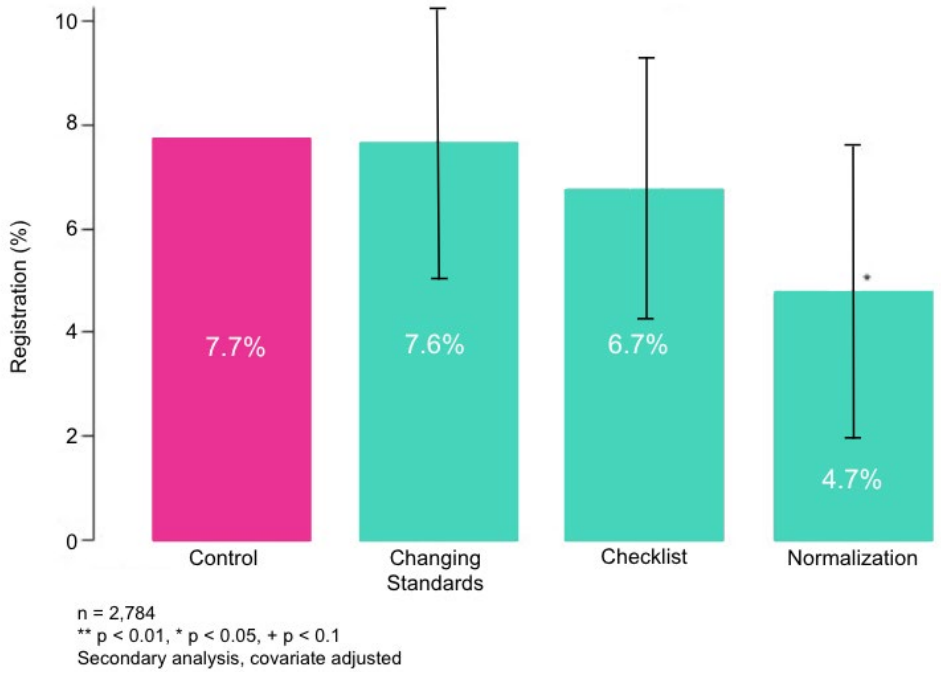
- The BAU email performed best for three contracts (two of which have a specific focus on young jobseekers),
- Changing Standards performed best for two contracts,
- Checklist performed best for six contracts, and
- Normalization for one contract.

FIGURE 33:[§§]
Attendance x email for each contract



As in Saskatchewan, to further understand our results, we also looked at the proportion of jobseekers in each group who had registered in career (employment) services.[¶¶] As illustrated in Figure 34 below, the results showed the same pattern as attendance. Outcomes were similar for the BAU email (7.7%), Changing Standards email (7.6%), and Checklist email (6.7%), but lower for the Normalization email (4.7%). Unlike the attendance results, the negative impact of the Normalization email was statistically significant, meaning that we can be confident that it performed worse.

FIGURE 34:
Impact of new vs. business-as-usual emails on registration



§§ Provider 10 did not test the Normalization email as it resembled their current BAU.

¶¶ We excluded two providers from the registration analysis as we did not have accurate registration data for these sites due to technical limitations related to how data is updated in the Ministry portal.

We hypothesize that the Normalization email did poorly because it sounded too much like a marketing email with the subject line "Join hundreds of other Albertans in accessing free employment services." If it was effective in countering stigma, as intended, this impact was more than offset.

Regarding the other results that were not statistically significant, there are two primary potential explanations. It could be that the new emails did perform better, but that we did not obtain enough data to see that impact. While this is not the interpretation that we favour, it is true that we had a smaller number of referrals than we had anticipated, as we did in Saskatchewan. We had the same "issue" of having many fewer referrals than in the historical periods we used to benchmark our study (likely due to a "hot" labour market), and we also had one larger provider that needed to delay their participation in the trial for operational reasons.

However, the explanation that we favour based on all the qualitative and quantitative evidence available is that a few of the BAU emails were very good, addressing certain barriers that our emails did not. For example, the highest performing BAU more heavily emphasized connections to government, which we think may have added legitimacy and reduced the perception of the service as a scam or commercial solicitation. It also provided immediate value to jobseekers by linking them to provincial websites that help people looking for work.

We believe that the strong BAU, Changing Standards, and Checklist emails all represent effective outreach that gets close to "maximizing" the impact that an initial outreach email can have on uptake outcomes. The outreach email is only one, albeit important, part of the end-to-end journey that jobseekers must walk through to receive services.

