The Hive Evaluation – Final Report

10 February 2026

PRF PAUL RAMSAY FOUNDATION

UNITED WAY Australia

the Hive MOUNT DRUITT 2770

ember advisors

Acknowledgements

This evaluation and report was commissioned by the Paul Ramsay Foundation and completed by Ember Advisors in partnership with United Way Australia in 2025 and 2026.

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Contents

1. Executive summary

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Executive summary

Purpose: This report describes the approach and results of an evaluation conducted by Ember Advisors in 2025 and 2026, analysing the impact of The Hive's initiatives on early learning and child health outcomes in Mount Druitt.

Context

The Hive is a place-based, collective impact initiative operating across four suburbs in the Mount Druitt area (postcode 2770), which has some of the highest levels of socio-economic disadvantage in New South Wales. Funded by the Paul Ramsay Foundation (PRF) and the Department of Social Services (DSS), and delivered by United Way Australia (UWA), **The Hive aims to ensure all children start school well by improving access to high-quality early learning and child health services**. The Paul Ramsay Foundation commissioned Ember Advisors to design and subsequently implement an impact evaluation to assess progress in Mount Druitt against these goals.

Process

The evaluation applied a **quasi-experimental synthetic control methodology** to estimate The Hive's impact by comparing outcomes in The Hive suburbs to statistically constructed comparison areas with similar pre-intervention characteristics. The approach combined:

- Contextual analysis of demographic and socio-economic conditions,
- Longitudinal outcome analysis using publicly available and administrative datasets, and
- Model validation through pre-treatment fit testing.

The evaluation was implemented in 2025 and early 2026, with findings reviewed collaboratively with PRF, UWA and The Hive.

Indicators

Fourteen indicators were agreed in late 2024, spanning long-term outcomes and lead indicators. We successfully accessed and analysed data for 11 indicators, including:

- Early Childhood Education and Care (ECEC) quality (ACECQA National Quality Standard ratings)
- Child health and development checks (Blue Book / Check-Ups Before School)
- ECEC access and participation

Some indicators (e.g. AEDC developmental vulnerability and selected inclusion funding measures) were excluded from impact conclusions due to data quality or poor model fit.

Summary of results

The evaluation found **clear, positive impacts** attributable to The Hive in three key areas:

- **ECEC quality**: Since the launch of the 2770 Early Educator's Network, the proportion of ECEC services 'Meeting' all seven ACECQA quality areas was **19 percentage points** higher than the synthetic comparison postcode.
- **Child health checks**: Following implementation of the Check-Ups Before School program, attendance at child and family health checks for 4-year-olds were substantially higher than the synthetic comparison postcode **(187% above expected levels)**, and the program has since been embedded within the local health district.
- **NDIS**: Since The Hive began operating, the number of children with NDIS plans is **25% higher than the synthetic comparison postcode**, ensuring children have the opportunity to access the support they need before school.

Recommendations

- **Refresh the evaluation annually:** UWA should refresh the analysis on an annual basis to track progress over time, to monitor its ongoing impacts on key outcomes, and consider potential expansions to analysis.
- **Strengthen early education outcome tracking:** UWA and PRF should continue to advocate for sharing of early education data held by governments, to enable the tracking of kindergarten outcomes.
- **Share key learnings:** UWA should share key learnings with organisations with similar goals to The Hive.

Overall, the evaluation provides robust evidence that The Hive is contributing to improved service quality and access in Mount Druitt, while highlighting where further data investment is required to assess longer-term child outcomes.

2. Project background

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Project background: Ember Advisors was commissioned by the Paul Ramsay Foundation to evaluate The Hive, a place-based early childhood community development initiative

Paul Ramsay Foundation (PRF) and The Hive

- PRF is a philanthropic foundation that works in partnership with other organisations and communities. PRF invests in, builds, and influences the conditions needed to stop disadvantage in Australia.
- PRF is the leading funder of The Hive, a place-based, early childhood community development organisation working across four suburbs in the 2770 postcode in Western Sydney. The Hive also receive funding from the Australian Government Department of Social Services.

The Hive

- The Hive is a place-based, collective impact initiative engaging with the community in Mount Druitt to identify, incubate and implement solutions to local priorities.
- The Hive's goal is for all children in Mount Druitt to start school well, with equal opportunity to learn, be healthy and participate in quality community life.
- The Hive aims to achieve this goal by improving access to quality education and health services.

Impact evaluation

- Between October to December 2024, PRF engaged Ember Advisors to develop a data and evaluation approach using a quasi-experimental methodology to measure progress towards two overarching outcomes:
  1. All children in Mount Druitt start school well.
  2. Children have access to high quality early learning in Mount Druitt.
- In 2025, Ember's engagement with PRF was extended to execute the designed evaluation approach. This evaluation was completed in early 2026.

Project goal: Implement the evaluation approach developed in late 2024, to support an understanding of the impact of The Hive on two overarching outcomes: All children in Mount Druitt start school well, and children have access to high quality early learning in Mount Druitt.

Indicators: In late 2024, UWA, PRF and Ember identified 14 indicators; we were able to access and analyse 11 of the 14 contextual and outcome indicators for this project

Outcome and contextual indicators agreed in late 2024

Key: Data request unsuccessful

Outcome area	Indicator	Source	Demographic	Indicator type
Children start school well	Proportion of children developmentally vulnerable on one or more domains	Australian Early Development Census, Commonwealth Department of Education	Suburb	Outcome
	Proportion of children developmentally vulnerable on two or more domains			
	Proportion of children developmentally on track on five domains			
	Proportion of children receiving their 4- year health and development check	Blue book data, NSW Ministry of Health	Suburb	Outcome
	Proportion of children with a NDIS plan in place prior to starting school	National Disability Insurance Scheme	Postcode	Outcome
	Proportion of preschools accessing inclusion support funding	Inclusion Support Program data, Commonwealth Department of Education	Postcode	Outcome
	Proportion of children demonstrating proficiency in early literacy and numeracy at the start of kindergarten according to the Best Start Kindergarten Assessment	NSW Department of Education	Suburb	Outcome
	Availability of medical and allied health professional services	National Health Workforce Dataset, Australian Institute of Health and Welfare	Postcode	Contextual
	Proportion of children at each level of school-provided adjustment for equitable learning according to the NCCD	NSW Department of Education	Suburb level	Outcome
Children have access to high quality early learning	Proportion of ECEC services 'Meeting' the standard in all seven ACECQA quality areas	National Quality Standard Outcomes, The Australian Children's Educational and Care Quality Authority	Postcode	Outcome
	Proportion of ECEC services 'Exceeding' the standard in ACECQA quality areas 1, 4 and 5 and at least 'Meeting' the standard in all other ACECQA quality areas			
	Proportion of all children attending ECEC for 15+ hours per week for the two years before starting formal school	NSW Department of Education	Suburb	Outcome
	Number of ECEC places available per target population (3-5 yrs) per 15 hours per week	NSW Department of Education	Suburb	Contextual
Both	Level of public transport accessibility	Public Transport Accessibility Level data, NSW Transport	Suburb	Contextual

Approach: For the evaluation implementation, we collated and requested data on the 14 indicators, and analysed The Hive's impact on the outcome indicators using a synthetic control model

Evaluation implementation approach

Data requests and collection (January – September 2025)

To prepare for analysis we collected publicly available data and submitted data requests to:

- Australian Bureau of Statistics – for Person Linked Individual Data Asset (PLIDA) access
- NSW Ministry of Health – for Blue Book data
- NSW Department of Education – for Best Start Kindergarten Assessment, NCCD and ECEC attendance data (this request was declined)

Contextual analysis and synthetic control model (October 2025 – January 2026)

Contextual indicators:

To understand The Hive's context, we completed **contextual analysis** to understand the socioeconomic and demographic profile of The Hive suburbs. This included the analysis of the contextual indicators previously outlined.

Outcome indicators:

To understand The Hive's impact, we implemented a **synthetic control modelling**, which involved the construction of a control group with comparable characteristics to the focus groups of The Hive program in the period before the program activities were implemented.

Consultations and key findings workshop (October 2025 – February 2026)

This project was supported by key staff members at The Hive, who provided critical contextual information to support our interpretation of contextual and outcomes analysis. From October 2025, project update meetings and technical update meetings were each held on an approximately monthly basis.

A key findings workshop will be held in February 2026.

3. The Hive's context

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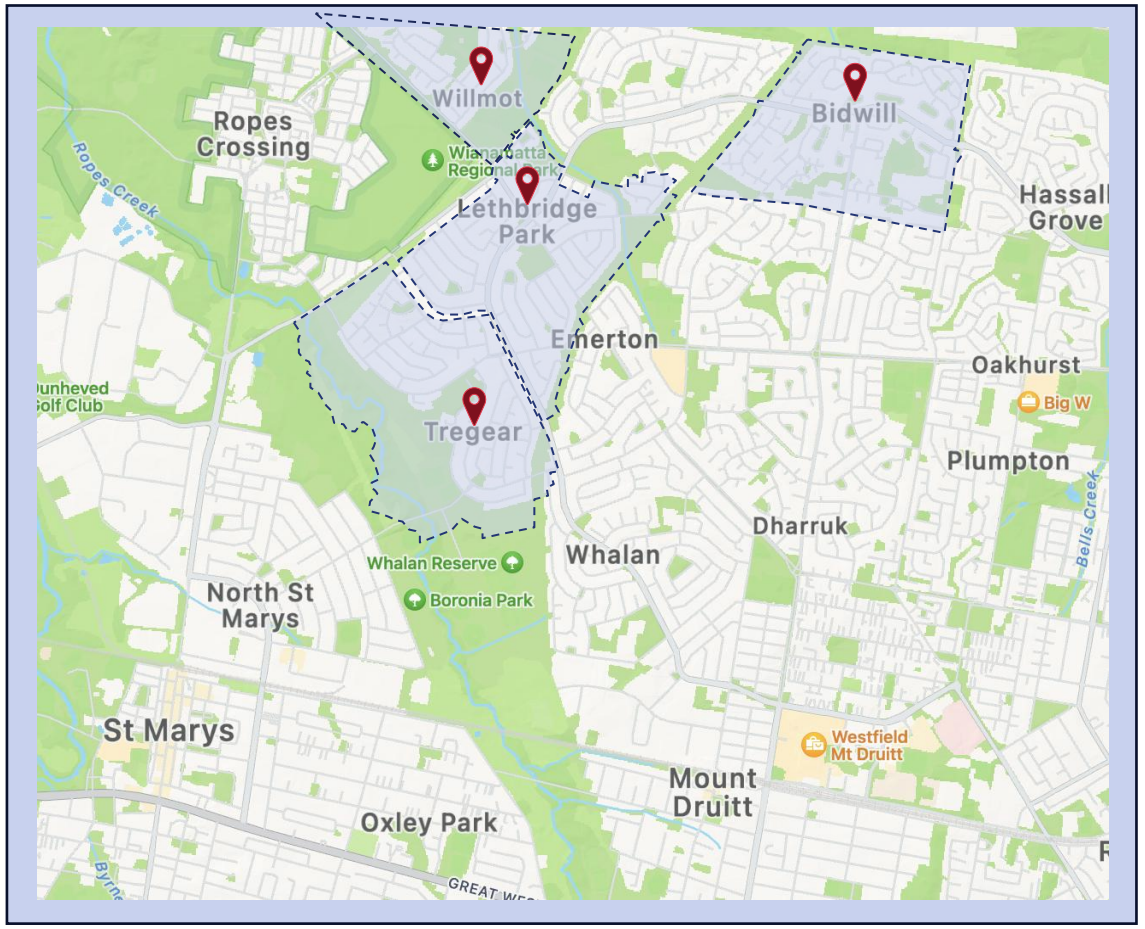
Overview: The Hive is a place-based collective impact initiative engaging with the key suburbs in Mount Druitt to improve educational, health, and developmental outcomes for children in the area

Map of Mount Druitt, with shading showing The Hive's four key suburbs



The Hive aims to achieve long-term, sustainable change across the 2770 postcode, with a focus on **improving outcomes for children** in four key suburbs with the highest level of need. The Hive's intensive engagement in each suburb began in:

- Willmot: 2016
- Lethbridge Park: 2017
- Bidwill: 2019
- Tregear: 2021

Through the delivery of **child health and early education activities**, **community development activities, and engaging in advocacy**, The Hive aims to improve access for all children in Mount Druitt **to high quality early learning.** Improving access for these children should lead to better outcomes: starting school well (with equal opportunity to learn), be healthy, and participate in quality community life.

The Hive activities: The Hive aims to improve outcomes in Mount Druitt through child health and early education, community development and advocacy activities

Core components of The Hive's collective impact approach

Child health & early education activities

Objective: Deliver postcode-wide child health and early education activities aligned to evidence-based prevention or intervention pathways, to identify systemic issues and incubate ideas.

Activities

- Child Health Linker
- Check-ups Before School (CUBS)
- Willmot Paediatrician Program
- 2770 Early Childhood Educators' Network
- Specialised Support Program
- 1:1 information coaching with ECECs
- Early Learning Linker

Community development activities

Objective: Work across key suburbs to create the conditions for change in local communities.

Activities

- Community events
- School holiday programs
- After school program
- Subgroups (Transport, Safety, Community Connections and community action groups)
- Dolly Parton's Imagination Library
- Council engagement
- Governance meetings
- Community leadership group

Advocacy activities

Objective: Influence changes in policies and strategies drawing on learnings from community engagement and early childhood activities.

Activities

- Advocacy Strategy
- Engagement/meetings with decision makers regarding four advocacy priorities
- External opportunities to promote The Hive e.g. webinars, presentations, inquiries
- Submissions
- Council advocacy (e.g. park improvements, bus shelters, public spaces)
- Government advocacy on 4 priority areas, health and early intervention, and transport

The Hive's activities work together to create the conditions and opportunities for all children in Mount Druitt to start school well, with equal opportunity to learn, be healthy and participate in quality community life.

