



Report on the value for money of the IPS Trial

For the Department of Social Services

2020

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Executive summary

The 2015-16 Federal Budget allocated funding to trial the Individual Placement and Support (IPS) model for young people experiencing mild to moderate mental illness. In 2019, an additional \$17 million was invested in the IPS Trial to expand it from the original 14 sites to 24 sites across Australia.¹ Given the time elapsed and future funding considerations, the purpose of this report is to consider the value for money offered by the IPS Trial compared to other existing supports for young people experiencing mental illness who wish to gain employment or remain employed.

To meet this objective, KPMG prepared a cost benefit analysis to compare the economic and social impacts of the IPS Trial with comparator programs. The analysis is predominantly based on expenditure and funding data gathered from DSS, and an analysis of employment outcomes data for IPS trial participants and the agreed comparator programs of Disability Employment Services (DES) and jobactive.

Employment support for people experiencing mental illness is understood to contribute to positive economic, health and social outcomes

In October 2019, the Productivity Commission published the Mental Health, Draft Report². The report examines how people with mental ill-health or at risk of mental ill-health can be enabled to reach their potential in life, including the generational impact of mental health within the Australian community. The draft report found that employment is beneficial to mental health, with an observed improvement in mental health following employment and a significant negative effect once unemployed, no matter the age or gender. The report also outlines that despite the positive impact employment can have on mental health, people with mental ill-health are under-represented in the workforce.

Recommendation 14.3 within the Mental Health, Draft Report states that:

"Governments should thoroughly trial and evaluate the IPS program to better establish the factors that influence its cost-effectiveness (for example, the impacts of local labour market conditions and participant characteristics)."

Given this recommendation, KPMG was engaged by the DSS to undertake a further evaluation of the IPS. A component of this further evaluation is this report, which is closely aligned to the Productivity Commission's recommendation and builds upon an analysis undertaken by headspace, which found that IPS participants had more positive mental health outcomes than non-IPS clients.

This analysis compares the value for money offered by the IPS Trial to agreed comparator services

The IPS model was compared with two other government-funded employment support programs (i.e. DES and jobactive). The purpose was to assess whether the additional investment in the more tailored and intensive support provided through the IPS Trials result in a corresponding improvement in outcomes. These comparator services were intended to represent realistic alternative support arrangements to the IPS Trial, with the jobactive cohort assumed to represent the base case or mainstream service option.

A cost benefit analysis (CBA) framework was applied to compare the value of the Government investment in the delivery of the IPS Trials and comparator programs to the resulting benefits for participants (i.e. improved employment and earnings) and Government (i.e. reduced expenditure on unemployment benefits). This analysis and report focuses on costs and benefits able to be monetised, with a qualitative assessment of other outcomes considered as part of the broader evaluation work.

¹ Accessed from <https://formerministers.dss.gov.au/18707/liberal-national-governments-17m-boost-to-help-young-australians-with-mental-illness-find-work/>

² Accessed from <https://www.pc.gov.au/inquiries/completed/mental-health/draft>

The CBA was undertaken in accordance with the relevant Government guidelines, namely the Department of Finance and Administration's Handbook of Cost Benefit Analysis.³

The monetised benefits of the IPS Trial sites outweigh the costs associated with the program delivery

The analysis considered the costs and benefits attributable to young people who participated in the IPS Trials, DES and jobactive from 2016-17 to 2019-20, with the benefits of participation considered over a 10 year timeframe. For the purposes of comparison, the modelling has assumed no difference in cohort size across the three programs (i.e. costs and benefits modelled are reflective of services being provided to the same number of participants over the same time period).

Table 1 summarises the overall results of the CBA, which are expressed in nominal and net present value terms (discount rate of 7 per cent applied in accordance with Commonwealth Government guidelines). All values represent the impact of the respective programs compared to the costs and outcomes related to jobactive, which was assumed to represent the mainstream service response and the base case for this analysis.

Table 1. Summary outcomes of the quantitative analysis

Overall impact	IPS	DES
Nominal impacts		
Additional program costs	\$11.28m	\$7.33m
Improved employment outcomes	\$20.29m	\$13.56m
Net impact	\$9.02m	\$6.23m
NPV impacts		
Additional program costs	\$9.33m	\$6.34m
Improved employment outcomes	\$16.59m	\$11.11m
Net Present Value (NPV)	\$7.26m	\$4.78m
Benefit Cost Ratio (BCR)	1.78	1.75

Source: Analysis of data provided by the Department of Social Services

Table 1 shows that both programs provide an additional net benefit compared to jobactive. IPS provides the greatest net quantified benefit, but relative to the investment made (i.e. measured as the BCR); the difference between DES and IPS is marginal. Both programs are estimated as providing a return of around \$1.70 for every additional dollar invested.

The results of the analysis support continued and potentially expanded investment in IPS to enable more tailored employment support for young people with a mental illness

The analysis demonstrates that the quantitative benefits resulting from the current implementation of IPS outweigh the additional investment made by Government relative to the jobactive service. This is evidenced by the results of the quantitative analysis, which show a net direct benefit of around **\$9.0 million (nominal) or \$7.3 million (NPV)** with this benefit shared between Government (reduced welfare payments) and IPS participants (increased personal income).

Importantly, the results of the quantitative analysis are subject to a number of limitations that may understate the full impact (benefits) to participants and Government. These include:

- Key benefits relating to improved outcomes for participants across other policy areas, such as education, health, justice and housing, were unable to be quantified. These benefits are likely to be substantial and result in material

³ Accessed from: https://www.finance.gov.au/sites/default/files/Handbook_of_CB_analysis.pdf

additional savings for State and Federal Governments and, in many cases, directly correlate with improvements in employment outcomes. These other benefits were explored in the previous IPS Trial Evaluation.⁴

- Improvement to education attainment represents a key focus of IPS but, without comparable outcomes data available across the programs being considered, the resulting further improvement in employment and earnings outcomes was not able to be captured in the analysis.
- The analysis of outcomes across the three programs controlled for certain factors to improve the comparability of participant outcomes, but was not able to adjust for the presence of a mental health condition. This means the outcomes achieved by IPS participants (assumed to be young people with a mental illness) were compared to outcomes by jobactive participants (presence of a mental illness is unknown).
- For the impacts modelled, a relatively conservative approach has been taken in developing the necessary assumptions (e.g. the program impact is assumed to dissipate after two years from enrolment).

Finally, given that this analysis is limited to the costs and benefits associated with the current implementation of the IPS program, it is likely that expansion of the service would result in a proportional increase in the assessed level of benefits.

⁴ Accessed from https://www.dss.gov.au/sites/default/files/documents/08_2019/individual-placement-and-support-trial-evaluation-report-june-2019.pdf

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Glossary of terms

Key Term	Definition
ABS	Australian Bureau of Statistics
BCR	Benefit Cost Ratio
CBA	Cost-benefit analysis
DES	Disability Employment Services
DHS	Department of Human Services
DSS	Department of Social Services
ESAt	Employment Services Assessment
IPS	Individual Placement and Support
JCA	Job Capacity Assessment
NPV	Net Present Value

1 Project Overview

This section provides an overview of this report, background to the Individual Placement and Support (IPS) Trial, the previous evaluation of the IPS Trial, IPS wellbeing outcomes, comparator employment services and data analysis insights that are used in the cost benefit analysis.

1.1 Document purpose

KPMG has been engaged by the Department of Social Services (the Department or DSS) to undertake further evaluation of the Individual Placement and Support (IPS) Trial (the Trial or the IPS Trial).

The purpose of this report is to provide an analysis of the value for money offered by the Individual Placement and Support (IPS) model services and other interventions targeted to young people experiencing mental illness who wish to gain employment or remain employed.

Given the investment made by Government in the IPS model since its establishment, there is a need to understand the value offered by this approach relative to other Government funded services. This report provides an independent assessment of these impacts and will be used to communicate the benefits of the IPS model to current and potential future funders of the service.

