

Using data to deepen our understanding of VET students and their outcomes

Presenters



Melinda Lees

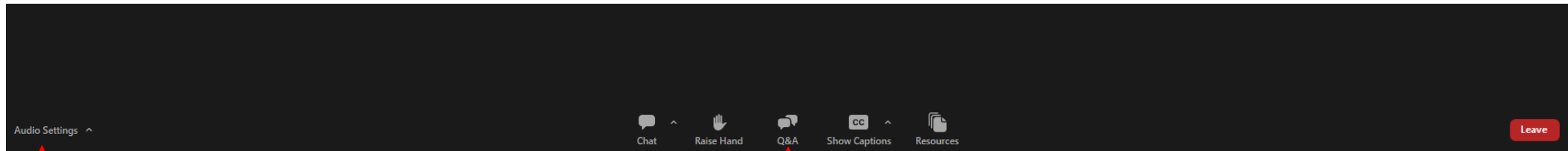
Team Leader, Research and Data Analytics,
NCVER



Michelle Hall, PhD

Senior Data Analyst, Research and Data Analytics,
NCVER

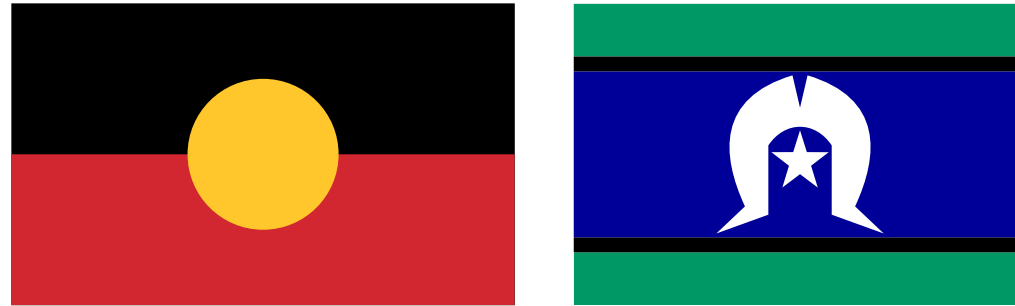
How to use Zoom



Check
audio here

Click here to
ask a question

Acknowledgement of Country



NCVER acknowledges the Traditional Custodians of Country throughout Australia and their continued spiritual connection to land. We pay respect to Elders past, present and emerging.



Longitudinal data analysis to explore VET student and apprentice and trainee pathways and outcomes



Analysis of the ABS Person Level Integrated Data Asset (PLIDA) to investigate occupation and employment outcomes for VET students

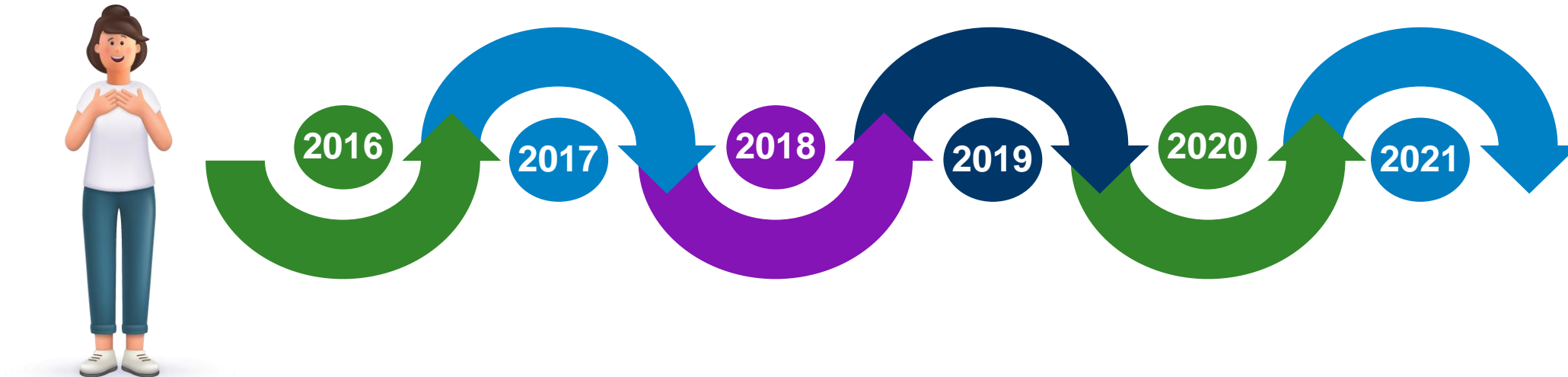


Use of advanced data analytics tools and techniques to explore VET data

Longitudinal data analysis to
explore VET student and
apprentice and trainee
pathways and outcomes



How we use longitudinal data analysis to explore VET student pathways and outcomes



1. Identify students

- Unique student identifier (USI)
- Logic to resolve conflicts in demographic information



2. Identify program enrolments

- We account for supersession of programs and training providers
- We look for enrolments that continue across consecutive years
- We can then identify the commencing year for enrolments that span multiple years

