Applying Behavioural Insights to Return to Work

Report on the trial undertaken by the Behavioural Insights Unit, Allianz and the Department of Education

1st August 2016

EXECUTIVE SUMMARY

It is widely recognised that long-term absence from work is harmful to physical and mental wellbeing. Returning safely and quickly to work has strong benefits for the individual, their family, employer and the broader sustainability of the workers compensation system. In March 2013, the Department of Premier and Cabinet's Behavioural Insights Unit (BIU), the Department of Education (the Department) and Allianz (the Department's claims manager) agreed to undertake a joint-project to apply behavioural insights to the return to work process.

Fieldwork

Fieldwork, including workshops with staff, was undertaken to better understand the challenges faced by injured employees in returning to work after an injury. This identified that there was a large amount of paperwork and overlap between the responsibilities of different parties involved. Workers were also quite passive in the process, with 'Injury Management Plans' which set goals and actions, largely devised by the doctor, insurer and employer, with little active input from the worker.

Interventions

Drawing on the UK Behavioural Insight Teams' MINDSPACE and EAST frameworks, a suite of interventions was designed to create a more collaborative relationship between the worker, the Department and Allianz. The interventions focussed on six key areas:

1. simplification;
2. personalisation;
3. priming,
4. timeliness;
5. commitments; and
6. case conferences.

Staff were provided with training and coaching on how to use commitment devices, book case conferences and ways to focus more on building rapport and achieving outcomes.

Results

A trial was undertaken and ran from September 2013 and until July 2014, with the new approach applied to over 1,700 cases during this period. Initial analysis undertaken by PwC found that workers in the treatment group returned to full capacity 27% faster in the first 90 days compared to the control group. More detailed analyses undertaken by Allianz looked at the specific delivery model of the interventions. A survey of workers who had been through the return to work process was undertaken in late July 2014. The results show that workers who experienced the new approach found it to be clearer and easier to understand, more personalised and more empowering.

Implications

icare Self Insurance should actively disseminate best practice.

This study has identified six good practices that should be spread across portfolios and claims managers/scheme agents:

I. Simplify communications: The volume and detail of communications could be reduced, with any duplicated messages removed, in order to avoid overwhelming and confusing workers.

II. Focus messaging on return to work: All documents should be reframed to focus on returning to work and full health, rather than on injuries.

III. Empower workers: Encourage workers to take control of their recovery and return to work through the use of planning techniques, such as the use of personal commitments and goal setting.

IV. Focus on people not process: Case managers should provide personalised support targeted to workers as individuals. This may encompass the timing of phone calls and the types of communications.

V. Engaging Doctors is critical: Doctors should be actively engaged and incentivised to liaise with claims manager/scheme agents and employers throughout the life of a claim, particularly in the early stages.

VI. Develop the evidence base: More could be done to understand and disseminate the evidence on what works, in particular for different types of injuries and sectors.

The design and dissemination of legislation should be behaviourally informed

During our study we found that legislation and operational guidelines drive the everyday practices of case managers. When drafting and communicating legislation and case management guidelines, icare and icare Self Insurance should consider the principles listed above, and focus on building the frameworks to support individuals back to work and health, rather than on managing injuries and compliance.

The application of Behavioural Insights can be effective across injury types

Our initial hypotheses were that these interventions were likely to be more effective for simple physical injuries rather than psychological ones, but the data suggests that they are as effective for mental stress and body stress injuries.

Agency and employer deliverables should be aligned with Scheme return to work objectives and claims managers' performance measures

Having a common goal between all parties, including the claims managers and agencies is key to ensuring a partnership approach and results in speedier, more satisfactory outcomes.

A broad change plan is needed to implement behavioural insights practices

Dedicated and extensive training focused on communication, soft skills and cultural understanding, is required for both case managers and agency staff to embed real change. This can be aided by through having resources to help people return to work that are designed to complement the training.

Contents

Introduction

It is widely recognised that long-term absence from work is harmful to physical and mental wellbeing.[1] Returning safely and quickly to work has strong benefits for the individual, their family, employer and the broader sustainability of the workers compensation system.

In early 2013, the Department of Premier and Cabinet's Behavioural Insights Unit (BIU) began discussions with the NSW Self Insurance Corporation, now Insurance & Care NSW (icare) Self Insurance about opportunities to apply behavioural insights within the Treasury Managed Fund workers compensation scheme.

Following these discussions, the BIU approached icare Self Insurance's contracted Claims Managers at the time to find partners willing to test whether BI techniques could improve outcomes for injured government workers in NSW. This was an opportunity for a private sector scheme agent to lead the application of BI to return in work services in the public sector and to develop capabilities to help those in their portfolios.

Allianz took up this opportunity to explore a joint project with the BIU. Allianz identified its Department of Education[2] claims portfolio as the preferred area for an intervention owing to its large number of employees (and hence higher claims volume), geographical spread across NSW and mix of injury types. Consultations were held with the Department and agreement was reached to start a joint-project which would go live in the second half of 2013.

What are Behavioural Insights?

> Behavioural Insights (BI) draw on research from behavioural economics, psychology and neuroscience, to understand how humans behave and make decisions in everyday life[2]. Traditionally, many policies and programs have been developed with an underpinning in conventional economics, which assumes that people are rational agents always seeking to "self-maximise" in their decisions. By better understanding how people respond to different contexts and incentives, we can use BI to design and implement better policies and services.

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[1] Black, C. M. (2008). Working for a healthier tomorrow: Dame Carol Black's review of the health of Britain's working age population. The Stationery Office.
[2] We will refer to the Department of Education as the Department throughout the report to make the report clearer.
[3] Behavioural Insights Team (2014) EAST: Four simple ways to apply behavioural insights. London

Identifying opportunities for change

To apply behavioural insights to public policy a strong understanding of the context is needed[4]. This includes considering the return to work experience from the user (workers) perspective, mapping their journey from injury to claims finalisation, and identifying the opportunities in the process where the Department and Allianz can help the worker return to work faster.

Fieldwork and research was undertaken between March and July 2013. The BIU, the Department and Allianz agreed that fieldwork would focus on the first 30 days of a new claim. While this was partly influenced by resource constraints, this also reflected a desire to test whether improving interactions at the beginning of a claim could deliver sustained improvements.

Figure 1 Posterboard from Workshop with the Department and Allianz

BIU held workshops with Allianz Case Managers and the Department's Injury Management Advisors, and observed staff interactions with injured employees to understand the challenges faced by workers when returning to work. All communications sent during this period were reviewed. These ranged from the initial claim acknowledgement letter to the development of an Injury Management Plan on the 21st day of a claim.

From the fieldwork and the review of communications, a number of "behavioural bottlenecks" were identified. These were areas where the current practices did not fully support individuals to return to work. Many of these practices were industry-wide and/or mandated by WorkCover, rather than being specific to Allianz or the Department.

The main areas that were identified were: a duplication of information requests, unclear communications, a focus on workers being injured, overlapping responsibilities between the Department and Allianz, workers taking a passive role in their recovery and a focus on compliance. These are described in more detail below.

Duplication of requests for information

There was a degree of overlap and duplication in processes used by Allianz and the Department during the first 30 days of a new claim. For example, during the initial stages of the claim, Allianz and the Department are required to contact a worker's nominated treating doctor. The purpose of this contact was to gain required medical information for rehabilitation and claims administration and then develop

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[4] Haynes, L., Goldacre, B., & Torgerson, D. (2012). Test, learn, adapt: developing public policy with randomised controlled trials. *Cabinet Office-Behavioural Insights Team*.

an Injury Management Plan (Allianz) and a Return to Work Plan (the Department). This would assist the worker with their recovery and gather information to allow the fund manager to administer the claim.

As doctors are often very busy and have unpredictable work lives, they were frequently unavailable to speak on the phone. When the doctor is unavailable, written communications would be sent to the doctor from both Allianz and the Department. Often these communications would contain overlapping, or duplicate questions from both parties. This meant that doctors were being asked to waste time by answering similar questions many times. Gathering information by written communication also required a significant amount of unnecessary co-ordination between Allianz and the Department, as each party would obtain pieces of information piecemeal and would need to feed it back to the other. Had the communications been undertaken by phone, this would not have been the case.

Communications were not easy to understand

Throughout the first 30 days of a claim a worker is the subject of multiple communications, via mixed means, in order to ascertain further details surrounding their injury. Many of the communications sent to a worker contained blanket references to legislation and generally did not explain the reasons behind a decision in a way which workers could easily understand.