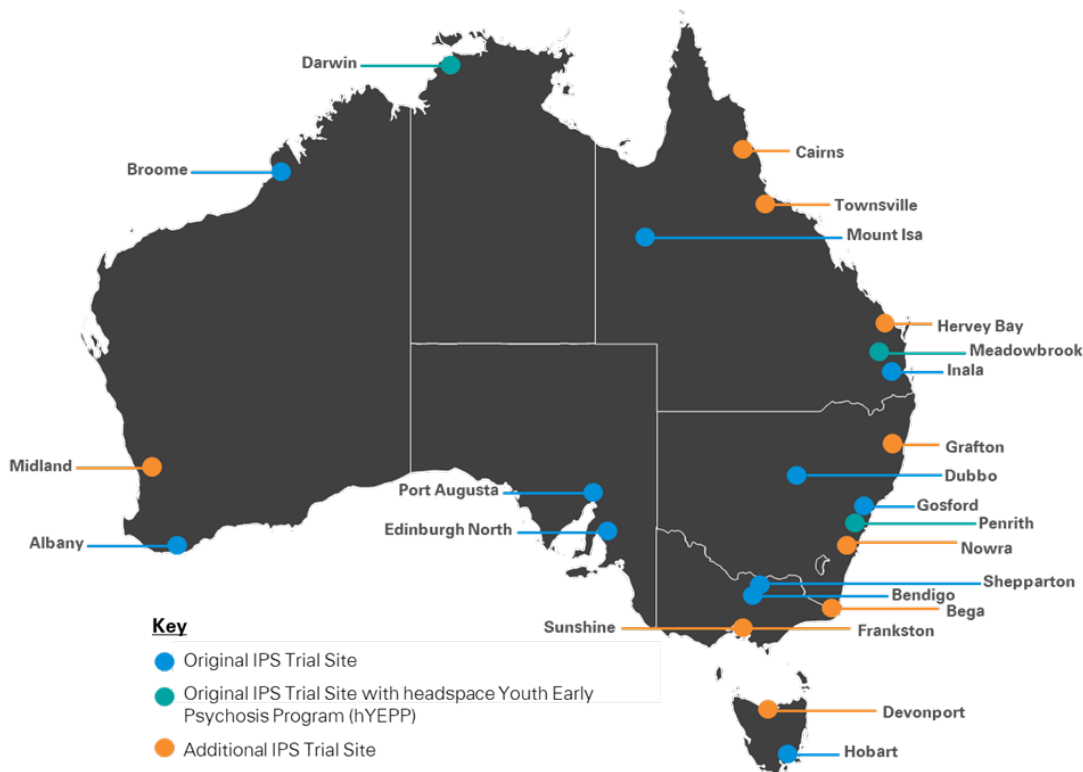
1.2 Background to the IPS Trial

Funding for the IPS Trial was allocated in the 2015-16 Federal Budget to support young people experiencing mild to moderate mental health disorders. To address this, in late 2016, the IPS Trial was developed and implemented at 14 headspace sites across Australia. As shown in Figure 1, the trial was expanded to an additional 10 sites in 2019.

The Trial aims to improve the vocational education and employment outcomes of young people requiring mental health support up to the age of 25 years, who are at risk of disengaging from education or employment and who are at risk of long-term welfare dependency (Department of Social Services 2016). However, while the objective is to provide additional vocational education and employment support to users, it is not intended to:

- Replace existing programs that offer assistance of a similar manner at each Trial site through other funding arrangements; and/or
- Replace or limit eligibility for those able to access jobactive and/or Disability Employment Services (DES) services.

Figure 1: headspace IPS Trial Sites



Source: KPMG

Each headspace site is managed by a different lead agency. Therefore, each lead agency is responsible for their delivery of the trial.

Under the Grant Agreement shared with headspace and the Department, headspace sites are required to undertake, but are not limited to, the following activities (Department of Social Services 2015):

- Deliver individually tailored and specialist vocational and employment support to young people, up to the age of 25 years, with mental illness who wish to gain or remain engaged in education or employment. This must be done in tandem with existing clinical mental health supports and other non-vocational assistance.
- Employ two suitably qualified Vocational Specialists to deliver IPS services in accordance with the IPS Practice Principles.
- Deliver Trial Activity services in line with the IPS model of vocational assistance employment support and the eight Core Practice Principles.
- Identify, invite and accept participants for the Trial Activity in consultation with participants' clinical supports and mental health specialists.
- Deliver the Trial Activity in addition to any existing assistance already being provided at that site through funding arrangements with other Commonwealth agencies and State or Territory Governments.

Within their requirements, each Trial site is required to record and report against participants and their outcomes to determine the extent to which the Trial is successful.

1.3 Previous evaluation of the IPS Trial

KPMG conducted a review of the Trial, completed in 2019, to assess the implementation, efficiency, appropriateness and effectiveness of the IPS model of supported employment assistance within the headspace setting. This allowed the Department to better understand whether the IPS model achieved education and employment outcomes for young people experiencing mental health conditions. The evaluation focused on the short and medium-term outcomes achieved by Trial participants; long-term outcomes were not assessed as the expected timeframe for the achievement of the long-term outcomes fell outside the evaluation time period. The evaluation identified several opportunities for ongoing implementation and expansion of the Trial throughout Australia. The evaluation did not include an assessment of the value for money of the IPS Trial relative to other employment services.

IPS wellbeing outcomes

headspace National undertook analysis to understand whether young people receiving IPS services achieved improvements to their mental health and wellbeing.⁵ This analysis focussed on 10 headspace centres⁶ from Phase 1. The results were compared to a group of young people at the same 10 headspace centres who had not received IPS.

headspace reports on the proportion of completed episodes where young people experienced a significant change in one of three outcome measures: Kessler 10 Psychological Distress Scale (K10), Social and Occupational Functioning Scale (SOFAS) or the MyLifeTracker (MLT). Since the three outcomes capture related, but different domains of mental health, functioning and quality of life, an overall measure of those who achieve significant change on any of the three measures is used.⁷

The results in Table 2 indicate that many IPS clients achieved positive improvements to their mental health and wellbeing while at headspace. In both financial years, a substantial (and statistically significant⁸) percentage more IPS clients have positive outcomes. This suggests that headspace mental health supports, coupled with IPS supports, result in more positive mental health outcomes than headspace alone. Although if only 14 participants (i.e. one for each of the Phase 1 trial sites) did not achieve a positive mental health and wellbeing outcome in 2017-18 (i.e. 153 rather than 167), the resulting percentage would not be considered statistically significantly different from non-IPS clients.

It is important to note that outcomes were available for only 409 of the 971 clients (42%) who commenced IPS at the 10 sites for the financial years 2017-18 and 2018-19. Outcomes may not be available for clients for a variety of reasons, including that either their baseline or follow-up assessment dates were outside of the range. Given the positive results for this subset of sites, participants thought it would be worth understanding if these results extend to more participants across more sites.

Table 2. IPS and non IPS clients and the percentage that experienced significant improvement on their mental health and wellbeing while at headspace

headspace status	2017-18	2018-19
IPS clients	81.9% (167/207)	79.7% (161/202)
Non IPS clients	69.0% (1,771/2,567)	69.8% (1,819/2,606)

Source: Analysis of data provided by the Department of Social Services

⁵ headspace National (2020). Mental health outcomes of IPS clients – Initial Findings.

⁶ Albany, Bendigo, Dubbo, Gosford, Hobart, Inala, Meadowbrook, Mount Isa, Port Augusta and Shepparton.

⁷ headspace National (2020). Mental health outcomes of IPS clients – Initial Findings.

⁸ Two sample t-test, significance level of 0.05.

1.4 Comparator employment services

For the purposes of this report, the IPS model will be compared with two other Government-funded employment support programs, namely:

- Disability Employment Services (DES); and
- jobactive.

Both DES and jobactive are described in further detail in Sections 2.4.1 and 2.4.2.⁹

The purpose was to enable an assessment as to whether the IPS Trial represents a cost-effective approach to achieving long-term employment, education and training outcomes for young people experiencing mental illness. These comparator services were intended to represent realistic alternative support arrangements to the IPS Trial.

The Commonwealth Government's youth unemployment policy is focused on getting young people into work. This is primarily done through the provision of employment services (such as jobactive and DES), which seek to increase the employment participation of people at risk of becoming unemployed, or those who are receiving income support from the Government. The jobactive cohort was selected for comparison with IPS as the largest mainstream employment program. Other employment programs targeted at young people, such as Transition to Work, were not included in this evaluation. These programs might be a more appropriate comparator for future evaluations.

1.4.1 Disability Employment Services (DES)

DES assists individuals with disability, injury or health conditions to receive assistance to prepare for, find and keep employment. DES has two main components:

- Disability Management Service is available for job seekers with disability, injury or health condition who need assistance to find a job and occasional support in the workplace to keep a job; and
- Employment Support Service helps job seekers with permanent disability to find a job and who need regular, ongoing support in the workplace to keep a job.

DES differs from the IPS Trial as:

- DES is not specific to young adults; instead, participants must be older than 14 years of age and younger than the Age Pension qualifying age;
- Participants must be an Australian resident or eligible visa holder;
- Participants must have a disability, injury or health condition in order to be eligible; and
- Participants may have mutual obligation requirements if they are receiving income support payments.

DES service providers are funded by the number of people they place into employment, and there are three primary payments:

- 1 Service fees that are paid every 13 weeks in advance to deliver participant services;
- 2 Outcome fees that are paid once participants have maintained employment for four, 13, 26 or 52 weeks. Outcome fees are either delivered as full outcome payments or pathway outcome payments.
- 3 Ongoing support payments for participants if they need assistance maintaining employment post-26 week outcome.