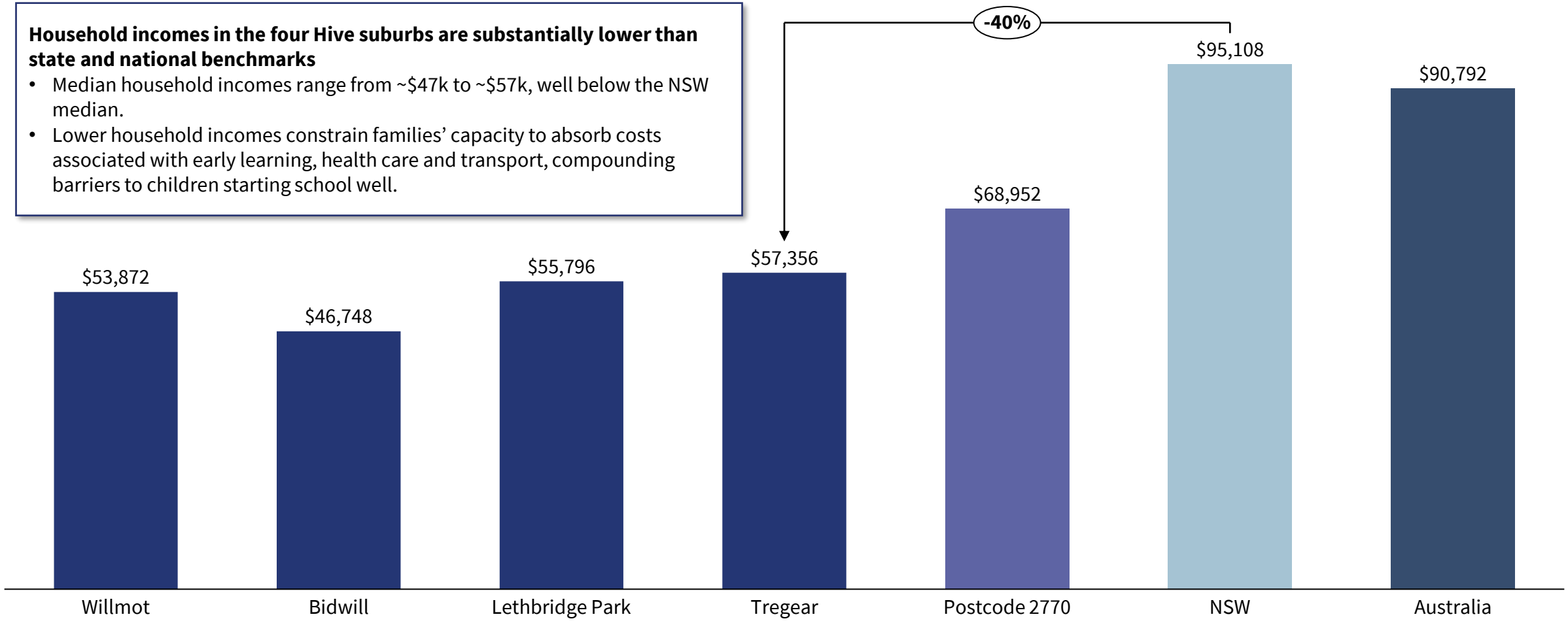
The Hive focuses its efforts on four suburbs within the 2770 postcode in Western Sydney: Bidwill, Lethbridge Park, Tregear and Willmot.

Households: The median household income for the suburbs the Hive operates in is less than $60,000, 40% lower than the median income for NSW

Median household income in Postcode 2770, NSW, Australia; 2021

Household incomes in the four Hive suburbs are substantially lower than state and national benchmarks

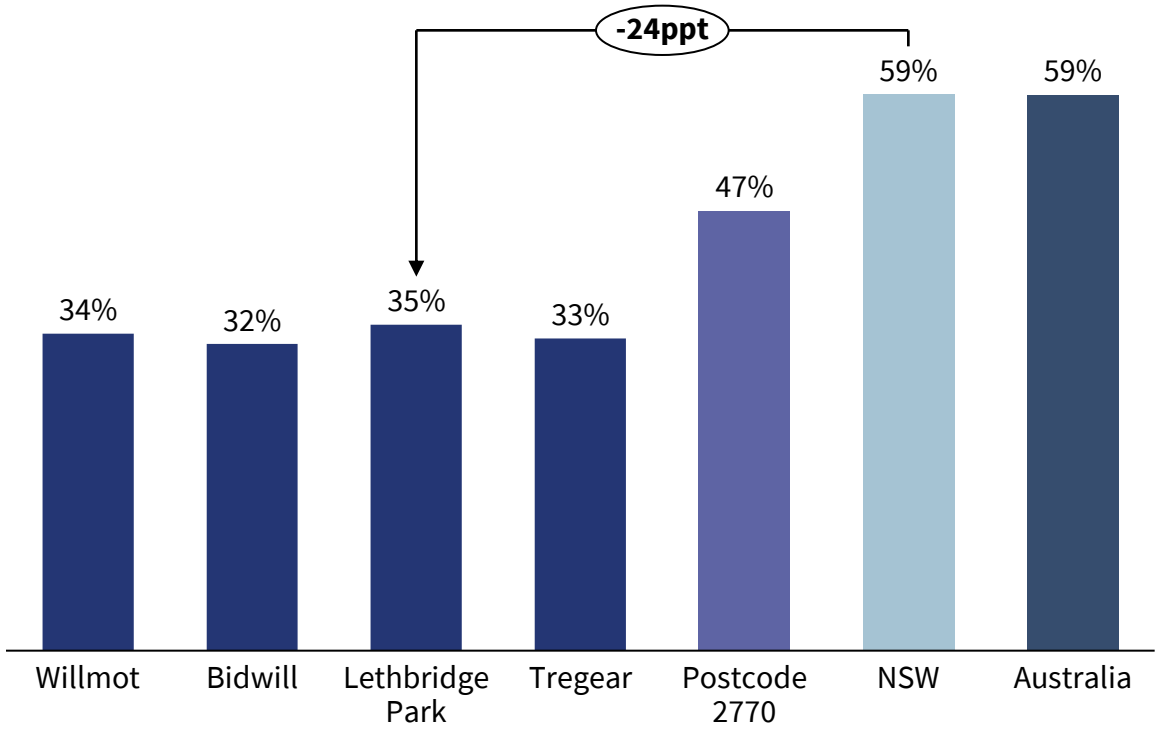
- Median household incomes range from ~$47k to ~$57k, well below the NSW median.
- Lower household incomes constrain families' capacity to absorb costs associated with early learning, health care and transport, compounding barriers to children starting school well.



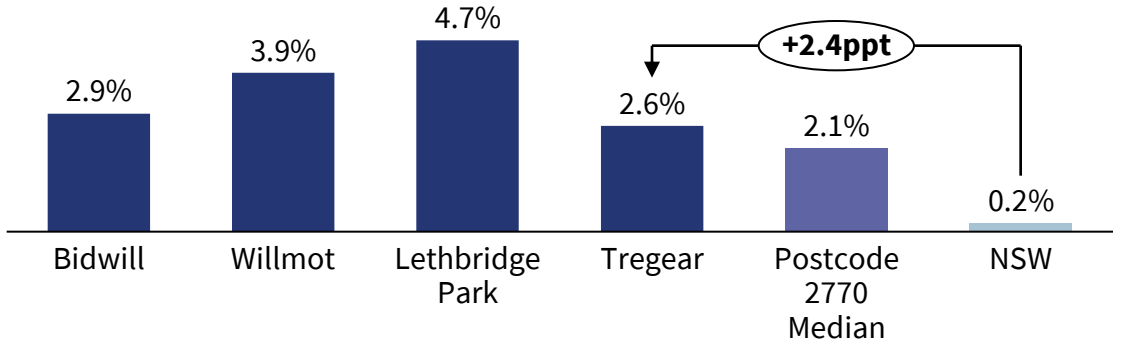
Disadvantage: Young people (aged under 25) in the four suburbs are more likely to be single parents compared to the NSW average and only a third of the population has completed high-school

Rates of school completion in the four Hive suburbs are lower than the NSW school completion rate and young people residing in the four suburbs are far more likely to be single parents than the rest of NSW. The majority of the residents in Willmot, Bidwill, Lethbridge Park and Tregear have not completed high school, with only a third of the population completing year 12. This is coupled with a high proportion of young people who are single parents. Each of the four suburbs have over ten times the state average of proportion of young people who are single parents. Lethbridge Park has the largest proportion of young single parents at nearly 5%.

Proportion of population who completed high school, 2021



Proportion of young people (aged under 25) who are single parents, 2021



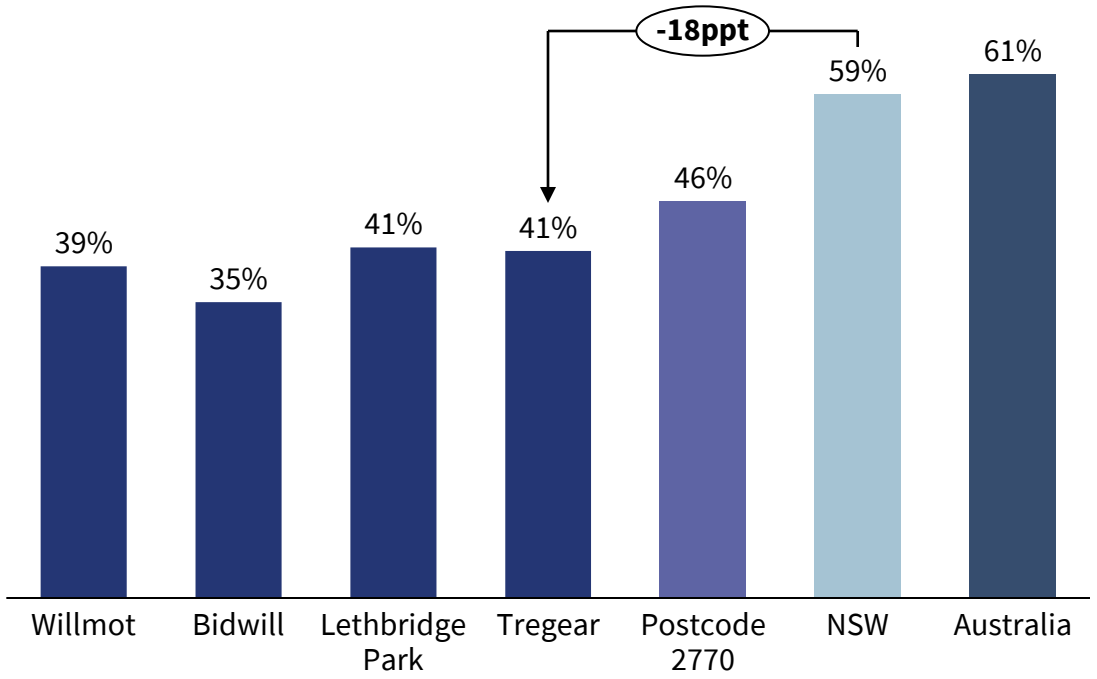
Employment: The majority of the four suburbs' working age population are not in the labour force, and experience higher rates of unemployment

Employment disadvantage is pronounced across the four Hive suburbs

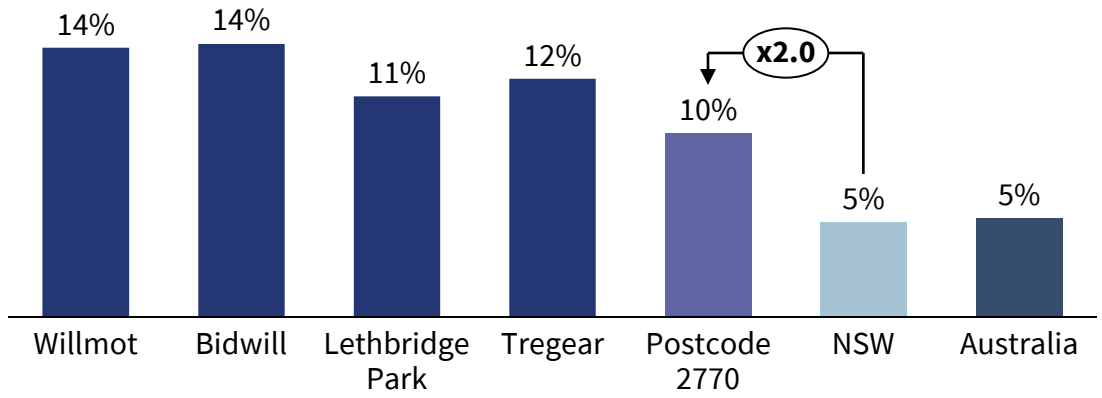
- *Labour force participation is substantially lower than state and national averages:* participation rates in the four suburbs are between 35–41%, compared to 59% in NSW, indicating that the majority of the working age population (59%–65% across the suburbs) are not in the labour force.
- *Significantly higher unemployment:* all four suburbs record unemployment rates of 11–14%, around double the NSW and Australian averages.

These patterns highlight limited access to stable employment and contribute to broader economic pressures faced by families raising young children in the area.

Labour force participation rate, 2021



Proportion of labour force who are unemployed, 2021

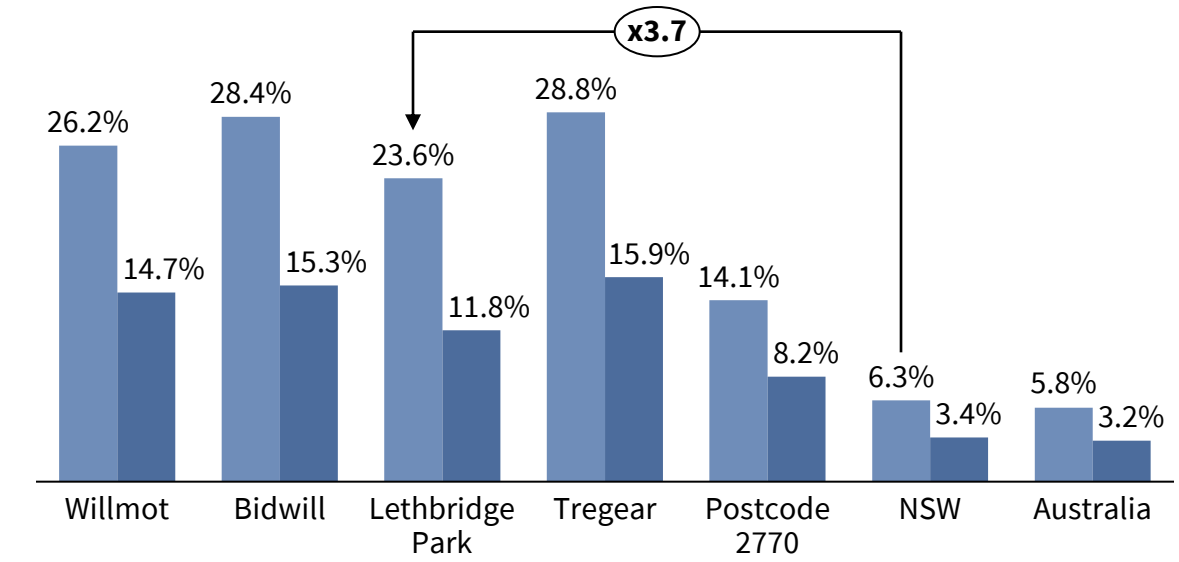


Diversity: Around one in four children aged 0-4 are First Nations in each of the four key suburbs; the proportion of people who speak a language other than English is lower than the NSW average

Proportion of population who identify as First Nations, 2021

0-4-year-olds
All persons

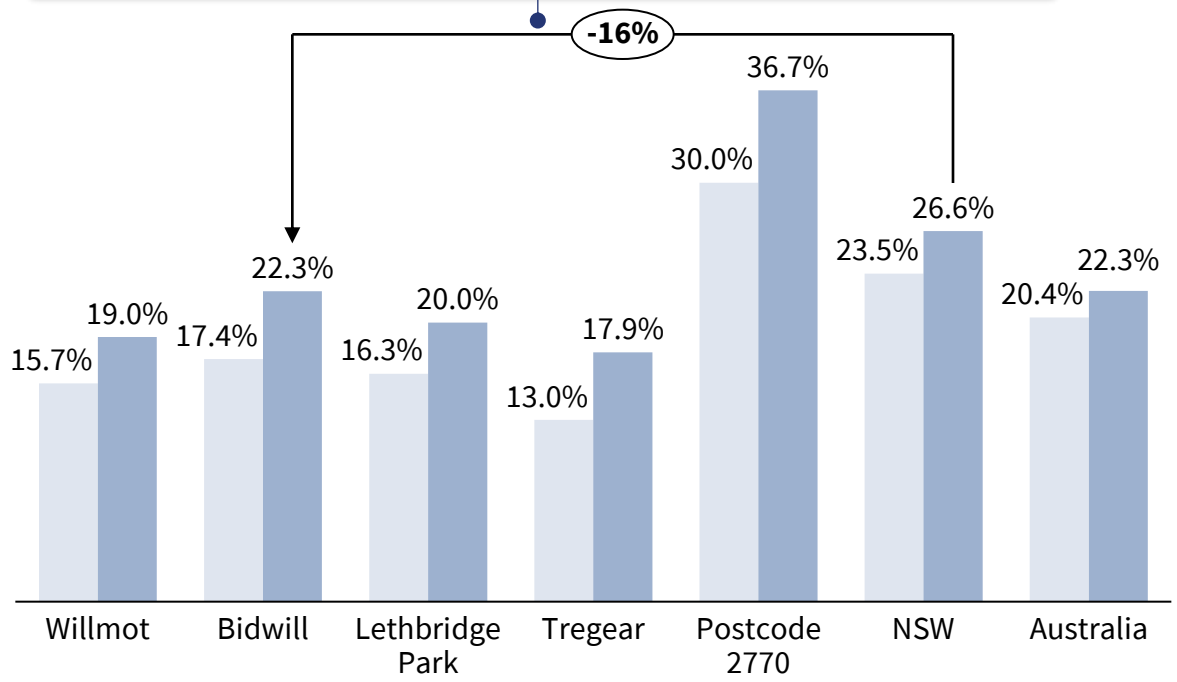
In 2021, children aged 0-4 living in the four Hive suburbs were much more likely to identify as First Nations compared to children across NSW, ranging from 23.6% in Lethbridge Park to 28.8% in Tregear.