The behavioural science literature suggests that offering people a rationale for a request increases the likelihood that they will comply.[5] It also wasn't immediately clear what action workers were required to undertake in response to some of the communications they receive. For example, in line with Section 45 of the Workplace Injury Management and Workers Compensation Act 1998 (WIMA 1998), all workers were sent a letter should they met the legislative definition of being "significantly injured". However, the 'significant injury letter' did not outline what being deemed 'significantly injured' meant for the worker's claim or what the worker needed to do next. As described in the next section, this piece of communication was removed from the process, as neither of these questions could be answered and the letter was only sent as the legislation stated that a person who has been out of work for longer than 7 days would be considered significantly injured. It was of no benefit to the worker that they received this letter and was likely to be to their detriment.

Communications were often quite long and included information that could either be removed or given a less salient position in the letter. For example, letters sent to workers after the Department or Allianz had been unable to make contact included long descriptions of rights and roles as outlined by legislation. Although important, there was a risk that the desired response, to get the worker to contact their case manager, was lost when so much information was provided. There is a wealth of research that indicates

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[5] Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of" placebic" information in interpersonal interaction. *Journal of personality and social psychology*, *36*(6), 635.

that simpler communications written in plain English are more effective in getting people to respond or change their behaviour.[6]

Focus on worker's 'injured' state

Communications sent by both parties often reinforced that the worker was injured and should focus on managing their injury. Emphasising that workers are injured is likely to create or embed the belief that their status as being injured defines them.[7] This is likely to lengthen the time in which they are injured. This could be seen in the 'Injury Management Plan', which contained a long retrospective section detailing the circumstances under which the worker was injured. Communications were not personalised, with sympathy was expressed in terms of a commitment from the Department to support its staff rather than the individual worker's circumstances.

Overlapping responsibilities

It was determined that there was scope to maximise the efforts of each party, removing duplication and further improving collaboration between the two. For instance, both parties would individually send a claim acknowledgement letter to the worker following claim lodgement. These did not reference each other and treated the claim in isolation. For the worker, it wasn't clear what role each party would play in their recovery. The old claim acknowledgment letter was replaced with a new letter which was jointly sent by both parties.

Passive role of workers

Generally, workers were found to have a largely passive role during the recovery process. The behavioural literature has shown that this is likely to be detrimental to their return to work. For example, Osbaldiston and Sheldon looked at the effect of autonomy on performance and found that people who believed that the authority figure who gave them more autonomy performed better and predicted task perseverance[8]. The conclusion drawn from this study was that people who have ownership over their goals are more likely to try harder and longer. By having claimants seek their own goals with guided coaching from Allianz Case Managers and the Department's injury management staff they are more likely to persevere with them. Similarly, self-efficacy has been shown to be very important in returning to work and workers should be coached to help them build their self-efficacy[9].

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6 Behavioural Insights Team (2014) EAST: Four simple ways to apply behavioural insights. London Michie, S., & Lester, K. (2005). Words matter: increasing the implementation of clinical guidelines. Quality and Safety in Health Care, 14(5), 367-370

7 Dweck, C. S. (1986). Motivational processes affecting learning. American psychologist, 41(10), 1040.

8 Osbaldiston R, Sheldon KM. Promoting internalized motivation for environmentally responsible behavior: A prospective study of environmental goals. Journal of Environmental Psychology. 2003;23(4):349-57.

9 Caplan RD, Vinokur AD, Price RH, Van Ryn M. Job seeking, reemployment, and mental health: a randomized field experiment in coping with job loss. Journal of applied psychology. 1989;74(5):759-69.

In the return to work process, the development of an Injury Management Plan was predominately developed by Allianz, the Department, and the treating professionals with little to no active input from the worker. This passive role could result in workers feeling disempowered in their recovery.

Compliance focus

During the initial discussions about claim liability and return to work planning, case managers start to establish a relationship with the worker and set expectations that will drive, or put at risk, the workers' return to work.

The fieldwork undertaken by the BIU indicated that Case Managers and Injury Management Advisors tended to focus on meeting compliance milestones or performing a set of injury management steps during these initial discussions. This is understandable in light of legal and/or compliance requirements as well as the caseloads that individual staff manage -which can be upwards of 60 claims. Achievement of these milestones, however, was not always what was best for the worker. For example, staff would attempt to contact a worker three times over three days before sending out a letter. Although this appears a reasonable approach, in practice staff would not always be focused on identifying the optimal time to call (e.g. calling when a teacher is in class and cannot answer).

Lessons from overseas

The BIU looked at how international practice in related fields, such as the Behavioural Insights Team's (BIT) work with Jobcentre Plus in the UK, which examine new ways of helping unemployed people back into work more quickly.

In this trial the BIT redesigned a range of different processes, focusing in particular on:
- Redesign of the initial contact with Jobcentres, so that initial work-focused conversations happen much sooner (sometimes weeks before they would have otherwise taken place);
- Developing new tools which seek the active commitment of job seekers to engage in specific activities, linked to aspects of their daily routines ('commitment devices'), and offering greater stretch; and
- Building resilience and motivation of job seekers, for example by breaking down the process of finding work into manageable steps and enabling job seekers and advisors to understand their individual strengths.

The results from this intervention were very promising, with people in treatment 8-10% more likely to be back in work within 13 weeks.[10] This approach has now been rolled out across the UK.

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[10] Behavioural Insights Team. (2015) The Behavioural Insights Team Update Report 2013-15

Building interventions

The research and fieldwork highlighted opportunities where the processes used by both Allianz and the Department could be optimised using Behavioural Insights. This approach reduced the paperwork that workers were asked to fill out and focused more on the specific actions each of the parties would take to support the employee's recovery and return to work.

Aim

To use BI techniques and approaches to better support the worker to take ownership of their recovery and return to work earlier.

Trial interventions

Drawing on the BIT's MINDSPACE and EAST frameworks[11], a suite of interventions were designed to create a more collaborative relationship between the worker, the Department and Allianz. The interventions focussed on six key areas: simplification; personalisation; priming, timeliness; commitments; and case conferences.

1. Simplification

All written communications with workers were simplified, so that key messages were more prominent, making it easier for workers to understand their key responsibilities as well as those of their employer and insurer. The total volume of letters was also reduced by removing duplication. We also removed a requirement for workers to send back a written authority for Allianz to act on their claim to meet privacy requirements instead providing relevant information within existing letters (i.e. removing the hassle factor).

For example, a joint acknowledgement letter, co-branded from Allianz and the Department, replaced the individual letters. This new letter:

- Merges two letters into one, reducing duplication
- Expresses support and sympathy for the worker
- Makes it clear who the worker needs to contact and why
- Focuses the worker on the outcome of returning to work
- Makes it clear what the worker needs to do to progress their claim

Figure 2 The new joint acknowledgement letter

[11] Dolan, P., Hallsworth, M., Halpern, D., King, D., Metcalfe, R., & Vlaev, I. (2012). Influencing behaviour: The mindspace way. *Journal of Economic Psychology*, *33*(1), 264-277.

2. Personalisation

All communications featured greater personalisation to increase the worker's feeling of ownership. For example, the Return to Work Plan was personalised to the worker's name, e.g. "Peter's Recovery at Work Plan". The Department and Allianz staff were also provided with training and one-on-one coaching to enable them to focus more on building rapport and achieving outcomes through personalising the service they provided, rather than satisfying process requirements and procedures founded in compliance rather than personalised relationships.

3. Priming for recovery

Consistent messaging on recovery at work was adopted in all forms of communication, rather than focusing on "injury management". For example, the liability letter states plainly that the goal is to "help you get back to health and work as quickly and safely as possible", and provides a time frame in which most people with their type of injury recover to give them a benchmark that they should aim for.

> Our goal is to help you get back to health and work as quickly and safely as possible. Most people with a [insert injury type] injury return to work in [insert number] days, but we understand that everyone recovers at different rates, so we will continue to work with you to develop your personal work and health plan.
>
> This plan outlines the steps needed to get you back to health and work and is agreed by you, your doctor, your employer and me.

Figure 3. Extract from liability acceptance letter

Negative priming through the blanket use of legislative terms such as "significant injury" was removed. Further, the Injury Management Plan was renamed the Work and Health Plan (Allianz) and the Department's Return to Work Plan was renamed to the Recovery at Work Plan to move away from the focus on injury management in favour of recovery.