We also examined whether there were any trends in the effectiveness of the emails based on the demographic characteristics of the recipient, including age, gender, and level of education. We did not find any differences for: men compared to women; people under 25 or between 45-54 years old, and; people with a high school education or less. The Checklist email increased registration and attendance for people over 55, but decreased attendance for jobseekers between 25 - 44 years old. The Normalization email lowered registration for people with postsecondary education (college and university) and attendance for jobseekers 25 - 44 years old. While current systems do not enable customization by demographic group, these data could suggest that using the Checklist email for older jobseekers could improve uptake. This more nuanced targeting would ideally be further tested before implementation.

Recommendations

This section summarizes our recommendations specific to increasing the effectiveness of initial outreach to TRF referrals through email. The following Section 3.5 consolidates evidence across our work in Saskatchewan and Alberta to provide broad, general guidance related to increasing uptake of career (employment) services.

Based on the results of the trial and our other research, we have **developed two templates for the Ministry to share with all providers using the TRF database.** One of the email templates is based on the Changing Standards email (Figure 35), and the Checklist email (Figure 36). These templates have been updated from what was tested to include some features of high-performing BAU emails that align with the qualitative evidence we gathered and behavioural science theory.

These templates are recommended if the provider's current email is resulting in low uptake. If the status quo approach is working well, providers should not feel obligated to change their approach as their current email may be more successful.

Further, we recommend that providers customize these emails as they see fit, including highlighting any unique services they offer that are likely to be compelling to TRF referrals. They may also wish to adjust the language to be more specific if they serve a specific population (e.g., youth or workers in a certain industry).

FIGURE 35:
Recommended email template based on Changing Standards email

Subject line: [First name], the job market is changing

Hello [first name],

You have received this email because you recently applied for Employment Insurance (EI) with Service Canada.

What employers are looking for is changing. Don't get left behind. At [provider name], we help give you an edge in this competitive job market.
We are experts that provide:

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, [like career counselling]
- Valuable opportunities, [like **training**]
- **Phone, online or in-person** services

[Call XXX-XXXX] to book your first meeting today.

In the meantime, here are some resources that may be helpful in your job search:

- Training and Employment Services Directory
- Alberta Learning Information Service
- Alberta and Regional Job Banks

Working in partnership with:

Canada Alberta Government

[signature block, preferably from a named individual]

FIGURE 36:
Recommended email template based on Checklist email

Subject: [name], you're one step away from valuable job resources!

Hello [name],

You have received this email because you recently applied for Employment Insurance (EI) with Service Canada.

Thank you for taking this first step. I recognize this may be a difficult time for you.

I wanted to let you know about [provider name], a government-funded service that may also be helpful. We're here to assist – whether you want to improve your skills, explore career options, or find a job when the time is right.

Take one final step to access job training and direct links to employers.

- ✓ Applied to federal benefits
- ✓ Opened this email
- ❑ **Call 555-5555 to contact [name].** A team member will be in touch soon.

Why use [contractor name]?

- Connections with **employers** in a wide range of industries
- **Free** and personalized services, [like career counselling]
- Valuable opportunities, [like **training**]
- **Phone, online or in-person** services

Working in partnership with:

Canada Alberta Government

[signature block, preferably from a named individual]

Last, we would recommend that providers regularly monitor, evaluate, and update their communications accordingly. The most effective way to do so is to "A/B" test versions of their emails (e.g., the two different versions below, and other ideas that they have). In an A/B test, a distribution list is split up at random, and then the open rates (and perhaps uptake rates) are compared for the two versions. The best performing version becomes the new business-as-usual approach.

While these templates and guidance were developed for Alberta service providers, we believe that **provinces participating in TRF across the country can also use the templates, customizing as required.**

Beyond the initial emails, **employment service providers in Alberta would benefit from more accurate and timely uptake data to fine-tune their outreach approach.** Data about TRF referrals lives in a separate database than service records and is inaccessible to contractors after they close the referral. This means that if jobseekers engage in services after their TRF file has been closed, there is no way for a service provider to know that this individual was originally a TRF referral. This makes it very hard to assess the impact of TRF and may lead to it being under-valued as a referral source. It also means that evaluating key aspects of the outreach strategy, like the initial email, is much harder.

While technical issues are outside our expertise, potential options to address this include keeping referrals open in the TRF system longer (which would also help enable follow-up emails and other reminders)[***], and creating a provincial data hub to view aggregated historical data on uptake at their site. These technical solutions, as well as the template emails, fit nicely into a suite of initiatives the Ministry is undertaking to support providers using TRF, including biannual "What's New" sessions for providers.

