

# Behavioural Insights Unit

Update Report | 2020



# Secretary's Message

As Secretary, I am delighted to have the NSW Behavioural Insights Unit (BIU) in our cluster, having had the opportunity to work with them in my role as Public Service Commissioner. In this role, our partnership worked to increase the proportion of women in senior leadership – and I am so proud to see the results in this report.

BIU joined the newly created Department of Customer Service in July 2019 and is now perfectly positioned to collaborate with other innovative and customer-centred teams on the highest priority areas for government. They help NSW Government agencies to achieve measurably better outcomes for the people of NSW by guiding them on how to develop and test behavioural science solutions to policy, program and service goals. They draw on evidence from a range of disciplines and apply robust evaluation to really understand 'what works' to improve outcomes.

Since 2012, the team has been working across all areas of government, including health, education, transport, justice and industry. This report details BIU's latest trial results and sets out the team's commitment to building behavioural insights capability across the public sector. Having read the report, I understand why the BIU was shortlisted by Apolitical as one of the top 20 public service teams in the world.

I hope you enjoy reading through these latest findings and I welcome your thoughts on how we can continue to apply behavioural insights to improve customer outcomes.

Em Hogan  
Secretary  
Department of Customer Service



A handwritten signature in black ink, appearing to read 'Em Hogan', with a stylized flourish at the end.



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01.

# Achievements



## Achievements



### Women in leadership

Our combined email and phone call intervention **reduced the gender gap** between men and women reapplying for senior roles **from 45% to just 4%**.



### Flexible working

Managers who received our intervention email were **three times more likely** to engage with their team about flexible working.



### Supporting apprentice learners

Though our intervention did not lead to a statistically significant result in the retention rate of apprentice learners, we suggest **early, behaviourally informed support** in the first 12 months can help learners persevere toward **apprenticeship completion**.



### Rural and remote teachers

Our interventions led to **55 pre-service teachers** completing their placements at **geographically isolated schools**, with 100% of them saying they would consider taking up long-term employment at a rural or remote school in the future.



### Missed hospital appointments

Our behaviourally informed reminders led to a **33.7% reduction** in no-shows for outpatient clinics at two hospitals in the Central Coast Local Health District.



### Drought assistance

We worked with Department of Primary Industries to make it easier for farmers to access drought assistance.



### Cutting energy bills

We worked with Department of Planning, Industry and Environment to increase the number of landlords making energy efficient upgrades to properties with low income tenants.



### Land tax

Our work with Revenue NSW led to **39% more** customers confirming or updating their land tax details.



### COVID-19

We are working across the NSW Government to apply behavioural insights to help support the response to the COVID-19 pandemic.

02.

# What are Behavioural Insights?



## What are Behavioural Insights?

We know only too well from our own lives that we often fail to do what is best for ourselves, despite good intentions – whether it be exercising regularly, saving money, or learning a new skill. This has important implications for the design of public policy which has traditionally assumed that people use all available information to make rational decisions and exercise perfect self-control.

Behavioural insights draw on the behavioural sciences – including behavioural economics and psychology – to help us understand the social, cognitive and emotional drivers of human behaviour. By recognising the nuance of human decision making, the field puts the onus on policymakers to design environments that support good decisions.

We are increasingly learning that humans behave in complex and highly context specific ways, so designing supportive policies requires rigorous testing. Behavioural insights experiments have become mainstream among governments around the world, leading to better outcomes in all areas of public policy, from retirement savings to road safety.

As data systems advance, we hope to augment our impact by leveraging linked data to better understand our customer needs and by applying behavioural insights to more complex social challenges. But at the heart of this work will always remain the humility to really understand the needs of our customers, rather than make assumptions. Behavioural insights are about what works, rather than what we think ought to work.



03.

# Behavioural Insights Unit





## Behavioural Insights Unit

The NSW Behavioural Insights Unit (BIU) was established in 2012 and has been part of the Department of Customer Service since July 2019.

Our goal is to see behavioural insights applied in everyday policy and service design leading to measurably better outcomes for people in NSW.

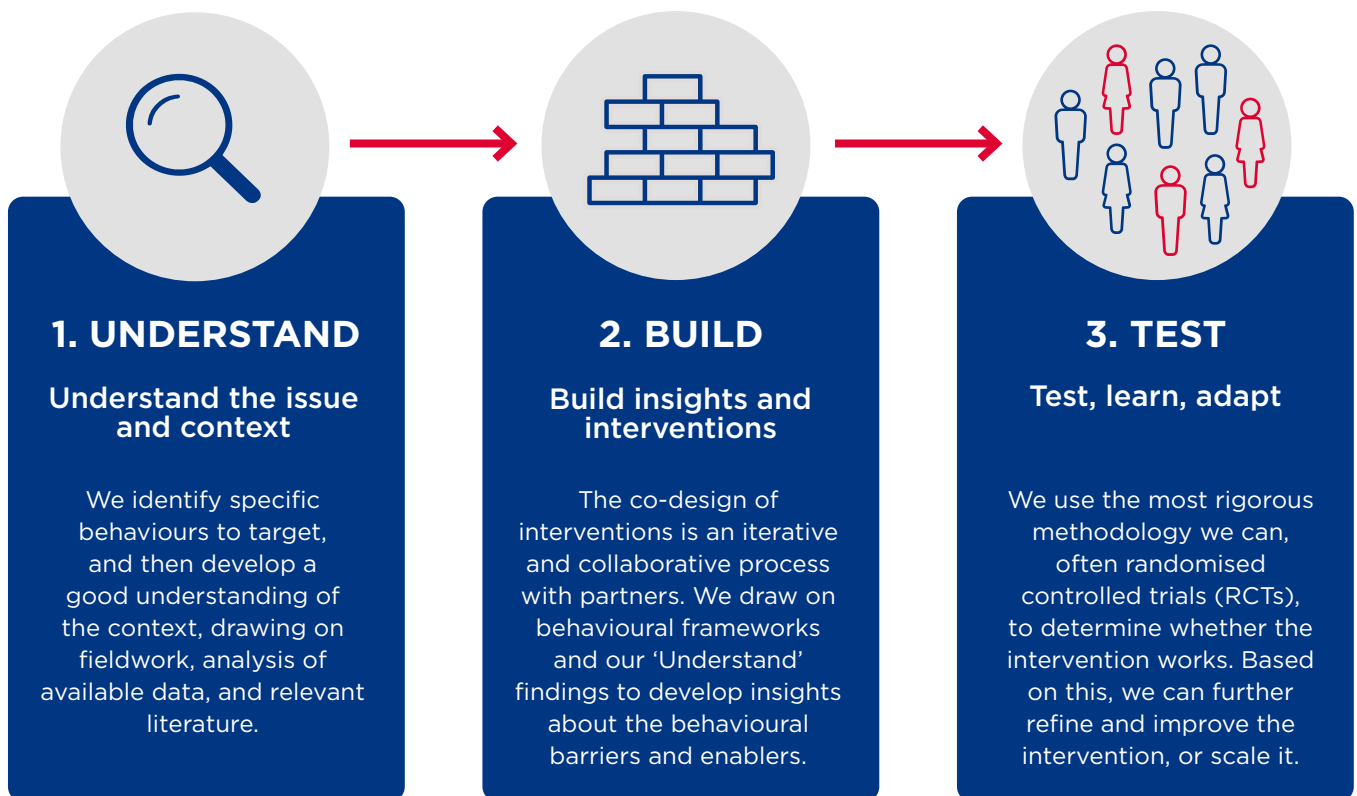
To achieve this, our work focuses on three areas; running trials, building capability across the sector and providing advice to apply behavioural insights.

## Running trials

When it comes to running trials, we partner with agencies and guide them on how to develop and test behavioural science solutions to policy, program and service goals.

We take an empirical approach, gathering insights from data and developing an evidence base. Much of our time is spent designing and running trials to determine what works before supporting a wider rollout of successful interventions.

Our projects typically follow three phases:



## Capability building

We have increased our focus on building behavioural insights capability in the public sector. Not every agency will, or should, aim to run complex behavioural trials. However, by empowering our teams to adopt the mindset of a behavioural scientist, we will contribute to a world class public service by putting the customer at the centre of everything we do.

We are supporting agencies to:

- Understand user needs and behavioural barriers
- Develop behavioural insights interventions
- Run trials to find out what works and what doesn't

We do this through:

- Regular workshops
- Do It Yourself (DIY) guides on frequently asked topics such as increasing service take-up and improving compliance
- Weekly clinics for public servants to troubleshoot their project with BIU.

Over the last 12 months, we have engaged around 1,500 public servants in these activities.



# Trial results



Since the BIU was established in 2012, we have progressed from running trials in simpler contexts such as taxes and fines, to more complex social issues like gender diversity and domestic violence. This section of the report outlines what we have worked on since our last report was published in 2018, and some of our key learnings.

# Women in leadership



## Encouraging women to apply for senior roles in the Government Sector

Although the proportion of women in senior leadership roles in the NSW Government Sector has increased, it remains significantly below parity at 40%. We partnered with the Public Service Commission and the Customer Service, Stronger Communities and Transport clusters to increase the proportion of women applying for senior leader roles.

We designed and tested two behaviourally informed interventions, an email and a phone call, to increase the proportion of women reapplying for senior roles in the NSW Government. The combined behavioural interventions increased the likelihood women would reapply for a senior role by 27% and significantly reduced the gender gap between men and women reapplying for senior roles from 45% to just 4%.

### Background

In 2015, the Premier set an ambitious target to increase the proportion of women in senior leadership roles in the NSW Government sector to 50% by 2025. Since this time, the representation of women has steadily increased from 33% to 40%. While this increase is an important step, there is still a considerable way to go. Greater gender diversity in senior leadership can lead to better performance and innovation. This makes gender parity an imperative to delivering a stronger economy and better outcomes for the people of NSW.