4. Timeliness

Staff members were encouraged to send out the Recovery at Work Plan at day 5 and the Work and Health Plan at day 10, instead of the scheme guideline of 10 and 21 days. The intent was to provide workers with their recovery plan as soon as possible to promote a return to work focus and the earliest possible return.

While it was acknowledged that staff may not always be able to meet these deadlines (e.g. information may have been missing), the aim was to anchor staff to these timeframes so that any departures would use this reference point rather than the standard practice. Anchoring has been found to have an effect on

both self-efficacy and task persistence, with people who are given a low anchor being significantly less self-efficacious and persistent than people who were given no anchor at all.[12]

5. Nominated Treating Doctor Case Conferences

Case conferences between the Department, Allianz, and the nominated treating doctor were used to improve information flow and reduce the duplication caused by both Allianz and the Department engaging with the Doctor during the initial stages of a claim. Allianz staff members were already using injury management guidelines to assist the setting of an accurate return to work date with the worker and were encouraged to also use these guidelines with the doctor. Case conferences were used three weeks after the claim had been opened.

One of the treatment groups (the joint Allianz and the Department group), replaced this process with a joint teleconference between Allianz, the Department and the treating doctor within the first five days of the claim. This addressed barriers or issues preventing return to work at the outset of the claim and allowed return to work expectations and commitments to be established. This case conferencing model also allowed early access to the doctor, enabling Allianz and the Department to outline the availability of suitable duties, discuss pre-injury functional demands, outlined support for recovery and work and gain valuable medical feedback to enhance return to work planning in the development of graded return to work plans.

The Injury Management Advisors from the Department would schedule the case conference to show the employer's support of the worker's recovery and hopefully result in an increased uptake in case conferences being allowed by the doctor and their staff members. Training sessions were held to assist the Department's and Allianz's staff members to understand how they could make this method of communication attractive to the doctor and gain their agreement.

Should the doctor opt out of the joint case conference or not be available, a joint fax to the doctor was sent, rather than Allianz and the Department both sending requests for information resulting in duplication and increased administrative load for all.

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[12] Cervone D, Peake PK. Anchoring, efficacy, and action: The influence of judgmental heuristics on self-efficacy judgments and behavior. Journal of personality and social psychology. 1986;50(3):492.

6. Commitments

To encourage workers to actively take ownership of their recovery, they were asked by the Injury Management Advisors to make active, personal commitments to support their return to work, for example "I will walk for 30 minutes after breakfast on Mondays and Thursdays".

[name]'s Goal and Actions	
Return to Work Goal	I want to return my pre-injury duties and pre-injury hours within 3 weeks
Action 1	I will walk for 30 minutes on Monday, Wednesday and Friday evenings after dinner
Action 2	I will complete my daily rehab exercises before breakfast
Action 3	I will contact my Manager each Monday

Figure 4: Extract from Work and Health Plan

As many people do not follow through on the actions that can lead them to their goals, commitment devices have been shown to support them in following through on actions[13]. These commitments were made to the workers' Injury Management Advisors or Case Managers and then published injury management documentation, which meant that the worker became socially motivated to remain consistent with their promises.

In the joint treatment group, the commitments were made by workers with staff members from the Department. These would be included in the Return to Work Plan and would then be passed on to Allianz for use in the Work and Health Plan, also ensuring consistency. Case managers and Injury Management Advisors also regularly checked on the workers' progress and updated their commitments with the worker on a regular basis. In the Allianz only treatment group, Allianz was responsible for commitment discussions with the worker.

Commitments were obtained from the worker during a telephone conversation after which the worker was encouraged to write them down when they received a hard copy of the plan. The act of writing it down was seen as important, as this is believed to increase the likelihood that it is upheld.[14] Both Allianz and the Department staff members were trained in altering their communication style to obtain these commitments and were encouraged to ensure that they were specific, proactive, and achievable.[15]

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[13] Cialdini RB. Influence: Science and practice: Allyn and Bacon Boston, MA; 2001. Gollwitzer PM, Sheeran P, Michalski V, Seifert AE. When Intentions Go Public. Psychological Science. 2009;20(5):612-8.

[14] Dolan, P., Hallsworth, M., Halpern, D., King, D., Metcalfe, R., & Vlaev, I. (2012). Influencing behaviour: The mindspace way. *Journal of Economic Psychology*, *33*(1), 264-277.

[15] Gollwitzer, P. M. (1999). Implementation intentions: strong effects of simple plans. American Psychologist, 54(7), 493.

Trial design

The trial went live in September 2013 and ran until July 2014. The new interventions were implemented by Allianz and the Department through three trial groups:

1. Treatment delivered by Allianz only
2. Treatment delivered by Allianz and the Department
3. Control

The trial region covered the Sydney region and the NSW North coast. The majority of the cases came from the Sydney region. The trial took the form of a natural experiment rather than a randomized controlled trial. The allocation of treatment and control was undertaken pragmatically with some case manager teams within Allianz being allocated to the single treatment group (Allianz only) with others being allocated to the joint delivery treatment or the control group. These groups each dealt with different geographical regions. This means that it is likely that there are some confounding variables.

These confounds could either relate to:

1. The population being treated
2. The time in the year at which the treatment was delivered
3. The case managers delivering the treatment

Monitoring for compliance

Allianz and the Department developed tools and resources to ensure compliance by the trial teams around the application of the new processes. They allowed project managers to develop solutions for implementation issues that the trial teams raised. These tools and resources included:

Weekly tracker

A weekly tracker was jointly completed by Allianz's case managers and the Department's injury management staff members. This ensured all the new processes were followed and if this was not the case, the information was fed to other staff members.

Refresher training for the trial teams

Extra training sessions were carried out during the trial period to: provide an open forum for questions to be raised; solutions to be co-designed within the teams; and to share good practice. These forums also provided opportunities to celebrate successes from the trial and increase staff members' engagement with their work and morale.

Collection of individual feedback

Staff members in the trial teams were encouraged to give regular feedback. This allowed the BIU and the management in the Department and Allianz to monitor and support any staff members with any identified gaps in their skills and competencies.

Random audit

Random audits were undertaken to ensure all elements of the new processes were adhered to and individualised feedback session provided to address identified gaps in competencies.

Results

Impact on finalisation and return to work

The trial ran from September 2013 and until July 2014, with the new approach applied to over 1,700 cases during this period. Multiple rounds of analysis were undertaken by PwC and later by Allianz. The most comprehensive analyses are reported here.

PwC Analysis

The analysis undertaken by PwC found that workers in the treatment group returned to full capacity 27% faster in the first 90 days compared to the control group.

In addition, employees in the trial were nearly 3 times more likely to have resolved their claims within 30 days, which has flow on benefits in terms of reducing costs and allowing staff members to focus on more complex claims.
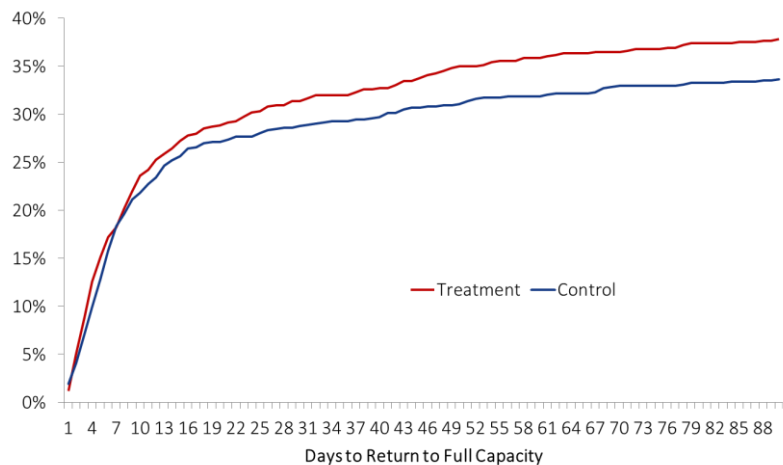

Figure 4 Return to Work rates between treatment and control groups

Workers returned to work 17% faster in the first 150 days following injury when included in the treatment group. This is highly encouraging as it shows the new approach had continued benefits for injured employees even though the initial focus was on the first 30 days.