3.5 Overall recommendations

This section presents a wide range of recommendations for career and employment service providers, as well as policymakers working in this domain. The recommendations are based on the full scope of our research in Alberta and Saskatchewan, including our evidence review, qualitative research with practitioners, policymakers, and jobseekers, and our two large-scale field experiments testing new outreach and engagement strategies. The section is organized by audience and touchpoint, starting with recommendations for career services practitioners, followed by TRF administrators and policymakers.

Recommendations for career and employment services organizations:

Reaching jobseekers:

- **Leverage existing networks** to reach jobseekers. For example, develop and test programs that incentivize word-of-mouth referrals by former clients or conducting target outreach with organizations that jobseekers may already be associated with. Practitioners we spoke with identified this as an important referral source and we believe that personal recommendations from people in the jobseekers' community has the potential to address multiple barriers around perceived value, stigma, and motivation.

Content and form of outreach communications:

- Craft outreach communications to emphasize **trust and legitimacy**, especially when jobseekers are not expecting to receive the communication. This is particularly important for email subject lines because they must entice jobseekers and convey legitimacy in only a few words.

*** As discussed further in the following section, it would be helpful for ESDC to clarify guidance enabling TRF referrals to stay open longer.

  - Ensure that the "sender" of the communication is clearly a professional and/or legitimate organization and, if possible, include additional details that will convey their identity at a glance (e.g., "Hester Smythe, ABC Careers").
  - Consider ways to make communications more formal without increasing complexity, such as highlighting connections to established services or the government. In the case of TRF, this means using federal and provincial government logos and making the connection to EI clear.
- Outreach should be **simple, concise, and convey key information at a glance.** Strategies for simplification include:
  - Eliminate jargon and terms that may be unfamiliar to jobseekers;
  - Check the Flesch-Kincaid grade level and readability of outreach communications, aiming for Grade 6;
  - Be very clear about what the communication is asking jobseekers to do next and make it as easy as possible for them to do it. The next step will usually be registered, so communicate this in bolded text and give people all the info they need (e.g., link to registration website, phone number, etc.); and,
  - Limit the length of the communication; there is no magic number but aim for fewer than 150 words.
- **Highlight aspects of the program that are most compelling to jobseekers.** Our research suggests the following, although this is likely to vary by population and services offered:
  - Connecting with local employers;
  - Finding out about jobs that may not be widely posted;
  - Training and upskilling programs that have costs covered; and,
  - Receiving financial support for the job search (e.g., for work clothes and transportation to interviews).
- **Personalize** TRF (and other) outreach communications by including the first name of the recipient and the sender, as well as tailoring content to the jobseeker (e.g., providing the location of a local office or industry-relevant information).
- **Convey respect**, avoiding language that may feel patronizing to recipients. For example, avoiding phrases that single out or suggest individual blame (e.g., "your challenges").
- **Optimize emails for viewing on mobile phones.** For example:
  - Subject lines should be short and convey the most important information in the first few words as the full subject line may not be visible.
  - If outreach emails include images, ensure that the email still makes sense without them because images may not display / download for all email services.

- **Use multiple channels, including SMS.** Career services have had success using text messaging to increase attendance or support people through registration. These methods may be useful for initial outreach to jobseekers, but we suggest pairing this with more "official" communications like an email or letter that providers can refer people back to to establish credibility.
- Where current uptake is low, **implement the templates for initial outreach and follow-ups that are included in this report**.

Following up after initial outreach:

- **Follow-up with jobseekers** if they do not respond to initial messages; our evidence suggests that this may increase uptake and there are benefits to both 'early' and 'late' reminders (in our case, this was 4 and 10 weeks after initial outreach for TRF).
- **Look at other parts of the pathway** to career services uptake to see whether reminders and follow-up communications might help. For example, our research found a large gap between the proportion of people registering for services (around 20%) and those attending an appointment (about 6%) in Saskatchewan. It may be helpful to send reminders to those who are registered but have not yet booked an appointment. Saskatchewan has addressed this issue by offering same-day appointments, a compelling strategy where operationally feasible.