### What we did

The team took an innovative, data-driven approach to understanding the barriers and enablers to women in the NSW Government Sector. We analysed trends in over 1.1 million applications over five years, conducted 65 interviews and received survey responses from over 400 applicants. This research was used to generate insights and design innovative interventions to advance gender equality in senior roles in the government.



## Key insights

Key insights from this research were:

- Women were less likely to apply for senior roles compared to men in all clusters of government.
- In comparison to men, women were much more likely to doubt their skills, despite on average being more likely to be hired when they applied for roles.
- Men were significantly more likely than women to reapply for a senior role within six months after they had narrowly missed out.

Using insights from this research, we developed two behaviourally informed interventions designed to encourage women to reapply for senior roles after they narrowly missed out. The interventions were an email and a phone call with a recruitment manager that focused on how well the applicant had done and encouraged them to apply again.

Business as usual (BAU) recruitment for most candidates tends to end with a generic

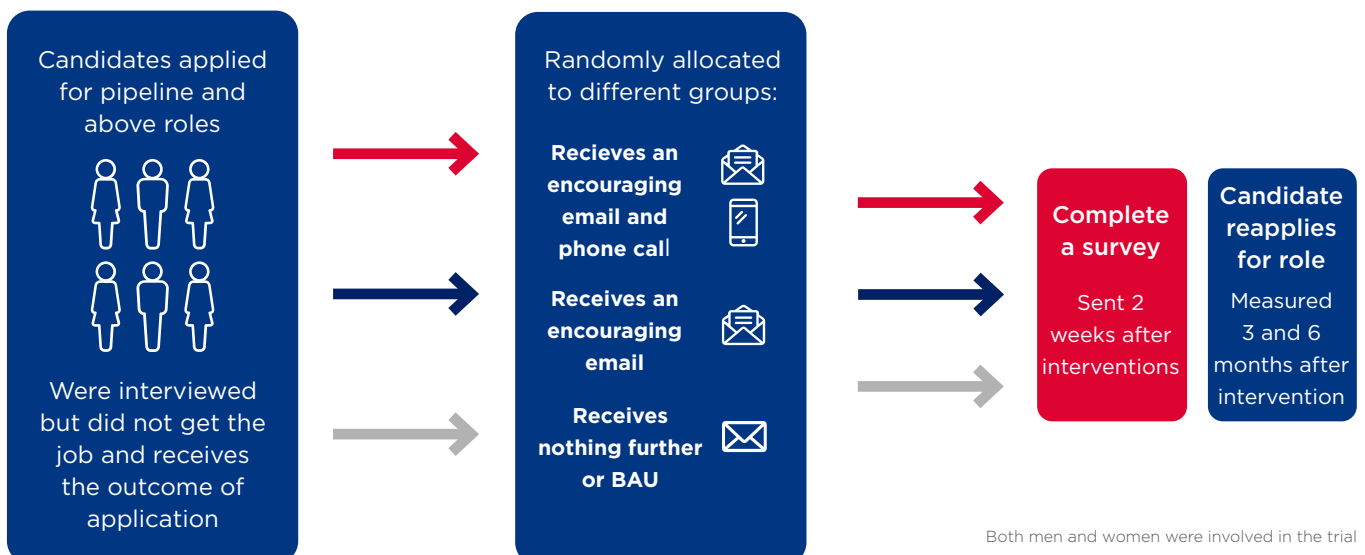
email advising that their application was not successful. Both interventions leverage the peak-end rule by trying to improve the conclusion to the recruitment process. The behavioural interventions aimed to disrupt this final impression which could have disproportionately large impact on the candidates' overall experience.

We tested these interventions using an RCT design with 1,614 candidates randomly allocated to receive BAU recruitment processes, a behaviourally informed email only or the behaviourally informed email and phone call.

## What we learnt

Two weeks after receiving the behavioural intervention (or not), candidates were sent a survey to record their overall satisfaction with the recruitment process, intention to reapply and likelihood to refer a colleague to apply for a role with the NSW Government.

We then measured whether candidates reapplied for another senior role in the NSW Government within three and six months after receiving the interventions.

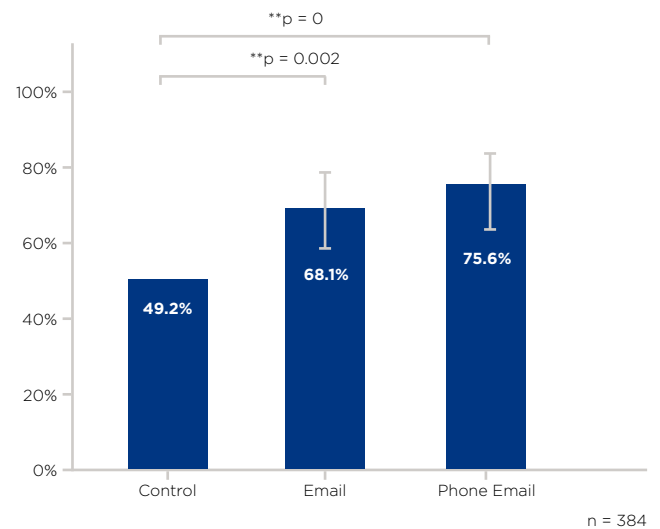


## Results

Of the 29% of candidates involved in the trial who completed the survey, the interventions had a significant impact on candidates' self-reported intention to reapply for a senior role. Receiving a behaviourally informed email significantly increased the likelihood candidates' intentions to reapply for senior roles, from 49.2% to 68.1% ( $p < 0.01$ ). Receiving a behaviourally informed phone call from a recruitment manager as well as the email increased this further to 75.6% ( $p < 0.001$ ) (see Figure 1). The observed effect of the phone call was even larger for women, with 82.7% of female applicants who received the phone call and the email reporting that they would reapply for another role in the NSW Government.

Candidates' satisfaction and optimism with the recruitment process increased in a similar way as did their likelihood to refer a colleague to apply for a role with the NSW Government.

Figure 1: Percentages of respondents who intend to apply for another role in NSW Government



*“That’s a good gesture. Absolutely felt great about receiving the email”*

- candidate in the trial

*“really encouraging... the best recruitment I’ve been involved in”*

- candidate in the trial

## But did the interventions lead to actual behaviour change?

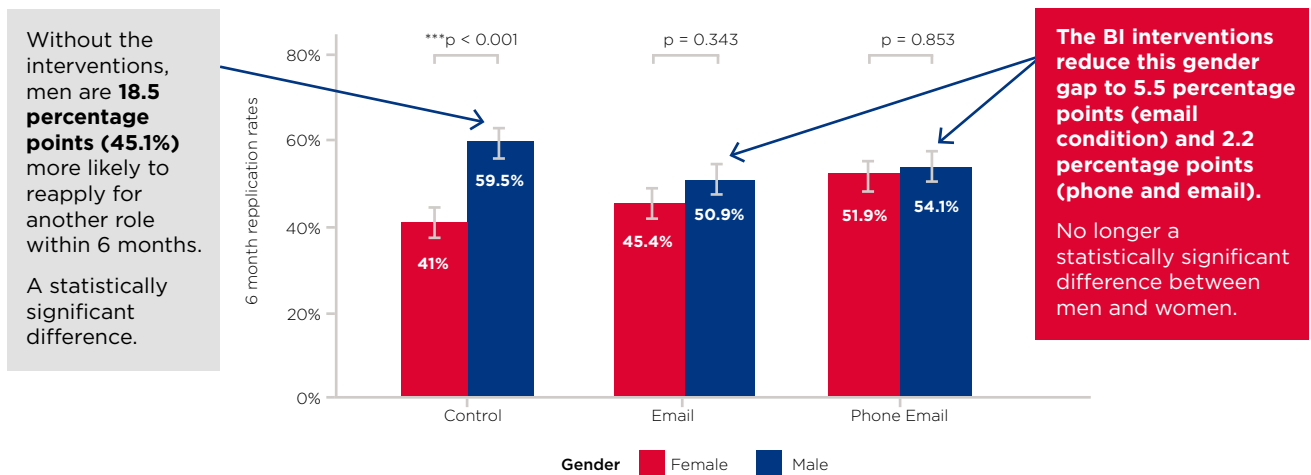
Overall, the interventions did not lead to greater reapplication rates than control (all p values > 0.20). However, this was because the interventions had a different impact depending on whether the candidate was male or female.

After 6 months, 52% of women who received the BI interventions had reapplied compared to only 41% of women who received BAU recruitment processes - a 27% increase (p=0.096). The interventions significantly reduced the gender gap in likelihood to reapply within 6 months. Without the intervention, there was a significant gender difference in reapplication rates. Of the male candidates, 59.5% reapplied compared

to 41% of women. That is, men were 45% more likely to reapply than women (p < 0.001). The BI interventions reduce this gender gap to 12% in the email condition (a 5.5 percentage point difference), and just 4% in the phone and email condition (a 2.2 percentage point difference). Although men were still more likely to reapply, the difference between men and women was no longer statistically significant; a result that strongly contributes to the policy intent of increasing women in senior leadership.

When scaled across the entire NSW Government we estimate this could increase the proportion of women in senior roles by up to .5% each year and make a significant contribution to achieving equal gender representation in senior roles.