Proportion of population who are culturally and linguistically diverse, 2021

Born outside Australia
Speak language other than English

In 2021, residents in the four suburbs where The Hive operates were less likely to speak a language other than English at home compared to the NSW average.

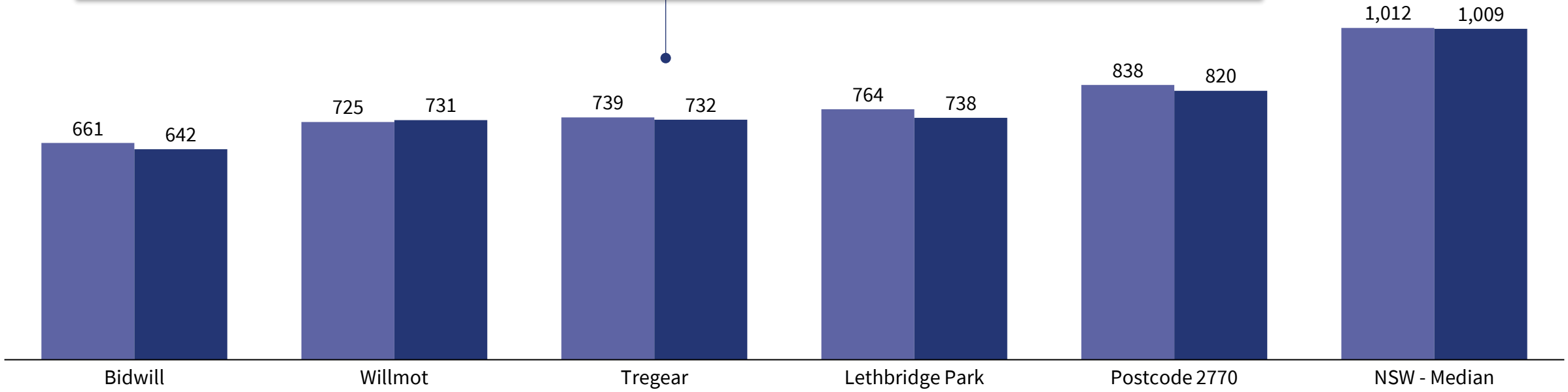


Disadvantage: Willmot, Bidwill, Lethbridge Park, and Tregear are some of the most socio-economically disadvantaged suburbs in NSW, ranking in the bottom 1% of SEIFA scores in NSW

SEIFA index of relative socio-economic disadvantage for Postcode 2770, NSW, and Australia; 2016 and 2021

The SEIFA index is a measure of relative socio-economic disadvantage, created by combining various socio-economic factors (like unemployment and education) into a single score.

All suburbs are in the bottom 1% of SEIFA scores in NSW and 2% across Australia. Bidwill was the **fourth most disadvantaged suburb** in NSW in 2021, worsening from the fifth most disadvantaged in 2016. Willmot ranked 19th, improving slightly from 12th in 2016 while Tregear held its ranking as the 20th most disadvantaged suburb in NSW. Lethbridge Park also worsened in ranking, moving from 31st in 2016 to 23rd in 2021.

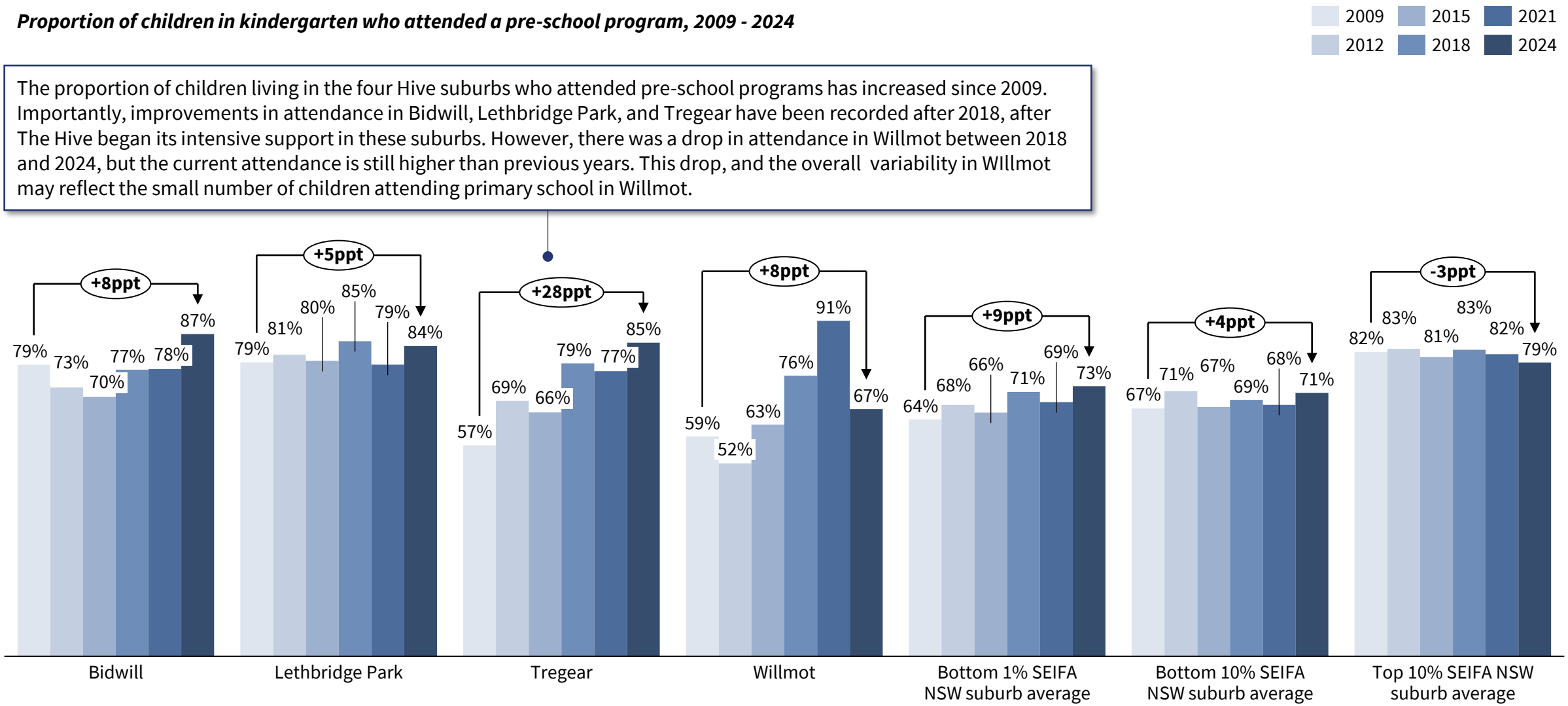


 Source: Census 2021, Census 2016

Pre-school: There have been substantial improvements in the proportion of children attending pre-school programs, for children living in suburbs the Hive operates in

Proportion of children in kindergarten who attended a pre-school program, 2009 - 2024

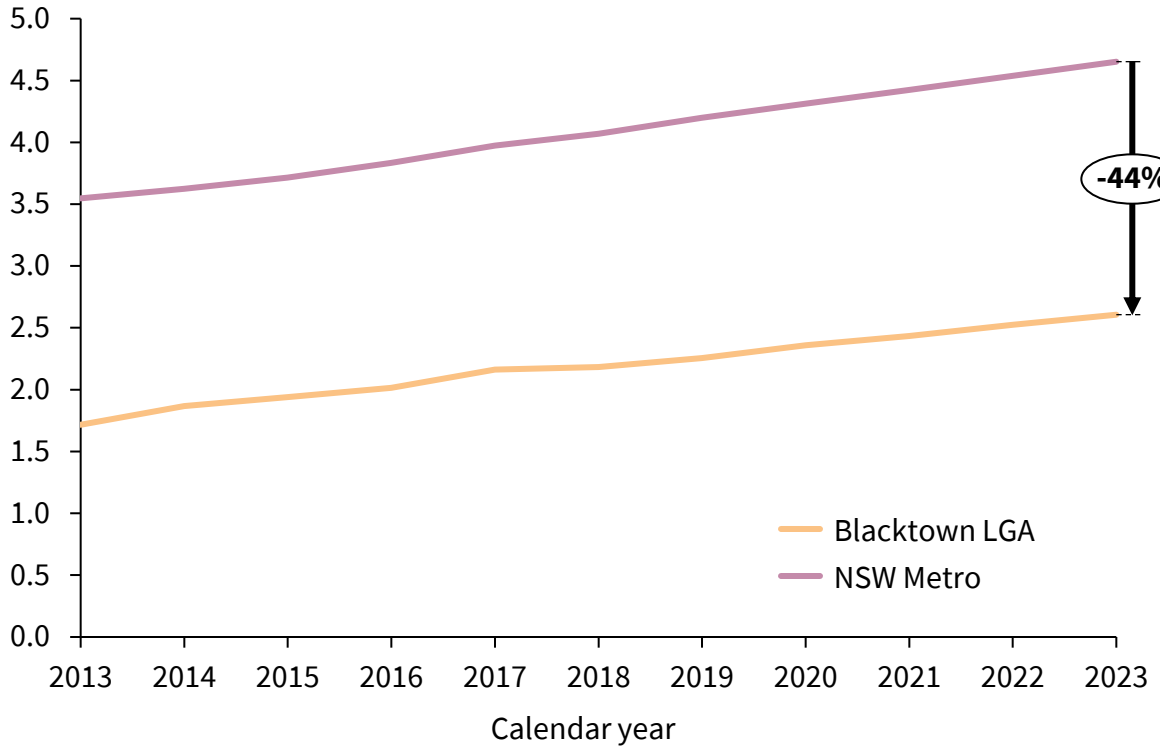
The proportion of children living in the four Hive suburbs who attended pre-school programs has increased since 2009. Importantly, improvements in attendance in Bidwill, Lethbridge Park, and Tregear have been recorded after 2018, after The Hive began its intensive support in these suburbs. However, there was a drop in attendance in Willmot between 2018 and 2024, but the current attendance is still higher than previous years. This drop, and the overall variability in WIllmot may reflect the small number of children attending primary school in Willmot.



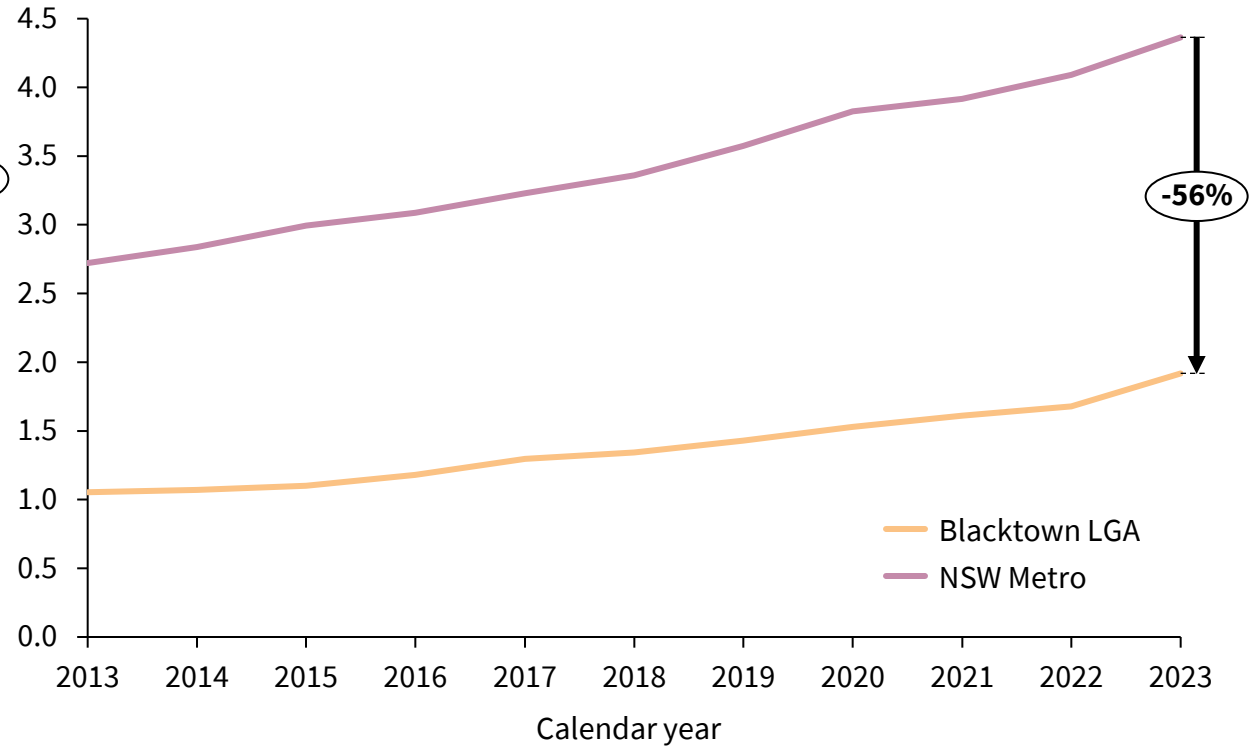
Health services: Access to health services in The Hive suburbs is poor, with only 2.6 doctors and 1.9 allied health workers per 1000 people working in the Blacktown LGA

The Hive operates several initiatives aimed at ensuring children start school well by facilitating access to healthcare services. This includes the pilot Check-Ups Before School that The Hive operated in Willmot, Lethbridge Park and Bidwill, which transitioned to the Western Sydney Local Health District in 2022, and The Hive's Child Health Linker, a staff member that assists families to overcome barriers and navigate the health system. However, while these initiatives increase referrals, they rely on a healthcare workforce being available and accessible to residents of The Hive suburbs. Analysis of the National Health Workforce Dataset shows 44% fewer doctors and 56% fewer allied health workers working in the Blacktown LGA (where four suburbs sit) compared to the NSW metro average.