DES services are included within the comparator group for the analysis. Aggregated financial and outcomes information for these services was used to support the value for money assessment outlined in Section 3.

⁹ Obligations and eligibility requirements are based on the programs, prior to changes made to income support payments as a result of COVID-19.

1.4.2 jobactive

jobactive replaced Job Services Australia in July 2015. This service seeks to assist both employers and employees to find and keep employment. Eligibility for jobactive include those receiving income support payments, such as Jobseeker, Youth Allowance (other), or Parenting Payment, and have mutual obligation requirements.

jobactive differs from the IPS Trial as:

- jobactive generally does not include a focus on education or training unlike the Trial;
- jobactive is not specific to young adults;
- jobactive is available for those already receiving income support payments or those who volunteer to participate in jobactive;
- Participants must be an Australian resident or eligible visa holder;
- There is no choice and control in the type of employment a participant seeks, accepts and maintains;
- An outcome fee is paid to the provider for each participant who satisfies the Grant Agreement requirements;
- Wage subsidies can be provided to businesses that employ eligible jobseekers; and
- Participants must fulfil mutual obligations in order to receive income support payments.

jobactive services were included within the comparator group for the analysis. Aggregated financial and outcomes information for these services was used to support the value for money assessment outlined in Section 2.

A summary table of the differences between IPS, DES and jobactive is available in Table 3.

Table 3. Summary comparison of government-funded employment services

Element	IPS Trial	DES	jobactive
Commencement	Wave 1: Late 2016 Wave 2: 1 July 2019	Updated DES Grant Agreement effective from 1 July 2018	1 July 2015
Service reach	National	National	National
Number of locations	24	2,000	1,700
Objective	To improve the educational and employment outcomes of young people with mental illness up to the age of 25, who are at risk of disengaging from education or employment and who are at risk of long-term welfare dependency.	To provide services for people with disability, injury or health condition to prepare for, find and keep a job.	To assist job seekers to find and retain employment, and support employers to find and take on the right employees.
Engagement period	Time unlimited.	Time to employment and at least 52 weeks of employment support once placed in employment.	Time to employment.
Client eligibility	<ul style="list-style-type: none"> • Living with mental illness. • Aged 12 to 24. • Be an eligible client of headspace in the participating Trial site. • Have employment, education or training goals and be facing barriers to achieving these goals. • Be willing to participate in the service and able to make an informed decision to participate. 	<ul style="list-style-type: none"> • Living with disability, injury or health condition. • Aged between 14 and the Age Pension qualifying age. • Aged at or above the minimum legal working age in their state or territory. • Have a future work capacity with intervention of at least eight hours per week. • Australian resident or eligible Visa holder. • Have a valid Employment Services Assessment (ESAt) or Job Capacity Assessment (JCA) recommending DES with a Future Work Capacity of eight or more hours per week. • Not working at or above their assessed work capacity. 	<ul style="list-style-type: none"> • Australian resident or eligible Visa holder. • Receiving income support payments, such as Jobseeker, Youth Allowance (other), or Parenting Payment. • Needing to fulfil mutual obligation requirements as a condition of receiving income support payments. • Not working or studying full time.
Access	To access the IPS Trial, young people must be a client of the associated headspace site.	A referral will be made by the Department of Human Services (DHS), or by directly registering with a DES provider.	Centrelink will refer a job seeker to a service 'stream' depending on their readiness for work.

Element	IPS Trial	DES	jobactive
Services/supports offered	<ul style="list-style-type: none"> Adhere to the principles of IPS when providing vocational support to participants. Assist the participant to identify their educational and employment goals based on their preferences. Develop a career profile and individual employment plan for each participant, with input from the participant and the participant's clinical team. Have formal procedures in place to work with the participant's clinical team. Conduct regular job development and job search activities with the participant. Assist the participant to apply for jobs and contact employers. Liaise with the participant's DES or jobactive provider. This includes assisting participants to meet mutual obligation requirements where applicable. Develop a broad range of employer contacts to ensure there are job vacancies for IPS participants. Provide employers appropriate education and support. 	<ul style="list-style-type: none"> Employment Support Service provides assistance to job seekers with permanent disability to find a job and who need regular, ongoing support in the workplace to keep a job. 	<ul style="list-style-type: none"> Help to look for work, write a résumé and prepare for interviews. Provide referrals to jobs in the local area and help to relocate for work if they are interested. Help clients to become job ready, including targeted training that is suited to the skills that local employers need. Provide individualised support (otherwise known as case management) so they are ready to take up and keep a job. Support clients to complete Work for the Dole, or other eligible activities, that provide work-like experiences, help to learn new skills and improve the job seeker's chances to find a job. Access to the Employment Fund to pay for work-related items, professional services, relevant training and support after they start work.
Mutual obligation requirements	<ul style="list-style-type: none"> Nil. 	<ul style="list-style-type: none"> Dependent on if they receive income support payments. 	<ul style="list-style-type: none"> Enter a Job Plan. Look for up to 20 jobs per month. Complete Work for the Dole or another suitable activity for six months each year (Note: not required at commencement).

Source: Adapted from Disability Employment Australia, Disability Employment Services, jobactive and Job Access

1.5 Data analysis insights

De-identified unit record level data was made available to the KPMG team for IPS, DES and jobactive participants in the 24 locations where the IPS Trial is located. This data applies to participants of these programs for the timeframe 1 July 2017 to 31 March 2021. The exploratory data analysis and analytical approach taken to analysing the IPS, DES and jobactive data is outlined in Appendix B.

The IPS Program has had the smallest number of participants in comparison to DES and jobactive. The participant figures are outlined in Table 4.

Table 4. Count of participants in IPS, DES and jobactive

Program	IPS	DES	Jobactive
Participants	2,532	4,540	25,141

Source: Analysis of data provided by the Department of Social Services

The Economic Analysis in Section 3 uses three key figures from the analysis of IPS, DES and jobactive participants. Those three key figures are:

- Median days to first employment;
- Estimated percentage of participants that obtained employment; and
- Estimated percentage of participants that obtained employment and still employed at 26 weeks.

Table 5 outlines median days taken to first employment for IPS, DES and jobactive participants. DES participants had the lowest median number of days to first employment. DES achieves employment for participants about a fortnight (14 days) sooner than IPS. jobactive has the greatest median number of days to employment.

Table 5. Program participants and their first employment status

Employment status	IPS	DES	jobactive
Median days to first employment	75	61	123

Table 6 outlines the estimated percentage of IPS participants who may have been placed in employment if they had participated in DES or jobactive. These estimates control for the characteristics of age at commencement, gender, Indigenous status, location and highest education level. Another way of considering these results would have been to instead use the "raw" total percentage placed figures for DES (35.0%) and jobactive (32.6%). However, the "raw" percentage figures do not control (or adjust) for these demographic variables.

Also included in Table 6 is the impact of IPS relative to DES and jobactive. This impact is outlined as the estimated number of participants who may have been placed and the additional number placed by IPS. For example, while IPS placed 972 participants, it is estimated that DES would have placed 869 participants. In other words, 103 IPS participants may not have been placed in employment had they been in DES. Similarly, it is estimated that 195 IPS participants would not have been placed in employment had they been in jobactive. These estimates are outlined in Table 6 along with the confidence intervals around these estimates.

Table 6. Estimated impact of IPS relative to DES and jobactive for first employment outcome

Employed	Estimated odds ratio	Estimated percentage placed	Estimated number placed	Additional number placed by IPS
Impact of IPS relative to DES	0.838	34.3%	869 (808, 931)	103 (41, 164)
Impact of IPS relative to jobactive	0.71	30.7%	777 (728, 827)	195 (145, 244)

Source: Analysis of data provided by the Department of Social Services

Table 7 provides detail on the impact of IPS relative to DES and jobactive in terms of first employment outcome at 26 weeks.

Table 7. Estimated impact of IPS relative to DES and jobactive for first employment outcome at 26 weeks

Employed	Estimated odds ratio	Estimated percentage placed	Estimated number placed	Additional number placed by IPS
Impact of IPS relative to DES	0.795	12.8%	324 (285,369)	71 (26,110)
Impact of IPS relative to jobactive	0.509	8.6%	218 (194,244)	177 (151,201)

2 Cost benefit analysis

This section outlines the agreed scope of the cost benefit analysis, the approach adopted, the results of the analysis, and the overall outcomes delivered for young people, Government and other stakeholders.

2.1 Purpose of the analysis

The purpose of this analysis is to examine the overall value for money offered by the IPS Trial and other comparator services (DES and jobactive services in this instance). The analysis is primarily focused on the financial and economic costs and benefits associated with the IPS Trial and the comparator services, namely the costs incurred by the organisations responsible for operating each service, and the resulting benefits for participants (i.e. improved employment and earnings) and Government (i.e. reduced expenditure on unemployment benefits where participants were previously receiving support).