Figure 2: 6-month replication rates by experimental conditions and gender



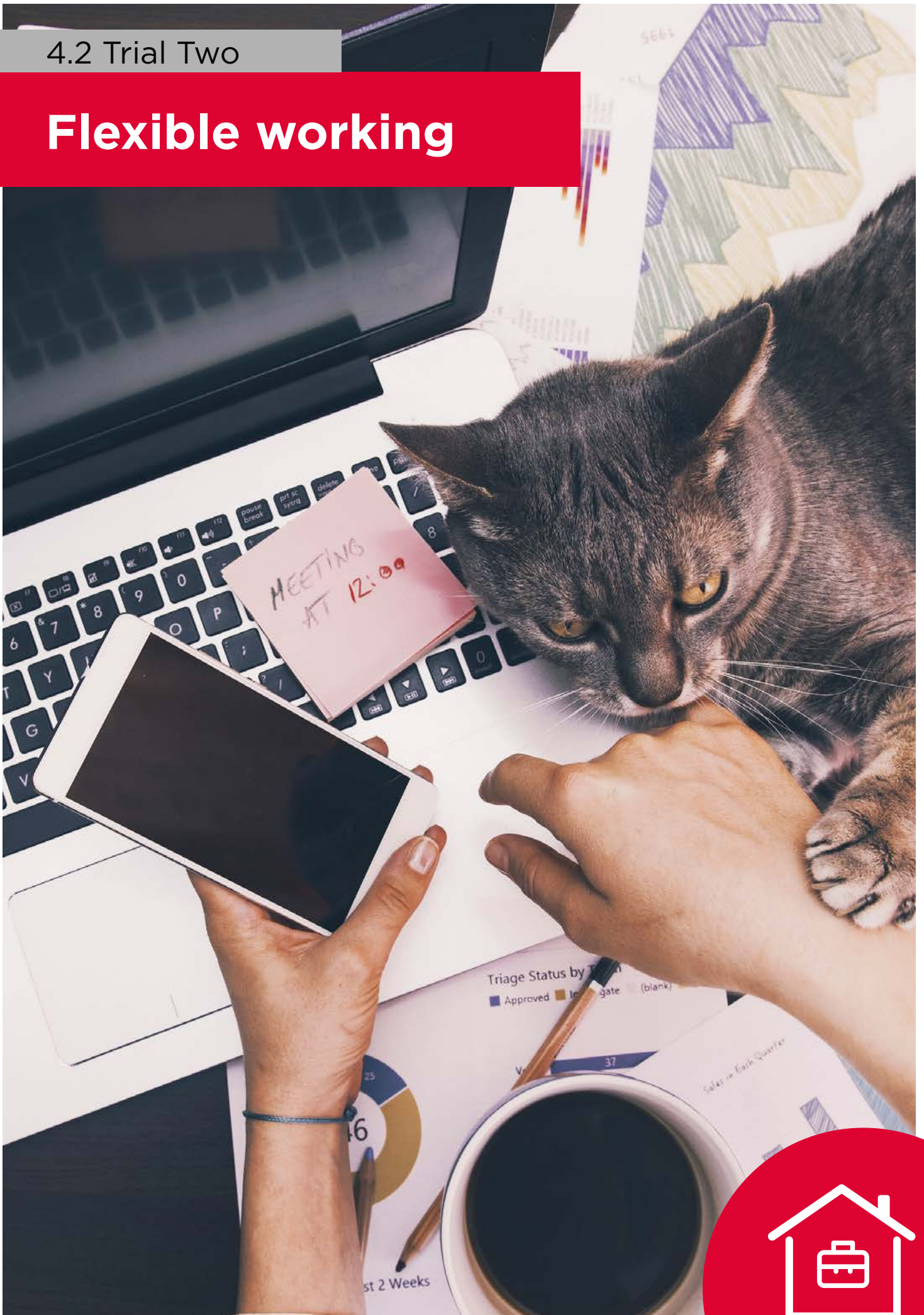
\*Candidates who did not specify/disclose their gender were removed from this analysis  
\*n = 1,386

## Next steps

The simple, low cost interventions are now being scaled across the NSW Government, making better candidate care part of the BAU recruitment process. The Public Service Commission has developed a toolkit to help recruitment managers implement the interventions in their organisations.



# Flexible working



## Encouraging managers to support flexible working

Promoting flexible working is a NSW Government priority and over the last few years, many agencies have invested in improving the technology and processes necessary to enable flexible working. However, some employees report their managers have misgivings or have not demonstrated visible support for flexible arrangements.

We conducted a randomised controlled trial to test whether behaviourally informed messaging is effective in prompting managers to initiate a conversation about flexible working with their teams. We found that managers who received a BI email were three times more likely to send an email to their team inviting a conversation about flexible working and share a flexible working conversation guide.

### Background

The NSW Government committed to making all roles flexible on an 'if not, why not' basis by 2019, as it is a key enabler of the Premier's Priority of a world class public service. Access to flexible working addresses participation and progress barriers for women, Aboriginal people and people with disability, boosts productivity, improves physical and mental well-being and improves discretionary effort, a key component of productivity.

Results from the 2019 People Matter Employee Survey showed 58.8% of respondents are satisfied with their ability to access and use flexible working arrangements. However, middle managers are a key dependency in employees' perceptions of that access. We wanted to address this by making middle managers more visible in the process and helping them be more proactive in encouraging flexible working in their teams.

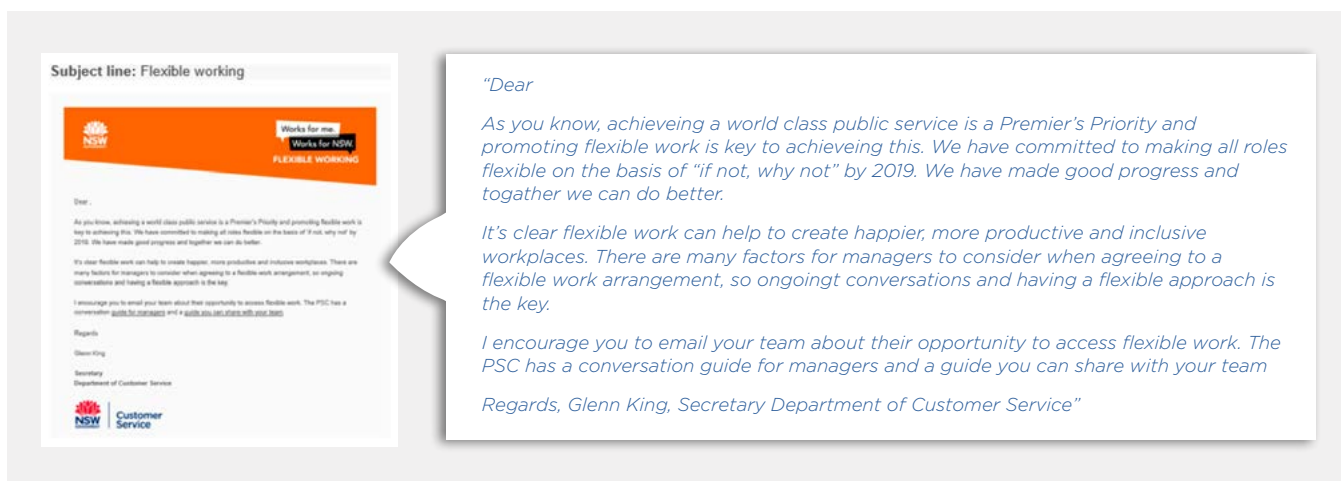
### What we did

We partnered with the NSW Public Service Commission, Department of Customer Service, Department of Education, Department of Premier and Cabinet, Department of Transport and Local Land Services. Together we developed an email intervention designed to encourage managers to talk with their staff about flexible working.

To test our intervention, we designed two versions of the email and tested it using a randomised controlled trial to see which messaging was most effective in encouraging managers to act.

There were 985 managers across five departments randomly allocated into two groups to receive one version of the email or the other. Managers in the **control group** received an email with **standardised messaging** (see figure 3).

Figure 3: Control email



Managers in the **treatment group** received a **behaviourally informed email** (see figure 4). This version:

- drew on the principles of **social influence** and **salience**
- **reduced friction** by providing a template email for managers to send to their staff

Both emails prompted managers to send an email to their team about their right to access flexible work and share a flexible work conversation guide for employees. The emails also contained a separate flexible work conversation guide for managers.

Figure 4: Treatment email

**Subject line: I support flexible working, do you?**

**Works for me! Works for NSW! FLEXIBLE WORKING**

Dear [Name],

I know that like me, you are an advocate for flexible working arrangements. So today I would like you to do one simple thing. I want you to email your team to invite a conversation about flexible work.

Successful leaders support their staff to work flexibly because they know it creates happier, more productive and inclusive workplaces. They also know that the cost of not promoting flexibility is that we lose good staff. In our cluster, most managers are doing this well and we need your help to ensure all staff feel supported to work flexibly.

Below is a draft email for you to send to your team today. Feel free to amend it as you see fit. To prepare for these conversations I encourage you to download this helpful PSC guide for managers.

Thanks in advance for your support.

Glenn King  
Secretary  
Department of Customer Service

Copy and paste the text below into an email to your team:

**Subject: Can we talk about flexibility?**

Hi Team,

I want to check in with you all about flexible working. The last PMES results showed most people are happy with their access to flexible work but there is still room for improvement. Flexible work is important to maintaining a healthy work life balance and leads to happier, more productive teams.

I'd like to know whether you are satisfied with your access to flexible work and how I can better support you. There are many ways to work flexibly and I'm happy to discuss this when we next meet.

Below then, please download this guide to familiarise yourself with the possible options available.

Kind regards,

**Subject: I support flexible working, do you?**

Dear [Name],

I know that like me, you are an advocate for flexible working arrangements. So today I would like you to do one simple thing. I want you to email your team to invite a conversation about flexible work.

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Below is a draft email for you to send to your team today. Feel free to amend it as you see fit. To prepare for these conversations I encourage you to download this helpful PSC guide for managers.

Thanks in advance for your support.

Regards, Glenn King, Secretary Department of Customer Service"

**Subject: Can we talk about flexibility?**

Hi Team,

I want to check in with you all about flexible working. The last PMES results showed most people are happy with their access to flexible work but there is some room for improvement. Flexible work is important to maintaining a healthy work life balance and leads to happier, more productive teams.

I'd like to know whether you are satisfied with your access to flexible work and how I can better support you. There are many ways to work flexibly and I'm happy to discuss this when we next meet.

Before then, please download this guide to familiarise yourself with the possible options available.