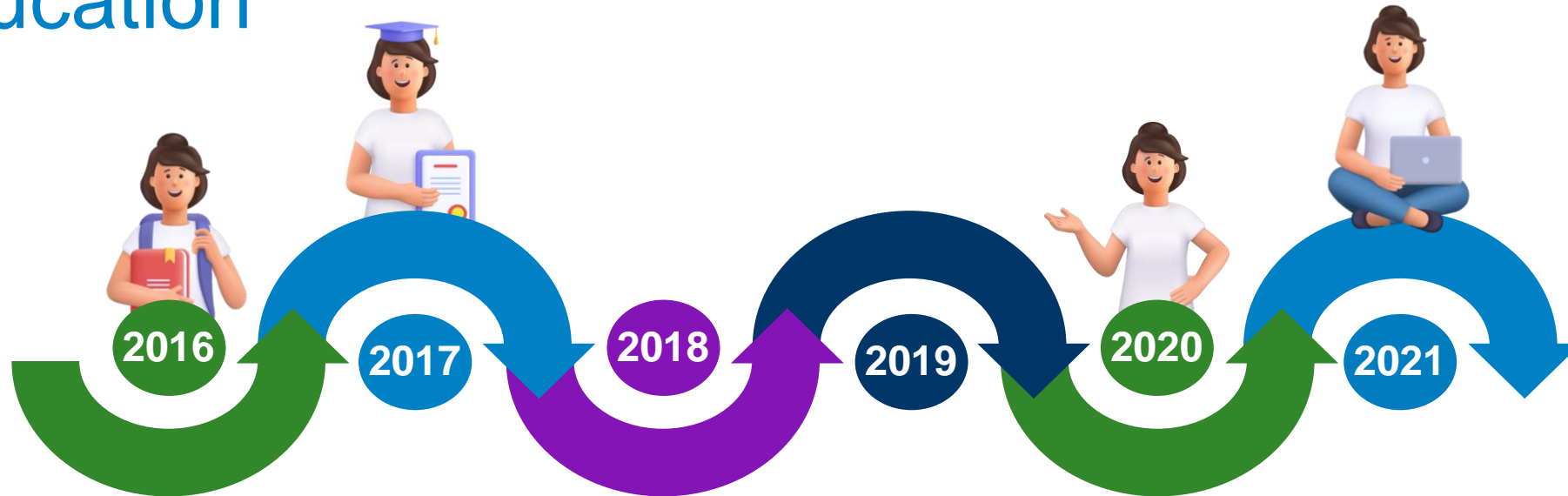


3. Identify program completions

- Enrolment and completion records are submitted separately
- If there was no completion, was there another enrolment in the following year?



Case study: Exploring longitudinal data to understand training pathways between levels of education





1.4 million students commenced a VET qualification in 2016



- No subsequent commencing enrolment
- Progression between levels of education
- Progression from/to mixed level of education

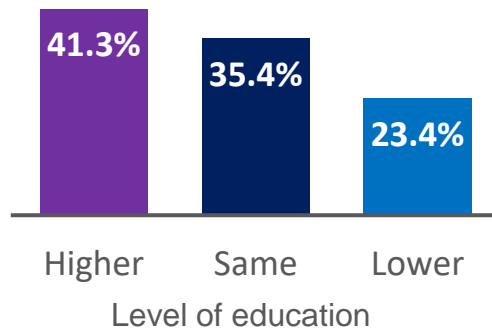


1.4 million students commenced a VET qualification in 2016

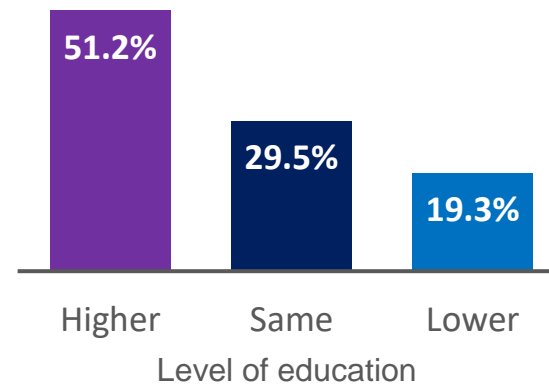


- No subsequent commencing enrolment
- Progression between levels of education
- Progression from/to mixed level of education

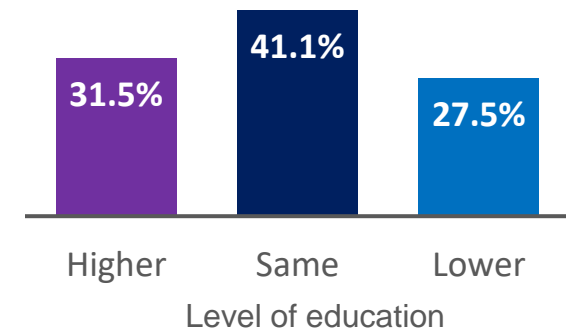
Pathways following 2016 commencing enrolments



Pathways for completers



Pathways for non-completers



Training pathways analysis

First commencing enrolment	Subsequent commencing enrolment
Completers – movement to a higher level	
Cert. III in Early Childhood Education and Care (CHC30121)	→ Diploma of Early Childhood Education and Care (CHC50121)
Cert. III in Carpentry (CPC30220)	→ Cert. IV in Building and Construction (CPC40120)
Cert. III in Individual Support (CHC33015)	→ Cert. IV in Ageing Support (CHC43015)
Non-completers – movement to a lower level	
Diploma of Early Childhood Education and Care (CHC50121)	→ Cert. III in Early Childhood Education and Care (CHC30121)
Cert. III in Catering Operations (SIT30916)	→ Cert. II in Kitchen Operations (SIT20416)
Diploma of Business (BSB50120)	→ Cert. III in Business (BSB30120)

How we use longitudinal data analysis to explore VET pathways into and out of apprenticeships and traineeships