Allianz Analysis

Follow up analysis was undertaken by Allianz to adjust for any potential biases in the data that might have resulted from differences in the performance prior to starting the trial. The analysis additionally split the treatment group to investigate the impact of the treatment delivered by Allianz alone and the treatment delivered by Allianz in combination with the Department.

This analysis found that there were significant differences between the performance of the treatment and control groups before the trial started, both in terms of their finalisation and return to work rates. The focus was therefore on the performance gains produced as a result of the behavioural insights trial.

Overall, both treatment groups outperformed the control group with regards to the finalisation rate. This can be seen in Figure 5, which shows the increased probability of a claim finalising in the first 150 days following an injury relative to the elapsed time since the injury date. The results showed:
- In the first 150 days, claims that were in the Allianz only treatment group during the trial were 3 times more likely to finalise than claims in the Allianz only treatment group before the trial.
- In the first 150 days, claims that were in the Joint treatment group during the trial were 2.7 times more likely to finalise than claims in the Joint treatment group before the trial.
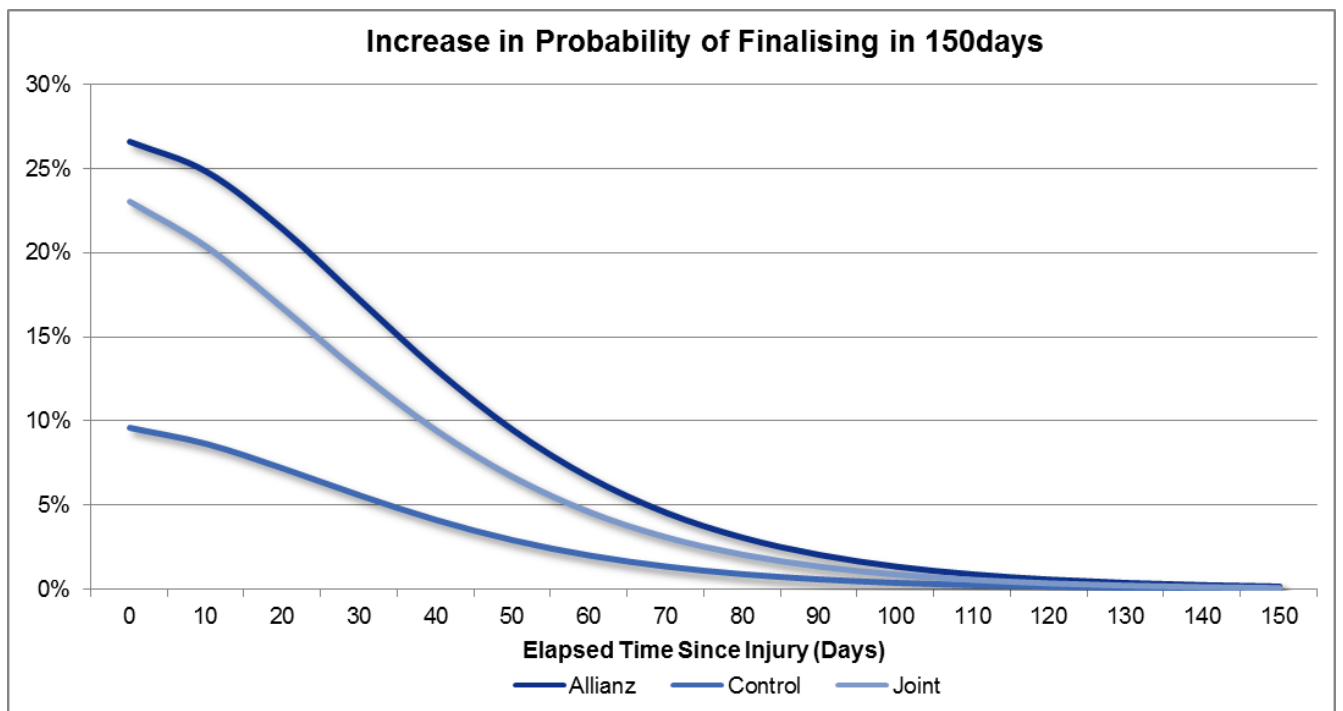
Figure 5: The increased probability of a claim finalising in the first 150 days when comparing pre-trial results to trial results.

The same analysis was undertaken to investigate whether or not the treatment had an impact on the likelihood that workers returned to work as opposed to finalising their claim, within 150 days. 90% of claims returned to work within 150 days. As such the volume of claims not returning to work was insufficient to understand the impact of the treatment groups. To completely understand the impact of

the Allianz and Joint treatment groups the probability of a claim returning to work in the first 45 days was considered.

Both treatment groups recorded improvements in the return to work rates relative to the control group. This can be seen in Figure 6, which shows the increased probability in a claim returning to work within the first 45 days following the date of injury relative to the elapsed time since the injury. The results showed:

- Claims that were in the Allianz only treatment group during the trial were 3.7 times more likely to return to work in 45 days than claims in the Allianz only treatment group before the trial.
- Claims that were in the Joint treatment group during the trial were 3.6 times more likely to return to work in 45 days than claims in the Joint treatment group before the trial.

Figure 6, reveals that the greatest gain from the Allianz and Joint treatment groups is achieved by approximately 35 days post injury.
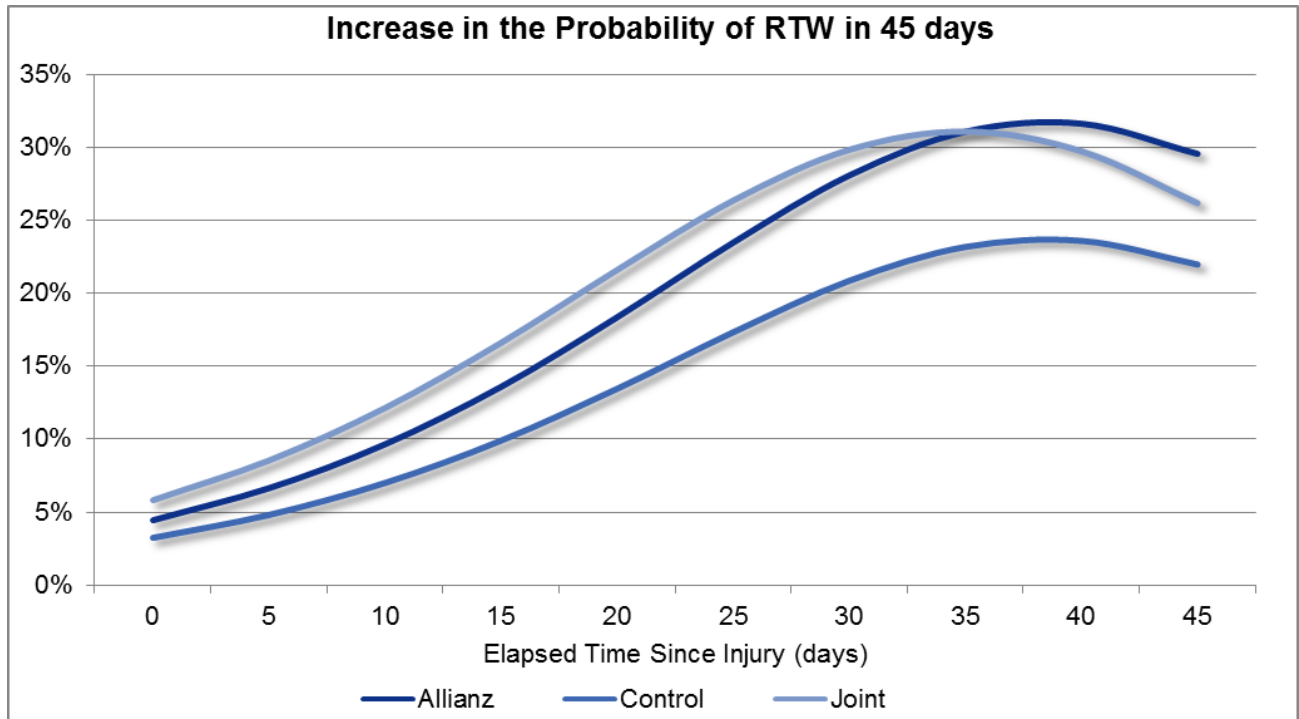
Figure 6: The increased probability of a worker returning to work in the first 45 days when comparing pre-trial results to trial results.