Kind regards"

## What we learnt

Managers who received the behaviourally informed email were significantly more likely to send an email to their team about flexible working.

Managers in the treatment group were three times more likely to send an email to their team about flexible working and share the conversation guide. Of the managers in our control group, 1.8% sent the email compared to 6.1% of people in our treatment group ( $p < 0.001$ ).

This was a significant effect and showed that the behaviourally informed email was more effective in prompting managers to send the email. However, the results were based on a small number of occurrences (a total of 39 people out of 985 across both groups).

**Figure 5: Percentage of managers who sent the email to their team**

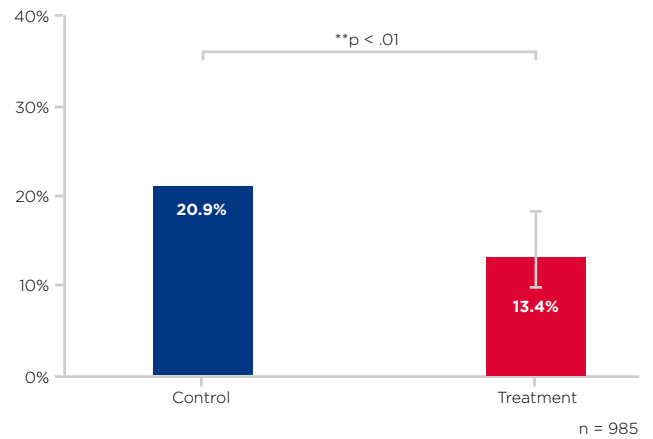


**Managers who received the BI email were significantly less likely to open the manager conversation guide.**

Managers in the treatment group were 7.5 percentage points less likely to click on the manager conversation guide linked within the email. Of the managers in the control group, 20.9% clicked on the link compared to 13.4% in the treatment group ( $p < 0.01$ ).

This unexpected result could be because the emphasis placed in the primary call to action (sending the email to their team) may have detracted from the second call to action (clicking on the link).

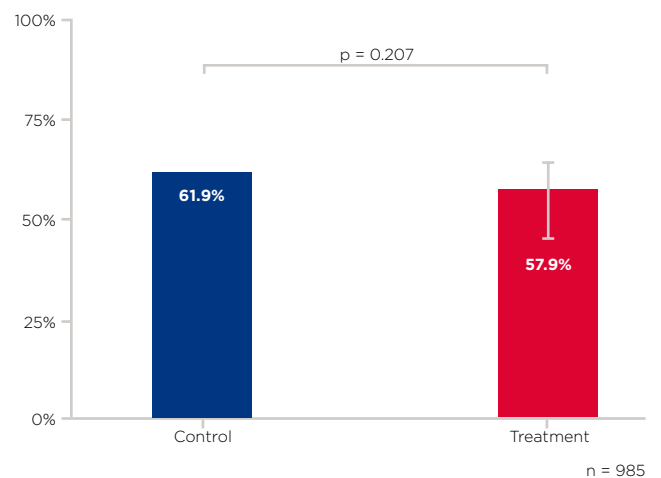
**Figure 6: Percentage of managers who clicked on the manager's guide**



**There was no significant difference in email open rates across the two manager groups.**

We did not detect a significant difference in the open rates across the two groups. 61.9% of managers in the control group opened the email compared to 57.9% in the treatment group ( $p = 0.207$ ).

**Figure 7: Percentage of managers who opened the email**



## Key insight

Our analysis showed behavioural insights techniques are effective at prompting managers to engage with staff about flexible work. However the low overall engagement of managers highlights the limitations of using email as a tool to trigger action.

When using email to ask managers (or any busy person!) to do something, we recommend you use behavioural insights techniques – but don't rely on email alone as your primary tool to drive behaviour change.

## Next steps

This research builds on previous research conducted by the BIU to improve flexible work practices – such as changing default settings in outlook, encouraging our managers to become 'flex work' ambassadors and running a team-based competition. You can read more about these interventions in our 2018 report.



# Supporting apprentice learners



## Increase employer support to boost apprenticeship completions

Completion rates for apprenticeships and traineeships have remained steady for years. In 2015, the NSW Premier set a State Priority to increase apprenticeship and traineeship completion from 50% to 65%.

The BIU worked with Training Services NSW (TSNSW) to support employers with low apprenticeship and traineeship completion rates. This included:

- a face-to-face meeting between TSNSW Advisors, learners and their supervisors to set goals and discuss commitment to contractual obligations
- fortnightly messages to employers and their learners to reinforce these aims
- a follow up phone call after three months to check on progress.

Twelve months after our intervention, we found no statistically significant results. Learners (apprentices and trainees) who received treatment were no more likely to stay in their contracts than the control group. Nevertheless, around 20% of learners who quit their first contract will keep studying. Our methods revealed a lag in cancellation or non-completion records and identified numerous ways to improve customer service through enhanced data collection and technology.

### Background

In 2010, the cost of NSW trade apprenticeship non-completion to the state and federal governments was \$91 million, and the total cost of non-completion including productivity forgone plus budgetary impacts was \$348 million (Deloitte Access Economics, 2011). Long-term data indicates that the overall completion rate is stable and potentially hard to shift.

Since late 2015, the BIU has worked closely with TSNSW to design and deliver a range of interventions to increase the proportion of people completing apprenticeships and traineeships.

We conducted 50 fieldwork interviews with learners, employers, registered training organisations (including TAFE NSW) and other stakeholders. This showed two key barriers to completions:

**1. Lack of employer support:** While some employers strongly support their learners, other employers lack the time, resources or skills to effectively supervise and mentor learners, leading to demotivation and lower completions. Learners spend 86% of their

time in the workplace (the other 14% at their registered training organisation, such as TAFE). Employers with low completion rates tend to be reluctant to invest time and training for their learners. This lessens the opportunity for the learners to apply the skills that they have learnt at work.

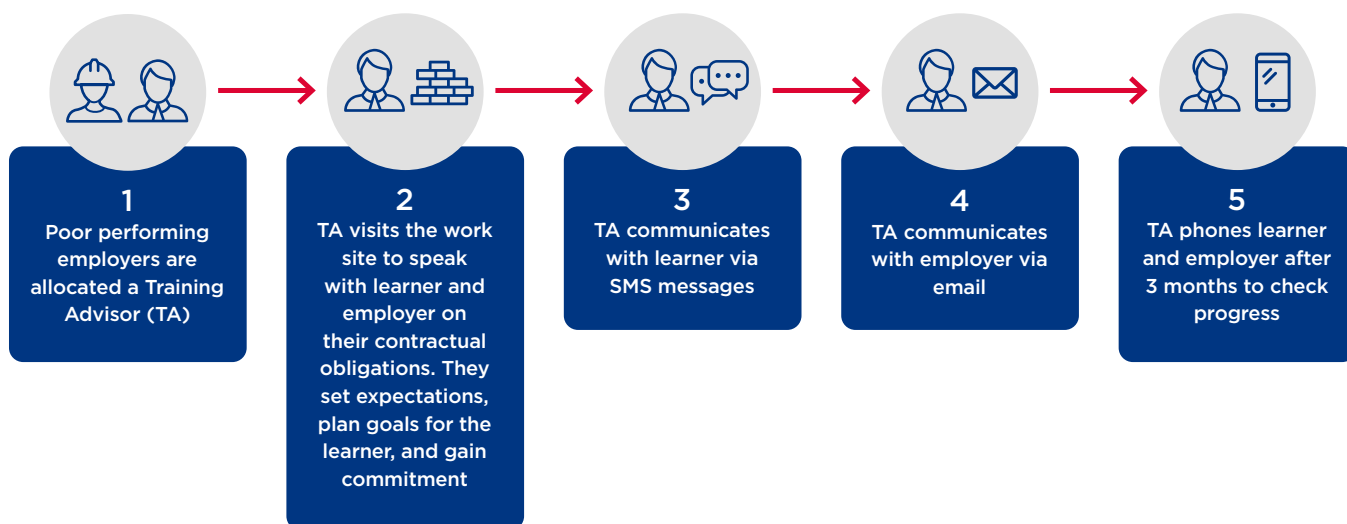
**2. Significant disconnect between study at TAFE and what happens at work:** At work, learners often do not communicate what they are learning to their employers. Consequently, employers do not value the training their learners received and do not give them a chance to practise new skills (BIU 2018).

We ran an RCT to test whether expanding support offered by Training Advisers (TAs) to apprentices and trainees (learners) with employers with historically low completion rates could improve completion rates. We hypothesised that this employer support would then increase the rate at which the learners completed their apprenticeships or traineeships. We focused on employers with low rates of completion over the past five years (below 42% completion; the NSW state average at the time being 47%).

We started with a sample of 343 employers which (along with their 2,229 learners) were randomised into two groups (treatment and control). Four months later we added 273 learners that had started working with the employers since the trial started. There were 1,975 learners in the final analysis, once we excluded learners who had cancelled their contract or completed their study before the trial started (that is, we lost around 20% of our sample by the time treatment began).

1. **Treatment (n = 906):** these employers and learners received an expansion of support offered by TAs, including:
  - a. One site visit from a TA to see all the supervisors and learners (to review contractual responsibilities and establish agreed-upon goals for learners).
  - b. Fortnightly communications for a period of three months encouraging them to persevere with the learners' goals and their mutual contractual obligations (text messages from the TA to the learner, and fortnightly emails from the TA to the learner's supervisor).
  - c. A final phone call three months after the site visit, to check on progress on the learners' goals, and troubleshoot any issues.
2. **Control (n = 1,069):** BAU. This included help already available to learners and employers who proactively request support, but no additional site visits, texts, emails or phone calls.

Figure 9: Behavioural intervention ('treatment')





## What we learnt

Our intervention had no impact on whether a learner stayed in a contract or completed their study during the contract.

Our primary measure was the 12-month retention rate of learners. We followed learners' outcomes by tracing the first contract they had already started at the time our trial began in November 2017.