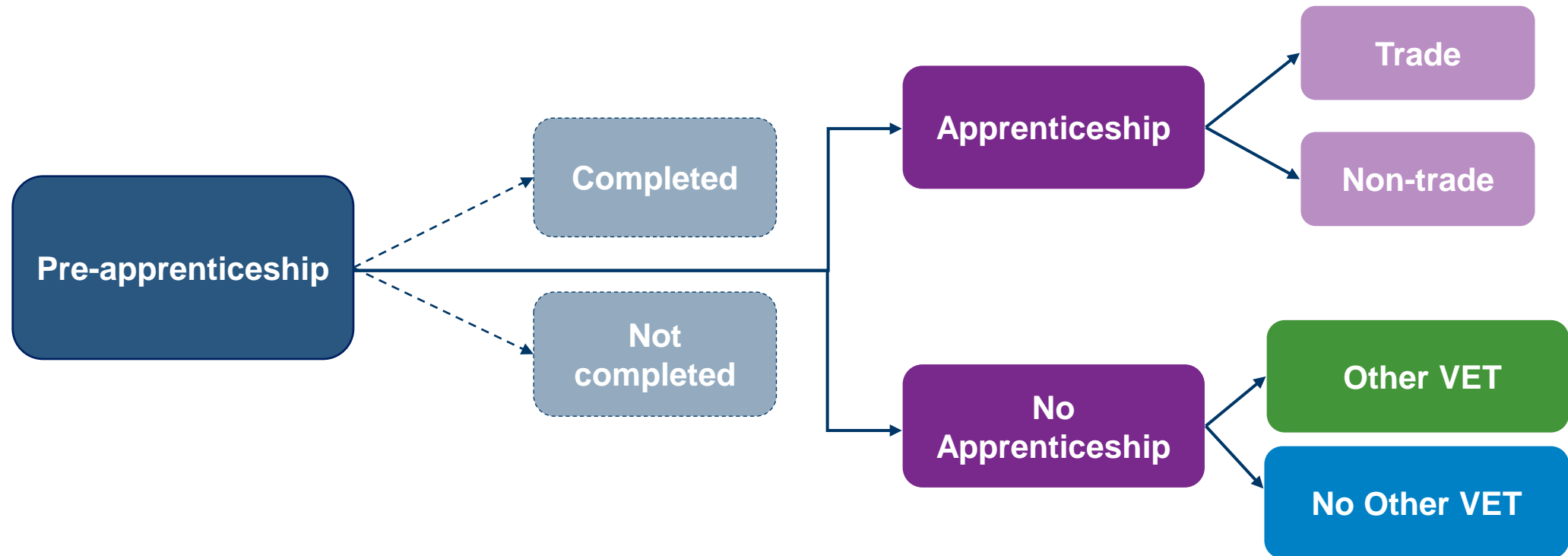


Linking total VET activity program data to apprentice and trainee contracts

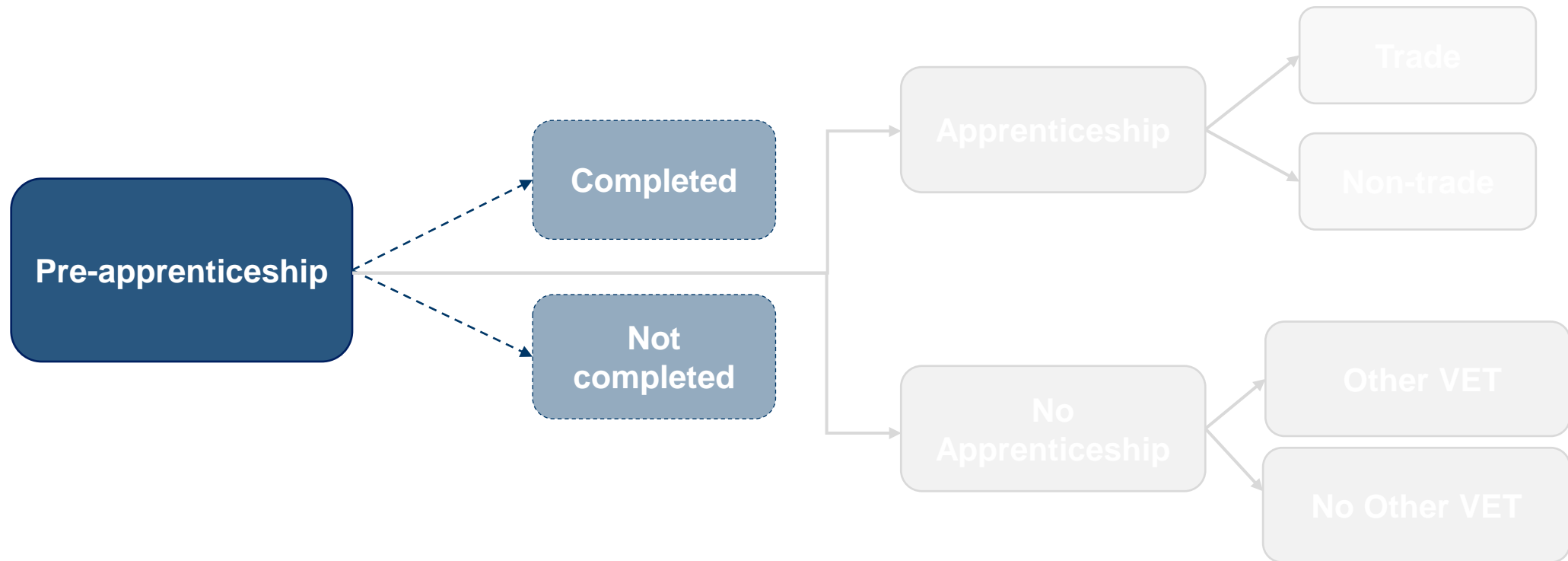
- Link datasets
- Add Unique Student Identifier (USI) from total VET activity data to apprentice and trainee contracts
- Explore VET pathways and outcomes by USI