Impact of type of injury

Both the finalisation and return to work models were tested to see whether the Allianz Only and Joint treatment groups were more effective on a particular injury type. The initial hypothesis was that the Allianz Only and Joint treatment groups would be more effective on physical injuries than psychological ones. This hypothesis arose from the expectation that outcomes for physical injuries are easier to influence in general.

Both the finalisation and return to work modelling showed that the injury type, in combination with either the Allianz Only or Joint treatment groups did not explain any more of the variability in the results. This lack of significance led to the injury type being dropped from the final models presented above. This indicates that the treatment was equally effective across types of injury; contrary to our expectation.

Workers' feedback

A web-based survey of 354 workers who had been through the return to work process was undertaken in late July 2014. The results show that workers who experienced the new approach found that it:

- was clearer and easier to understand, particularly the roles of their employer and insurer
- better explained their rights and obligations and the support available to them
- more personalised
- gave them greater control of their recovery

The graph below shows how workers felt that the new processes were significantly more personalised to their needs. The annex shows the other results from this analysis.

1=Not personal at all.
7= Very personal
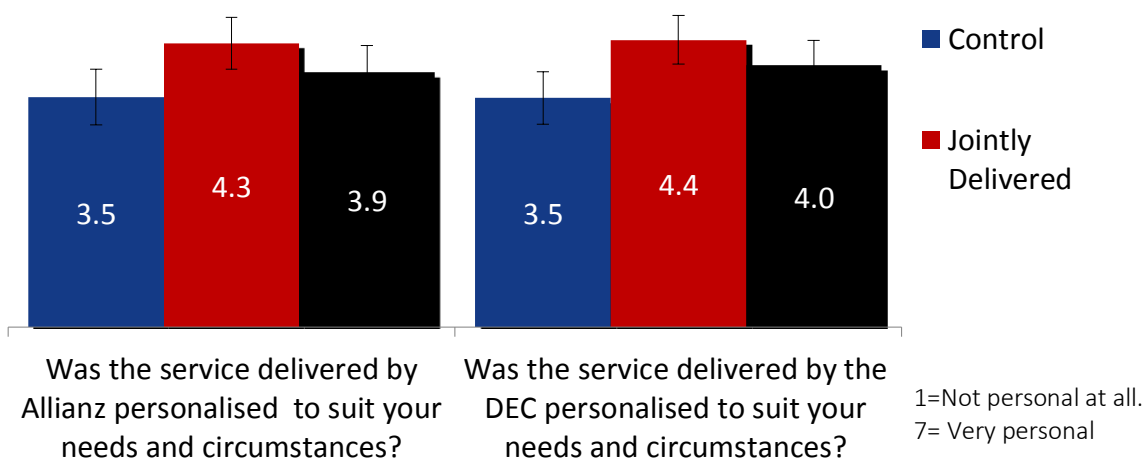
Staff feedback

Feedback was sought from staff members throughout the trial. This was used to investigate whether the modifications made during the study were working as intended and to test whether staff felt more engaged with their work after the introduction of these new processes. This was collated at the end of June 2014, and debriefing workshops were conducted to gather final feedback. The final feedback indicated that staff felt the trial led to an increased partnership between Allianz and the Department staff members.

For those staff members involved in the joint treatment group, the implementation of the case conference at the initial stages of the claim reduced the amount of follow-up between Allianz, the Department, and the treating doctor to clarify capacity and the provision of suitable duties. Staff members commented that doctors responded well to the Department booking the case conference, as it showed that they were supporting their employees. Allianz staff members stated in their final feedback session that it was valuable to have the Department involved in the case conference, and commented that it presented a unified approach to workers.

A common theme across both trial groups was that workers were more engaged in the process. Case managers found that they had changed the way in which they gathered information from the worker. This resulted in them in asking questions with a different approach and noted that the workers were more likely to discuss their capacity and recovery. As the trial progressed, and their confidence in asking for commitments increased, they found that worker's responded positively to the application of the commitment device.

*"I'm noticing from my conversations with workers that they actually give us some great information that we can use as goals and actions without even asking for them, we just need to listen more. The new process has really opened my mind and ears up to what these workers say and how we can work with them." – **Allianz case manager involved in the joint treatment group.***

*"I went to the doctor's yesterday to review my WorkCover situation and I'm feeling a lot more confident and comfortable around the students again…I want to go back to full duties from the beginning of the term. Thank you so much for all your support over the last month and a half; it makes a world of difference to me and my recovery to being 'me' again." - **Worker.***

The updated communications also received positive feedback from both staff members and workers. The new jointly delivered claim acknowledgement letter was well received by workers. Workers found this information useful, and that it reduced confusion in the initial stages of a claim. Staff members commented that the liability letters were easier to write and resulted in consistent delivery of information.

Key challenges

IT system limitations

In the trial, the modified documents used in this trial were not always easily uploaded into Allianz's claims management software and a high degree of manual data entry was required in the new documents. Despite this increase in the time taken to perform particular tasks, the overwhelming response to the change in written communications was positive from the staff members. Automating the recommended practices in the IT systems would enable further streamlining of processes and make it easier to trial new interventions.

Staff found it difficult to use commitment devices effectively

Although the case managers and injury management staff members were familiar with building rapport with workers, they were not familiar with the concept of commitment devices. Despite training and coaching, staff members commented that there were some scenarios in which they were uncertain how to obtain commitments. For example, in a situation where a claimant suffered a fracture to their radius (forearm), and was immobilised, there is a limited amount they can do to assist their recovery until the cast is removed and this made gaining meaningful commitments more difficult for the staff. Further work is needed to develop a variety of scenarios and injury based examples for staff to draw on.

Joint role in setting commitments created confusion

For the joint treatment group, sharing the responsibility for eliciting commitments created some difficulties. There was sometimes confusion between the staff members as to which party was responsible and when they should be discussed and updated. Future use of commitment devices in this setting would most likely be more effective if undertaken by one party, such as in the Allianz only treatment.

Case conferences were difficult to organise

Anecdotal evidence from the Department and Allianz staff members suggests that case conferences, when arranged, were found to be highly effective. The rate at which case conferences were booked, however, was much lower than anticipated—Doctors often refused to take part, or were unavailable at the scheduled time. Logistical considerations also posed some barriers.

Claims volume was lower than expected

Based on historical claims analysis, the trial had been expected to run for around six months. Actual claims during the trial were much lower, most likely due to the 2012 reforms to workers compensation in NSW, changes made in the Department's Work, Health and Safety recent re-alignment and updated service model. The trial needed to be extended for a further school term as a result.

Scaling up the interventions within Allianz and the Department

Given the level of positive qualitative and quantitative results seen from this trial, both the Department and Allianz sought to scale the interventions across their businesses. The Department together with Allianz re-designed its end to end case management and injury management service model considering the lessons learned and improvements made during the trial. This new model includes case conferencing in the first 5 days of the claim and also ensures easier and more straightforward access to injury management support from departmental staff from the point of notification of the injury.

Allianz elected to operationalise both Behavioural Insights and the lessons learnt from this trial to business as usual, with both the Department and other managed agencies. After 18 months of planning, development and training (and waiting for IT resource allocation), the TMF business went live with a claim notification to finalisation Behavioural Insights claims management model on the 29th February 2016. The interventions were also extended beyond the first 30 days of a claim. This has now been extended, with interventions embedded from day 31 through to claim finalisation.

Allianz are now using the early contact conference model, the Work and Health Plan, commitment setting at reviews and have overhauled their suite of letter templates to better communicate with customers. The scale up had some challenges centred around integration with the IT system and the ability of the system and the agency systems to share claim information at the very early stage of a claim (i.e. first 24 hours - to auto generate the acknowledgement letter with Allianz and agency contact details). However, these have been overcome.

Using the lesson that training is key to the interventions, Allianz trained over 120 staff members across all 11 teams attend 4 training modules, labelled: i) What is Behavioural Insights, ii) The Early Contact Conference, iii) Commitment Setting and iv) The Work and Health Plan. In total this equated to over 800 training hours.

Implications for icare Self Insurance

We have identified actions that we believe icare Self Insurance could undertake to help improve return to work rates in NSW.

icare Self Insurance should actively disseminate best practice.