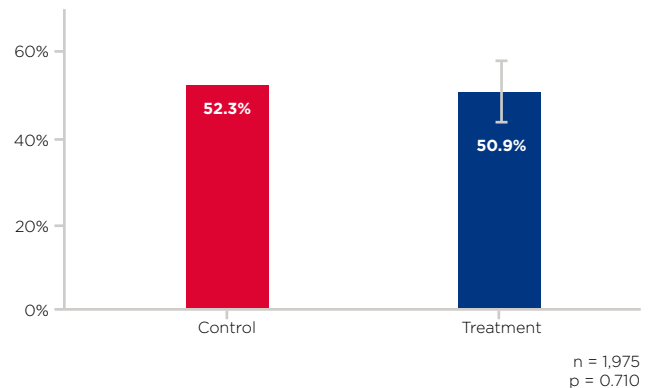
Figure 10: Sample of texts prompting goal attainment

Hi Lucy, it was great meeting you last week. This is just a reminder that if you need any help or have any questions I'm here to support you.

Hi Lucy, just a reminder that the work goal you have agreed to work on for this period is: 'always arriving on-time for work'. Thanks Levini

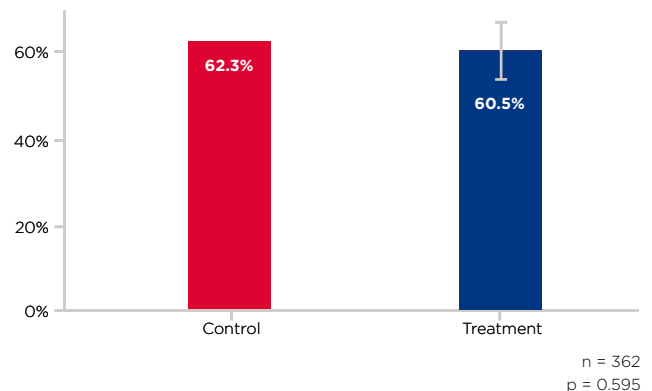
We found our intervention had no effect on the likelihood that a learner would complete their course or continue studying. Around 52% of learners in the control group were either still in their first employer contract when the trial ended (June 2018), or they had completed their course. Similarly, we found that around 51% of learners in the treatment group were still in their contract.

Figure 11: Percentage of learners who completed or stayed in their contract, by condition



**Our intervention had no impact on employer performance.** Looking at the level of the employer, for the control group, 62% of their learners had either completed or were still studying, compared to 60.5% of learners in treatment.

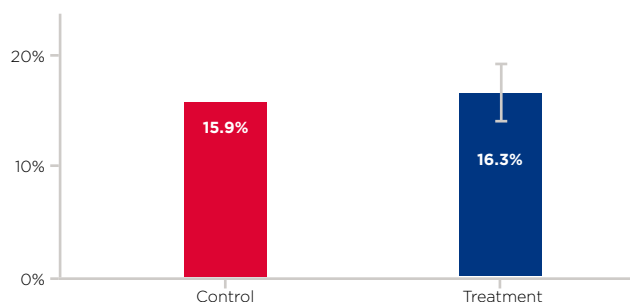
Figure 12: Rate of completion or staying in trial contract by employer, by condition



**Around one-fifth of learners who cancel a contract will go on to start a new contract**

A cancelled contract is not the end of a learner's journey, as 16.3% of learners in the treatment group went on to start a new contract after cancelling their first (and 15.9% of learners in the control group did the same).

**Figure 13: Percentage of learners who started another contract after cancelling, by condition**



Our trial methodology identified data and service delivery issues that may have impacted our results.

1. Learners who cancel their contracts tend to leave within the first three to six months of their first year. Our intervention started in November, meaning those who would have benefited most from the intervention had already cancelled by June. Without this trial, we could not have identified this issue of timeliness of support.
2. To reach optimum sample size to achieve statistical power, we included learners from first to third year. Given our trial subsequently identified most learners who cancel will do so in their first year, our sample is capturing a range of behaviours for learners at different stages.

TSNSW endorsed our trial recommendations, which included:

- sending timely messages within the first six months of the first year
- enhancing processes using technology, including improved data collection, analysis and auditing of cancelled contracts.

## Next steps

In line with our recommendations, in February 2019 we began testing an SMS intervention to encourage learners to proactively seek information and support when they encounter issues, instead of simply dropping out. This trial includes all first-year apprentices and trainees in NSW (n=13,100) based on the insight that learners tend to cancel in their first year without seeking help or notifying Training Services NSW.


## Interim results

For this trial, we are measuring completion rates as our primary outcome. Whilst final data is not yet available, we have found encouraging short-term engagement results. Two intervention groups are receiving messages with links to existing online resources on the TSNSW website as well as the option to call their local TSNSW office for further support (n=8,500). The Control group (4,600) receives BAU, which means no text messages, but they have the same access to the online resources and ability to phone the local office for support.

In the first half of 2019, we sent the two intervention groups three messages. This led to 4,400 clicks on links onto the TSNSW website for information on workplace rights and financial entitlements, plus almost 400 phone calls and a further 400 inbound text messages seeking help. The texts prompted students to tell TSNSW about a range of issues they would otherwise not have, such as unfair dismissal, lack of action on their learning plan, and financial assistance. We continued to message learners until the end of 2019 (a further three text messages) and are subsequently testing whether this engagement translates into completions.

05.

# Scaling

A close-up photograph of a hand placing a wooden block on a stack of two blocks. To the right, there is a taller stack of five blocks. The background is a soft, out-of-focus grey. The scene is set on a wooden surface.

BIU works to develop and test behavioural interventions that have the potential, if effective, to be scaled across Government.

5.1

## Rural and remote teachers



## Expanding social support for pre-service teachers in rural and remote NSW

Based on successful trial results in 2017-18, we continued to work with the Department of Education to scale these learning to have greater impact.

Schools struggle to attract and retain teachers in rural and remote (R&R) regions. Financial incentives are already used by government, such as salary bonuses, financial tuition, scholarships for pre-service teachers (PSTs), and more. Despite these efforts, the low rate of teachers in regional areas is an ongoing challenge, not just in Australia, but around the world.

We created a peer group experience to attract more PSTs to do their final year professional experience placements in rural and remote schools. We made it easier for PSTs by removing frictions (such as cumbersome sign-up processes) and introducing:

- Links to relevant information (the schools, towns and videos of teachers in the same region)
- Behaviourally informed communications emphasising the benefits of sharing the experience with a group of fellow PSTs
- An allowance to manage temporary accommodation and other living expenses.

Using these behavioural interventions at six NSW universities, we recruited 55 PSTs to go to geographically isolated schools, with 100% of them saying they would consider returning to rural and remote NSW to find full-time employment in the future.

### Background

Behavioural insights show that people are not just motivated by money. To complement the existing financial incentives, the Department of Education approached the BIU to encourage metropolitan PSTs to take their professional experience placements outside of metropolitan areas. Our previous fieldwork showed that PSTs were inclined to stick with what was familiar. It was too much work to organise temporary accommodation in order to do rural placements (which typically last six weeks). It was easier to stick to their current commuting and family arrangements (status quo bias). Some universities had additional friction costs, with cumbersome forms and processes to nominate an R&R placement or placing rural schools at the end of a long list (order effect). As a result, PSTs chose schools they knew more about in metro suburbs, over schools they knew less about in R&R NSW.

In 2017-2018, we ran three RCTs in partnership with the University of Wollongong (UoW), Macquarie University (MQ), and Western Sydney University (WSU). We showed that easy, low-cost behavioural interventions increased the uptake of R&R placements. All trials reduced friction during the placement process (simplifying application forms and changing the order of school options on placement software). Additionally, we tested:

1. **UoW:** Timely and personalised communications (behaviourally informed email, postcard and SMS reminders). This trial led to a statistically significant increase of PSTs taking up a R&R placement: 12.6% of treatment (15 students), in comparison to 4.2% of the control (5 students) ( $n=237$ ,  $p<0.0269$ ).
2. **MQ:** Simplifying research on placements (including hyperlinks to regions and schools), using a video testimonial from an influential messenger (a fellow student teacher sharing her experience in a R&R school), and the chance to go on placement

with a group. The result was not significant, however, a higher proportion of PSTs in treatment took up R&R placements (9.8% or 4 students) versus zero students in the control (0 students) (n=81, p=0.116).

- 3. WSU:** personalised emails, reminder texts and going with a buddy or a group of other PSTs to enhance student placement support and experience. The result was not significant, however, more students in treatment went on a R&R placement (4.6% or 7 students) in comparison to control (2.7% or 4 students) (n=302, p=0.374).

In late 2018, we began scaling these interventions at six of the 11 universities in NSW that offer initial teacher education. We worked to embed our behavioural insights approach as BAU with the three trial partners, as well as implementing these interventions at three new universities: University of Technology Sydney, University of Sydney and the University of New South Wales.

Figure 14:



**Be paid to do your professional experience placement in the Leeton/Yanco area of NSW**

Funding: \$500 per week for the duration of your placement with:

- > Yanco Agricultural High School
- > Coleambally Central School
- > Leeton High School
- > Narrandera High School

**Better together: You don't have to go alone**

**You'll benefit from going with pre-service teachers from your class**

Your peers can help you navigate the journey: support each other, share costs, learn together, have fun!

## What we did

We bundled our three trial interventions into a peer group experience (social support). We matched each eligible university cohort to a geographically isolated school in NSW. These schools experience the greatest socioeconomic disadvantage due to their location. Some of these schools had not hosted PSTs in many years. The Department of Education provided schools with peer mentoring and training to maximise their social support for PSTs.

Students were contacted using timely, personalised and behaviourally informed emails, posters and newsletters. Communications promoted the benefits of going to these schools as part of a group ('Better together: you don't have to go alone. Support each other, share costs, learn together, have fun!'). We included links to the schools, along with links to videos of teachers in the region, and other information about the town (local events and other attractions), and we provided estimates of travel time from their temporary accommodation to the schools.

