

# Te Atatū – Insights

September 2023

## Long-term impact of Teen Parent Units

### Summary

The paper summarises a short piece of analysis that the Social Wellbeing Agency (SWA) carried out to identify the long-term and intergenerational impacts of Teen Parent Units (TPUs). It builds on an earlier evaluation carried out in 2017 and was used to further test our methodology of using the Integrated Data Infrastructure (IDI) to provide insight on the impacts of programmes and policies.

### Key findings

- As well as substantially improving school attainment rates, TPUs improve intergenerational wellbeing.
- The improved school attainment for TPU participants does not appear to significantly promote longer-term employment outcomes for mothers.
- The children of TPU participants are more likely to participate in early childhood education and less likely to be placed in Oranga Tamariki care.
- This analysis is a successful proof of concept of a method that could be used more widely to support social sector evaluation to have increased focus on outcomes.



# Previous research showed that Teen Parent Units substantially increase school attainment

Teen Parent Units (TPUs) provide wrap-around support to pregnant or parent school students. They are established in collaboration between a secondary school and a local early childhood education provider. The aim of TPUs is to improve educational engagement and achievement, and promote future participation in education, training, and employment.

TPUs have been previously evaluated using a reliable method (Vaithianathan et al., 2017). That evaluation found strong evidence that TPUs increase school enrolment rates for mothers after giving birth and increase NCEA attainment rates.

We aimed to replicate the findings of this previous evaluation, examining the same students but using a different, less time-intensive method.<sup>1</sup> Our method is conceptually less reliable than the method used in the previous TPU evaluation, but much more able to be applied to other types of support. Therefore, comparing our results to the previous evaluation tells us how close to the ‘truth’ our method can take us.

We used data in the Integrated Data Infrastructure (IDI), which is a secure government research database (Stats NZ, 2023a). The IDI allowed us to expand the previous evaluation by looking at later employment outcomes for mothers who participated in TPUs, as well as early life outcomes for their children.

There is strong evidence that Teen Parent Units increase school enrolment and NCEA attainment rates.

## We found similar impacts on school attainment

As with the previous evaluation, we found evidence that TPUs significantly increase school enrolment rates and NCEA attainment rates for the mothers who participate (Figure 1).<sup>2</sup>

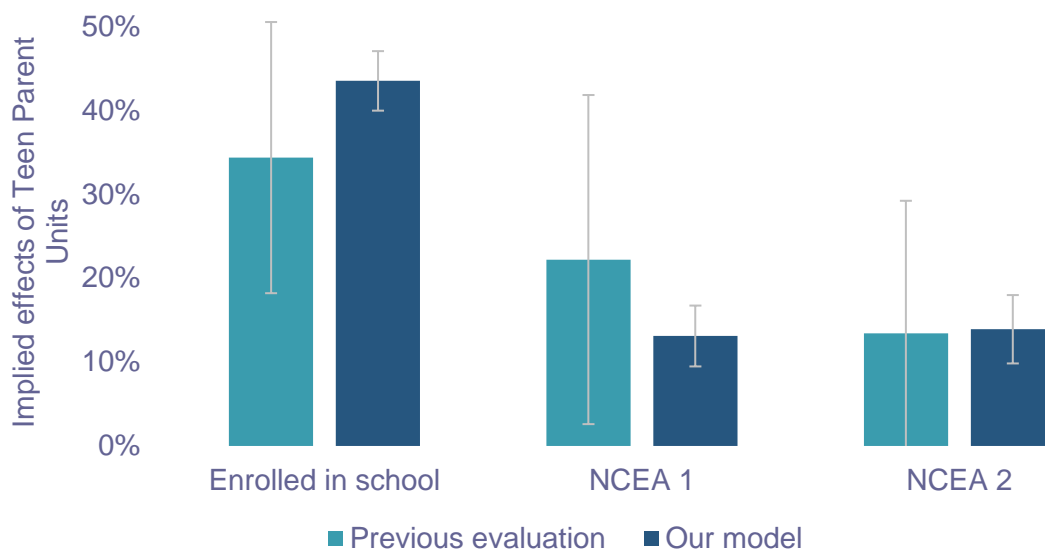
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<sup>1</sup> We are using propensity score matching, which is a statistical method for identifying a group of teenage mothers who look similar to TPU participants, but who did not participate in TPUs. This is the same method used in our recent work on Alternative Education (Webber & Wright, 2023). As with the previous evaluation, we examined

<sup>2</sup> The previous evaluation identified impacts by comparing teen mothers who were enrolled in or near schools with TPUs to teen mothers enrolled in schools with no TPUs. In comparison, our method compares mothers who participated in TPUs with mothers not participating in TPUs (regardless of the school they were enrolled in).