The scope of the quantitative analysis is limited to the comparative success of each program in achieving positive employment outcomes for participants, the value of those outcomes in terms of avoided benefits and increased earnings, and the required investment from Government to achieve the outcomes.

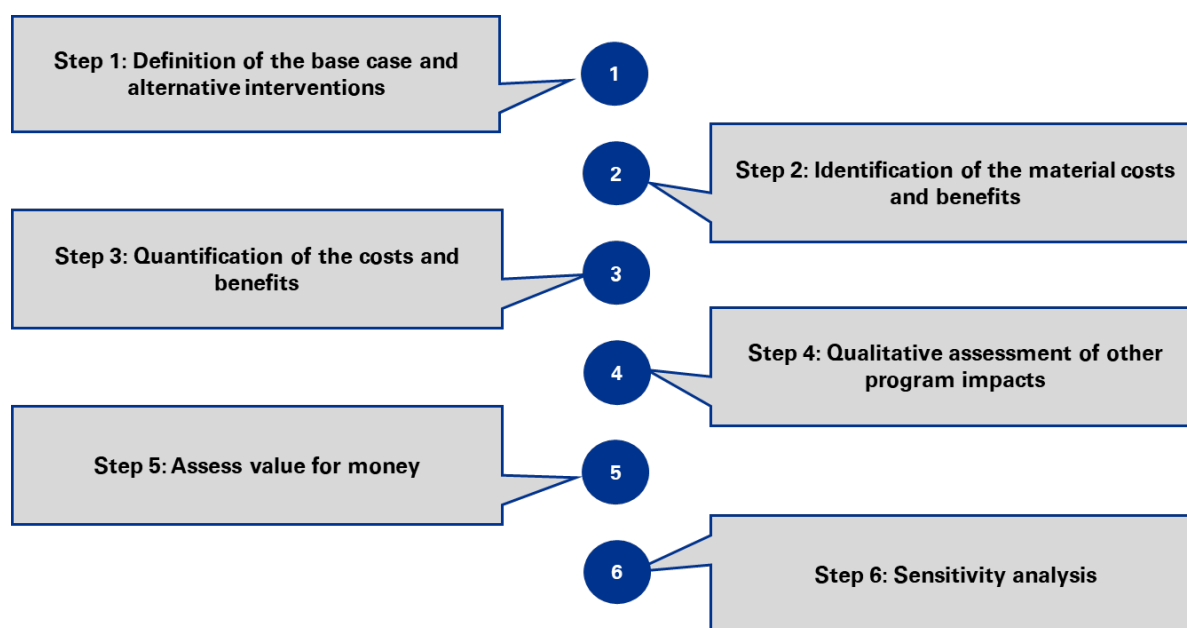
Other potential benefits, such as those related to educational attainment and indirect savings across other policy areas related to improved employment and earnings, were not quantitatively assessed and are additional to the benefits outlined in this report.

For all impacts modelled quantitatively, the assumptions made are clearly stated and are deliberately conservative to avoid overstating benefits attributable to the IPS program. A qualitative assessment of other outcomes is considered as part of the broader evaluation work being undertaken by KPMG.

2.2 Approach to the analysis

As shown in Figure 2, the value for money assessment involved application of a CBA framework, which was undertaken over six stages.

Figure 2: Overview of approach



Source: KPMG, 2020

Further detail on the approach adopted for each stage is provided below.

Step 1: Definition of the base case and alternative interventions

The base case is defined as the scenario where the employment support services provided to young people through the IPS Trial do not exist. For the purposes of this analysis, the base case assumes the young people supported through the IPS Trial will instead access mainstream jobactive support services.

As such, the jobactive service costs and outcomes represented the reference point against which the costs and benefits associated with more tailored support (i.e. IPS or DES services) was compared.

Step 2: Identification of the material costs and benefits

The next step in the analysis involved identification of all the costs and benefits associated with the base case (i.e. jobactive) and the alternative support services (i.e. IPS or DES services). This included:

- Direct costs associated with the delivery of support services (staff time, infrastructure and brokerage support);
- Improved employment outcomes (i.e. reduced time taken to gain employment, reduced unemployment, increased earnings);
- Increased educational attainment (and resulting impact on employment and earnings);
- Improvements to mental health outcomes; and
- Improved policy outcomes in other policy areas (housing, health, criminal justice system).

As outlined above, while the primary focus of the quantitative analysis was the relative success of different support services in achieving positive employment outcomes, it is important to note that the analysis considers all potential costs and benefits to inform a relative assessment of value for money.

Once identified, an analytical framework for the CBA was developed which outlined the approach to evaluating each impact and the data requirements. The final agreed analytical framework was used as a basis for this analysis.

Step 3: Quantification of the costs and benefits

This stage involved the application of the agreed analytical framework, including collation and analysis of the data and research required to undertake the agreed quantitative analysis, including:

- Cost information relating to the support provided to participants in IPS, DES and jobactive, and the number of participants in each program over this period (enabling calculation of an average unit cost per participant);
- Analysis of IPS, DES and jobactive data to identify the difference in outcomes for IPS participants relative to other services (i.e. success in obtaining competitive employment, time taken to employment, employment status after 26 weeks); and
- The valuation of these outcomes based on assumed changes in income and Government support due to employment status (i.e. a benefit to the individual from increased income, and a benefit to Government from reduced unemployment support).

Key considerations in undertaking the quantitative analysis were avoiding double counting (e.g. income benefits to individuals are limited to the difference between their wage and any previous unemployment income support) and causality (i.e. the strength of the evidence linking the support provided to the outcomes achieved and the methodology applied to control for other factors that may have contributed to this change).

Step 4: Qualitative assessment of other program impacts

Where there was insufficient evidence to support quantification, outcomes of the literature review were used to inform a qualitative assessment of all other identified impacts. This assessment was considered alongside the results of the quantitative analysis.

Step 5: Assess value for money

The quantitative data gathered and analysed was incorporated in a spreadsheet-based CBA model, which modelled the identified costs and benefits over an agreed timeframe. The model period assumes the benefits derived from the IPS Trial and comparator services accrued beyond the service delivery period (i.e. assumptions are made on the sustainability of benefits). Future costs and benefits are modelled using an appropriate discount rate, and the qualitative analysis was considered alongside the model results.

Value for money was assessed based on the estimated Net Present Value (NPV) for IPS compared to the other services, and the Benefit Cost Ratio (BCR). A positive NPV and BCR greater than one indicates a net positive impact from every dollar invested, applied only to quantitative impacts.

Step 6: Sensitivity analysis

The modelling undertaken and the overall results are based on a range of assumptions to address data gaps (e.g. sustainability of outcomes). As such, a sensitivity analysis was undertaken, where the impact of varying key assumptions on the overall results were examined.

2.3 Limitations of the analysis

The limitations associated with the approach adopted for this analysis include:

- The CBA being able to quantify some important benefits in monetary terms, but not all benefits were able to be quantified in the analysis, with the quantitative analysis representing only a portion of the total benefits of each service;
- That the comparison of costs and benefits attributable to each service must be considered in the context of differences in the target cohort (i.e. varying forms of participation and mental illness) and differences in the services (i.e. entry requirements, scale, maturity, etc.);
- Analysis of participant outcomes in the IPS Trial, DES and jobactive controlled for the demographic variables that were consistently available;
- Key outcomes data used to support the analysis was based on data provided by DSS. As a result, the analysis includes only data provided by DSS; and
- The analysis was based on the achievement of positive pathways for young people exiting the IPS Trial and other services. There is no longitudinal data available to track outcomes for young people beyond 26 weeks after

gaining employment, with evidence-based assumptions applied to estimate the longer-term outcomes for young people.

As a result of these limitations (i.e. certain benefits unable to be monetised, limitations / potential bias in the data), the model results should be considered an approximate, but conservative, estimate of the overall benefits provided by each service.

2.4 Define the base case

As outlined above, the base case for the economic analysis was assumed to represent the cost and outcomes delivered by the jobactive service. This was deemed to be a more realistic assumption than a 'no service' option and enabled the costs and outcomes of IPS and DES to be compared to jobactive, the mainstream Government employment service offering.

Table 8 summarises the cost and participant information for jobactive, and the employment outcomes estimated through the data analysis.

Table 8. *jobactive program costs and employment outcomes*

Area	Detail
Program costs	
Total claims	\$64.86m
Total participants	25,141
Average cost per participant	\$2,580
Employment outcomes	
% of participants successful in obtaining employment	30.7%
% of participants employed 26 weeks from first employment	8.6%
Median days to first employment	123 days

Source: *Analysis of data provided by the Department of Social Services*

The employment outcomes in Table 8 are based on the analysis of jobactive data provided by DSS, with this analysis controlling for a range of factors (location, age, Indigenous status etc) to create a hypothetical comparator group for the IPS and DES participant cohorts. This represents the costs and outcomes related to jobactive support being provided to those participants.