We made it easy for students to nominate their interest in going to R&R schools through their online university portals and placement software. The Department of Education organised for principals, regional coordinators and previous student teachers to visit the universities, to answer PST student questions about the placements and towns.

Given the hassle of finding temporary accommodation in an unknown town, especially when PSTs still have to maintain their rent or mortgage payments, we removed this behavioural barrier with a \$500 weekly allowance from the Department of Education. This covered their rural accommodation (with some money left for other expenses). The Department coordinated group bookings, so students could live in the same apartment blocks and carpool to work, increasing their social support during their professional placements.

## What we learnt

In a period of six months, we recruited 55 PSTs to complete their final year placements at geographically isolated schools. Many of these teachers hadn't considered taking a placement in rural and remote NSW until we delivered our behavioural intervention.

We tracked the PSTs' clicks on the links we provided and found they had collectively clicked on 800 URLs, reinforcing the importance of making research on rural and remote regions easier for student teachers.

We received positive feedback directly from PSTs, who emailed with enthusiasm about their peer experience in rural and remote NSW.

'I had a fantastic experience, learning so much in a good school with welcoming staff and students. The placement also opened my eyes to the potential of teaching rurally in the future.'  
Student from the North Shore, metropolitan Sydney

The Department of Education additionally surveyed the PSTs and principals at the end of 2018. Seven of 12 principals offered the PSTs at their school a permanent role. Unfortunately, the students had already accepted jobs elsewhere, so the timing of the intervention is being reviewed in scale-up to increase the likelihood of PSTs accepting R&R roles. All PSTs said they would consider teaching in a rural and remote school over the next three years.

### Next steps

The Department of Education will continue to manage the scale-up and use the behavioural interventions with education faculties at other universities. The Department is also exploring an expansion of the scale-up into new faculties, as our behavioural insights are applicable to other professional placements in nursing, medicine and beyond.

*“One quote from a PST who went rural is, “It’s the best thing that has ever happened to me!” All have been overwhelmed by the support and welcoming that they have received from rural communities.”*

*- Department of Education, trial partner*

# Missed hospital appointments





## Scaling text reminders to reduce missed hospital appointments

In 2019 we supported Central Coast Local Health District (CCLHD) to implement and test behavioural insights informed SMS reminders to reduce missed appointments. This built on our work in 2016 with St Vincent's hospital.

### Background

Hospital outpatient clinics schedule appointments to assess, diagnose and treat patients who require specialised care, but don't need to be admitted to hospital. When patients miss these scheduled appointments, they miss out on important health care. However, no-shows also cause inefficiency and lost funding for the clinics – each missed appointment costs the hospital between \$125 to \$800.

In 2015 and 2016, trials by the NSW Behavioural Insights Unit and St Vincent's Hospital, and by the UK's Behavioural Insights Team and the UK National Health Service, tested behavioural insights informed reminders. These found that highlighting the specific cost of a missed appointment was particularly effective, reducing missed appointments by between 19 to 32%.



### What we did

In 2019, CCLHD and BIU partnered to implement and test BI reminders in Gosford and Wyong hospitals. BIU supported CCLHD to analyse clinic data and select trial sites, design the reminder intervention, implement the messages and evaluate their impact.

Again, we highlighted the specific cost of a missed appointment. The cost was updated to reflect the average cost of a missed appointment at Gosford and Wyong Hospitals, but was still gain framed to highlight the loss that could be avoided by the patient attending their appointment.

Figure 15:

We are expecting you at RNSH, Hand RNS on 20/01/2020 at 14:15. Reply Y to confirm, N to cancel, or R to reschedule. If you attend, the hospital will not lose the \$215 we lose when a patient does not turn up, and you can avoid a waitlist. If you have any questions please call us on 9463 1400.

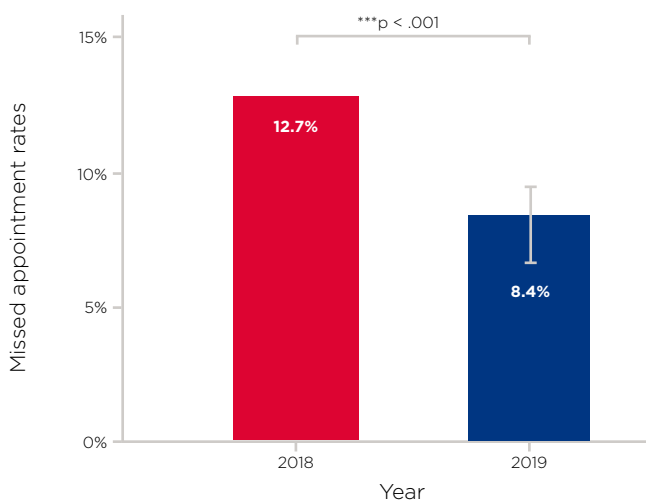
We collaborated with hospital staff, district staff and consumer (patient) panel representatives to adapt the wording based on local factors that could be influencing attendance. This included reminding patients to allow travel time, bringing test results and highlighting the personal loss to be avoided (a waitlist).

We ran a pre-post study for four months, where reminders were sent 7 days and 24 hours in advance of the outpatient appointments at ENT and Orthopaedic at Gosford Hospital, and Cardiac and Orthopaedic at Wyong Hospital. A total of 5,447 SMS reminders were sent. CCLHD chose clinics that were not undergoing any organisational or other changes during the study period.

## What we learnt

We analysed the missed appointments during the trial period and compared them against baseline data from the same period in 2018. At the end of the study, we ran a logistic regression analysis on the proportion of missed appointments. We found that the proportion of missed appointments when the intervention was in place from March to June 2019 was 4.3 percentage points lower than March to June 2018 ( $p < .001$ ). This was a 33.7% reduction in missed appointments.

**Figure 17: The intervention reduced missed appointment rates by 4.3 ppt (33.7%)**



\*Missed appointment rates = (total missed appointment / total planned activity) \*100  
\*ppt = percentage points

There are many other benefits to reducing missed appointments with BI reminders. Patients are still free to choose if they attend, but their increased likelihood to attend provides them with timely access to care and can potentially help reduce the risk of health issues arising. CCLHD also reported that the study improved clinic efficiency.

CCLHD's accounts team calculated the productivity benefits of the BI reminders to be \$119,606, across only four clinics in the district. Furthermore, since the study ended in June 2019, CCLHD has continued to use these SMS reminders at the four clinics. Between July 2019 to February 2020, CCLHD have experienced a 37.7% reduction in missed appointments at these clinics compared to July 2018 to February 2019.

### Next steps

As a result of the initial and ongoing success of the intervention, and benefits to both hospitals, clinicians and patients, CCLHD are now committed to scaling up this intervention across the district's 800 clinics.

*“This pilot initiative would not have been possible without the support and partnership of the Behavioural Insights Unit. CCLHD continues to scale BI reminders across the District and has received positive feedback from patients who appreciate the reminder and additional information.”*

- CCLHD Project Lead

# Capability building

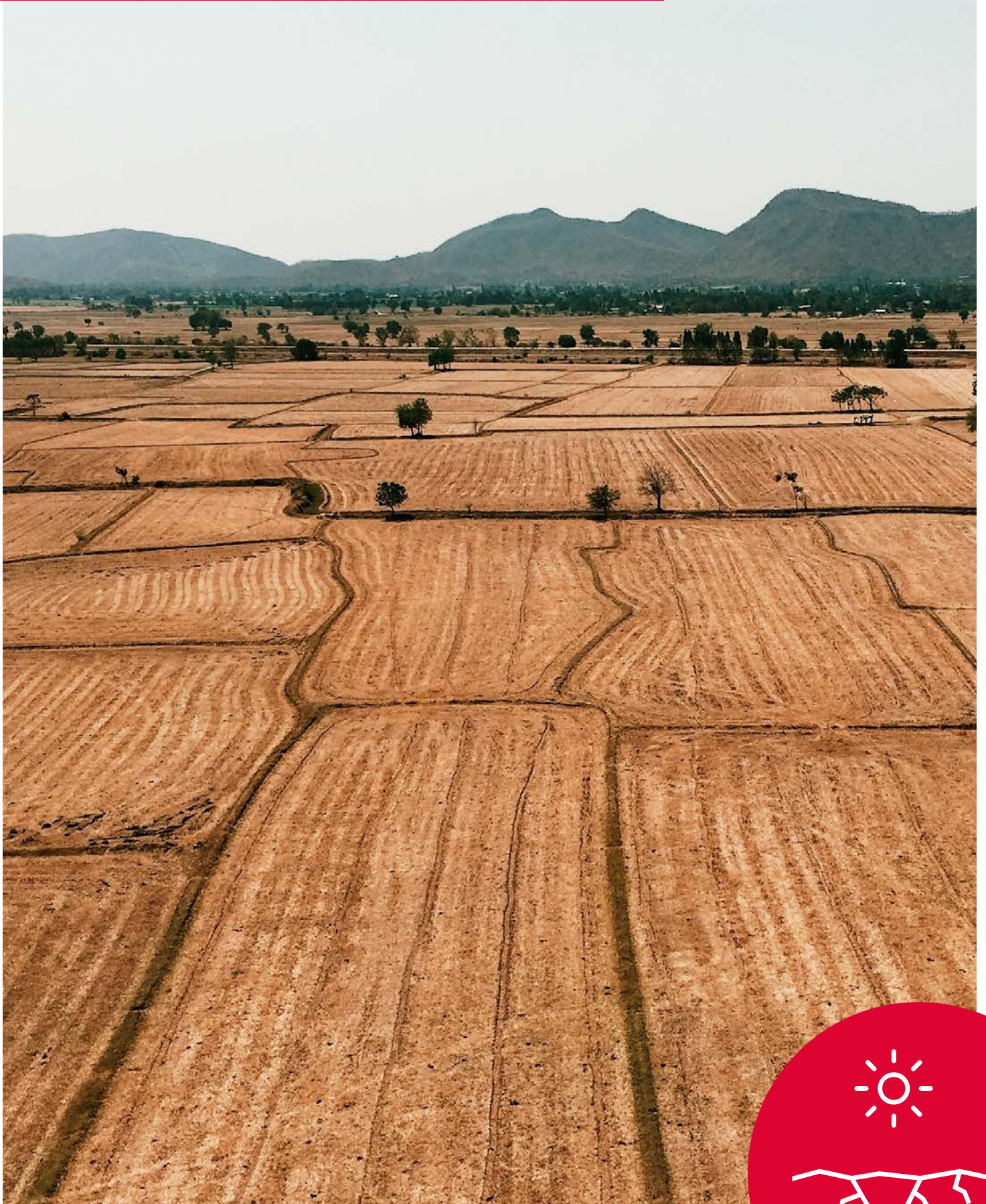


The BIU aims to see behavioural insights applied in everyday policy, program and service design. To deliver on this aim, we help NSW government agencies by **guiding them on how to develop and test behavioural science solutions.**

This includes a range of initiatives, from a rolling program of workshops and resources, to bespoke advice on high priority issues, to supporting agencies running their own behavioural insights trials.