Doctors per 1000 residents working in Blacktown LGA, compared to NSW



Allied health workers per 1000 residents working in Blacktown LGA, compared to NSW

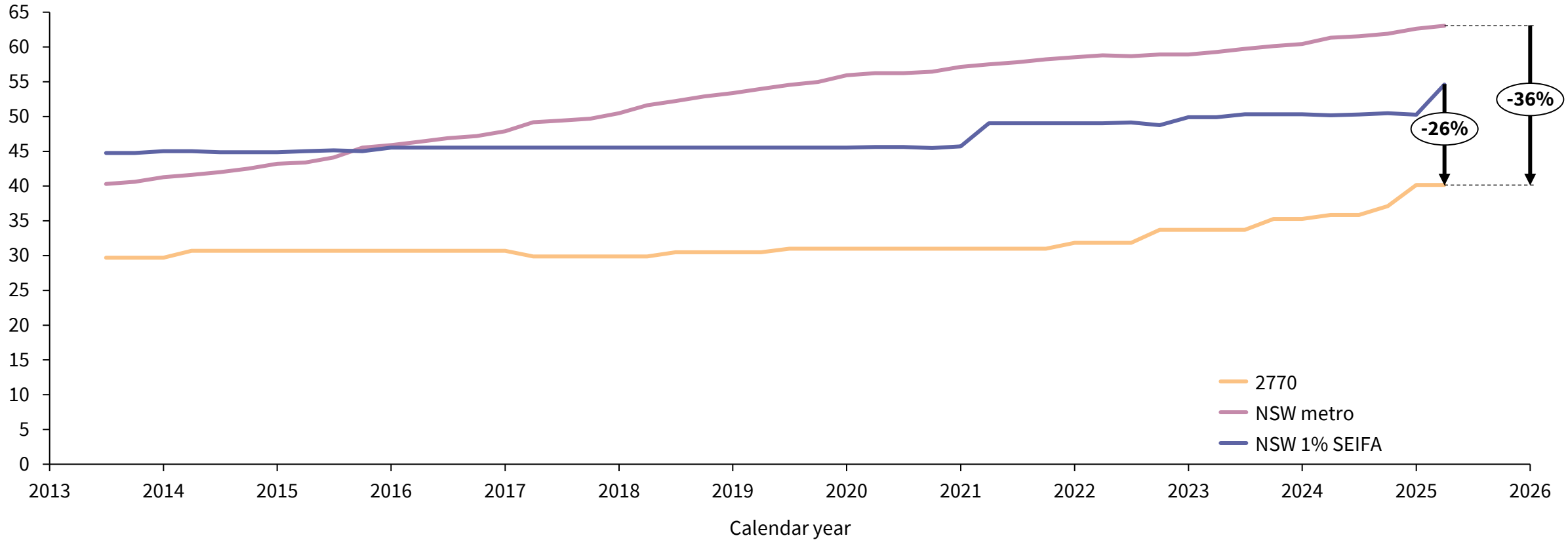


Source: National Health Workforce Dataset – practitioners by location, 2013-2023, accessed in 2024

ECEC places: Postcode 2770 has 36% fewer childcare places per 100 children as the New South Wales average, and 26% lower than the 1% SEIFA average

Early childcare, and access to early childcare, is important for early development; enabling children to start school well. Access to childcare can be measured through the number of childcare places available per 100 children in area. In Postcode 2770, there have been improvements in early childhood education care access, with the number of childcare places increasing from 30 places to 40 places per 100 children. However, 2770 has 36% fewer childcare places per 100 children than the NSW average. Additionally, Postcode 2770 has fewer number of places per 100 children than the bottom 1% SEIFA suburbs in NSW.

Number of childcare places per 100 children aged 0-4 in 2770 postcode, 1% SEIFA (NSW) average, and NSW average, 2019-2024



 Source: ACECQA National Quality Standard (NQS) assessment and rating data 2025

4. The Hive's impact

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Overview: We used a quasi-experimental approach, synthetic control modelling, to evaluate the impact of The Hive across different outcome indicators

Outline of The Hive's impact section

1. Approach: Synthetic control modelling

The first half of this section introduces the approach used in the modelling, synthetic control modelling and covers the concepts of good pre-treatment matches and poor pre-treatment matches.

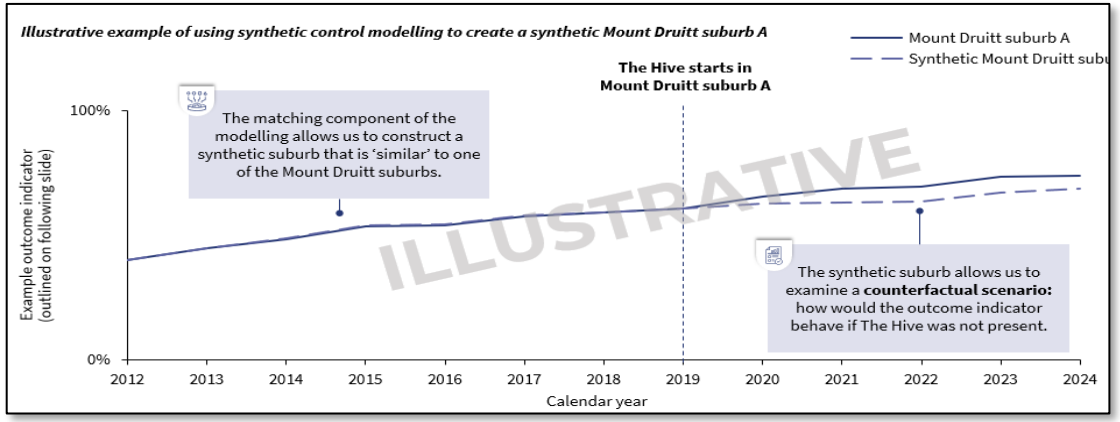
Importantly, conclusions can only be drawn about The Hive's impact on the outcome indicators if the synthetic control model produces good matches.

Further detail on the method can be found in technical appendix.

2. Results: The Hive's impact

The remaining half of this section discusses the results from applying the synthetic control modelling to the blue book health check data, NDIS plan data, and ECEC NQS ratings as they produced good pre-treatment matches and **demonstrate strong positive impact of The Hive's activities on these outcomes.**

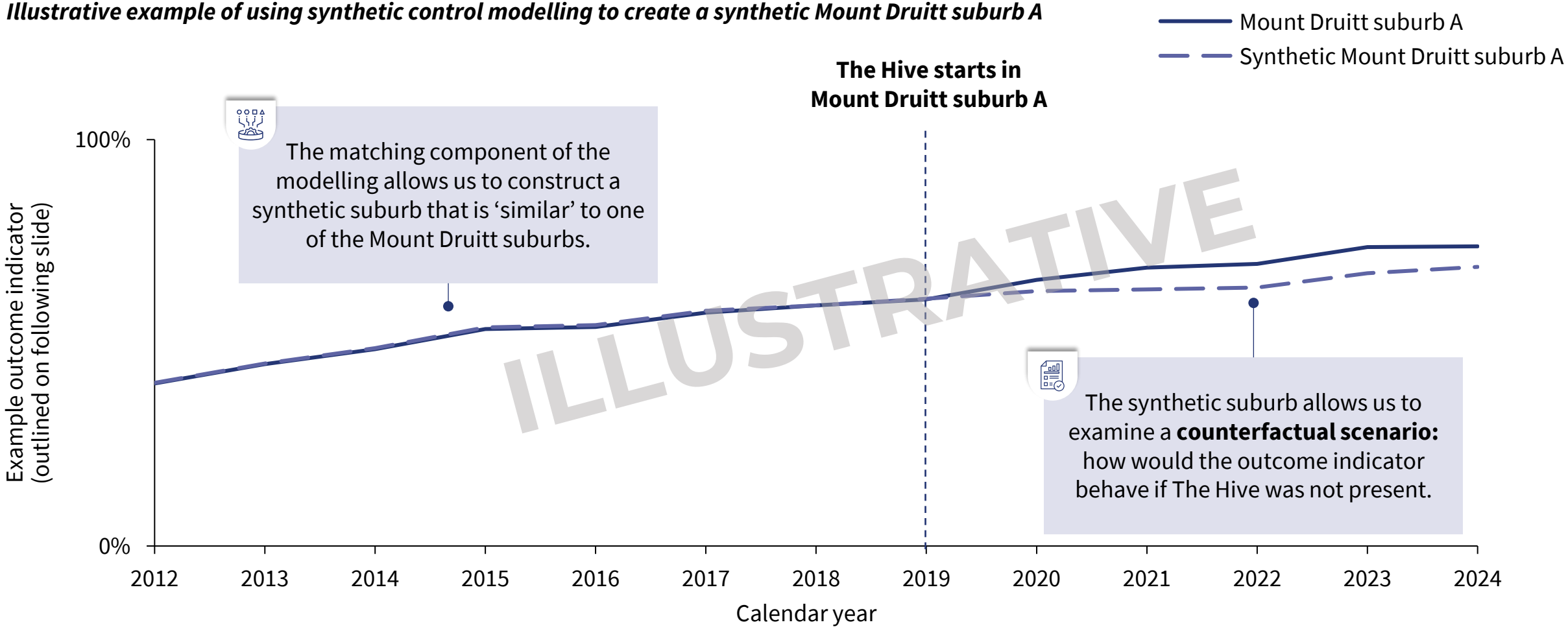
The outcome indicators did not produce good pre-treatment matches, but further detail on these indicators can also be found in the technical appendix.



Outcome area	Indicator	Outcome	Discussion of results	Data source
Children start school well	Rate of 4- year-olds receiving a health and development check	●	• Good pre-treatment fit for the blue book data (MAPE of 4.9%) indicating a good match. • Positive impact of The Hive when comparing the comparison suburbs to the actual data; 187% increase in rate of blue-book checks in 4-year-olds compared to the expected rate.	Blue Book Data, NSW Ministry of Health
	Proportion of children with a NDIS plan in place prior to starting school	●	• Good pre-treatment fit for the NDIS data (MAPE of 12.0%) indicating a good match. • Positive impact of The Hive when comparing the comparison postcode to the actual data; 25% increase in rate of 0–6-year-olds accessing NDIS supports when compared to the expected rate.	National Disability Insurance Scheme, via ABS PLIDA
Children have access to high quality early learning	Proportion of ECEC services 'meeting' the standard in all seven ACECQA quality areas	●	• Good pre-treatment fit for the NQS data (MAPE of 12.4%) indicating a good match. • Positive impact of The Hive when comparing the comparison postcode to the actual data; 19ppt increase in the proportion of ECEC services meeting the NQS compared to the expected rate.	National Quality Standards Results, ACEQA

Modelling: The synthetic control modelling creates a comparison suburb (the synthetic suburb) that can be used to assess how the Mount Druitt suburb would perform in absence of The Hive

Illustrative example of using synthetic control modelling to create a synthetic Mount Druitt suburb A

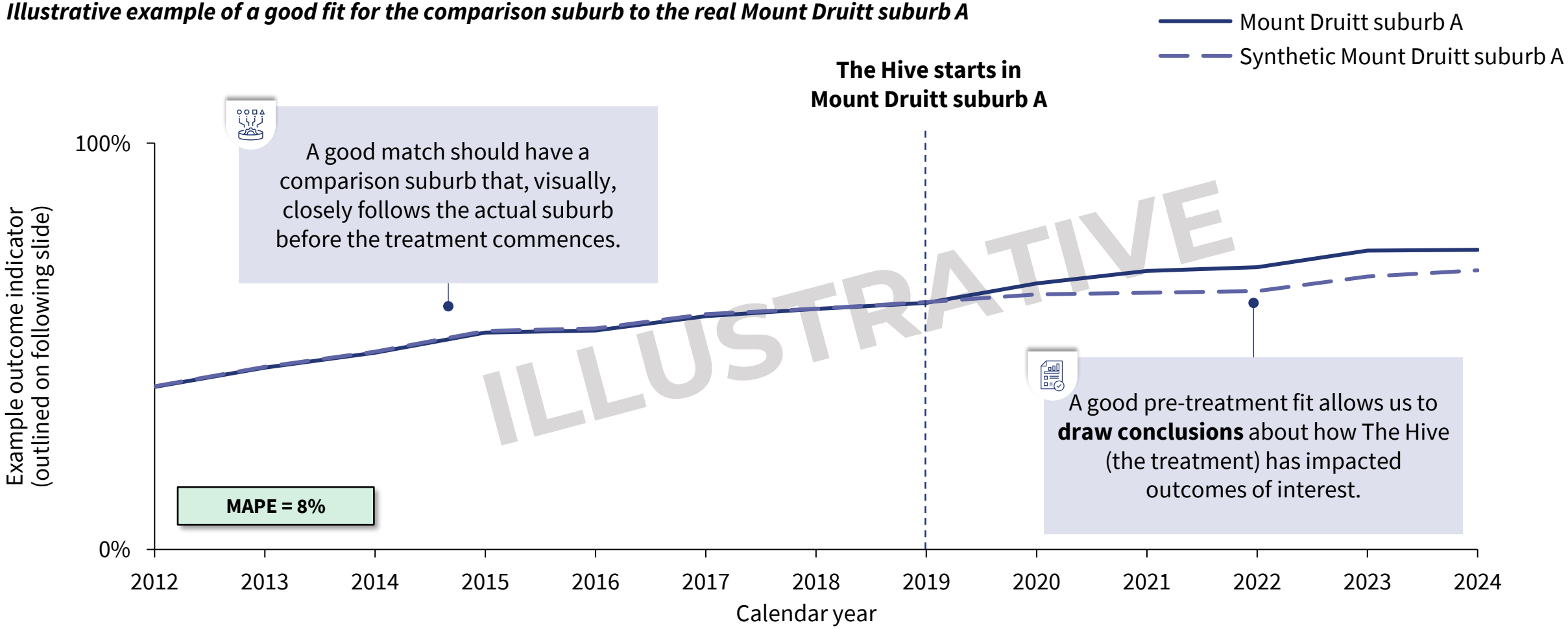


The next two slides will outline how a 'good' or 'poor' synthetic match has been identified for the purpose of this modelling.