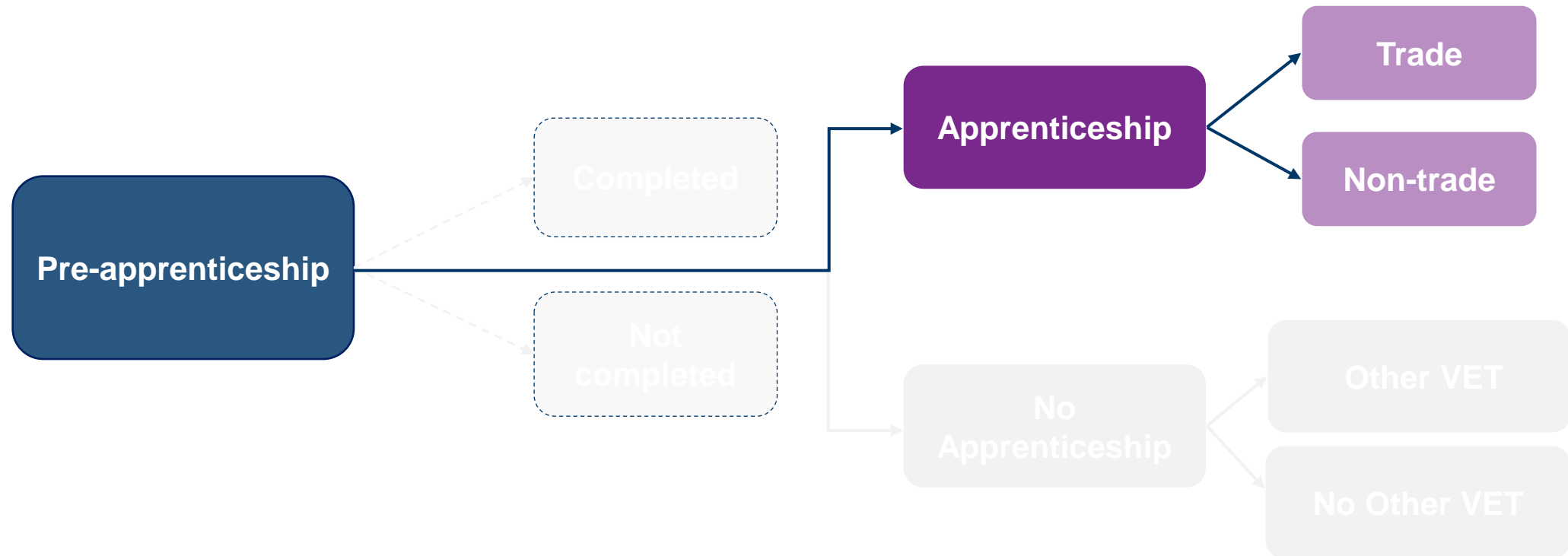
Example of analysis using the linked TVA and A&T datasets



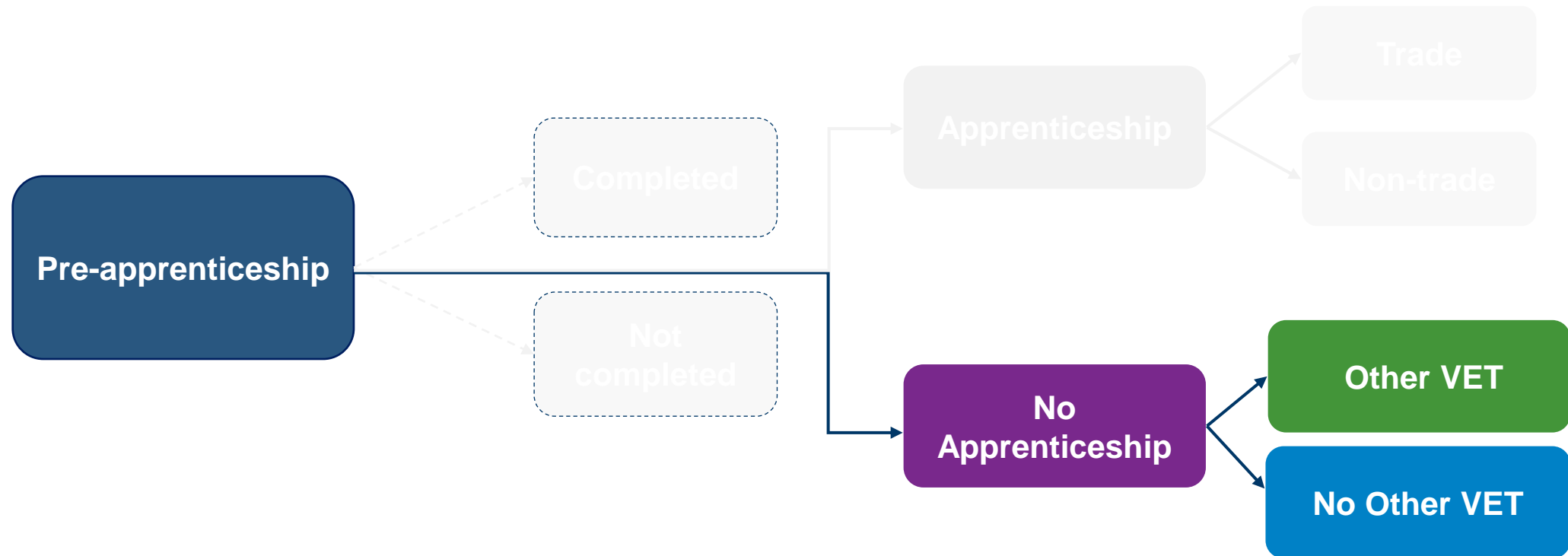
Example of analysis using the linked TVA and A&T datasets