Registering in career services:

- Review the registration process to look for **opportunities to simplify** it for jobseekers, which may include:
  - Reducing the number of steps people must complete;
  - Simplify any tasks that jobseekers do have to do (e.g., use simple language, examples, or visuals that walk jobseekers through the process); and,
  - Minimize the amount of information and documents that jobseekers must provide.
- For information that must be collected, **ask jobseekers to provide only what is necessary** to enrol them and collect the rest once they attend their first appointment. This may be particularly relevant when information is potentially sensitive or private, as some jobseekers may not be comfortable sharing this over the phone or with a stranger and discontinue registration. Jobseekers may be more comfortable providing this information once they have connected with the provider and invested time in accessing the service.
- Consider **providing assistance with registration processes**, such as using step-by-step SMS reminders or completing key steps together with the jobseeker if it is an online process.

Facilitating access to services:

- Where feasible, provide **flexible service offerings**, including alternatives to in-person services (i.e., virtual and phone appointments), appointments in non-standard hours, and drop-in services. This could also include offering services at alternative locations in the community such as the local library to address barriers related to time, transportation, or mobility.

- To the extent possible, ensure services are in a **convenient location that is accessible by affordable and reliable public transportation**. Also consider embedding services in locations where jobseekers will already be (e.g., newcomer centres, legal aid, and tax clinics).
- Alleviate barriers related to costs by offering **financial support for transportation** (e.g., taxi vouchers) **or caregivers** so that jobseekers can attend appointments, job fairs, or interviews.
- **Decrease the time between registration and the jobseekers' first appointment.** Offer appointments to jobseekers as soon as possible following registration, ideally on the same day. For instance, providers may be able to reserve time each day (or each week) for walk-ins or new registrations, subject to operational constraints.

Recommendations for provinces using TRF:

TRF administration:

- Where relevant, encourage **third-party service providers to implement structured follow-ups** for some or all TRF referrals that do not convert to service. Working with ESDC, clarify guidance to keep referrals open longer to enable this and better data quality / tracking.
- **Enhance contractors' access to data** and give them the tools they need to **implement data-informed practices**. For instance, consider creating a provincial data hub that would allow contractors to view aggregated historical data for their site. This would help contractors have a more accurate sense of how well TRF is working for them and potentially increase the perceived value of participating in the program.
- **Reduce administrative burdens** for employment services providers looking to access TRF. Some providers may be unsure about the benefits of engaging with TRF, so upfront "costs" required to access the system may discourage uptake.
- Continue to **develop and evaluate new approaches** for outreach. The most effective way to do so is to "A/B" test different versions of outreach communications. Where career services are contracted out, encourage contractors to monitor changes to their processes and provide simple guidance to support evaluation
- We believe the initial and follow-up email templates developed for this project are strong, especially when customized by delivery agents. While further testing of outreach communications is valuable where it can be done efficiently, we believe **further research and development efforts** to increase TRF uptake should focus on **other parts of the journey**. For example:
    - Addressing barriers related to accessing employment services (e.g., offering employment services in locations alongside other programs / services that jobseekers might use);
    - Streamlining registration and scheduling (e.g., offering same day appointments or simplifying administrative tasks);
    - Enhancing call scripts and training staff on best practices;
    - Re-engaging jobseekers at timely moments (e.g., sending reminders closer to benefits exhaustion), and;
    - Conducting outreach in new ways (e.g., sending text messages or using referral programs).

Recommendations for federal policymakers to consider:

- Better signal the possibility of TRF outreach during the EI application process so that jobseekers expect communications they receive and perceive them as legitimate.
- Improve data quality to enhance targeting: apply form design best practices to enhance the quality of contact information and NOC codes obtained during the EI application process.
- More ambitiously, consider combining EI applications with registration for career services through a collaborative pilot with one or more provinces. Create joint application processes for related programs and identify opportunities to default some applicants into services (a model where applicants would opt out of career services rather than opting in), including automated appointment booking (with simple cancellation or rebooking processes).
- Clarify ESDC guidelines with provinces that use TRF to support follow-up communications beyond initial outreach.
- Support provincial efforts to enhance their data-driven practices and targeting decisions. For example, collaborating to develop dashboards or providing data to enhance the use of LMI and information on benefits exhaustion to support TRF.
- While this could be a purely provincial initiative, develop or support infrastructure for continued learning and sharing of effective practices in career services uptake that brings together federal and provincial policy makers and delivery agents. The initiative could include:
    - Establishing the priorities and agenda for research and development;
    - Consolidating research findings, best practices, and resources, and coordinate knowledge dissemination;
    - Providing tools for evaluation / continuous improvement; and,
    - Procurement and provision of technology and services.

4. Conclusion

Through the support of the Future Skills Centre, the Behavioural Insights Team worked closely with the governments of Alberta, British Columbia, and Saskatchewan and their partners on an ambitious program of research. We addressed two critical labour market priorities in Canada:

1. How can we use labour market information (LMI) to help students make more informed decisions about postsecondary education?
2. How can we encourage more jobseekers to engage with publicly funded career / employment services and get back to work faster?