Notes: 1. Further detail on the synthetic control modelling can be found in the technical appendix.

Good matches: A good synthetic match visually matches the actual data in the pre-treatment period and has a low pre-treatment mean absolute percentage error

Illustrative example of a good fit for the comparison suburb to the real Mount Druitt suburb A

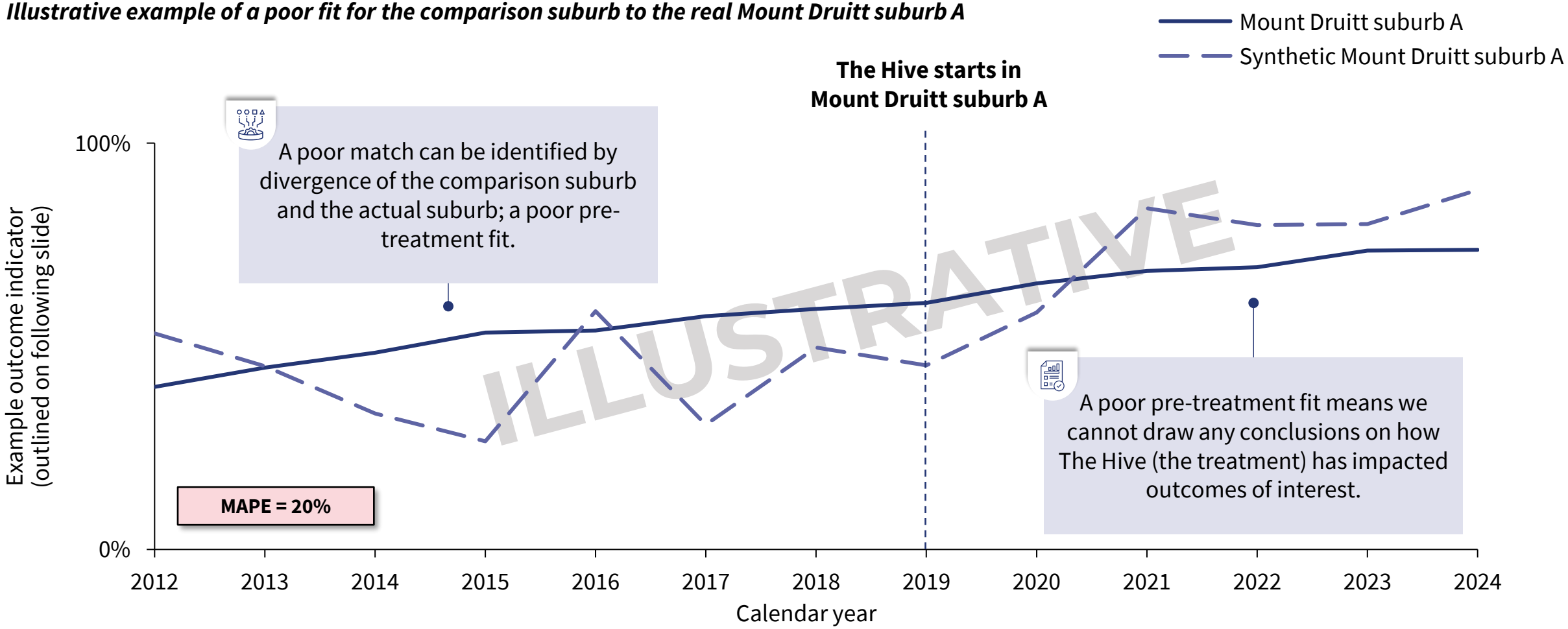


Model suitability was evaluated based on the pre-treatment fit (how well the lines overlap before the treatment intervention and the mean absolute percentage error **(MAPE)**. A pre-treatment MAPE below 15% is acceptable while a MAPE above 15% indicates a poor fit.[1]

Notes: 1. Further detail on the MAPE can be found in the technical appendix.

Poor matches: A poor synthetic match visually does not match the actual data in the pre-treatment period and has a high pre-treatment mean absolute percentage error

Illustrative example of a poor fit for the comparison suburb to the real Mount Druitt suburb A



Outcome indicators with poor synthetic matches were excluded from the report as no conclusions can be drawn.

Notes: 1. Further detail on the MAPE can be found in the technical appendix.

Filtering and matching testing: We used an iterative approach to model development to ensure donor suburbs had similar characteristics to The Hive suburbs and the model was reliable

Overview of our synthetic control modelling process

1 Determined potential donor suburbs and postcodes

The potential donor suburbs and postcodes are the set of donor datapoints used to generate the synthetic match on the pre-treatment outcomes for the target suburb (or postcode).

To minimise the impact of potential confounders on the outcomes that we are examining, we have used socio-economic factors and the demographic profiles of other suburbs in New South Wales and Australia to generate sets of different potential donor suburbs (postcodes) that most likely match The Hive suburbs (or the 2770 postcode).

2 Trial synthetic control model

The synthetic control modelling was run for each of the public datasets, for example:

- AEDC domain outcomes
- NDIS plans

The modelling was completed at either the suburb level or postcode level depending on the indicators.

The modelling was run multiple times to test how the matches change depending on the set of donor suburbs (and postcodes) provided to the model.

3 Assessed the matches and iterate

We assessed the quality of the matches produced by the synthetic modelling, that is, assessed how well the synthetic suburbs or postcodes match the pre-treatment period.

If the quality of the match was sufficiently good, then we quantified the impact of The Hive on the outcome variable. This includes if the results are statistically significant.

If the matches were poor, we placed lower weight on the results in assessing the impact of the Hive on the outcome.

All datasets were quality assured and cleaned prior to analysis. Models were run multiple times using different donor pools and specifications to test the robustness of results.

Results overview: Our analysis found that The Hive has had positive impacts on childcare quality, blue book checks, and NDIS participation

Our analysis found that The Hive has had a positive impact on 4-year-old developmental health checks, the proportion of children with a NDIS plan in place prior to starting school, and on the proportion of ECEC services 'Meeting' the standard across all seven ACECQA quality areas.

Outcome area	Indicator	Outcome	Discussion of results	Data source
Children start school well	Rate of 4- year-olds receiving a health and development check	●	• Good pre-treatment fit for the blue book data (MAPE of 4.9%) indicating a good match. • Positive impact of The Hive when comparing the comparison suburbs to the actual data; 187% increase in rate of blue-book checks in 4-year-olds compared to the expected rate.	Blue Book Data, NSW Ministry of Health
	Proportion of children with a NDIS plan in place prior to starting school	●	• Good pre-treatment fit for the NDIS data (MAPE of 12.0%) indicating a good match. • Positive impact of The Hive when comparing the comparison postcode to the actual data; 25% increase in rate of 0–6-year-olds accessing NDIS supports when compared to the expected rate.	National Disability Insurance Scheme, via ABS PLIDA
Children have access to high quality early learning	Proportion of ECEC services 'Meeting' the standard in all seven ACECQA quality areas	●	• Good pre-treatment fit for the NQS data (MAPE of 12.4%) indicating a good match. • Positive impact of The Hive when comparing the comparison postcode to the actual data; 19ppt increase in the proportion of ECEC services 'Meeting' the NQS compared to the expected rate.	National Quality Standards Results, ACEQA

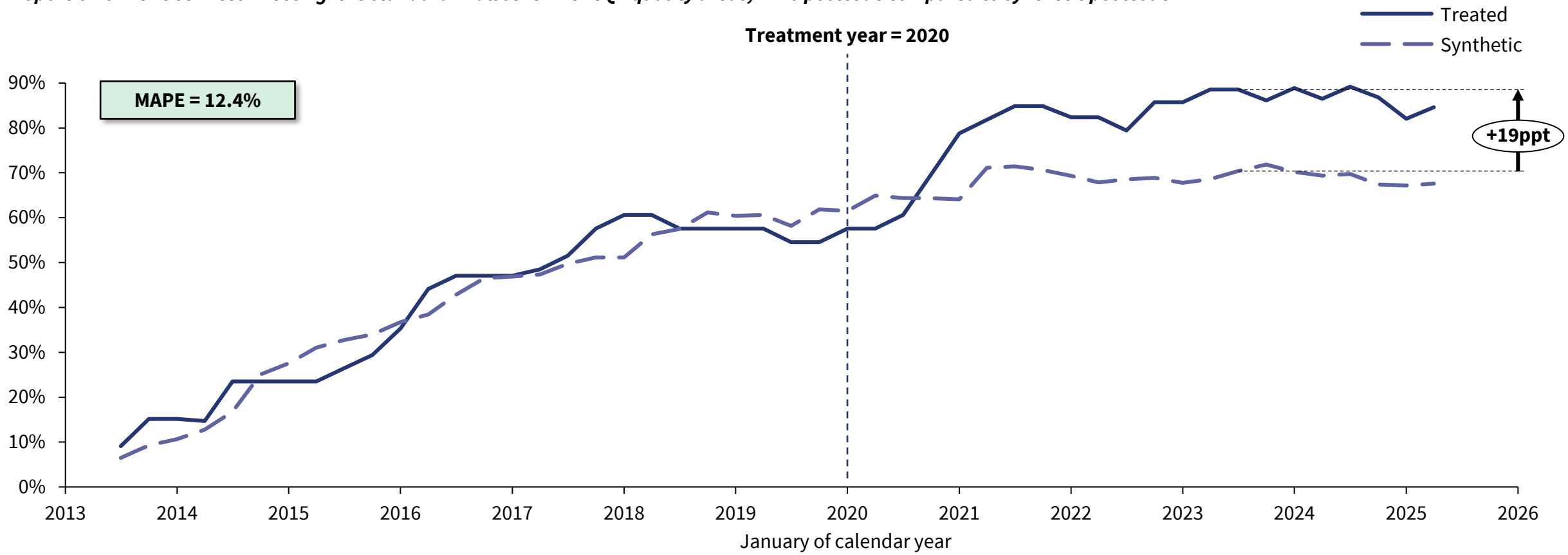
AEDC and one ACEQA outcome were excluded due to high variability and poor pre-treatment match quality. This is likely due to variations in assessment practices and/or fewer data points; discussion on these indicators is in the Appendix.

Key: ● Positive impact on outcome indicator

NQS: Since the Early Educator's Network launched, the proportion of ECEC services rated as 'Meeting' all seven quality standards increased 19ppt above the expected proportion

As part of its service offerings, The Hive runs the 2770 Early Educator's Network in collaboration with Western Sydney University. The Network aims to support early childhood educators in the Mount Druitt area to sustain a quality environment for children in Mount Druitt. The network is a community of practice for early childhood educators that is driven by the needs of educators, the families they work with, and their community. The Hive reports that the network started in 2019/2020 and its bi-monthly meetings have been well attended since March 2021. Our modelling shows that by 2023, the proportion of ECEC services 'Meeting' all seven ACECQA quality standards was 19ppt higher than the matched comparison.

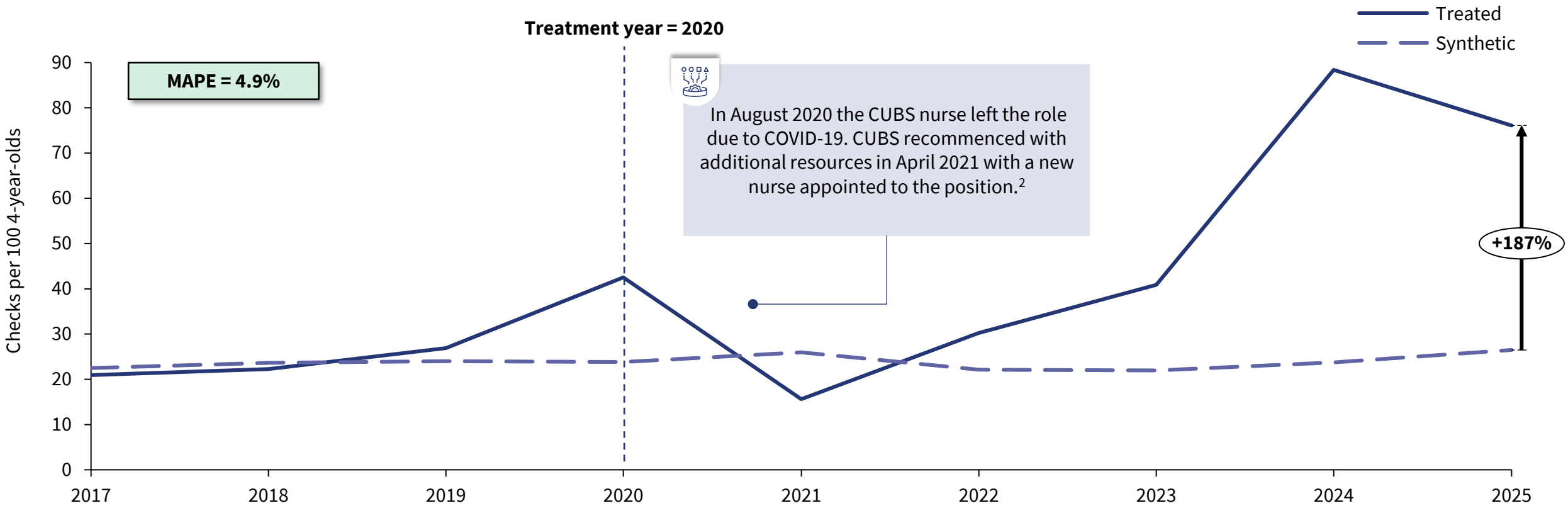
Proportion of ECEC services 'Meeting' the standard in all seven ACECQA quality areas, 2770 postcode compared to synthetic postcode



Blue book: Since the CUBS program launched, the rate of child and family health appointment attendance for 4-year-olds in The Hive suburbs increased to 187% above the expected rate

The Hive helped to launch the place-based initiative Check-Ups Before School (CUBS) Program to help increase participation in developmental checks that support the early identification of developmental delays and disabilities before children start school. After The Hive successfully managed the project for 3 years, in 2022 the CUBS Program became embedded in Western Sydney Local Health District's community nursing strategy for the Mount Druitt area. Our modelling shows that by 2025, the rate of child and family health appointment attendance for 4-year-olds in The Hive suburbs increased to 187% above the expected rates.