Example of analysis using the linked TVA and A&T datasets



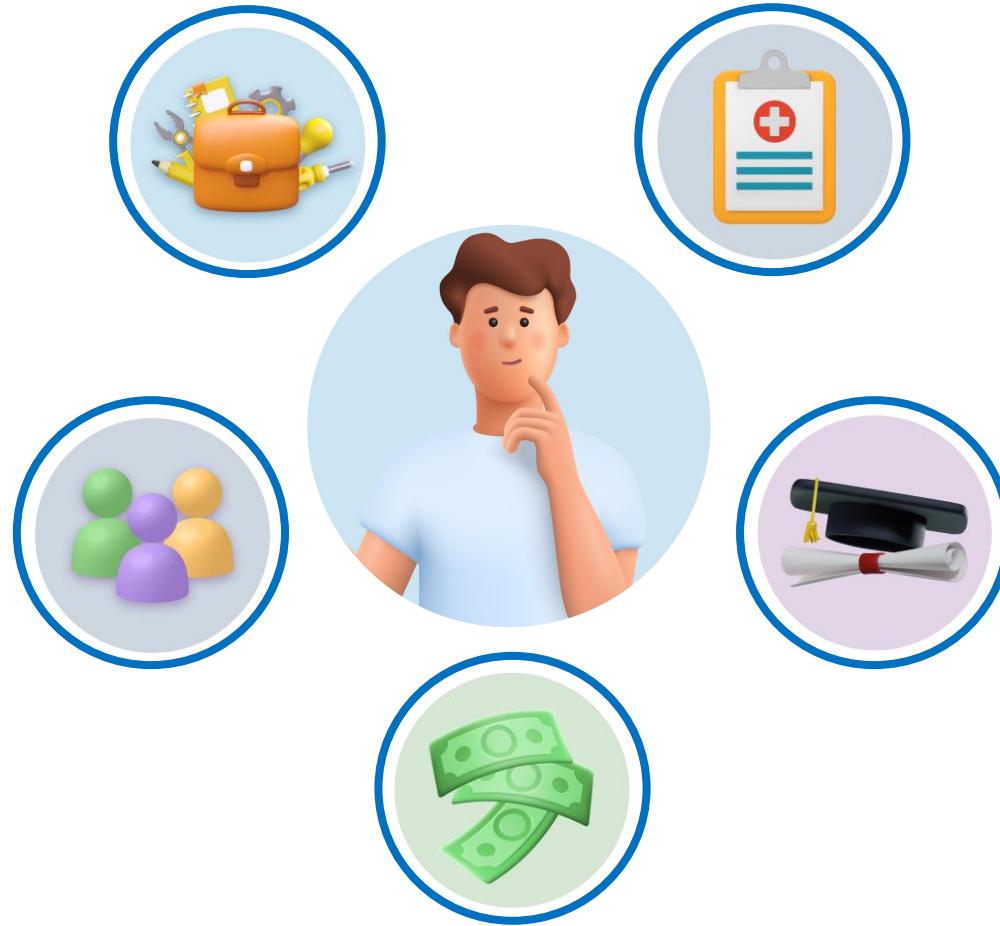
Example of analysis using the linked TVA and A&T datasets



How we investigate
occupation and employment
outcomes for VET students
using the ABS Person Level
Integrated Data Asset (PLIDA)

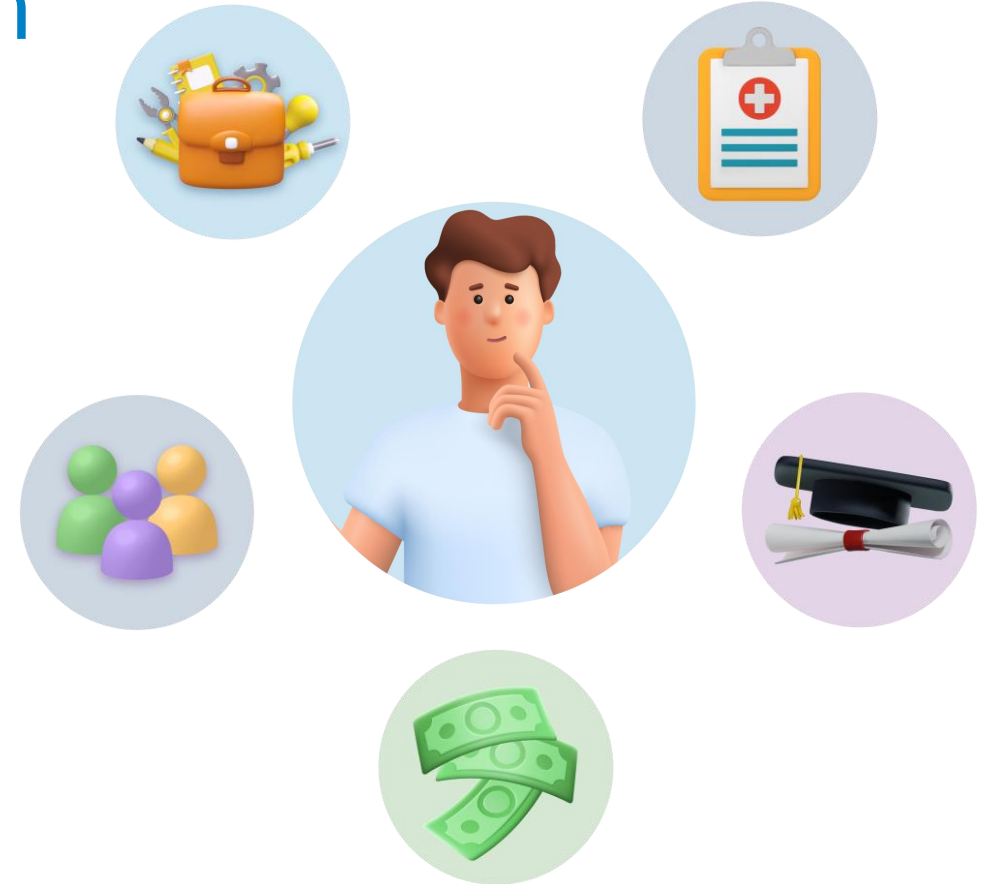


What is PLIDA?