Our estimates for impacts on school enrolment and NCEA attainment are not significantly different to the previous evaluation, indicating that our method is able to produce robust findings. For example, both methods find that TPU participation improves NCEA attainment rates by about 14 percent.

**Figure 1: Comparison of impact on enrolment and attainment**



**Note:** Error bars denote 95% confidence intervals. NCEA attainment is based on a proxy measure – see the Appendix for more details.

## But there are more mixed results for mothers’ income and employment

We also tracked income and employment outcomes for mothers when their children were age 3 and age 8. We found that, relative to the comparison group of mothers, TPU participants when their child was 3:

- had \$913 higher total income;
- were 5.9% more likely to be receiving MSD benefits; and
- were 4.1% less likely to be receiving wage and salary income.

By the time their children were 8, there were no significant differences in income or employment between TPU participants and the comparison group.<sup>3</sup>

By the time their children were 8, there were no significant differences in income and employment outcomes.

<sup>3</sup> TPU participants had \$1,203 higher income when children were 8, but this was only significant at the 10% level.

An important finding is that qualifications from TPUs appear to translate into higher income but not higher employment rates for mothers. Research could explore this finding by investigating aspects such as parents deciding to focus on full-time caregiving; impacts on tertiary education participation; or dynamics of household incomes (as opposed to our focus on individual incomes).

## Children of TPU participants are more likely to attend ECE and less likely to be placed in care

After linking mothers (both TPU participants and mothers in our comparison group) to their children, we followed them for eight years and examined 15 different child outcomes (Table 1). We found that the children of TPU participants were significantly more likely to attend early childhood education (ECE), and significantly less likely to ever have a placement in Oranga Tamariki care, or receive specialist literacy support at school.

**Table 1: Implied impacts of TPUs on child outcomes**

<b>Birth outcomes</b>			
(no diff)	Gestational age	(no diff)	Birth weight
<b>Early childhood</b>			
<b>+2.9%</b>	<b>Attended ECE</b>	(no diff)	Participated in B4 School Check
(no diff)	Parental concerns of development	(no diff)	Parental reports of behaviour
(no diff)	Teacher reports of behaviour		
<b>Outcomes up to age 8</b>			
(no diff)	Ever subject of Oranga Tamariki (OT) report of concern	(no diff)	Ever subject of OT investigation
<b>-1.6%</b>	<b>Ever in OT care</b>	(no diff)	Received Reading Recovery at school
<b>-2.1%</b>	<b>Received support from Resource Teacher: Literacy at school</b>	(no diff)	Received support from Resource Teacher: Learning and Behaviour at school
(no diff)	Received support from Behaviour Service at school	(no diff)	Received support from Communication Service at school

**Note:** (no diff) denotes outcomes where there was no statistically significant (at 5%) difference between the children of TPU participants and the children of mothers in our comparison group.

Care placements are a highly disruptive, traumatic, and costly event. Only about 2 percent of all children are placed into care during childhood (Webber & Wright, 2023), so a 1.6 percent reduction in this probability is substantial. These results imply that 110 fewer children were placed in care over the last 15 years as a result of TPUs. This is evidence that the benefits of TPUs in intergenerational terms likely go well beyond what was already known about their impacts on qualification attainment.

It is not clear what aspects of the TPU approach combine to produce these outcomes. Some candidates include:

- These are flow-on benefits to the substantial increase in educational attainment for mothers;
- The partnership between TPUs and ECE providers;
- The emphasis on TPUs providing holistic support for both mothers and their children.

These results imply that 110 fewer children were placed in care over the last 15 years.

## There may be opportunities to leverage the success of TPUs for mothers and their children

The longer term and intergenerational outcomes we examined were much less consistent (most outcomes we examined did not have significant differences between TPU participants and the comparison group) and much smaller in magnitude than the very large (+14%) benefit of NCEA Level 2 attainment. On one hand, this is unsurprising, given TPUs are primarily educational supports aiming to improve achievement. However, this perhaps indicates an opportunity to provide ongoing support to these teenage mothers and their children beyond the time in the TPU. This could include support from outside of education.

Another opportunity to leverage the success of TPUs is by investigating take-up rates. In the sample we examined, only 43% of teen mothers with access to a TPU when they conceived their child later enrolled in a TPU. While TPUs may not be the right fit for all teenage parents or their whānau, there may be a benefit in further encouraging take-up or investigating barriers to participation. This is especially important as rates of teenage pregnancies have halved over the last decade (Stats NZ, 2023b). A declining enrolment could potentially negatively impact cost-effectiveness of TPUs even if they are still providing the same effective support.

# This work demonstrates that the IDI can be used more widely to support social sector evaluation

One reason we undertook this work is that TPUs have been evaluated through careful analysis using a rigorous method, giving us reliable evidence of the impact of the programme on participants' outcomes. Our aim was to see how close we could get to the previous benchmark of 'truth', using a potentially less reliable method but making up for that with the very rich data that the IDI affords.