This study has identified six good practices that should be spread across portfolios and claims managers/ scheme agents:

I. Simplify communications: Case managers should clearly present the divisions between roles and responsibilities of the employer and the claims managers / scheme agents. The volume and detail of communications could be reduced, with any duplicated messages removed, in order to avoid overwhelming and confusing workers. Communications that have no benefit or may even harm the journey back into work should also be removed. For example, writing to inform individuals that they have a 'significant injury' as a matter of administrative process.

II. Focus messaging on return to work: All documents should be reframed to focus on returning to work and full health, rather than on injury (for example through 'injury management plans').

III. Empower workers: Encourage workers to take control of their recovery and return to work through the use of planning techniques, such as the use of personal commitments and goal setting.

IV. Focus on people not process: Case managers should provide personalised support targeted to workers as individuals. This may encompass the timing of phone calls and the types of communications.

V. Engaging Doctors is critical: Doctors should be incentivised to engage with claims manager/scheme agents and employers throughout the life of a claim, particularly in the early stages. Case conferences with case managers and employers, can be used to give doctors a better understanding of their patients' workplace and job requirements. This deeper understanding allows doctors to make decisions and deliver better outcomes for workers.

VI. Develop the evidence base: More could be done to understand and disseminate the evidence on what works, in particular for different types of injuries and sectors.

The design and dissemination of legislation should be behaviourally informed

During our study we found that legislation drives the everyday practices of case managers. As legislation is rarely written in way that emphasises personal care/support, this is often not emphasised by case managers. This highlights that more behaviourally informed legislation may lead to more effective practice. When drafting and communicating legislation, icare and icare Self Insurance should consider the principles listed above. This legislation should focus on workers' return to work and all supporting

documentation/guidance should set the expectations that case managers and employers / agencies should help workers back to work, rather than manage their injury.

The application of Behavioural Insights can be effective across injury types.

Our initial hypotheses were that these interventions were likely to be more effective for simple physical injuries rather than psychological ones, but the data shows that they are as effective for mental stress and body stress injuries.

Agency and employer deliverables should be aligned with Scheme return to work objectives and claims managers' performance measures.

icare Self Insurance should consider establishing KPIs which more accurately assess the extent to which quality outcomes are being achieved to encourage a move away from compliance focussed behaviour. Having a common goal between all parties, including the claims managers and agencies is key to ensuring a partnership approach and results in speedier, more satisfactory outcomes.

We often found that the workload of staff impacted their ability to deliver. Staff with high caseloads (i.e. 80 cases or more) and process requirements had less capacity to focus on engaging the worker and achieving outcomes and instead focussed more on meeting the required compliance and individual performance benchmarks.

A broad change plan is needed to implement behavioural insights practices

Dedicated and extensive training focused on communication, soft skills and cultural understanding, is required for both case managers and agency staff to embed real change. This can be aided by using the resources that agencies have to help people return to work.

Staff with experience in goal setting with clients (e.g. occupational therapists and personal trainers) were generally observed to be better at using implementation intentions and establishing a recovery-focused rapport with workers, so these staff members should be used in the training process.

Appendix 1. Analysis undertaken by Allianz

This appendix outlines the methodology Allianz used in the modelling, constraints within the data and details of the final results for the two models.

Methodology

A particular focus of this analysis was looking at the change in the finalisation and return to work (RTW) rates for the 12 months before the trial began and comparing these to the results during the trial. This approach should address any potential discrepancies between the Control, Joint and Allianz only treatment groups before the trial began.

The data for the analysis included all the Department (excluding TAFE) claims entered during the behavioural insights project (1st September 2013 – 30th June 2014) and all claims entered up to 12 months before the behavioural insights project commenced (1st September 2012 – 31st August 2013). Several adjustments were made to the data to increase the accuracy of the analysis:

- All claims that were declined at September 2014 were removed
- All claims finalised with $0 incurred were removed.
- All claims withdrawn or cancelled were removed from the dataset.
- Claims with a whole person impairment (WPI) level greater than zero were removed (10 claims). 99% of the Department claims reported over this period had a WPI equal to zero.
- All sensitive claims were removed. Leaving these claims in the dataset had the potential to bias the results for the control group as they were all in this group.

Based on the current knowledge regarding the drivers of finalisation and return to work, the following variables were tested for significance in the models:

- Treatment Group: Whether the claim was in the Allianz only, Control or Joint group for the trial. This variable was tested only as an interaction term in junction with whether the claim was entered before or during the trial period. There were therefore six variables within the model – AllianzY, AllianzN, JointY, JointN, ControlY, and ControlN. Where the Y/N indicates if the claim was entered during the trial period (Y) or before the trial (N).
- Teacher: 1 indicated the workers' occupation was in a teaching position and 0 indicated a non-teaching position.
- Gender
- Injury Location Group: This was categorical variable derived from the injury location TOOCS coding and included: head, lower limbs, systemic locations, neck, trunk, non-physical locations etc.
- Age at Injury
- Pre injury weekly wage rate (earnings)

- Time loss: Time loss was extracted from the payment data which was deemed to be the most accurate source. The payment of wages to the Department's workers can sometimes be delayed, which could potentially bias the results. To prevent this happening for open claims, any time loss listed on a medical certificate as occurring after the last date for which incapacity payments had been made was added to the total time loss.
- Delay in claim entered: Number of the days between the date of injury and the date of entry.
- Delay in the trial: continuous variable that represents the number of months between the beginning of the trial and when the claim was entered. This was added to adjust for differences that may arise for claims entering the trial part way through.
- Declined: A variable indicating whether the claim was initially declined and then later accepted.
- Delay in Ceasing Work: The number of days delay between the worker being injured and the worker ceasing work.
- Surgery Flag: 1 indicates there was spend on surgery, and 0 no spend.
- Rehab Flag: 1 indicates there was spend on rehabilitation, and 0 no spend.
- Investigation Flag: 1 indicates there was spend on investigation, and 0 no spend

Given the inclusion of categorical data and binary dependent variables all models run were logistic regression models.

Data Considerations

Each of the claims were assigned to a treatment group based on the cost centre coded to the claim and the claims management team the claim was assigned to as at 30th June 2014. The treatment groups were assigned as:

- Allianz: interventions were delivered by Allianz only. The teams trained for the Allianz only treatment were team 41 and team 42. This group consisted of claims from the Department executive director groups 1 and 3.
- Joint: interventions were delivered by Allianz and the Department in collaboration. The teams trained for the Joint treatment group were teams 44, 45 and a proportion of team 52. This group consisted of claims from the Department executive groups 2 and 3.
- Control: no new interventions were introduced. The teams in the Control group were 48, 51, 53 and 55. This group consisted of claims from all executive groups.

There were some changes in the claim allocations to case managers and teams during the trial period. Any claim with a discrepancy between the cost centre allocation and team allocation was removed from the data set for modelling purposes. Overall 1,815 claims were removed, of which 90% belonged to the pre-trial data set.

Finalisation Model

The details of the finalisation model presented in the main section of the report are listed below including the selected parameters and their corresponding estimates, model fit statistics and the odd ratios.

The final model was selected using a stepwise selection technique that tested the significance of all parameters and their potential interactions. The ROC Curve, R-squared adjusted, Hosmer and Lemeshow goodness of fit statistics and confidence intervals around the odds ratio were all used to determine whether or not the model was an acceptable fit.

Overall 97% of the data had complete information and had been exposed for the full 150 day evaluation period. All of this data was therefore included in the model. Out of the included data 47% had finalised within 150 days.

The table below shows all of the parameters that contributed to the model and their associated standard errors and level of significance. The standard error measures the level of error associated with the estimate. A smaller standard error indicates the estimate is more accurate. The Pr>ChiSq figure indicates whether the estimate is a good predictor in the model. Any figure over 0.05 is deemed insignificant and should be considered for removal from the model.