2.5 Cost analysis

The costs included in the quantitative analysis are intended to represent the full service delivery costs incurred over the model period, including program delivery, program management / administration, brokerage and other associated costs (i.e. cost of fidelity reviews, compliance, etc.). Actual funding information was sourced from the Trial services,¹⁰ with claims data used as a proxy for expenditure data for a sample of DES and jobactive services.

Table 9 summarises the cost analysis undertaken for the Trial and comparator services over a four year model period (2016-17 to 2019-20).

Table 9. *Cost comparison – IPS Trial and comparator services*

Area	jobactive	DES	IPS
Program costs			
Total costs / claims	\$64.86m	\$24.88m	\$17.81m

¹⁰ While the previous evaluation sought to adjust for unexpended funds, this analysis applied the full funding amount allocated to each site. This was assumed to better represent the investment made by Government in the Trial and results in a higher cost per participant than previously reported.

Total participants	25,141	4,546	2,533
Average cost per participant	\$2,580	\$5,473	\$7,034
Cost comparison			
No. participants	2,532	2,532	2,532
Total cost	\$6.53m	\$13.86m	\$17.81m
Additional cost relative to base case			
Additional cost per participant	n/a	\$893	\$4,451
Additional cost over model period	n/a	\$7.33m	\$11.28m

Source: KPMG analysis of expenditure and funding information provided by services and DSS

The costs shown in Table 9 represent the actual operating expenditure for the 24 Trial services as provided via a data request to DSS. The DES and jobactive costs / claims relate to the participant claims data.

An indicative cost per participant was then calculated, which took into account the cost of staff-related costs, program administration, etc. (based on an analysis of the data provided by DSS). This showed the DES and jobactive services to be lower cost than the Trial services on a cost per client basis, with jobactive being the lowest cost service.

For the purposes of this analysis, it was necessary to compare costs across each service type for an equivalent number of clients. This compared the cost of the Trial services for an estimated 2,533 clients (i.e. approximately \$17.81 million over four years) to the approximate cost of DES and jobactive services for the same number of clients (\$13.86 million and \$6.53 million respectively).

2.6 Benefit analysis

This section summarises the results of the quantitative analysis of the difference in impact on employment outcomes between IPS and comparator services, with a focus on time taken for the relative success of each program in supporting participants to obtain competitive employment, the time taken to obtain employment, and the employment status after 26 weeks.

2.6.1 Change in employment outcomes

The impact of the Trial comparator services on the level of employment attainment, and resulting earnings outcomes, represent a benefit to individuals (in the form of increased earnings) and Government (in the form of reduced expenditure on unemployment benefits).

Table 10 summarises the assumed changes in employment attainment for young people following their participation in the Trial or comparator services.

Table 10. Employment attainment – assumed change for each service type

Employment outcomes	IPS	DES	jobactive
Outcome measures			
% successful in obtaining employment	38.4%	34.3%	30.7%
% employed 26 weeks from first employment	15.6%	12.7%	8.6%
Median days to obtain employment	75 days	61 days	123 days
Participant impacts			
Total participants	2,532	2,532	2,532
No. successful in obtaining employment	972	869	777
No. employed 26 weeks from first employment	395	324	218
Median days to obtain employment	75 days	61 days	123 days

Employment impact relative to base case			
No. successful in obtaining employment	+195	+92	n/a
No. employed 26 weeks from first employment	+177	+106	n/a
Median days to obtain employment	58 days	62 days	n/a

Source: Analysis of data provided by the Department of Social Services

As shown in Table 10, both IPS and DES deliver improved employment outcomes for participants compared to jobactive. As outlined in the data analysis (refer Section 2.5), when differences in the cohorts across the three programs are controlled for, the analysis found:

- 972 IPS participants (38.4 per cent), 869 DES participants (34.3 per cent) and 777 jobactive participants (30.7 per cent) were recorded as being successful in obtaining competitive employment;
- 395 IPS participants (15.6 per cent), 324 DES participants (12.7 per cent) and 218 jobactive participants (8.6 per cent) were recorded as being employed 26 weeks from the date of first employment; and
- The median time taken to place an IPS participant in competitive employment was 75 days, compared to 61 days for DES participants and 123 days for jobactive participants.

These findings demonstrate the improved employment outcomes delivered by IPS and DES compared to jobactive, which may be a result of the more tailored and intensive support provided via these programs.

2.6.2 Valuing the change in employment outcomes

The employment impact of each program was valued based on the additional personal income and reduction in Government unemployment benefits for participants who would not otherwise have been employed under the base case scenario (refer to the assumption in Table 11).

Table 11. Valuation of change in employment outcomes

Impact	Valuation approach
Obtained competitive employment	<ul style="list-style-type: none"> • For participants who do not obtain employment, it was assumed that there will be no change to current income and Government support requirements. • For participants who do obtain employment, the change to income and Government support requirements was valued based on the time taken to obtain employment and the sustainability of employment (refer below).
Time taken to obtain competitive employment	<ul style="list-style-type: none"> • Where participants are successful in obtaining competitive employment, the time taken to obtain that employment was used to determine when the personal income and avoided Government support benefits began to accrue.
Employed at 26 weeks	<ul style="list-style-type: none"> • Where participants were successful in obtaining competitive employment, the analysis adjusted for the sustainability of that employment. • For the purposes of this analysis, if the participant remained employed at 26 weeks, this was assumed to represent a sustainable employment outcome. • The employment benefit was not assumed to be ongoing, with the causal link between the program support and the employment status likely to diminish over time. • Further consideration will need to be given to the extent to which ongoing employment remains attributable to the program intervention.

Table 12 summarises the monetary values that will be applied to each successful employment outcome, and then aggregated to achieve site and program level estimates of benefits.

Table 12. Benefit assumptions

Employment benefit	Details
Avoided Government support	<ul style="list-style-type: none"> Australian Government savings in avoided NewStart expenditure, commencing from the start of employment Based on pre-job seeker amount \$538 per fortnight (single). While NewStart has temporarily been replaced by the JobSeeker payment, this did not apply for the period of analysis.
Increased personal income	<ul style="list-style-type: none"> The personal income benefit to participants who are successful in gaining employment equates to the difference between NewStart support and wages earned from employment. For the purposes of this analysis, average weekly earnings for young people will be used as the basis for estimating personal income (i.e. \$1,127 per week or \$2,254 per fortnight).¹¹ An average weekly earning's figure was selected as the employment status (full-time, part-time, casual) for IPS trial participants did not provide insights into participant earnings. Therefore, the personal income benefit for each additional person employed equates to \$1,716 per fortnight (i.e. \$2,254 - \$538 per fortnight).

Based on these assumptions, Table 13 summarises the results of the quantitative modelling of the employment impacts associated with each program. While program benefits were considered over a 10 year period following participation in the program, the benefits from program participation were not assumed to be sustained over the full model period.

Table 13. Program impact and net impact of employment outcomes

Employment outcomes	IPS	DES	jobactive
Program impact			
Additional participant income	\$31.62m	\$26.50m	\$16.17m
Avoided Government support payments	\$9.92m	\$8.31m	\$5.07m
Total value of employment impact	\$41.54m	\$34.81m	\$21.24m
Net impact compared to base case (jobactive)			
Additional participant income	\$15.45m	\$10.33m	na
Avoided Government support payments	\$4.85m	\$3.24m	na
Total value of employment impact	\$20.29m	\$13.56m	na

Source: Analysis of data provided by the Department of Social Services

As shown in Table 13, the value of the employment outcomes achieved by each program over the model period is greater for DES and IPS compared to jobactive, with IPS delivering the greatest estimated employment benefit. The majority of this benefit (approximately 75 per cent) represents the estimated increase in participant income.

2.7 Value for money assessment

Table 14 summarises the overall results of the CBA, which are expressed in nominal and net present value terms (a discount rate of 7 per cent is applied in accordance with Commonwealth Government guidelines). All costs and benefits were quantified relative to jobactive costs and outcomes, and modelled over a 10 year period.

¹¹ Estimated as the average of earnings figures for age cohorts relevant to this analysis (Source: ABS Employee Earnings and Hours, May 2018)

Table 14. Summary outcomes of the quantitative analysis

Overall impact	IPS	DES
Nominal impacts		
Additional program costs	\$11.28m	\$7.33m
Improved employment outcomes	\$20.29m	\$13.56m
Net impact	\$9.02m	\$6.23m
NPV impacts		
Additional program costs	\$9.33m	\$6.34m
Improved employment outcomes	\$16.59m	\$11.11m
Net Present Value (NPV)	\$7.26m	\$4.78m
Benefit Cost Ratio (BCR)	1.78	1.75

Source: Analysis of data provided by the Department of Social Services

Table 14 shows that both programs provide an additional net benefit compared to jobactive. IPS provides the greatest net quantified benefit, but relative to the investment made (i.e. measured as the BCR), the difference between DES and IPS is marginal. Both programs are estimated as providing a return of around \$1.70 for every additional dollar invested.