Checks per 100 4-year-old children receiving child and family health centre checks,[1] The Hive suburbs, compared to weighted synthetic suburb

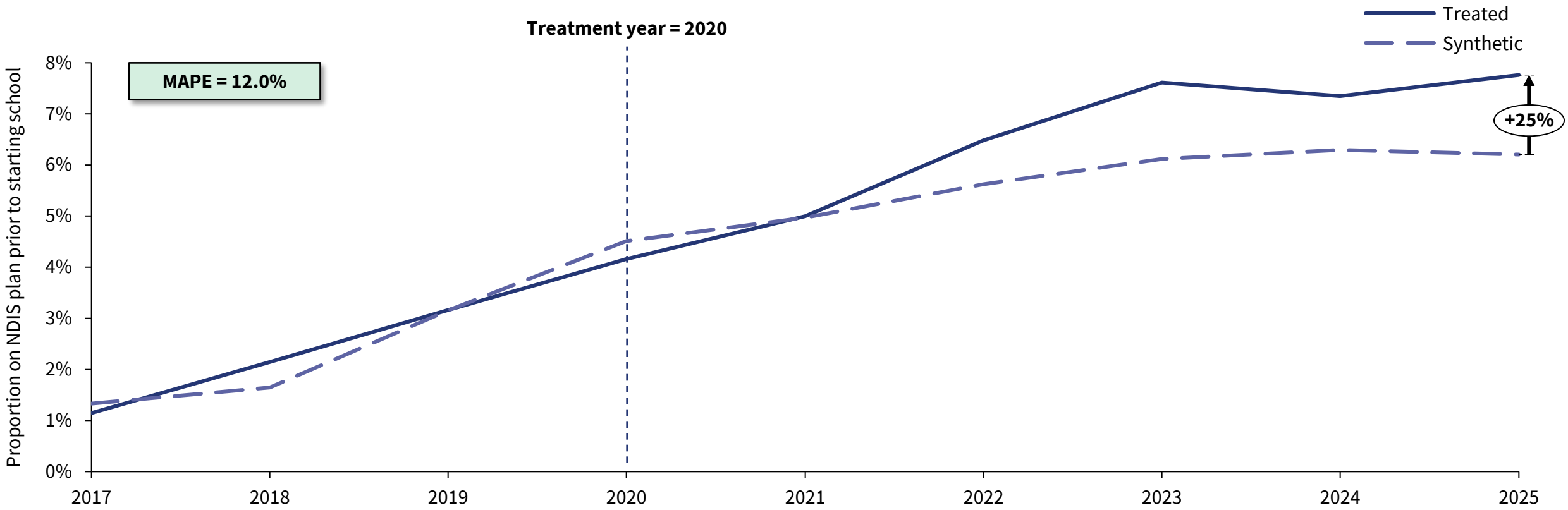


Notes: Child and family health check data was provided by the NSW Ministry of Health. The Hive suburbs have been combined to increase sample size and improve model fit. 1. Health checks data provided by NSW Ministry of Health only includes checks at appointments in child and family health centres 2. Check-ups Before School (CUBS) final report of pilot study

NDIS: Since The Hive started operating, the proportion of children aged 0-6 accessing the NDIS in 2770 increased to 25% above expected, indicating improved diagnosis and greater support

The Hive aims to ensure that children start school well. Children in postcode 2770 face barriers to accessing early intervention services due to a range of complex practical, financial and family barriers. One of the purposes of encouraging pre-school check-ups is to ensure that disabilities and developmental delays are identified early, so that children have the best chance to succeed when they start school. Our modelling shows that after The Hive began operating in 2770, the proportion of children accessing the NDIS increased to 25% above the expected proportion.

Proportion of children aged 0-6 with an NDIS plan, 2770 postcode, compared to weighted synthetic suburb



Notes: NDIS plan data, 2025. Due to the staggered roll out of NDIS, the clustered postcodes had small sample size with complete data which yielded a high MAPE, so donor postcodes were selected from bottom 3% SEIFA.

5. Recommendations

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Recommendations: We recommend that UWA refreshes this analysis on an annual basis and continues to advocate for data access

Overview of recommendations

Recommendation 1: UWA should refresh analysis on an annual basis to track progress

- Annual refreshes will track ongoing impacts as The Hive continues to mature and expand.
- PRF and/or UWA could consider applying for extended PLIDA access and re-requesting Blue Book check data from the NSW Ministry of Health, and re-accessing NQS data, and refreshing the analysis completed for this project.
- PRF and/or UWA could also consider expanding the analysis to undertake new policies, or consider other types of analysis such as network analysis.

Recommendation 2: UWA should work with the Commonwealth and NSW Departments of Education to access further outcomes indicators

- The Australian Early Development Census data did not provide a reliable measure of school readiness. NSW Education rejected a request for Best Start Kindergarten Assessment data, which may have provided a more reliable measure.
- We recommend PRF and/or UWA continue to advocate for access to this data for evaluation purposes, given its potential value for tracking early school outcomes.

Recommendation 3: UWA should share key learnings with organisations with similar goals

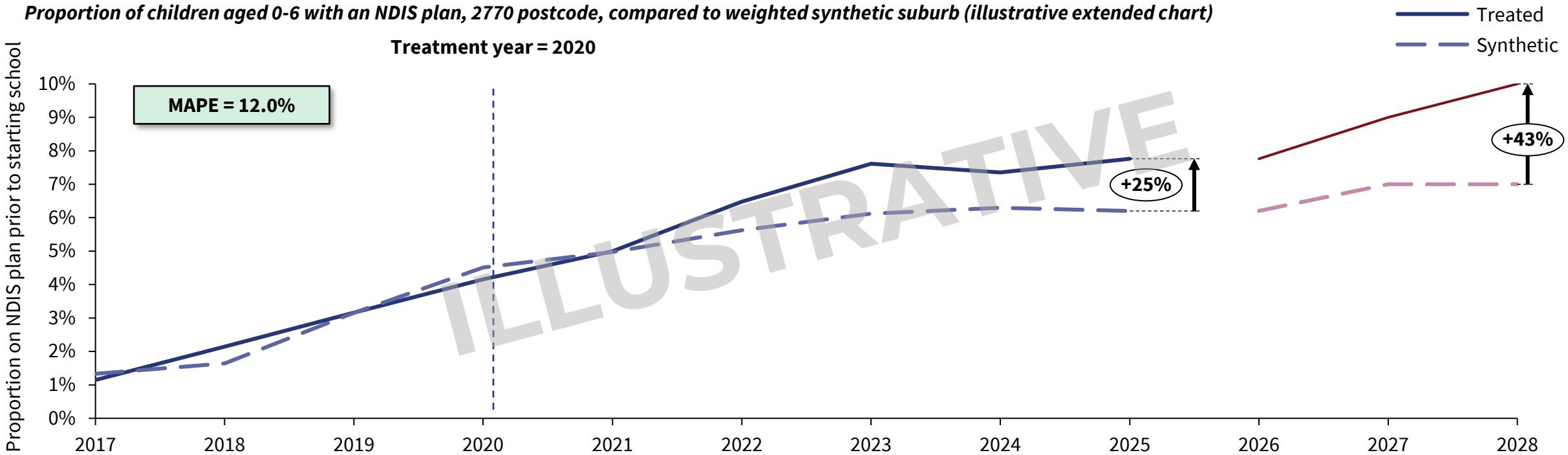
- The Hive's activities have had a significant impact on a range of early childhood outcomes.
- UWA should share key learnings with organisations who are interested in, or running place based initiatives or seeking to improve early childhood outcomes. This may include other service delivery organisations and/or government and philanthropic organisations.

Recommendation 1: UWA should refresh analysis on an annual basis to track progress and, additionally, can expand analysis to understand how upcoming policies may impact progress

Refreshing: Annual refreshes of key results will support UWA to track ongoing impacts as The Hive continues to mature and expand. PRF and UWA could consider applying for extended PLIDA access and re-requesting Blue Book check data from the NSW Ministry of Health, and re-accessing NQS data, and refreshing the analysis completed for this project.

Expanding: Additionally, UWA can use the key datasets underpinning the modelling to understand how upcoming policies may impact the progress of initiatives. For example, using the NDIS dataset in PLIDA, UWA can understand how many children with mild developmental delay live in the four key suburbs, who then may be moved off the early intervention program in the NDIS and into the upcoming Thriving Kids. UWA could also consider the potential utility of a network analysis to understand the impact of place-based initiatives, and could add analysis against further outcome metrics if they become available.

Proportion of children aged 0-6 with an NDIS plan, 2770 postcode, compared to weighted synthetic suburb (illustrative extended chart)



 Source: ACECQA National Quality Standard (NQS) assessment and rating data 2025

Recommendation 2: UWA should work with the Commonwealth and NSW Departments of Education to access further outcome indicators

We were notably unable to access reliable indicators of performance in kindergarten. The Australian Early Development Census data did not provide a reliable measure of school readiness. NSW Education rejected a request for Best Start Kindergarten Assessment data, which may have provided a more reliable measure. We recommend PRF and/or UWA continue to advocate for access to this data for evaluation purposes, given its potential value for tracking early school outcomes.

Recommended set of indicators and notes on request/analysis outcomes[1], *October to December 2024 engagement*

Outcome area	Long-term indicators	Note
Children start school well	• Levels of developmental vulnerability according to the Australian Early Development Census (AEDC), measured by: – Proportion of children developmentally vulnerable on one or more domains – Proportion of children developmentally vulnerable on two or more domains – Proportion of children developmentally on track on five domains	AEDC results were unreliable, likely due potential differences in the way individual teachers assess children, and a small number of data points.
	• Proportion of preschools accessing inclusion support funding	Results were limited by the small number of ECEC services in key suburbs.
	• Proportion of children demonstrating proficiency in early literacy and numeracy at the start of kindergarten according to the Best Start Kindergarten Assessment[1] (BSKA)	NSW Education rejected request.
	Lead indicators – directly impacted by The Hive	
Children have access to high quality early learning	• Proportion of children at each level of school-provided adjustment for equitable learning according to the NCCD	NSW Education rejected request.
	• Proportion of ECEC services 'Exceeding' the standard in ACECQA quality areas 1, 4 and 5 and at least 'meeting' the standard in all other ACECQA quality areas	This ACECQA result was unreliable, likely due to differences in the way ECEC services are assessed and a small number of data points
	• Proportion of all children attending ECEC for 15+ hours per week for the two years before starting formal school	NSW Education rejected request.
	Contextual indicators	
Both	• Level of public transport accessibility	Results did not capture project-relevant outcomes.

Excluded due to data request outcomes Excluded due to poor fit/poor quality

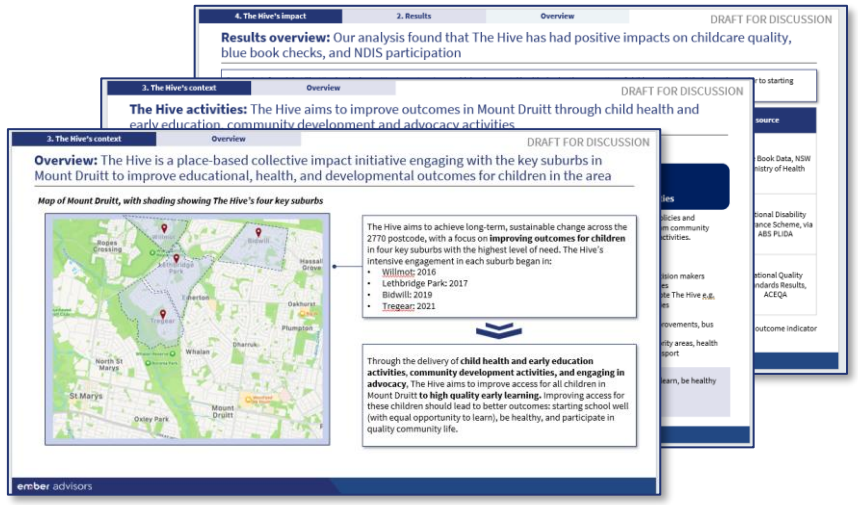
Notes: The NCCD outcome indicator has been newly added during the 2025 engagement, bringing total outcome indicators to 14.

Recommendation 3: UWA should share key learnings with place-based organisations with similar goals and government departments

UWA and PRF should engage with other organisations, including organisations working on place-based initiatives, government departments and other funders of place-based or early childhood initaitives, to discuss the key learnings of The Hive's holistic approach to improving early childhood outcomes, the quasi-experimental evaluation approach, and the findings from the evaluation. Different audiences will likely have an interest in different aspects of the evaluation. The final report can be tailored to support the discussion with each audience.

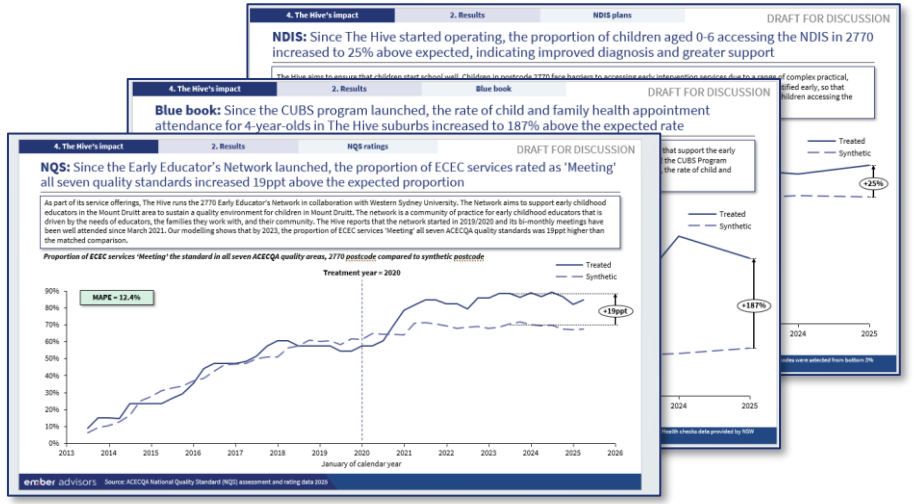
Similar place-based organisations

A version of the final report for place-based organisations can focus on the holistic approach that The Hive takes in its engagement with the suburbs which leads to the impacts on early childhood outcomes and a high-level discussion of the results of the evaluation findings.



Governments and funders of place-based or early childhood initiatives

Conversations with government departments and funders of place-based initiatives may focus on the potential of place-based or early childhood programs, or the evaluation approach taken itself; how the synthetic control modelling approach can be used to measure outcomes of programs.



Technical appendix

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Technical appendix contents

1. **Evaluation methodology overview**

2. **Results excluded from the evaluation**

Technical appendix contents

1. **Evaluation methodology overview**
2. **Results excluded from the evaluation**

Methodology: The evaluation applied a structured, end-to-end methodology to assess The Hive's contribution to child and early learning outcomes

End-to-end evaluation approach from indicator design to impact assessment

	Design	Data	Matching	Impact	Validation
Time period	Late 2024	Jan – Oct 2025	Oct – Nov 2025	Nov 2025 – Jan 2026	Dec 2025 – Jan 2026
Key activities	Agreed on long-term and lead indicators aligned to The Hive's objectives and data availability	Requested and collated public and administrative data, including PLIDA-supported datasets, data from NSW Ministry of Health and NSW Education	Cleaned, standardised and clustered suburbs / postcodes by demographics, socio-economic characteristics and other census variables	Constructed synthetic comparison suburbs / postcodes to model counterfactual outcomes where no intervention occurs	Assessed model suitability by evaluating the pre-treatment fit using MAPE, visual diagnostics and meetings with The Hive.
Tools & data	• Theory of change • Stakeholder workshops	• ABS PLIDA, NSW Health data (via applications), safe researcher training and access	• Census, PTAL, ISP, NQS, CFHS, Blue Book, AEDC data • Data cleaning and clustering in R "mclust" package	• Cleaned data sets • R "synth" package	• MAPE thresholds • Validation and evaluation plots • Discussion of results
Output	• Agreed indicator framework	• Longitudinal datasets at the suburb and postcode level	• Cleaned indicator-level datasets • Donor pool matched to Hive suburbs	• Results from SCM models • Estimated treatment effects	• Evaluation of confidence of results • Classification of reliability of results
Outcome	Shared definition of what success looks like and what can be measured	Robust, longitudinal datasets suitable for quasi-experimental analysis.	Cleaned data and refined pool of suitable donor suburbs for comparison.	Estimated impact of The Hive on each outcome indicator.	Clear identification of robust, indicative and inconclusive findings.