Parameter		Estimate	Std Error	Wald	Pr > ChiSq
Intercept		0.7662	0.1042	54.1036	<.0001
Trial Period	Allianz Pre-Trial	-0.5914	0.1106	28.5751	<.0001
Trial Period	Allianz Trial	0.5067	0.1056	23.0119	<.0001
Trial Period	Control Pre-Trial	-0.3941	0.0834	22.3045	<.0001
Trial Period	Joint Pre-Trial	-0.8122	0.1167	48.471	<.0001
Trial Period	Joint Trial	0.1682	0.1102	2.3277	0.1271
Teacher		-0.2894	0.0658	19.3627	<.0001
Initially Declined		-1.3143	0.333	15.5724	<.0001
Injury Location	HEAD	0.3335	0.1102	9.1612	0.0025
Injury Location	LOWER LIMBS	0.0252	0.0833	0.0913	0.7626
Injury Location	MULTIPLE LOCATIONS	-0.0819	0.11	0.5539	0.4567
Injury Location	NECK	0.0641	0.2051	0.0976	0.7548
Injury Location	NON-PHYSICAL LOCATIONS	0.3275	0.1477	4.9139	0.0266
Injury Location	SYSTEMIC LOCATIONS	0.1997	0.328	0.3706	0.5427
Injury Location	TRUNK	0.1978	0.0995	3.9554	0.0467
Delay in Starting the Trial		0.0552	0.00968	32.5424	<.0001
TimeLoss in first 150 days		-0.0428	0.00459	86.7263	<.0001
Claim Received Rehab		-1.4432	0.1414	104.142	<.0001
TimeLoss 150 days * Claim Received Rehab		0.0245	0.00581	17.7447	<.0001
Claim Received Surgery		-0.5347	0.1705	9.8388	0.0017
Claim Received Rehab * Claim Received Surgery		-2.1877	0.7409	8.7191	0.0031
Claim Received Investigation		-2.4745	0.3585	47.6508	<.0001
Delay btw date of injury and date entered		-0.0279	0.0022	160.0408	<.0001
Claim Received Rehab * delay in being entered		-0.0407	0.0154	7.0124	0.0081

As the model used is a logit model the parameter estimates cannot be easily interpreted. As an alternative the odds ratios can be used to gain an understanding of the impact the parameter has on the probability of a claim finalising within the first 150 days. The odds ratio measures the odds of a claim finalising in 150 days for one parameter (e.g. teacher) against the odds of it finalising for the alternative (e.g. not a teacher). In simplest terms if the odds ratio is below one it negatively impacts the probability and if it is above one it increases the probability of finalising in 150 days.

Below are the odds ratio for the parameters and their associated confidence intervals. The confidence intervals were derived from the standard deviation, and if the confidence interval includes 1 in its range the parameter is deemed to be insignificant and should potentially be removed from the model.

Effect	Odds Ratio	95% Wald Confidence Intervals	
Trial Period AllianzN vs ControlY	0.554	0.446	0.688
Trial Period AllianzY vs ControlY	1.66	1.349	2.042
Trial Period ControlN vs ControlY	0.674	0.573	0.794
Trial Period JointN vs ControlY	0.444	0.353	0.558
Trial Period JointY vs ControlY	1.183	0.953	1.469
Teacher	0.749	0.658	0.852
Initially Declined	0.269	0.14	0.516
HEAD vs UPPER LIMBS	1.396	1.125	1.732
LOWER LIMBS vs UPPER LIMBS	1.025	0.871	1.207
MULTIPLE LOCATIONS vs UPPER LIMBS	0.921	0.743	1.143
NECK vs UPPER LIMBS	1.066	0.713	1.594
NON-PHYSICAL LOCATIONS vs UPPER LIMBS	1.387	1.039	1.853
SYSTEMIC LOCATIONS vs UPPER LIMBS	1.221	0.642	2.322
InjuryLocationGrp TRUNK vs UPPER LIMBS	1.219	1.003	1.481
Delay in Starting the Trial	1.057	1.037	1.077
Claim Received Investigation	0.084	0.042	0.17

The results show that a greater delay in starting the trial will on average increase the probability of the claim finalising within 150 days. This may suggest that as the trial progressed more effective systems were in place that produced better outcomes.

Being a teacher, initially declining the claim or spend on investigation will on average decrease the probability of the claim finalising within the first 150 days. These results may suggest the following:

- Teachers face more barriers in returning to work and hence finalising their claims than non-teachers.
- Investigation spend may indicate a lack of solid evidence which can delay treatment and the claim finalising.
- Initially declining a claim and then later accepting has been proven to increase claim durations and costs. This may be due to a delay in treatment and therefore finalising the claim.

In particular we are interested in the odds ratios between the pre-trial and trial periods:

Contrast	Estimate	Std Error	Confidence Intervals		Pr > ChiSq
Allianz Trial vs Allianz Pre-Trial	2.9984	0.3808	2.3378	3.8458	<.0001
Allianz Trial vs Control Pre-Trial	2.4615	0.2563	2.0071	3.0188	<.0001
Allianz Trial vs Control Trial	1.6598	0.1753	1.3494	2.0416	<.0001
Allianz Trial vs Joint Pre-Trial	3.7394	0.4961	2.8833	4.8498	<.0001
Allianz Trial vs Joint Trial	1.4028	0.1771	1.0953	1.7968	0.0073
Allianz Trial vs Allianz Pre-Trial	2.9984	0.3808	2.3378	3.8458	<.0001
Joint Trial vs Joint Pre-Trial	2.6656	0.3626	2.0418	3.4799	<.0001
Control Trial vs Control Pre-Trial	1.483	0.1237	1.2593	1.7465	<.0001

The results show:
- In the first 150 days, claims that were in the Allianz only treatment group during the trial were 3 times more likely to finalise than claims in the Allianz only treatment group before the trial.
- In the first 150 days, claims that were in the Joint treatment group during the trial were 2.7 times more likely to finalise than claims in the Joint treatment group before the trial.

To ensure the model was valid three tests were conducted:

- Hosmer and Lemeshow (HL) Goodness of Fit: The HL figure indicates whether the model was correctly specified, e.g. all the required parameters were included, insignificant parameters were removed etc. The Pr > ChiSq must be greater than 0.05 for the model to be deemed significant model.

Hosmer and Lemeshow Goodness-of-Fit		
Chi-Square	DF	Pr > ChiSq
8.9795	8	0.344

- ROC Curve/ Area under the curve: The ROC curve plots the trade-off between sensitivity and specificity. The closer the curve falls to the left of the straight line (and hence the greater the area under the curve is relative to 1) the more accurate the model. The curve below suggests that the model is reasonably accurate.

ROC Curve for Model
Area Under the Curve = 0.7790
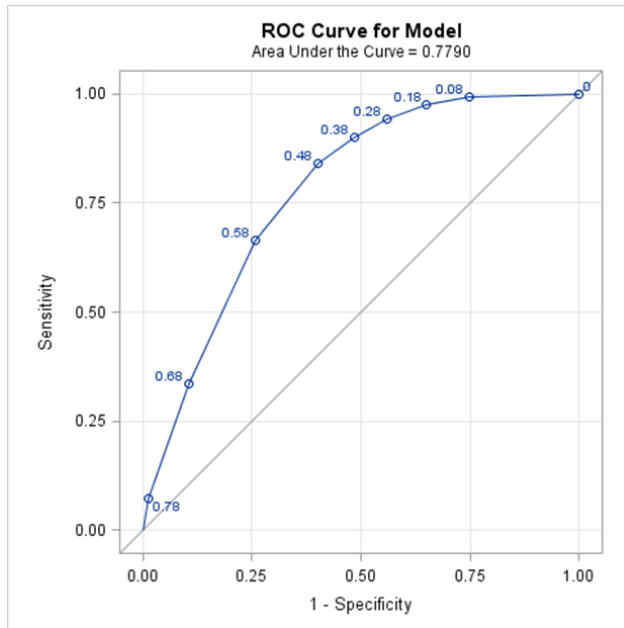
-   R-Squared Adjusted: The R-squared adjusted figure indicates the predictability of the model. The closer the number to 1, the greater the predictability. The below shows that 35% of the model is explained. While this figure is lower, relative to one, the HL statistic and ROC curve are enough evidence to conclude the model is significant.

R-Square:	0.2594	R-squared Adj:	0.3464

Return to Work Model

The details of the return to work model presented in the main section of the report are listed below including the selected parameters and their corresponding estimates, model fit statistics and the odds ratios.

The return to work model was only run for claims that had ceased work (58%). This approach was taken so that the model would show the impact the trial had in returning workers to work. Initially the model was run to test the probability of a claim returning to work within 150 days. The data showed 90% of claims returned to work within this timeframe, and therefore the number of workers not returning to work was very small. Consequently the model potentially suffered from small sample bias and could not accurately pick up the impact of the Allianz only and Joint treatment groups during the trial. As an alternative the model was run to test the probability of a claim returning to work within 45 days. 77% of workers returned to work within 45 days.

The below table shows all the parameters that contributed to the model and their associated standard errors and levels of significance.