2.7.1 Sensitivity analysis

This section examines the sensitivity of the above analysis to variations in key assumptions. Table 15 describes the alternative scenarios considered as part of the sensitivity analysis, including the specific assumptions made within the main analysis, and the alternative assumptions modelled.

Table 15. Sensitivity analysis – scenarios tested

Variable	Core analysis	Sensitivity analysis
Discount rate	7% (as per Government guidelines)	4% and 10%
Employment impact	+7% at 26 weeks for IPS compared to jobactive	+/- 3%
Duration of program impact	2 years from enrolment	+/- 0.5 years

Source: Analysis of data provided by the Department of Social Services

The outcomes of the above sensitivity analysis are summarised in Table 16, with the impact of each on the assessed level of quantitative costs and benefits provided.

Table 16. Sensitivity analysis – results for IPS Trial services

Sensitivity analysis		NPV	BCR
Main analysis		\$7.26m	1.78
Scenario analysis			
Discount rate	4%	\$7.96m	1.79
	10%	\$6.65m	1.77
Employment impact	+4% at 26 weeks	\$3.21m	1.34
	+10% at 26 weeks	\$10.01m	2.07
	1.5 years	\$2.87m	1.31

Sensitivity analysis		NPV	BCR
Duration of program impact	2.5 years	\$11.64m	2.25

Source: Analysis of data provided by the Department of Social Services

As shown in Table 16, under all scenarios, the quantitative benefits associated with the Trial outweigh the additional costs of the program compared to jobactive.

3 Conclusion

The analysis presented in the previous section demonstrates that the quantitative benefits resulting from the current implementation of IPS outweigh the additional investment made by Government relative to the jobactive service. This is evidenced by the results of the quantitative analysis, which show a net direct benefit of around **\$9.0 million (nominal) or \$7.3 million (NPV)**, with this benefit shared between Government (reduced welfare payments) and IPS participants (increased personal income).

- Importantly, the results of the quantitative analysis are subject to a number of limitations that may understate the full impact (benefits) to participants and Government. These include: Key benefits relating to improved outcomes for participants across other policy areas, such as education, health, justice and housing, were unable to be quantified. These benefits are likely to be substantial and result in material additional savings for State and Federal Governments and, in many cases, directly correlated with improvements in employment outcomes (i.e. participants who are employed are less likely to be experiencing homelessness or involved in the criminal justice system).
- In particular, improvement to education attainment represents a key focus of IPS, but without comparable outcomes data available across the programs being considered, the resulting further improvement in employment and earnings outcomes was not able to be captured in the analysis.
- The analysis of outcomes across the three programs controlled for certain factors to improve the comparability of participant outcomes, but was not able to adjust for the presence of a mental health condition. This means the outcomes achieved by IPS participants (assumed young people with a mental illness) were compared to outcomes by jobactive participants (presence of a mental illness unknown).
- For the impacts modelled, a relatively conservative approach has been taken in developing the necessary assumptions (e.g. the program impact is assumed to dissipate after two years from enrolment).

Finally, given that this analysis is limited to the costs and benefits associated with the current implementation of the IPS program, it is likely that expansion of the service would result in a proportional increase in the assessed level of benefits.

Appendix A: Reference List

- Australian Bureau of Statistics, 2019, '6306.0 - Employee Earnings and Hours, Australia, May 2018', ABS, Canberra, available at <https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/27641437D6780D1FCA2568A9001393DF?opendocument>.
- Australian Bureau of Statistics, 2019, '6202.0 - Labour Force, Australia, Jan 2019', ABS, Canberra, available at <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6202.0Main+Features1Jan%202019?OpenDocument>.
- Bond, GR, Drake, R & Becker, DR, 2012, 'Generalizability of the Individual Placement and Support (IPS) model of supported employment outside the US', *World Psychiatry*, 11(1), pp.32-39.
- Dartmouth Psychiatric Research Centre, 2011, 'Practice Principles of IPS Supported Employment', available at <https://www.dartmouth.edu/~ips/page48/page79/files/ips-practice-principles-002880029.pdf>.
- Department of Social Services, 2016, 'Individual Placement and Support Trial Operational Guidelines', DSS, Canberra.
- Disability Employment Australia, n.d., 'Disability Employment Services Sector', available at <https://disabilityemployment.org.au/for-people-with-a-disability/disability-employment-services-sector/>.
- Disability Employment Services, 2020, 'Outcomes Supporting Document', available at https://www.dss.gov.au/sites/default/files/documents/03_2020/des-outcomes-supporting-document.pdf.
- Job Access, 2018, 'DES Funding', available at <https://www.jobaccess.gov.au/people-with-disability/des-funding>.
- Job Access, 2018, 'Eligibility', available at <https://www.jobaccess.gov.au/people-with-disability/eligibility>.
- jobactive, n.d., 'Providers of jobactive services', available at https://docs.employment.gov.au/system/files/doc/other/cleared_-_program_fact_sheet_for_jobactive_1.pdf.
- Killackey, E, Jackson HJ, McGorry, PD, 2008, 'Vocational intervention in first-episode psychosis: Individual placement and support v. treatment as usual', *British Journal of Psychiatry*, 193, 2, pp.114-20, DOI:10.1192/bjp.bp.107.043109, <https://www.ncbi.nlm.nih.gov/pubmed/18669993>
- Productivity Commission, 2019, 'Mental Health', Draft Report, Canberra.
- Waghorn, G., Killackey, E., Dickson, P., Brock, L. & Skate, C. 2019, 'Evidence-Based Supported Employment for People With Psychiatric Disabilities in Australia: Progress in the Past 15 Years', *Psychiatric Rehabilitation Journal*, vol. 43, no. 1, pp. 32-39.

Appendix B: Data analysis approach

This appendix provides insights and general context around IPS, DES and jobactive participants, their employment outcomes and the analytical approach used to understand what might have occurred for the IPS participants if they were accessing DES or jobactive.

B.1 IPS, DES and jobactive data extracts

De-identified unit record level data was made available to the KPMG team for IPS, DES and jobactive participants in the 24 locations where the IPS Trial is located. This data applies to participants of these programs for the timeframe 1 July 2017 to 31 March 2021. The de-identified unit record data, securely accessed by the KPMG team remotely, consisted of a large number of Excel files and tabs.

This unit record data consisted primarily of variables across the domains of participant characteristics, participant outcomes and costs/claims data. A key suite of variables across these domains were able to be used to inform the analytical approach.

The DES and jobactive consisted of claims information that could be linked to participants, e.g. service and outcome fees for a jobactive participant gaining and staying in employment. This claims data forms the basis of understanding the “costs” of these programs.

In contrast, the cost data for IPS is site level, i.e. each IPS trial site receives \$260,000 per financial year. IPS trial sites that have received funding since commencement are assumed to have received their full allocation for four financial years. The participant characteristics, outcomes and cost/claims and the variables that were able to be used is summarised in Table 18.

Table 17. Variable domains and variables that were able to be used in the analysis

Variable domain	Variables used to understand the impact of IPS versus DES and jobactive on employment outcomes	Variables unable to be used to understand the impact of IPS versus DES and jobactive
Participant characteristic	<ul style="list-style-type: none"> Age at commencement Gender Indigenous status Location Highest education level Month of entry 	<ul style="list-style-type: none"> Culturally and linguistically diverse English speaking/English proficiency Mental health status Location changes (i.e. change of address information)
Participant outcomes	<ul style="list-style-type: none"> First employment outcome Days between entry and first employment outcome 	<ul style="list-style-type: none"> Education outcomes
Costs and claims	<ul style="list-style-type: none"> IPS program costs DES claims jobactive claims 	<ul style="list-style-type: none"> Additional information about DES and jobactive overhead costs

Source: KPMG

B.1.1 Program participants and IPS participants in DES and jobactive

Across the 24 IPS Trial sites, the IPS Program has had the smallest number of participants in comparison to DES and jobactive. The participant figures are outlined in Table 19.

Table 18. Count of participants in IPS, DES and jobactive

Program	IPS	DES	Jobactive
Participants	2,532	4,540	25,141

Source: Analysis of data provided by the Department of Social Services

The IPS Program Reporting Tool (PRT) captures the participant's Statistical Linkage Key.¹² This variable was used to understand how many IPS participants may have also participated in DES or jobactive. As outlined in Table 20, the majority of IPS participants (84 per cent) appear to have not participated in DES or jobactive. This distribution is outlined in Table 20.

Table 19. IPS participants and whether they are linked to DES and jobactive

Program status	Not in DES	In DES	Total
Not in jobactive	2,123 (84%)	139 (5%)	2,262 (89%)
In jobactive	228 (9%)	42 (2%)	270 (11%)
Total	2,351 (93%)	181 (7%)	2,532 (100%)

Source: Analysis of data provided by the Department of Social Services

B.2 Participant characteristics by program

This section outlines, at a program level, key participant demographic characteristics. The demographic characteristics that are collected consistently across IPS, DES and jobactive are:

- Age at commencement;
- Gender;
- Indigenous status;
- Location; and
- Highest level of education.