Data requests: We worked with The Hive to identify 14 outcome and contextual indicators; we were able to access data for 11 indicators

Data requested and sourced for evaluation

Key: Successful Unsuccessful

Data source	Owner	Purpose	Indicators	Availability	Request status
Australian Early Development Census (AEDC) – teacher-reported child development outcomes	Commonwealth Department of Education	Child development outcomes at school entry	3	Publicly available	●
NSW Personal Health Record ("Blue Book") child and family health check administrative data	NSW Ministry of Health	Child health and developmental checks prior to school	1	Request required	●
Longitudinal NDIS participants and payment data	National Disability Insurance Scheme	Accessibility of NDIS support plans for children prior to starting school	1	Request required	●
Inclusion Support Program administrative funding data	Commonwealth Department of Education	Early childhood inclusion and support funding indicators	1	Publicly available	●
National Health Workforce Dataset – practitioners by location	Commonwealth Department of Health, Disability and Ageing	Availability of doctors and allied health workforce	1	Publicly available	●
ACECQA National Quality Standard (NQS) assessment and rating data	The Australian Children's Educational and Care Quality Authority	ECEC quality ratings across seven quality areas Service availability and characteristics	3	Publicly available	●
NSW Department of Education early childhood and kindergarten administrative datasets	NSW Department of Education	Kindergarten and early schooling outcomes	3	Request required - rejected	●
Public Transport Accessibility Level	Transport for NSW	Transport accessibility	1	Publicly available	●
ABS Census of Population and Housing, 2021	Australian Bureau of Statistics	Socio-economic and demographic context (income, employment, education, SEIFA, CALD)	0 – matching variables	Publicly available	●

All data was validated for quality assurance and cleaned using R to create standardised, longitudinal datasets for each indicator. Where data was only available in PLIDA, this was validated and cleaned in the DataLab environment and results cleared for output. Following an application process, requests for three outcome indicators, including Best Start Kindergarten Assessment results were rejected by NSW Department of Education in 2025.

Filtering and matching testing: We used an iterative approach to model development to ensure donor suburbs had similar characteristics to The Hive suburbs and the model was reliable

Overview of our synthetic control modelling process

1 Determined potential donor suburbs and postcodes

The potential donor suburbs and postcodes are the set of donor datapoints used to generate the synthetic match on the pre-treatment outcomes for the target suburb (or postcode).

To minimise the impact of potential confounders on the outcomes that we are examining, we have used socio-economic factors and the demographic profiles of other suburbs in New South Wales and Australia to generate sets of different potential donor suburbs (postcodes) that most likely match The Hive suburbs (or the 2770 postcode).

2 Trial synthetic control model

The synthetic control modelling was run for each of the public datasets, for example:

- AEDC domain outcomes
- NDIS plans

The modelling was completed at either the suburb level or postcode level depending on the indicators.

The modelling was run multiple times to test how the matches change depending on the set of donor suburbs (and postcodes) provided to the model.

3 Assessed the matches and iterate

We assessed the quality of the matches produced by the synthetic modelling, that is, assessed how well the synthetic suburbs or postcodes match the pre-treatment period.

If the quality of the match was sufficiently good, then we quantified the impact of The Hive on the outcome variable. This includes if the results are statistically significant.

If the matches were poor, we placed lower weight on the results in assessing the impact of the Hive on the outcome.

All datasets were quality assured and cleaned prior to analysis. Models were run multiple times using different donor pools and specifications to test the robustness of results.

Filtering: We considered four filtering options to ensure the donor suburbs and postcodes the synthetic control modelling exhibit similar demographics to The Hive suburbs and postcodes

Outline of methods for filtering for potential donor suburbs and postcodes

	All suburbs/postcodes	Low SEIFA regions in NSW	Low SEIFA regions in Australia	Similar suburbs/postcodes using GMM clustering
Suburb filter	-	Bottom 1 percentile	Bottom 2 percentiles	Clustered suburbs
Postcode filter	-	Bottom 2 percentiles	Bottom 3 percentiles	Clustered postcodes
Rationale	Uses the full set of available areas as a naïve benchmark, without restricting for similarity.	Includes NSW suburbs and postcodes with the lowest SEIFA disadvantage scores to approximate socio-economic similarity to Mount Druitt.	Expands the donor pool nationally to include areas with similar levels of socio-economic disadvantage where NSW-only matches are limited.	Identifies suburbs and postcodes most similar to Mount Druitt across multiple socio-economic and demographic variables, providing a closer overall match.
Use case	**Not used for results:** Baseline comparison only	**Not used for results:** Baseline comparison only	**Alternate approach:** NDIS indicators where clustered sample size was too small	**Preferred approach:** All other indicators
Justification	Included to demonstrate why unrestricted matching is insufficient for causal inference.	Provides a simple, transparent comparison but may omit relevant matches outside NSW.	Used as a fallback where indicator-specific constraints limit clustered matching.	Preferred approach as it explicitly controls for multiple socio-economic and demographic factors, producing the most credible counterfactual.

Depending on the indicator, **different granularity** is used for the filtering. For example, the NQS ratings are measured at the postcode level, so the filtering was done at the postcode level to produce a set of potential donor postcodes for the synthetic control model.

Filtering: We used a clustering methodology to identify potential donor suburbs and postcodes with similar characteristics to that of suburbs The Hive operates in and postcode 2770

1. Collect & prepare data

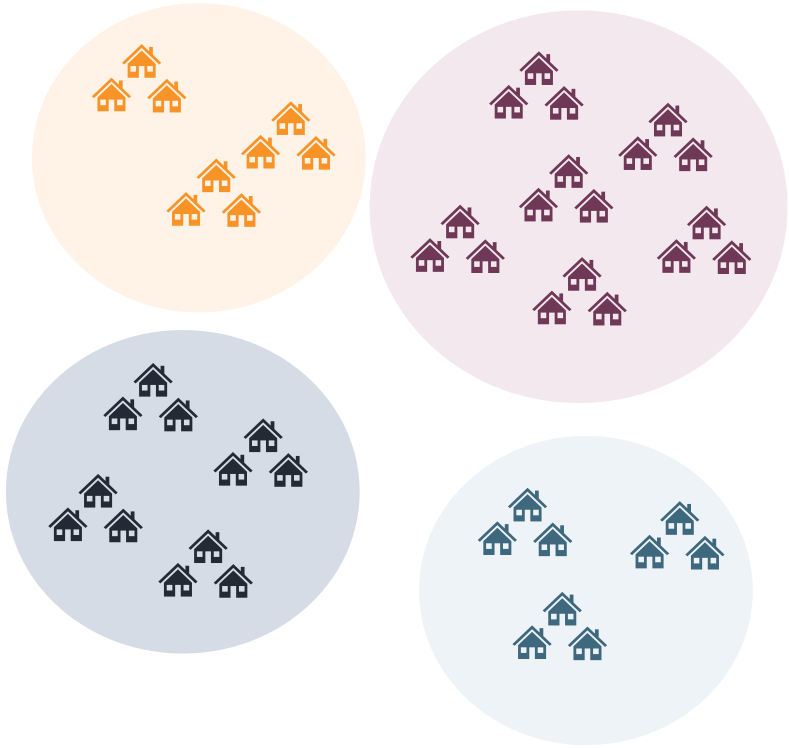
Collect relevant census variables for all suburbs and postcode areas across Australia. Normalise the variables to minimise bias

Category	Factors[1]
Demographic	• Population size • Proportion of population aged 0-to-4-years-old • Proportion of 0- to-4-year-olds who are First Nations
Socio-economic factors	• SEIFA • Unemployment • Labour force participation • Median household income
Housing & education	• Rental proportion • Proportion of adults without high school completion
Cultural diversity	• Proportion of population born outside Australia • Other language spoken at home
Regionality	• Population density

2. Apply clustering algorithm

Apply Gaussian mixture modelling (GMM) to identify natural groupings of suburbs/postcodes, and assign each suburb/postcodes to the highest probability cluster

All Australian suburbs

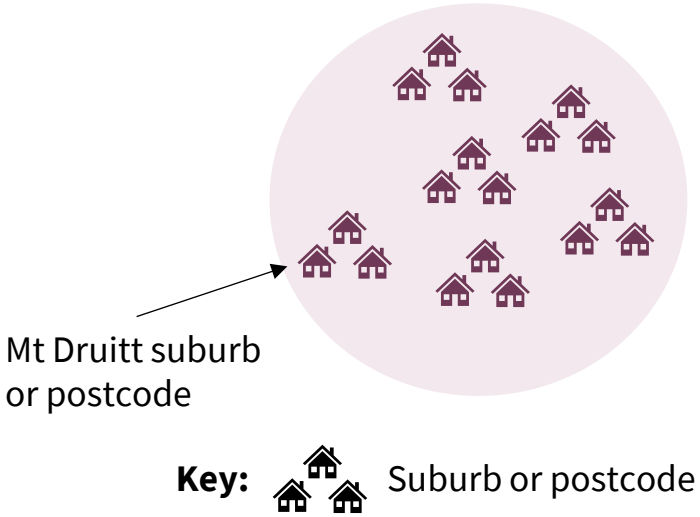


3. Filter for similar suburbs/postcodes

Identify suburbs/postcodes in the same cluster as the Hive suburbs of interest for use in the SCM

Filtered donor suburbs or postcodes for SCM

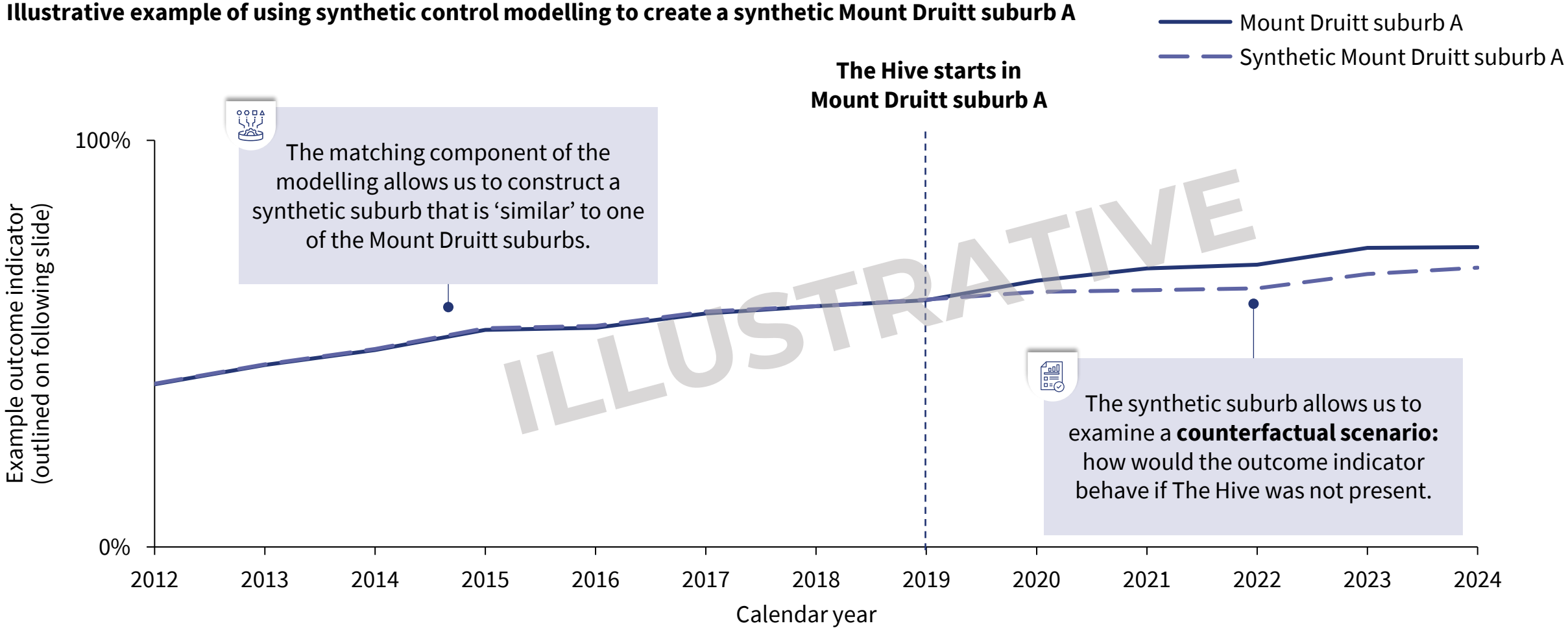
Clustering filtered the data to approximately 600 suburbs and 110 postcodes that are similar to The Hive suburbs and postcode.



1 Factors from 2021 Census Source: 2021 ABS

Modelling: The synthetic control modelling creates a comparison suburb (the synthetic suburb) that can be used to assess how the Mount Druitt suburb would perform in absence of The Hive

Illustrative example of using synthetic control modelling to create a synthetic Mount Druitt suburb A



The next two slides will outline how a 'good' or 'poor' synthetic match has been identified for the purpose of this modelling.

Notes: 1. Further detail on the synthetic control modelling can be found in the technical appendix.