1. Determine data to include in the analysis

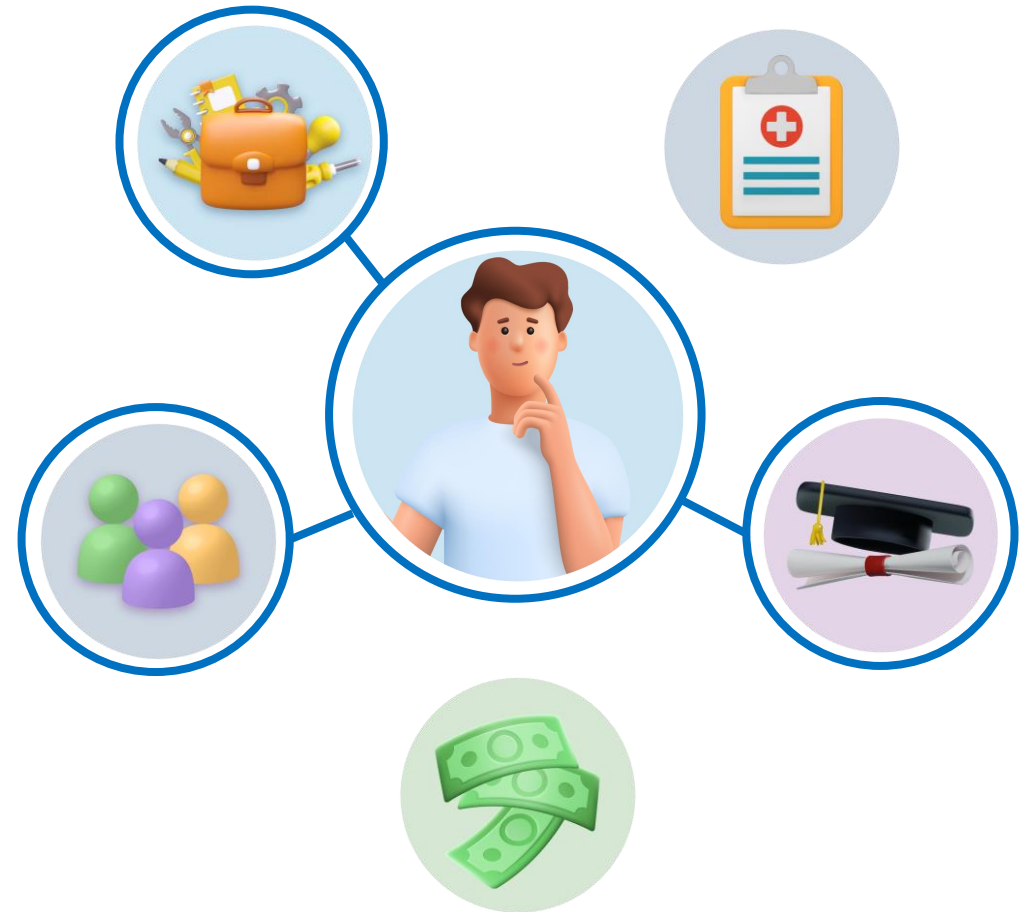
- Activity to explore
- Cohorts to investigate
- Outcomes to assess
- Time period of analysis



2. Link the datasets

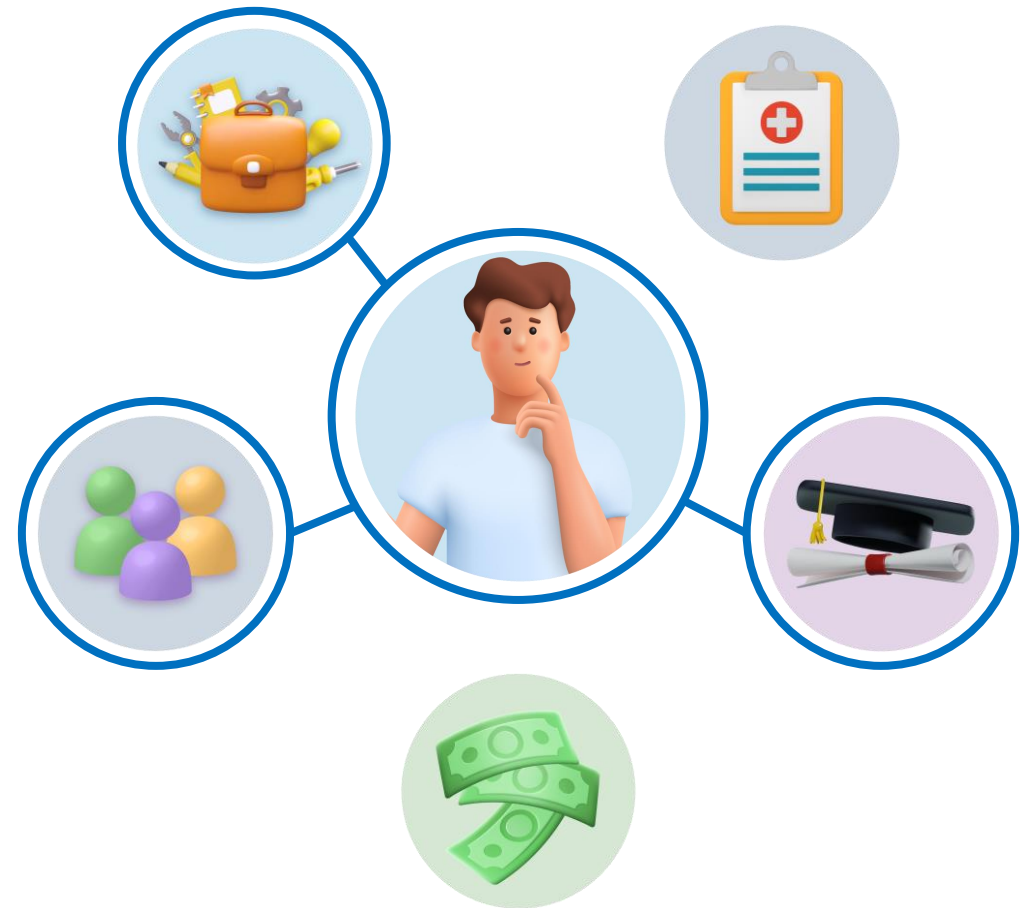
Link the datasets containing the variables needed for the analysis to the PLIDA person level spine