In our view, that exercise has been successful. At relatively low effort, we have produced results that are plausible and not statistically significant from the previous high-quality evaluation. We now know that if that previous evaluation had not existed, our method would have correctly determined the ways in which TPUs improve the lives of their participants. In fact, the more comprehensive data in the IDI provides evidence that the previous evaluation likely *underestimated* the impact of TPUs on NCEA attainment (see Appendix for more discussion).

Commentary on the performance of the social sector has repeatedly emphasised how critical it is for government and non-government providers to systematically enquire about the impact our actions have on people's outcomes, and that evaluation is applied too infrequently or inconsistently, due to multiple barriers.<sup>4</sup> These barriers lead to an inadequate evidence base of what works to support wellbeing in Aotearoa.

We view the method described in this report as one way to lower some of these barriers. This sort of analysis is not a substitute for rigorous, comprehensive, and routine evaluation. However, it can be used to supplement some forms of evaluation (such as process or kaupapa Māori evaluation) with a statistical analysis of outcomes<sup>5</sup>; extend upon previous evaluations by exploring new cohorts or additional outcomes (as we have done for TPUs); or be used as a bridge between operational monitoring and more formal, in-depth evaluation.

This method could be used more widely to overcome barriers to evaluation and to contribute to a stronger evidence base of what works to support wellbeing in Aotearoa.

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<sup>4</sup> Refer, for example, to the commentary on evaluation and learning in the Productivity Commission's (2023) recent 'Fair Chance for All' inquiry.

<sup>5</sup> We recently used the technique in this way to explore outcomes for participants of Alternative Education (Webber & Wright, 2023). This was combined with other insights from interviews and surveys conducted by the Education Review Office (2023) to come to a comprehensive view on the effectiveness of Alternative Education.

Our method works best when:

- we know who receives the support;
- the support is not given to everyone (e.g. there are capacity constraints or some geographic areas where the support isn't offered<sup>6</sup>);
- the support is attempting to achieve measurable outcomes for which we have data;
- we can connect data on outcomes with data on participants (using a linked dataset like the IDI);
- the support has been given to enough people (ideally hundreds or thousands of people, rather than dozens); and
- there has been enough time to observe outcomes (accounting for delays in data getting added to the IDI).

This method can be used to supplement evaluation with a statistical analysis of outcomes.

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<sup>6</sup> Ideally we would also know what sorts of support is provided to people who don't participate. This is important in interpreting the impact results: 'relative to what?'

# Author

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# Acknowledgements

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# IDI disclaimer

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) which is carefully managed by Stats NZ. For more information about the IDI please visit <https://www.stats.govt.nz/integrated-data>

# Te Atatū – Insights

*Ka pō, ka ao, ka awatea* is a well-known tauparapara (traditional incantation) within te ao Māori, which refers to the separation of Ranginui (the sky-father) and Papatūānuku (the earth mother) which brought light into this world. It talks about 'coming from darkness to light' or 'transiting from a place of not knowing to knowledge'. Te Atatū indicates the morning light and acknowledges this series of events, and the importance of light representing knowledge in te ao Māori.



## Appendix: A comparison of attainment measures

While the matching method we are using in this analysis is less reliable than that used in the previous evaluation of TPUs (Vaithianathan et al., 2017), using the IDI for this analysis allowed us to examine the impacts of a different limitation of the previous evaluation: the attainment measure.

The researchers in the previous evaluation did not have access to actual school attainment records for the students in their sample, and so estimated qualification rates based on counting achieved NCEA credits (which they did have access to). However, eligibility for the NCEA qualification is highly complex, with many additional requirements in addition to achieving the correct number of credits. Some of these requirements have changed over the sample period.

In the IDI data we used in our analysis, we have access to both the achieved credit records that the previous researchers used, as well as records relating to the actual conferral of the NCEA qualification. Using the IDI allowed us to compare how the results changed when we kept the method the same, but changed the outcome measure from proxy attainment to actual attainment (Figure 2). For both Level 1 and Level 2, the estimated impacts of TPUs were higher when using actual attainment records (orange bars) than when using the credit counting method used by the previous evaluation (teal bars). This provides evidence that the previous evaluation likely underestimated the impacts of TPUs on qualification attainment.

Our findings are not intended as criticism of the original authors or their evaluation, which we view as providing the most reliable view of the impacts of an important social support currently available. Rather, we feel this emphasises that *all* evaluation efforts are necessarily limited in some aspects, and we support a pragmatic mindset where researchers, government agencies and non-government providers make efforts to determine impacts of their actions with the *best evidence available to them*. Through a series of thoughtful but inevitably individually flawed inquiries, we will assemble the best view of the truth.

**Figure 2: Impacts of changing method and changing outcome measure**