Parameter		Estimate	Std Error	Wald	Pr > ChiSq
Intercept		4.5565	0.2496	333.2358	<.0001
Trial Period	Allianz Pre-Trial	-1.1379	0.2042	31.0464	<.0001
Trial Period	Allianz Trial	0.1783	0.2174	0.6721	0.4123
Trial Period	Control Pre-Trial	-0.965	0.1731	31.0944	<.0001
Trial Period	Joint Pre-Trial	-1.4395	0.2167	44.1131	<.0001
Trial Period	Joint Trial	-0.1535	0.2255	0.4638	0.4959
TimeLoss 45 days		-0.0873	0.0047	345.3818	<.0001
Injury Location	HEAD	-0.42	0.277	2.2999	0.1294
Injury Location	LOWER LIMBS	-0.3051	0.1767	2.9808	0.0843
Injury Location	MULTIPLE LOCATIONS	-0.6169	0.2322	7.0574	0.0079
Injury Location	NECK	0.1202	0.4474	0.0722	0.7882
Injury Location	NON-PHYSICAL LOCATIONS	-0.9487	0.2111	20.2033	<.0001
Injury Location	SYSTEMIC LOCATIONS	-1.1773	0.7729	2.3203	0.1277
Injury Location	TRUNK	-0.1527	0.205	0.5545	0.4565
Initially Declined		-0.6923	0.4967	1.9429	0.1634
Delay btw date of injury and date entered		-0.0101	0.00176	32.523	<.0001
Delay btw date of injury and date ceased work		-0.097	0.00799	147.2701	<.0001
Delay in Starting the Trial		0.0791	0.0181	19.0895	<.0001
Claim Received Rehab		-1.0257	0.1474	48.4558	<.0001
Claim Received Surgery		-2.0811	0.2735	57.8842	<.0001
Delay_Cea*Rehab_Dumm		0.0108	0.0117	0.8498	0.3566
TimeLoss 45 days * Claim Received Surgery		0.0311	0.00974	10.1885	0.0014

The associated odds ratios for the parameters were:

Effect	Odds Ratio	95% Wald Confidence Intervals	
Trial Period AllianzN vs ControlY	0.321	0.215	0.478
Trial Period AllianzY vs ControlY	1.195	0.78	1.83
Trial Period ControlN vs ControlY	0.381	0.271	0.535
Trial Period JointN vs ControlY	0.237	0.155	0.363
Trial Period JointY vs ControlY	0.858	0.551	1.334
HEAD vs UPPER LIMBS	0.657	0.382	1.131
LOWER LIMBS vs UPPER LIMBS	0.737	0.521	1.042
MULTIPLE LOCATIONS vs UPPER LIMBS	0.54	0.342	0.851
NECK vs UPPER LIMBS	1.128	0.469	2.711
NON-PHYSICAL LOCATIONS vs UPPER LIMBS	0.387	0.256	0.586
SYSTEMIC LOCATIONS vs UPPER LIMBS	0.308	0.068	1.401
TRUNK vs UPPER LIMBS	0.858	0.574	1.283
Initially Declined	0.5	0.189	1.325
Delay btw date of injury and date entered	0.99	0.987	0.993
Delay in Starting the Trial	1.082	1.045	1.121

The results show that a greater delay in starting the trial will, on average, increase the probability of a worker returning to work within 45 days. This result is also shown in the finalisation model and may suggest that more effective systems where in place as the trial progressed. Initially declining the claim or a greater delay between the injury and date entered, on average, will decrease the probability of a

worker returning to work within 45 days. These results are expected as they both delay early intervention which is effective in returning a worker back to work sooner.

In particular we were interested in the odds ratios between the pre-trial and trial periods:

| Contrast	Estimate	Std Error	Confidence Intervals		Pr > ChiSq
Allianz Trial vs Allianz Pre-Trial	3.729	0.8773	2.3515	5.9134	<.0001
Allianz Trial vs Control Pre-Trial	3.137	0.6563	2.0818	4.727	<.0001
Allianz Trial vs Control Trial	1.1951	0.2599	0.7804	1.8303	0.4123
Allianz Trial vs Joint Pre-Trial	5.0419	1.2439	3.1088	8.1771	<.0001
Allianz Trial vs Joint Trial	1.3935	0.354	0.847	2.2927	0.1915
Allianz Trial vs Allianz Pre-Trial	3.729	0.8773	2.3515	5.9134	<.0001
Joint Trial vs Joint Pre-Trial	3.6182	0.9117	2.208	5.9289	<.0001
Control Trial vs Control Pre-Trial	2.6248	0.4542	1.8698	3.6847	<.0001

The results show:
- Claims that were in the Allianz only treatment group during the trial were 3.7 times more likely to return to work within 45 days compared to claims in the Allianz only treatment group before the trial.
- Claims that were in the Joint treatment group during the trial were 3.6 times more likely to return to work within 45 days compared to claims in the Joint treatment group before the trial.

To ensure the model was valid and accurate three tests were conducted:

- Hosmer and Lemeshow (HL) Goodness of Fit:

Hosmer and Lemeshow Goodness-of-Fit		
Chi-Square	DF	Pr > ChiSq
6.0445	8	0.6422

- ROC Curve/ Area under the curve: The below curve suggests that the model is reasonably accurate.

ROC Curve for Model
Area Under the Curve = 0.9061
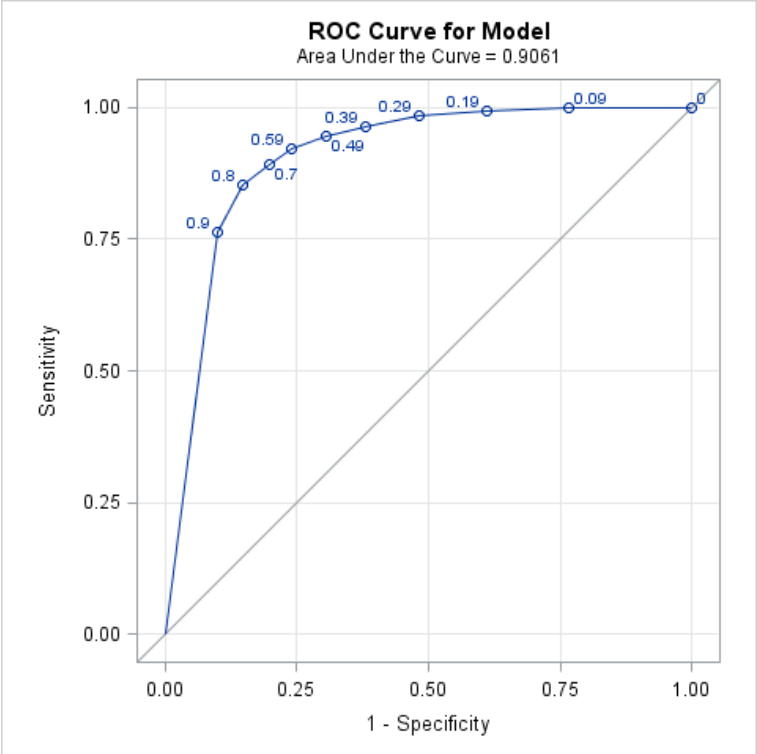
-   R-Squared Adjusted: The figure below shows that the model explains 63% of the variability in the results.

R-Square:	0.4125	R-squared Adj:	0.6252

Annex 2. Survey results

Chart showing survey results for "How clear was the explanation of your rights and obligations?" and "How clear was the explanation of what support was available to assist you?"

- How clear was the explanation of your rights and obligations?: Control 3.6, Jointly Delivered 4.4, Allianz Only 4.1
- How clear was the explanation of what support was available to assist you?: Control 3.5, Jointly Delivered 4.3, Allianz Only 4.1

Legend: Control (blue), Jointly Delivered (red), Allianz Only (black)

Chart showing survey results for role understanding questions.

- How easy was it to understand the role of Allianz?: Control 3.9, Jointly Delivered 4.7, Allianz Only 4.5
- How easy was it to understand the role of DEC?: Control 3.9, Jointly Delivered 4.6, Allianz Only 4.4
- How easy was it to understand who you needed to contact for different aspects of your claim?: Control 3.3, Jointly Delivered 4.1, Allianz Only 3.8

Legend: Control (blue), Jointly Delivered (red), Allianz Only (black)

Did you feel in control of your recovery?