Each of these demographic variables required mapping to a common set of values (or code set). This involved taking the original set of values for a variable such as Indigenous status and mapping them to a consistent set of values across the three datasets. It also involved determining how to treat missing values. The distributions outlined in this section are of the variables mapped to a common set of values to enable further analysis.

This section also includes a brief discussion of mental health status. Mental health status is not recorded in the unit record data for IPS. For this reason, in addition to inconsistencies in how mental health status was recorded in DES and jobactive, mental health status was not able to be included in the analysis of comparative outcomes among the three programs. This issue may be able to be overcome through more detailed analysis of the available mental health data and qualitative information on mental health status of IPS clients. Such further investigation was beyond the scope of this evaluation.

¹² The AIHW provide a quick guide to how a Statistical Linkage Key is built at <https://www.aihw.gov.au/getmedia/e1d4d462-8efa-4efa-8831-fa84d6f5d8d9/aodts-nmds-2016-17-SLK-581-guide.pdf.aspx>

B.2.1 Age at commencement

As noted in section 2.4, there are differences in the program eligibility criteria in relation to age. For example, IPS is available to young persons aged 12 to 25 years. However, the majority (greater than 85 per cent) are aged 17 to 25 years when they commence in IPS.

There are differences in the age distribution for IPS, DES and jobactive participants. Notably jobactive has a substantial (30 per cent) of participants with an age of commencement of 18 years. The age at commencement distribution across the three programs is outlined in Table 21.

Table 20. Age distribution of participants in IPS, DES and jobactive

Age	IPS	DES	jobactive
<17	268 (11%)	81 (2%)	563 (2%)
17	259 (10%)	214 (5%)	2,727 (11%)
18	347 (14%)	435 (10%)	7,525 (30%)
19	348 (14%)	584 (13%)	4,190 (17%)
20	333 (13%)	565 (12%)	2,352 (9%)
21	242 (10%)	548 (12%)	1,820 (7%)
22	218 (9%)	554 (12%)	2,459 (10%)
23	180 (7%)	556 (12%)	1,598 (6%)
24	144 (6%)	537 (12%)	1,109 (4%)
25+	130 (5%)	465 (10%)	798 (3%)
Other and unknown	63 (2%)	1 (0%)	0 (0%)
Total	2,532 (100%)	4,540 (100%)	25,141 (100%)

Source: Analysis of data provided by the Department of Social Services

B.2.2 Gender

The supplied DES and jobactive data had two values available for gender. Those two values were male and female. There were no missing values for this variable for these two programs. In contrast, the IPS data had three values (male, female, X - indeterminate/intersex/unspecified) and several missing values.

The value "other and unknown" is used for all demographic variables where the field is missing and for those IPS participants where the value of gender is recorded as 'X'. The most notable differences between the three programs is that IPS has a higher percentage of participating females and that the IPS participant data includes the option of recording gender as indeterminate, whereas DES and jobactive have an almost even gender split of clients. This distribution is outlined in Table 22.

Table 21. Gender distribution of participants in IPS, DES and jobactive

Gender	IPS	DES	jobactive
Female	1,376 (54%)	2,201 (48%)	12,712 (51%)
Male	1,087 (43%)	2,339 (52%)	12,429 (49%)
Other and unknown	69 (3%)	0 (0%)	0 (0%)
Total	2,532 (100%)	4,540 (100%)	25,141 (100%)

Source: Analysis of data provided by the Department of Social Services

B.2.3 Indigenous status

The supplied DES and jobactive data had five separate values available for Indigenous status. The majority (91 per cent) of jobactive participants had no value recorded for Indigenous status, meanwhile for DES, there were a substantial number of participants with no value recorded (31 per cent). To enable this variable to be incorporated for the modelling process, these participants with missing Indigenous status were recoded to Non-Indigenous.

This approach to treating missing Indigenous status does not align with the ABS standard for Indigenous status. However, if these records were coded to "Other and unknown", it would have meant that the IPS, DES and jobactive participants had markedly different Indigenous status distributions that were unlikely to reflect reality given that approximately 2.8 per cent of the population identified as Aboriginal and Torres Strait Islander (Indigenous) in the 2016 population Census. Across the three programs, the majority of participants are Non-Indigenous. This distribution is outlined in Table 23.

Table 22. Indigenous status distribution of participants in IPS, DES and jobactive

Indigenous status	IPS	DES	jobactive
Non-Indigenous	2,012 (79%)	3,927 (86%)	23,187 (92%)
Indigenous	380 (15%)	412 (9%)	1,931 (8%)
Other and unknown	140 (6%)	201 (4%)	23 (0%)
Total	2,532 (100%)	4,540 (100%)	25,141 (100%)

Source: Analysis of data provided by the Department of Social Services

B.2.4 Location

Each of the 24 IPS Trial sites report details of participants and their outcomes within the Program Reporting Tool (PRT). Data was extracted for DES and jobactive participants that were also in these 24 locations. Across all sites, there are more jobactive than IPS or DES participants. In some locations (e.g. Broome), there are more IPS participants than DES participants.

Table 23. Location distribution of participants in IPS, DES and Jobactive

Location	IPS	DES	jobactive
Albany, WA	111 (12%)	95 (11%)	693 (77%)
Bega, NSW	48 (17%)	41 (15%)	188 (68%)
Bendigo, VIC	144 (7%)	338 (16%)	1,588 (77%)
Broome, WA	92 (24%)	29 (8%)	258 (68%)
Cairns, QLD	71 (10%)	102 (15%)	521 (75%)
Darwin, NT	209 (14%)	103 (7%)	1,215 (80%)
Devonport, TAS	15 (2%)	76 (11%)	632 (87%)

Location	IPS	DES	jobactive
Dubbo, NSW	184 (17%)	70 (6%)	850 (77%)
Edinburgh North, SA	146 (5%)	518 (19%)	2,130 (76%)
Frankston, VIC	20 (5%)	104 (25%)	296 (70%)
Gosford, NSW	143 (3%)	903 (19%)	3,606 (78%)
Grafton, NSW	48 (18%)	87 (32%)	134 (50%)
Hervey Bay, QLD	30 (6%)	101 (20%)	375 (74%)
Hobart, TAS	122 (3%)	547 (13%)	3,616 (84%)
Inala, QLD	142 (8%)	152 (9%)	1,384 (82%)
Meadowbrook, QLD	206 (17%)	145 (12%)	895 (72%)
Midland, WA	19 (1%)	85 (7%)	1,178 (92%)
Mt Isa, QLD	118 (32%)	14 (4%)	237 (64%)
Nowra, NSW	44 (7%)	161 (24%)	468 (70%)
Penrith, NSW	200 (7%)	434 (15%)	2,257 (78%)
Port Augusta, SA	162 (39%)	29 (7%)	226 (54%)
Shepparton, VIC	164 (13%)	143 (11%)	997 (76%)
Sunshine, VIC	41 (4%)	149 (14%)	862 (82%)
Townsville, QLD	53 (8%)	114 (16%)	535 (76%)

Source: Analysis of data provided by the Department of Social Services

B.2.5 Highest level of education

The IPS, DES and jobactive unit record data all contained a variable that recorded the highest level of completed education. However, the values for each of these datasets needed to be mapped to a common reference set. The distribution of highest level of completed education is outlined in Table 25. The differences in the distribution across the program, coupled with the fact that an individual's education level is correlated to the likelihood of employment, is also a reason for including this variable in the regression analysis as an explanatory variable (Productivity Commission 2019).

Table 24. Highest level of completed education distribution of participants in IPS, DES and jobactive

Highest level of education	IPS	DES	jobactive
Primary education	571 (23%)	340 (7%)	1,156 (5%)
Secondary education	1,420 (56%)	2,486 (55%)	14,501 (58%)
Non-school (Certificate/VET/Trade)	390 (15%)	1,267 (28%)	5,602 (22%)
Tertiary education	75 (3%)	187 (4%)	3,116 (12%)
Other and unknown	76 (3%)	260 (6%)	766 (3%)
Total	2,532 (100%)	4,540 (100%)	25,141 (100%)

Source: Analysis of data provided by the Department of Social Services

B.2.6 Mental health status

The unit record IPS data does not contain a variable that includes information about the type of mental health condition (e.g. diagnosis of anxiety or depression). It is known that an IPS Trial participant is likely to have a mild to moderate mental health condition. DES and jobactive data contained mental health related variables, although there were differing levels of detail.