- demographic data from the ABS Census
- program completions data from NCVER
- employment data from the ATO



3. Data analysis

- Time periods to use in the analysis
- Statistical analysis approach
- Conduct analysis



How PLIDA was explored to evaluate sustainable employment outcomes for Aboriginal and Torres Strait Islander VET students



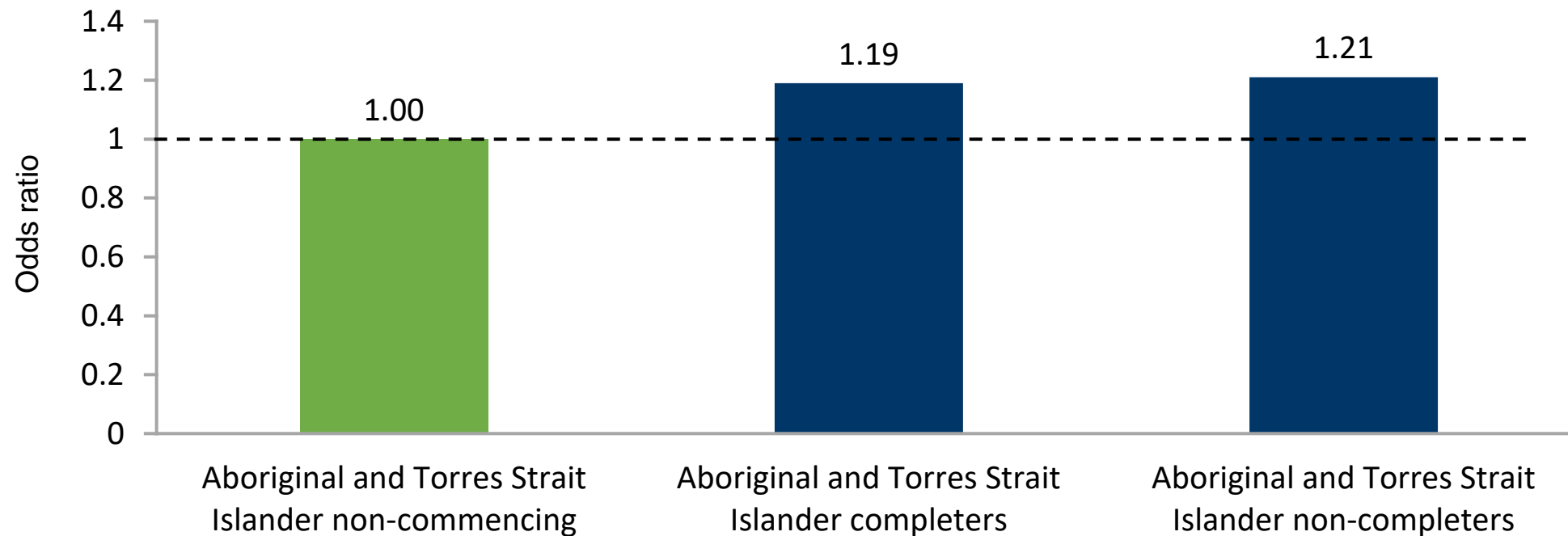
Example of data preparation

Example of the pre-training, training and post-training periods for a VET program completer and non-completer

	2015	2016	2017	2018	2019	2020
Program completer	Pre-training (1 year)	Training period (2016–18)			Post-training (1.5 years)	
Program non-completer	Pre-training (1 year)	Training period (2016–17)		Post-training (1.5 years)		

Example of findings

Sustainable employment odds ratios for Aboriginal and Torres Strait Islander peoples who had commenced at least one VET program in 2016, by completion status, compared with those who did not commence a VET program in 2016