6.1

# Drought assistance



## Making it easier for farmers to access drought assistance with Department of Primary Industries (DPI)

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In 2017, NSW started experiencing one of the most severe droughts on record. In response, the NSW Government announced a wide range of measures to support farmers impacted by drought conditions, including financial assistance. Recognising the enormous strain that farmers are already under, BIU partnered with DPI and made several improvements to the process, including:

- Making correspondence easier for farmers to engage with - by simplifying language, including clear calls to action, highlighting key information and setting expectations about future assistance.
- Making the online transport subsidy form easier to complete - by simplifying the language, adding examples of what was being requested, clarifying instructions and removing onerous steps.

As the drought persisted and water restrictions were introduced, BIU has worked with water authorities on strategies to promote water saving.



6.2

# Cutting energy bills



## Reducing energy costs for low income tenants with the Department of Planning, Industry and Environment (DPIE)

Upgrading homes with energy efficient lighting, heating, and hot water systems reduces energy costs and helps the environment. However, for rental properties, landlords are responsible for making capital investments, but tenants are responsible for paying energy bills. This creates a split incentive problem, leading to landlords underinvesting in energy efficiency measures.

DPIE wanted to help low income tenants save up to \$400 a year on their energy bills by addressing the split incentive problem. They designed a program which offers landlords a partial subsidy to make energy efficient upgrades to 20,000 homes. Despite this financial incentive, engaging landlords can be challenging so the project team looked to behavioural insights.

After attending a BIU workshop, the DPIE project team made several improvements to the program to maximise participation, including:

- Simplifying the application process - by conducting interviews and focus groups to better understand landlord and tenant perspectives, needs and barriers.
- Increasing the effectiveness of promotional material - by developing prototypes and collecting landlord and tenant feedback on the most attractive ways to present and describe the program benefits.

DPIE now plan to apply behavioural insights and human centred design to their other programs too.

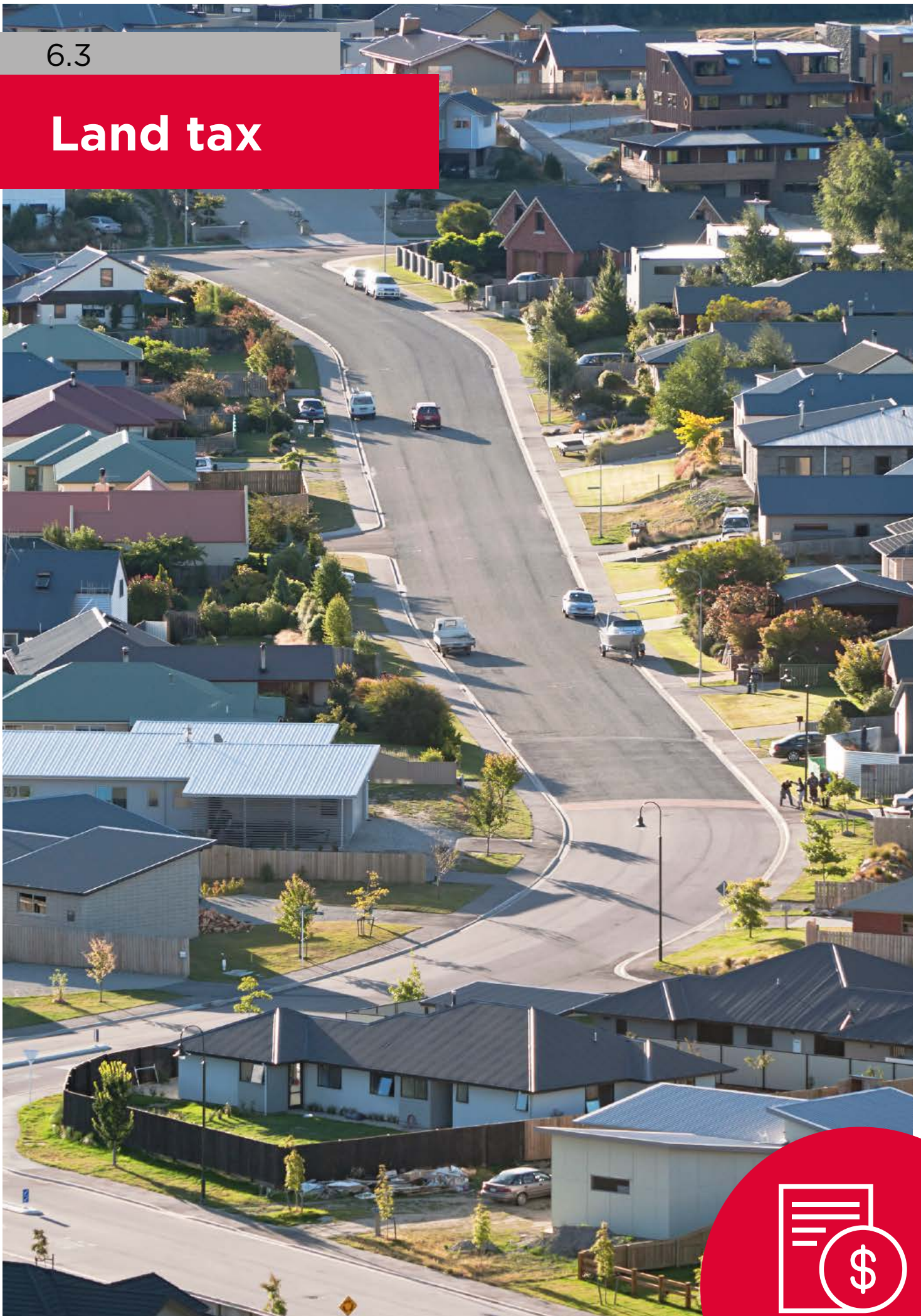


*“BIU gave us the skills and confidence to embrace continuous improvement and we are looking forward to using BIU’s guides across all of our work.”*

*- DPIE Project Lead*

6.3

# Land tax





## Encouraging customers to update their land tax details with Revenue NSW

Every year, people living overseas who own land in Australia need to pay the land tax surcharge. However, many people are not aware of this payment and how they can make sure they pay the correct amount. Revenue NSW wanted to increase how many people checked and updated their details to make sure they issued accurate notices of assessment.

BIU supported Revenue NSW to redesign their notification letters, with the goal of encouraging more people to log on to the land tax portal and check their details. The Revenue team spoke with their customers and identified some barriers to these behaviours, including:

- Some customers did not know they needed to update their details
- Some did not understand why it was important
- Some did not know how to update their details.

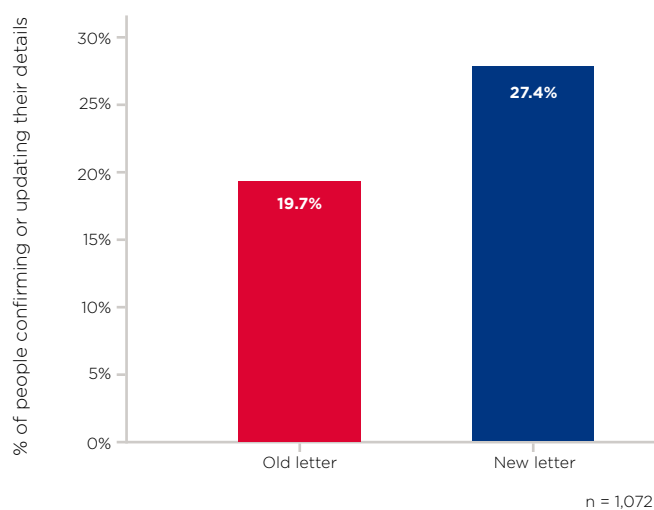
Based on these findings and research from behavioural science, the team redesigned the letter to:

- Include a clear call to action early in the letter
- Add short, step-by-step instructions for updating details including a direct link to the portal
- Make the incentives of updating contact details salient, for example “Lodging a return ensures you receive an accurate assessment.”

We helped Revenue NSW set up an RCT with 1,072 customers to test the new letter and see whether it affected the number of people updating their details.

Customers who received the updated letter were 39% more likely to log on and confirm or update their details (lodge a return).

**Figure 18: 39 per cent increase in people confirming or updating their details with new letter vs old letter**



These straightforward changes mean that Revenue NSW can ensure more people receive notices of assessment that correctly reflect their circumstances. By running the trial themselves, the land tax team at Revenue NSW will now be able to test future communications to make sure they are providing the best service for their customer.