Evaluation methodology: To assess goodness-of-fit, we used mean absolute percentage error and a visual check of the pre-treatment trends

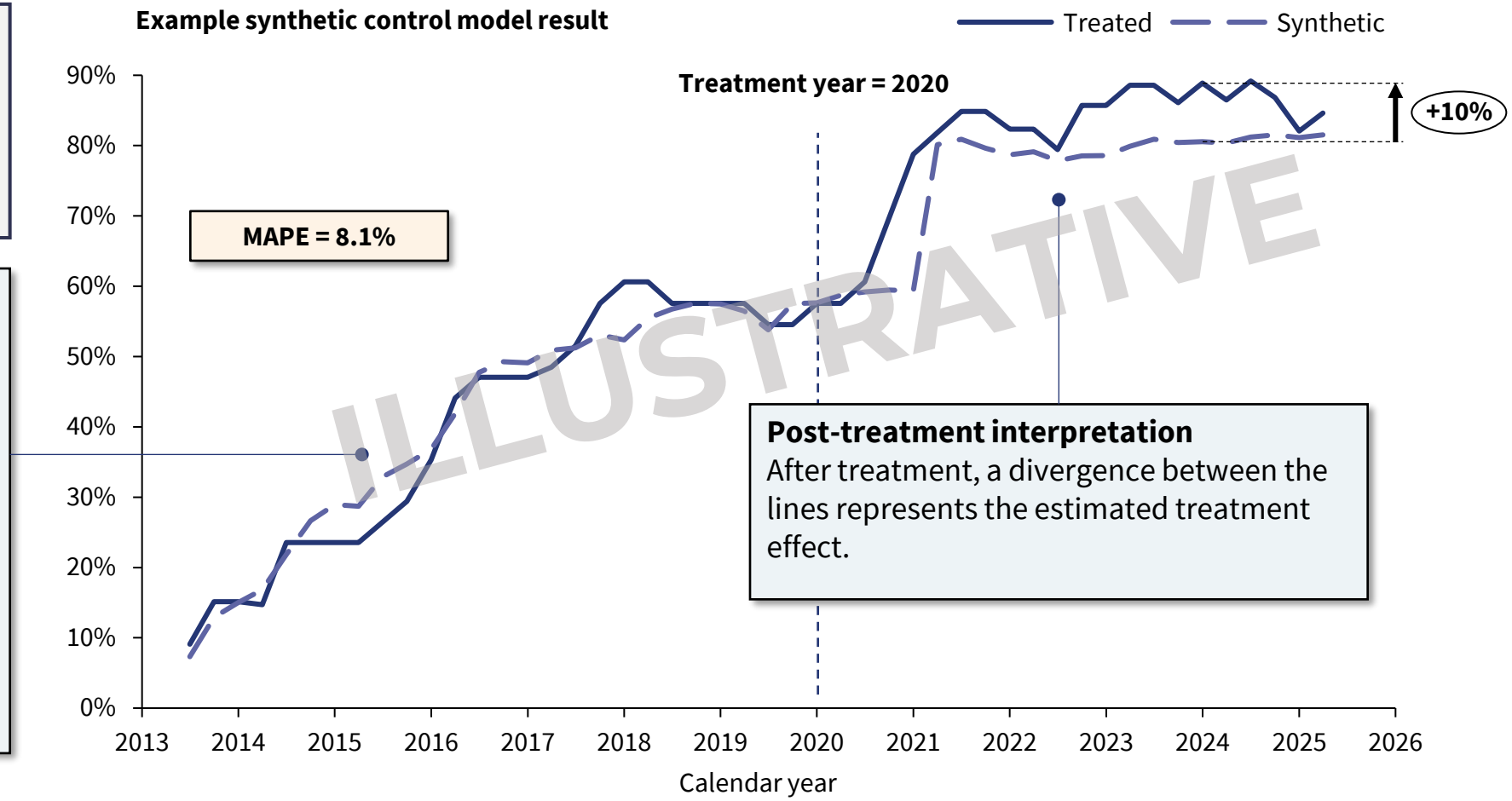
Mean absolute percentage error (MAPE):

$$\text{Average of} \quad \frac{\text{Treatment – synthetic}}{\text{Treatment}}$$

Pre-treatment evaluation
The synthetic line should closely track the treatment line before the intervention.

Good fit: The two lines (treated and synthetic) should overlap or run nearly parallel in the pre-treatment period.

Poor fit: A large pre-treatment gap suggests poor model fit and unreliable causal inference.

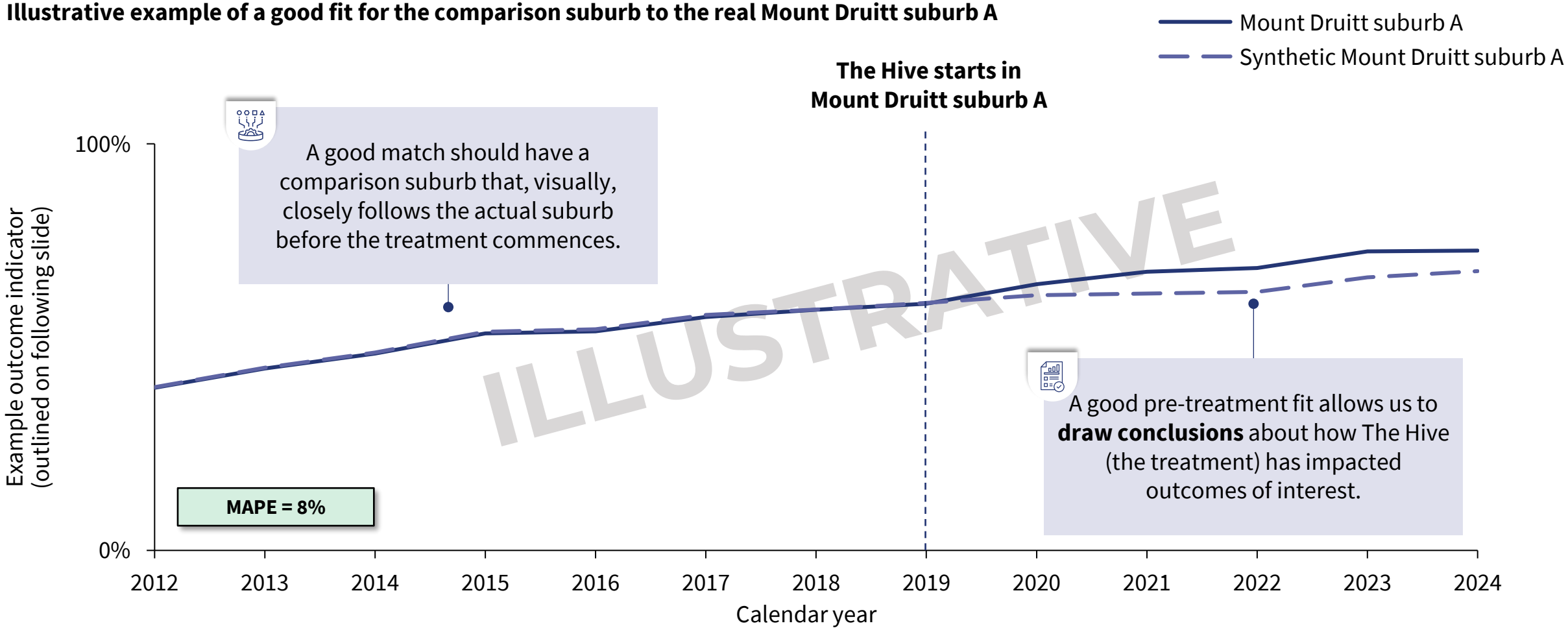


A pre-treatment MAPE below 15% is acceptable while a MAPE above 15% indicates a poor fit. This was one element of our assessment. We also considered data quality and the reliability of indicators.

Note: Mean absolute percentage error (MAPE) represents how far the modelled values are from the actual observed values

Good matches: A good synthetic match visually matches the actual data in the pre-treatment period and has a low pre-treatment mean absolute percentage error

Illustrative example of a good fit for the comparison suburb to the real Mount Druitt suburb A

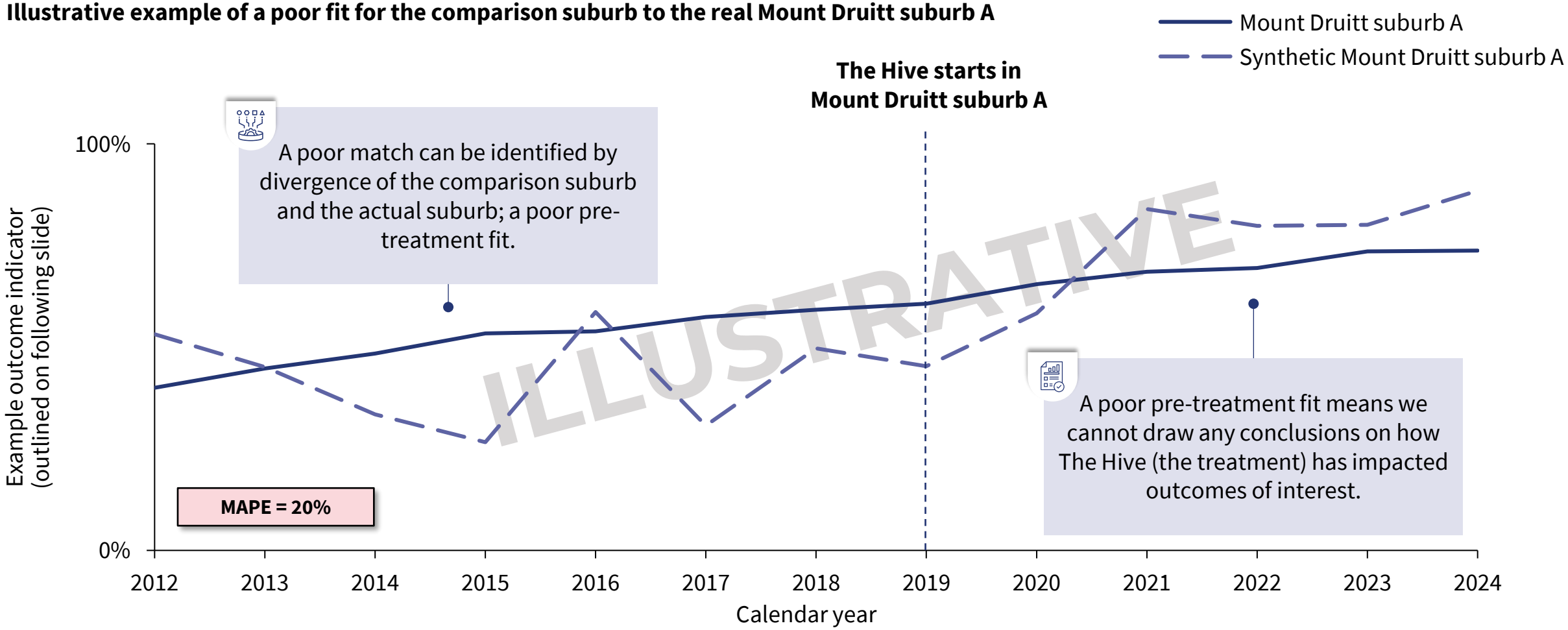


Model suitability was evaluated based on the pre-treatment fit (how well the lines overlap before the treatment intervention and the mean absolute percentage error **(MAPE)**. A pre-treatment MAPE below 15% is acceptable while a MAPE above 15% indicates a poor fit.[1]

Notes: 1. Further detail on the MAPE can be found in the technical appendix.

Poor matches: A poor synthetic match visually does not match the actual data in the pre-treatment period and has a high pre-treatment mean absolute percentage error

Illustrative example of a poor fit for the comparison suburb to the real Mount Druitt suburb A



Model suitability was evaluated based on the pre-treatment fit (how well the lines overlap before the treatment intervention and the mean absolute percentage error **(MAPE).** A pre-treatment MAPE below 15% is acceptable while a MAPE above 15% indicates a poor fit.[1]

Notes: 1. Further detail on the MAPE can be found in the technical appendix.

Other methods considered: In late 2024, we considered five other quasi-experimental methods, but determined they would be less suitable than synthetic control modelling

Other quasi-experimental methods considered

Quasi-experiment type	What it is?	When should it be used?	Could this method be suitable?
Difference-in-differences (DiD)	Compares changes in outcomes over time between a treatment group and a control group, measuring the difference in their changes.	When there is pre- and post-intervention data available for both the treatment and control groups, and the groups follow parallel trends.	Yes, pending the identification of appropriate data sources to establish parallel trends. Synthetic control modelling (SCM) and difference-in-difference are conceptually similar, but SCM was recommended as it is more flexible. DiD could be considered in future if SCM assumptions were not met.
Matching e.g. propensity score matching, coarsened exact matching	Creating a control group that is as similar as possible to the treatment group by matching units (individuals, suburbs, SA2s) based on relevant characteristics.	When there is a relatively large sample of treatment and control units , and rich covariate data, so that each treatment unit or group of units can be matched with one or multiple control units.	Yes, if we able to access individual level data on target cohorts within the 2770 postcode and matched individuals in other postcodes, but matching alone does not provide insights over time. Individual matching is recommended as part of phase 2, in combination with SCM to enable analysis over time.
Regression Discontinuity Design (RDD)	Evaluates program impact by comparing outcomes for individuals just above and below a threshold determining program eligibility (e.g., age, income).	When there is a clear threshold (e.g., parental income, age) determining eligibility for the program or intervention. Those just above and below the threshold can be compared.	Unlikely as there is no eligibility threshold for accessing The Hive's initiatives other than residing in the 2770 postcode. While it would be possible to study people on either side of the borders of 2770, we assume that the borders are porous and 2770 would also benefit from The Hive's programming.
Fixed effects modelling	Evaluates program impact by tracking each individual's changes over time, using each person as their own control.	When there is individual level, longitudinal data and an understanding of which individuals were exposed to a program.	No, given we do not have data on individuals and the specific timing of their engagement with The Hive.
Instrumental variables	Uses an instrument (a variable that affects participation in the program but not directly the outcome) to deal with unmeasured confounders.	When there is a measurable external factor (instrument) that affects program participation but does not directly affect the outcome of interest.	No, as we do not have an identifiable instrument that increases the chance that a person participates in The Hive's programming activities.

Technical appendix contents

1. Evaluation methodology overview

2. **Results excluded from the evaluation**

Excluded results: Several results were excluded due to differences in measurement practices, limited available data points and small samples

Results for Australian Early Development Census outcomes and one of the ACEQA measures were excluded due to poor pre-treatment match quality. The poor matches are likely due to variations in the way children and childcare centres are assessed over time, leading to varying outcomes over time. Results for Inclusion Support Program funding was excluded due to the small number of ECEC services in key suburbs. Results for public transport accessibility were excluded due to delays accessing the data, and the PTAL measure not appropriately capturing relevant project outcomes.

Recommended set of indicators and notes on request/analysis outcomes[1], *October to December 2024 engagement*

Outcome area	Long-term indicators	Note
Children start school well	• Levels of developmental vulnerability according to the Australian Early Development Census (AEDC), measured by: – Proportion of children developmentally vulnerable on one or more domains – Proportion of children developmentally vulnerable on two or more domains – Proportion of children developmentally on track on five domains	AEDC results were unreliable, likely due potential differences in the way individual teachers assess children, and a small number of data points.
	• Proportion of preschools accessing inclusion support funding	Results were limited by the small number of ECEC services in key suburbs.
	• Proportion of children demonstrating proficiency in early literacy and numeracy at the start of kindergarten according to the Best Start Kindergarten Assessment[1] (BSKA)	NSW Education rejected request.
	Lead indicators – directly impacted by The Hive	
Children have access to high quality early learning	• Proportion of children at each level of school-provided adjustment for equitable learning according to the NCCD	NSW Education rejected request.
	• Proportion of ECEC services 'Exceeding' the standard in ACECQA quality areas 1, 4 and 5 and at least 'Meeting' the standard in all other ACECQA quality areas	This ACECQA result was unreliable, likely due to differences in the way ECEC services are assessed and a small number of data points
	• Proportion of all children attending ECEC for 15+ hours per week for the two years before starting formal school	NSW Education rejected request.
	Contextual indicators	
Both	• Level of public transport accessibility	Results did not capture project-relevant outcomes.

Excluded due to data request outcomes

Excluded due to poor fit/poor quality

Notes: The NCCD outcome indicator has been newly added during the 2025 engagement, bringing total outcome indicators to 14.