The supplied DES data included a variable for primary disability group. The majority of the DES participants (77 per cent) were listed as having a primary disability group of psychiatric. For jobactive, this primary disability group variable was included in the data but was blank for all participants. Given the lack of equivalent variables across the three datasets, a mental health status variable was not included in the analysis.

Reconciling the different concepts underlying the code sets in the programs would require material investigative effort to determine whether a suitable, common set of values could be derived, to which to map the DES and jobactive mental health status data. Further research, most likely involving additional analysis or qualitative research into IPS client mental health status (conditions and severity), would be needed to determine whether it would be practicable to then incorporate mental health status into comparative analysis of employment outcomes across IPS, DES and jobactive. An approach to this may be to look at the IPS Trial participants who have also participated in DES (181) and jobactive (270).

B.3 Participant employment outcomes by program

This section describes the first employment outcomes and time taken to first employment across the three programs.

B.3.1 First employment outcome

To understand participant employment rates, a conservative approach was taken to best measure employment outcomes, for example some IPS participants may only have an education outcome focus as part of their vocational support plan. However, the majority of IPS participants have an employment or education and employment outcome focus. In using a conservative approach, it allows for the possibility that the percentage of IPS participants employed could be higher than 38 per cent, particularly if participants with only an education focus were excluded from the total count of participants. Ultimately however, many of these participants with an education focus will likely seek employment, either within the IPS Trial or outside it.

Outlined in Table 26 are counts of the number and percentage of participants who had been employed by IPS, DES and jobactive. Table 26 outlines that IPS (38 per cent) has the highest percentage of participants employed. It is three percentage points higher than DES (35 per cent) and 5 percentage points higher than jobactive (33 per cent).

Table 25. Program participants and number achieving their first employment outcome¹³

Employment status	IPS	DES	jobactive
Not employed	1,560 (61.6%)	2,948 (64.8%)	16,955 (67.4%)
Employed	972 (38.4%)	1,592 (35.0%)	8,186 (32.6%)
Total	2,532 (100.0%)	4,540 (99.9%)	25,141 (100.0%)

Source: Analysis of data provided by the Department of Social Services

Outlined in Table 27 are counts of the number and percentage of participants who had been employed by IPS, DES and jobactive. Table 27 outlines that IPS (16 per cent) has the highest percentage of participants still employed at 26 weeks. It is three percentage points higher than DES (13 per cent) and 6 percentage points higher than jobactive (10 per cent).

Table 26. Program participants and their first employment status at 26 weeks

Employment status at 26 weeks	IPS	DES	jobactive
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¹³ First employment status refers to the first instance of employment achieved whilst a participant of IPS, DES or jobactive.

Not employed	2,137 (84.4%)	3,940 (86.7%)	22,676 (90.2%)
Still employed	395 (15.6%)	600 (13.2%)	2,465 (9.8%)
Total	2,532 (100.0%)	4,540 (100.0%)	25,141 (100.0%)

Source: Analysis of data provided by the Department of Social Services

As outlined in the participant characteristics section, there are differences in the age, gender, Indigenous status, location and highest level of education of participants across these three programs. By controlling for these variables in the modelling approach, it provides additional insight into what we might have expected of IPS participants in terms of employment outcomes compared to DES or jobactive.

B.3.2 Time taken to first employment

Outlined in Table 28 are the average and median days taken to first employment for IPS, DES and jobactive participants. DES participants had the lowest average and median number of days to first employment. DES achieves employment for participants about a fortnight (14 days) sooner than IPS. Jobactive has the greatest average and median number of days to employment.

Table 27. Program participants and their first employment status

Employment status	IPS	DES	jobactive
Average days to first employment	111	95	165
Median days to first employment	75	61	123

Source: Analysis of data provided by the Department of Social Services

B.4 Analytical approach

Given the dichotomous nature of the employment outcome variables (i.e. participant obtains employment or does not obtain employment), multivariate logistic regression was chosen as the preferred method to investigate relationships between participant demographic variables and each of the outcomes of interest.

The participant demographic characteristics investigated in relation to these dichotomous outcome variables were:

- Age at commencement;
- Gender;
- Indigenous status;
- Highest completed education level;
- Site; and
- Program.

Prior to undertaking the regression analysis, initial exploratory analysis showed that there were overarching differences in employment outcome rates for these participant demographic characteristics. Consequently, it was decided to include all the variables in a stepwise multivariate logistic regression. In the modelling, IPS Trial participants were assumed to be the “base case” to be compared against DES and jobactive employment outcomes.

The analyses in this report have not exhaustively investigated the potential interactions outcomes examined and their variables. That is, while the influence of gender and age has been considered, the influence of the interaction between gender and age has not been considered in the regression modelling.¹⁴

¹⁴ The principal reason for this is that the effort and time required to develop, test and select the most appropriate models from those that considered all such interactive effects is considerable. The task of interpreting the results of such modelling is also

Instead, exploratory logistic regressions were carried out for individual demographic variables, to separately test for interactions between each variable and site. These exploratory analyses were carried out separately for each program. None of these exploratory regressions showed significant interactions between site and any of the demographic variables, for any of the programs.

In light of this, the results presented in this report should be seen as indicative. In particular, they suggest that there may be value in specific analysis to aide in establishing some IPS Trial “rules of thumb”. These rules of thumb may guide trial sites to maintain a focus on remaining cost effective. For example, if an IPS Trial site had 100 participants over two years, what is the rule of thumb for them being “cost effective” in relation to employment outcomes, which begs the question of whether there were 30, 40 or 70 participants per 100 participants obtaining an employment outcome.

Terminology

The results of logistic regressions are presented in tables of odds ratios for the ‘Program’ variable in the final regression model for each employment outcome of interest. The odds ratio is the ratio of the odds of a successful outcome (for example, the participant was employed) for a nominated program relative to the corresponding odds for the reference program. The odds of a successful outcome are calculated as:

$$\text{Odds of success} = (\text{Probability of success}) / (\text{Probability of failure})$$

While the odds ratio is based on odds and not probabilities of outcomes, it allows interpretation of relative probabilities. In particular, an odds ratio greater than one means success is more probable for the nominated value of the characteristic than they are for the base value. An odds ratio of less than one means that success is less probable. An odds ratio of exactly one means success is equally probable for both the nominated and base values.

By including the above demographic variables in the regression modelling, the impact of relevant demographic differences in the client cohorts for each program effectively were controlled for. Consequently, the odds ratios for the ‘Program’ variable can be reliably interpreted as reflecting differential impacts of each program on employment outcomes, independently of the above demographic variables.

For the multivariate logistic regressions undertaken, the reference program was set as IPS. Thus, the odds ratios in the tables indicate whether DES and jobactive, respectively, were more or less likely to produce a successful employment outcome than IPS. Using these results, it was possible to derive statistical estimates of the impact of IPS, measured in terms of the numbers of additional clients with successful employment outcomes relative to DES and jobactive, respectively.

B.5 Analytical insights

Table 29 outlines the estimated percentage of IPS participants who may have been placed in employment if they had participated in DES or jobactive. These estimates control for the characteristics of age at commencement, gender, Indigenous status, location and highest education level. Another way of considering these results would have been to instead use the “raw” total percentage placed figures for DES (35.0%) and jobactive (32.6%). However, the “raw” percentage figures do not control (or adjust) for these demographic variables.

Also included in Table 29 is the impact of IPS relative to DES and jobactive. This impact is outlined as the estimated number of participants who may have been placed and the additional number placed by IPS. For example, while IPS placed 972 participants, it is estimated that DES would have placed 869 participants. In other words, 103 IPS participants may not have been placed in employment had they been in DES. Similarly, it is estimated that 195 IPS participants would not have been placed in employment had they been in jobactive. These estimates are outlined in Table 29 along with the confidence intervals around these estimates.

Table 28. Estimated impact of IPS relative to DES and jobactive for first employment outcome

Employed	Estimated odds ratio	Estimated percentage placed	Estimated number placed	Additional number placed by IPS
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considerable. In the context of the exceptionally short time frame for this project (i.e. finalised jobactive data was received on 14 August 2020 and a PRT was updated on 24 August 2020), that deeper analysis was not practicable.

Impact of IPS relative to DES	0.838	34.3%	869 (808, 931)	103 (41, 164)
Impact of IPS relative to jobactive	0.71	30.7%	777 (728, 827)	195 (145, 244)

Source: Analysis of data provided by the Department of Social Services

Table 30 provides detail on the impact of IPS relative to DES and jobactive for first employment outcome at 26 weeks.

Table 29. Estimated impact of IPS relative to DES and jobactive for first employment outcome at 26 weeks

Employed	Estimated odds ratio	Estimated percentage placed	Estimated number placed	Additional number placed by IPS
Impact of IPS relative to DES	0.795	12.8%	324 (285,369)	71 (26,110)
Impact of IPS relative to jobactive	0.509	8.6%	218 (194,244)	177 (151,201)

Source: Analysis of data provided by the Department of Social Services



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