6.4

# COVID-19



## Applying behavioural insights to support the NSW Government's response to COVID-19

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The COVID-19 pandemic has created an unprecedented global challenge. Whether it is washing hands, maintaining physical distance, working from home or seeking financial assistance, behaviour change is at the centre of the response to the virus. Given the need for large-scale behaviour change, insights from the behavioural and social sciences can be used to help align human behaviour with the recommendations put forward by epidemiologists and public health experts.

Throughout the COVID-19 pandemic, BIU has applied insights from the behavioural science literature to guide the NSW Government's response. We have provided advice to help communicate and test key messages, improve the presentation of data, get the most out of remote working and more.

For example, when restrictions first began to ease, we found that people were more likely to travel from home to work, but less likely to use public transport. As such, we considered how behavioural insights could nudge people towards active transport alternatives or to continue flexible working arrangements.

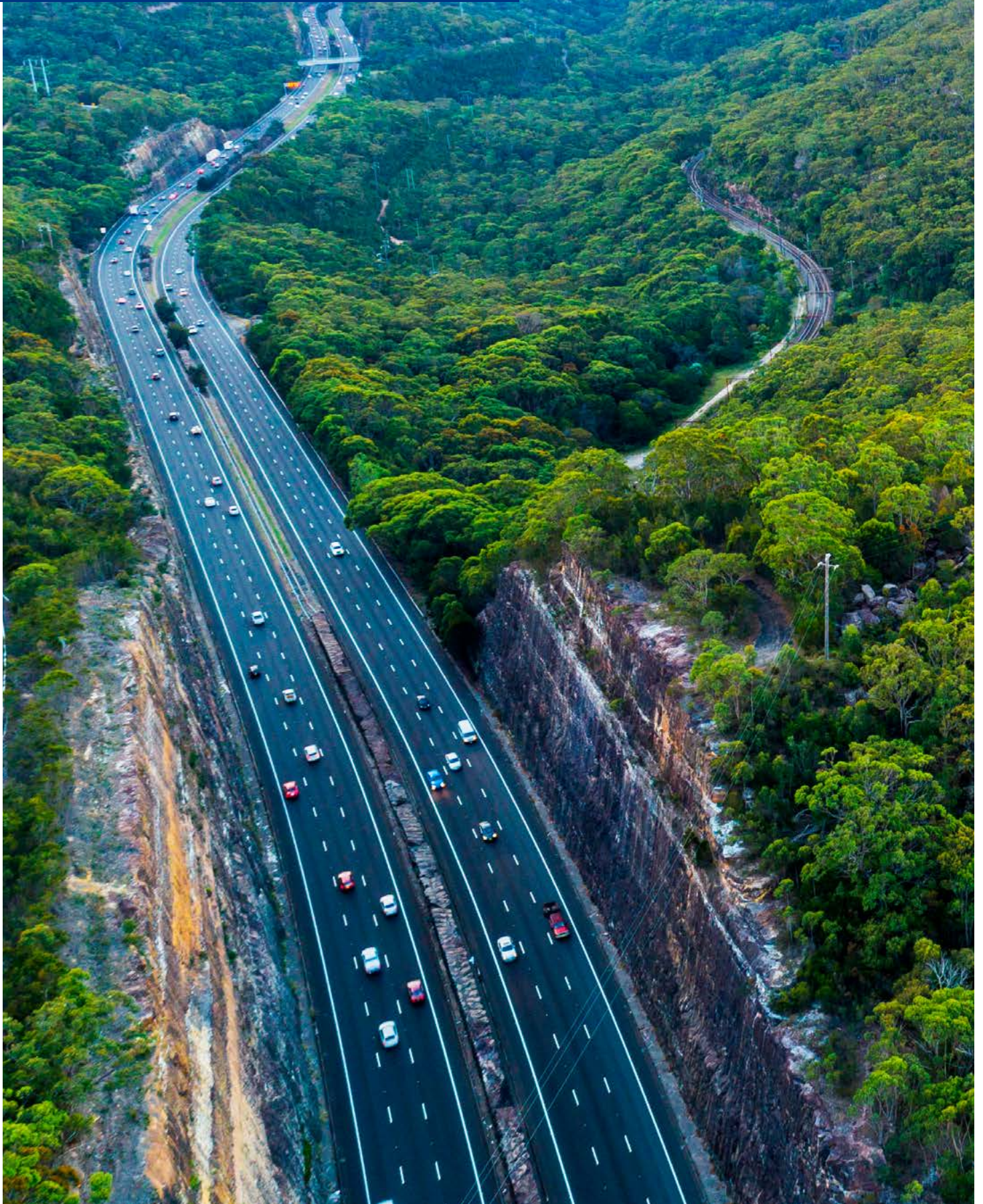
We also explored the role of risk perception in people's response to restrictions and likelihood to comply with prevention behaviours. For example, on average, women tend to be less tolerant of risk and will pick safer options than men. We used this insight to help design and test messages with groups of people who tend to be more open to taking risks.

We have worked closely with other behavioural insights units in the Commonwealth, Victorian and Western Australian Governments to share knowledge and ideas. We also leveraged this growing interjurisdictional network when the bushfires hit NSW earlier in the year and continue to find new ways of working together.

The effects of COVID-19 are still being felt across the community and will be for some time. We will continue to share our learning from the COVID-19 response through our normal channels.

07.

# What's next?



## Current projects

Below are some of the policy areas we are currently working on and results will feature in our next report.

Policy Area	Department
Increasing compliance with Apprehended Domestic Violence Orders among Aboriginal defendants.	Department of Justice
Increasing take-up of a tree planting initiative, in support of the Premier's Priority 'Greening our city'.	Department of Planning, Industry and Environment
Reducing adult reoffending, in support of the Premier's Priority 'Reducing recidivism in the prison population'.	Department of Justice
Using behavioural insights to support the ongoing Government response to the COVID-19 pandemic.	Various NSW Government agencies

## Opportunities

As well as our current work program, the BIU is actively shaping the future of the behavioural insights field. We are constantly exploring new opportunities to collaborate with other disciplines and tackle some of the most pressing challenges facing government today. We have summarised some of the most exciting opportunities we seek to explore in the coming 12 months.

### Data

In a world of increasing complexity, population growth and rapid change, strong data analytics is essential. Fortunately, the BIU is now closely aligned with the NSW Data Analytics Centre (DAC); a source of technical, methodological and practice expertise in whole-of-government data analytics. Like the BIU, the DAC champions data-sharing and collaboration for state-wide outcomes. By strengthening our partnership with the DAC, we hope to identify opportunities for more targeted interventions and push the frontier for behavioural science in Government.

### Customer Focus

A customer-centric government is one that recognises its people as customers and puts

them at the heart of decision-making. The NSW Customer Experience Unit sits alongside BIU in the Customer Service cluster and focuses on customer feedback, data and research to understand exactly what our customers need. This presents a valuable opportunity to converge behavioural insights with design thinking. While the design thinking process explores the whole user experience and end-to-end journey, behavioural insights often zooms in on specific moments of decision making. Behavioural design is where the two meet and is a promising area for us to explore; one that can help create more intuitive, effective and easy to use services.

BIU is also working to improve customer experience by reducing "sludge" across government. Sludge is any unnecessary friction that makes it difficult for customers to get or do what they want. Typical examples include lengthy forms, onerous eligibility requirements or complex regulations. By developing a standardised sludge audit process and toolkit, BIU will enable agencies to quantify levels of sludge and measure the impact of process improvements.

## Digitisation and personalisation

Digital transformation is a key priority for NSW Government, as rapid advances in technology are influencing how we work and how we deliver services to citizens. We are also monitoring emerging trends like customisation and considering how we can adapt our approach for a world where individuals design their own choice environments. With these and other emerging trends, we find ourselves questioning how we might adapt our work, including whether there is scope to deliver trials early and often, incorporate low fidelity testing or co-design interventions with customers?

## Cross-jurisdiction

BIU often transcends its NSW borders, and is keen to further develop its partnerships with other states and territories. Recent events such as the bushfires and COVID-19 pandemic have shown how BI teams across the sector can mobilise quickly and effectively to generate ideas and problem solve. We'd like to see this become the norm - working together on national issues and even applying behavioural insights to Government itself. It's time to seize the opportunities; from sharing trial protocols to supporting cross-jurisdiction replication. Together we can leverage our collective expertise and lead the way in behaviourally informed public services.

# Glossary

Term	Definition
<b>Avoided loss / loss aversion</b>	People dislike losses more than they like equivalent gains. Loss aversion refers to our tendency to try to avoid losses.
<b>BAU</b>	'Business as usual', and often how we refer to the control group in a trial.
<b>Control group</b>	The group of people who do not receive the intervention.
<b>Friction costs</b>	Small, seemingly irrelevant details can make a task more challenging or effortful. Removing friction costs can make it easier for people to complete a task or change their behaviour.
<b>Gain framing</b>	People can react differently to a message or choice depending on how it is presented. Gain-framed messages highlight the benefits of a particular behaviour.
<b>Incentives</b>	People sometimes act in a certain way just because they want to (intrinsic motivation), but sometimes our behaviours are driven by a desire for external rewards (extrinsic motivation). The way an incentive is presented can influence behaviour.
<b>Peak-end rule</b>	People judge an experience largely based on how they felt at its peak (most intense point) and at its end, rather than on the total sum or average of every moment of the experience.
<b>Salience</b>	People are more likely to respond to information that is novel, simple and accessible. Bringing important information to people's attention and presenting it in a salient way can have a strong influence on behaviour.
<b>Statistically significant</b>	Statistical significance is the probability of some result from a statistical test occurring by chance. Generally, we look for a probability of 5% or less, which means a 95% chance the results are not due to chance. When you read that the results of a trial were statistically significant, it means that you can be at least 95% sure the results are not due to chance.
<b>Status quo bias</b>	People are biased to prefer things to stay the same or stick to the status quo. Any change from the status quo is perceived as a loss.

## Find out more

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[behaviouralinsights@customerservice.nsw.gov.au](mailto:behaviouralinsights@customerservice.nsw.gov.au)

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