We took a wide-ranging and rigorous, mixed-methods approach to answering these questions, including:

- A detailed review and critical assessment of the existing evidence base on these topics;
- Over 50 interviews across all three provinces to build a more in-depth, nuanced understanding of the preferences, intentions, and barriers faced by both groups we want to support (high school students and jobseekers);
- In-classroom, qualitative research to test our ideas about LMI for youth; and,
- Four randomized controlled trials (RCTs) to test our research hypotheses in both controlled, online and "real world" (i.e., field) settings; these trials included over 12,000 participants and provided us with robust evidence about how to address the two priorities.

This multifaceted approach enabled us to develop a wide range of practical and actionable insights, addressing critical research gaps. We learned:

- Providing LMI to youth can inform career and educational pathway decisions but only if it captures students' attention, is presented and explained simply, and focuses on the specific data points that are influential on their choices (e.g., a holistic job outlook) and of interest to them (e.g., educational requirements and salary information).
- These insights can directly and concretely inform how government agencies that provide LMI design and present this information, and how educational institutions build LMI into career courses.
- Increasing participation in career / employment services benefits from: personalization, timing that is aligned to when jobseekers are ready and motivated to engage, highlighting the specific aspects of service that are most compelling to jobseekers (e.g., connections to employers, flexibility in how and when service can be accessed), and using simple, short communications with a clear next step or "call to action".

Based on these findings, and in collaboration with our partners, we have developed a set of recommendations that encompass changes to existing systems, policies, processes, and communication strategies. Select examples include:

	Immediately Actionable	Aspirational
On LMI delivery to youth:	• Provide simple, select LMI to high school students to inform their choices about PSE, prioritizing the following information about jobs: educational and skills requirements, a "holistic job outlook," salary data, and not too much more! • Where possible, provide information that is as local as possible	• Gather and share non-traditional, novel LMI that comes directly from a diverse range of workers, including day-on-the-job videos and job "reviews" • Engage non-traditional "messengers" to deliver high-quality LMI, not just government websites (e.g., parents, workers, teachers)
On career services uptake:	• Outreach to encourage participation should be simple (Grade 6 reading level), personalized, reinforce legitimacy (e.g., connection to government), have a single, clear next step, and emphasize the most compelling aspects of service • Early intervention approaches like the Targeting, Referral, and Feedback (TRF) database should not focus exclusively on early intervention; jobseekers should be re-engaged in case their motivation and readiness have increased over time	• Integrate income security programs like EI with career (employment) services, so that when someone applies for EI they are registered for services (and even have an appointment booked) by default

Our hope is that this set of wide-ranging, actionable insights will drive real improvements in the delivery of critical labour market programs and services. We encourage decision-makers in all levels of government, higher education, and the career (employment) services sector to move forward on implementing these ideas.

More broadly, our research underscores the value derived from interjurisdictional collaboration - the perspectives and support of our government partners in British Columbia, Alberta, and Saskatchewan have been invaluable. This collaboration enabled our research to have a greater impact by facilitating important discussions, sharing lessons learned, and working together to develop solutions that address the dynamic needs of our workforce. In addition, this work would not have been possible without the support and funding of the Future Skills Centre - an organization that is uniquely positioned to scope and deliver critical research and development initiatives.

We believe the partner-driven, mixed-methods approach developed and implemented in this work can be applied to other pressing questions in Canadian labour market policy, including:

- How might we transform the delivery of publicly funded career (employment) services to support the psychological and social needs of jobseekers and other service users? Our research laid out dozens of opportunities to reimagine career (employment) services in a more empowering, supportive, and social manner - more research could be done to bring these ideas to life and rigorously evaluate them.
- How might we help newcomers, unemployed adults, and other groups (beyond youth) navigating labour market transitions find and use relevant, high-quality LMI? What role might new technologies - particularly large language models - play in bridging the critical gap between the inherent complexity of LMI and the need for clear and actionable information?
- How might we further help youth make more informed decisions for themselves about what to do after high school when it comes to the cost of PSE and the financial support available to them? Given the cognitive, behavioural, and structural barriers limiting informed action about PSE participation and costs, what are the best policy and information designs for financial aid?

We are happy to discuss our report, findings, and next steps in more detail with interested parties. Please reach out to Sasha Tregebov, Director of BIT Canada at sasha.tregebov@bi.team.

Endnotes

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