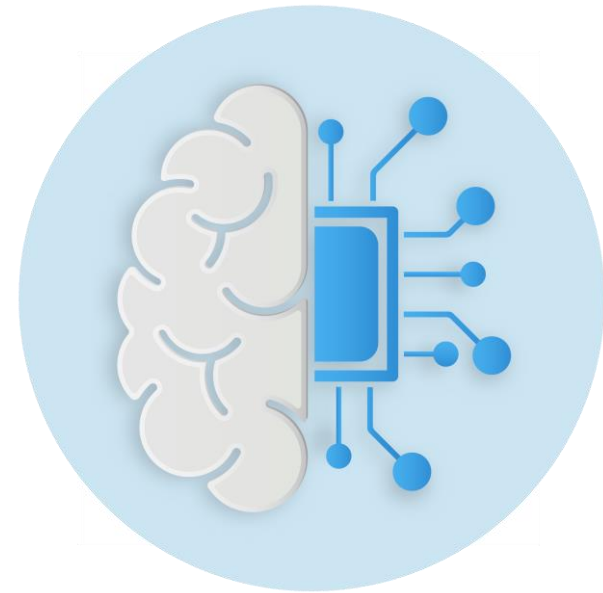
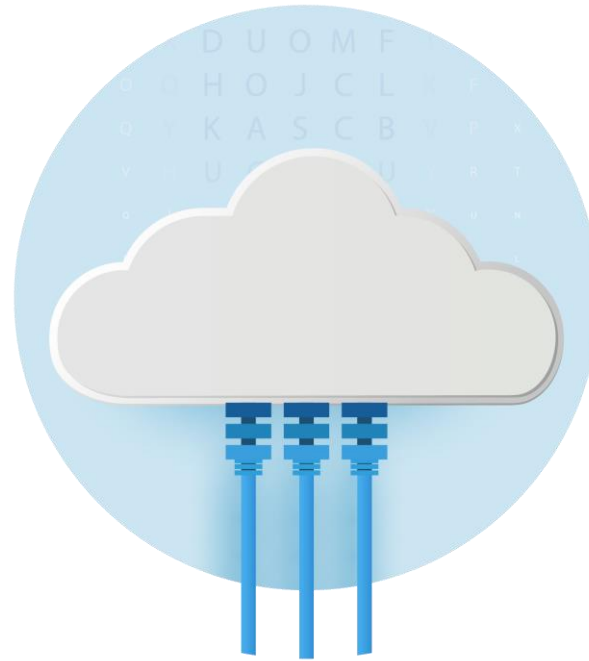


Example of findings

Personal and training characteristics affecting the likelihood of Aboriginal and Torres Strait Islander peoples achieving sustainable employment, in order of influence

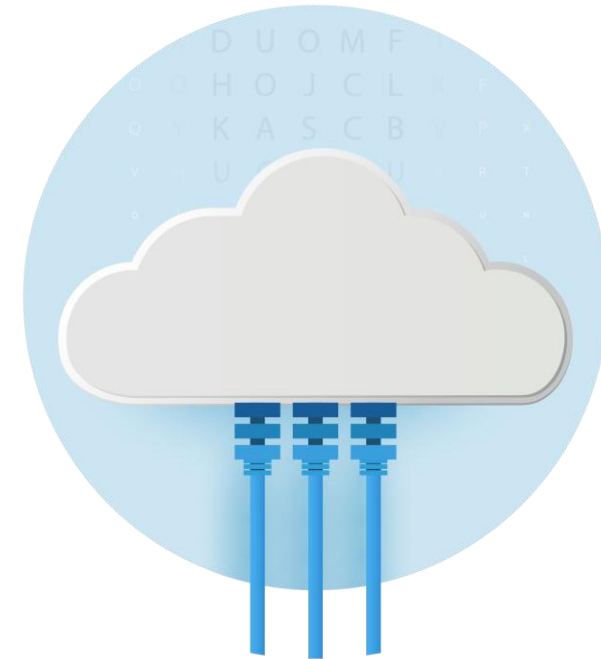
1. Index of Relative Socio-economic Disadvantage (IRSD)	7. Field of education
2. Apprentice or trainee	8. Occupation (ANZSCO) 1-digit
3. Provider type	9. Gender
4. Level of Education	10. Remoteness region
5. Age group	11. Type of training
6. Funding source	12. State of residence

How we use
advanced data
analytics tools and
techniques to
explore VET data



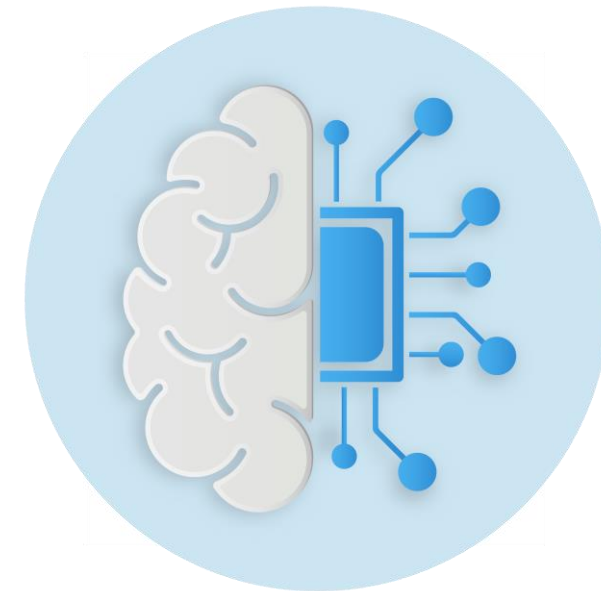
Cloud-based analytics platform

- Built to support in-house analytics projects
- Provides access to on-demand, scalable computing resources
- Flexibility to draw on a range of programming languages, open-source code libraries, and integrate code management tools
- Ability to connect to data visualization tools such as Qlik



What can we do with the analytics platform?

- Developed machine learning models for estimating completion rates for VET qualifications and for apprentice and trainee contracts of training
- Potential to maintain or improve the accuracy of current NCVET estimates whilst improving the timeliness of reporting outputs.



NCVER Services on request

- **Consultancy service** on VET related topics, including both quantitative analysis and qualitative research.
 - student pathways and outcomes analysis
 - literature reviews
 - one-on-one interviews or focus groups
 - surveys
 - stakeholder consultations
- **Data request** from NCVER statistical collections.

Upcoming Events



Thank you

For follow up enquiries contact:

Melinda Lees
Michelle Hall

melindalees@ncver.edu.au
michellehall@ncver.edu.au

Stay connected

Subscribe @ www.ncver.edu.au

Follow  twitter.com/ncver or [@ncver](https://twitter.com/ncver)

 [linkedin.com/company/ncver](https://www.linkedin.com/company/ncver)

 facebook.com/ncver.au/

 youtube.com/ncver