



# IMPACT EVALUATION OF THE KIDSCAN EARLY CHILDHOOD PILOT PROGRAMME

## FINAL REPORT

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Ma te rongō, Ka mohio  
Ma te mohio, Ka marama  
Ma te marama, Ka matau,  
Ma te matau, Ka ora.

Through awareness, comes understanding,  
Through understanding, comes knowledge,  
Through knowledge, comes life and well-being  
Through listening, comes awareness

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## Executive summary

In 2018, KidsCan launched a pilot early childhood education [ECE] programme which provides children with nutritious lunches and snacks, head lice treatment, raincoats, shoes and socks. As a part of setting up this new programme, KidsCan commissioned the University of Waikato to conduct an independent evaluation to inform any further developments.

The purpose of this evaluation was to:

- determine the value of initiatives individually and as a package in supporting sustained participation in ECE, and contributing to health and wellbeing outcomes;
- build an understanding of the factors that contribute to any positive changes for families and children from their involvement in the KidsCan programme.

The research utilised a mixed methods approach (Creswell, 2008), incorporating both quantitative and qualitative data from two cohorts of children and whānau in 24 ECE services. Cohort 1 data were collected prior to the KidsCan programme starting in the ECE service. Cohort 2 data were gathered when children had received at least six months of the ECE KidsCan programme.

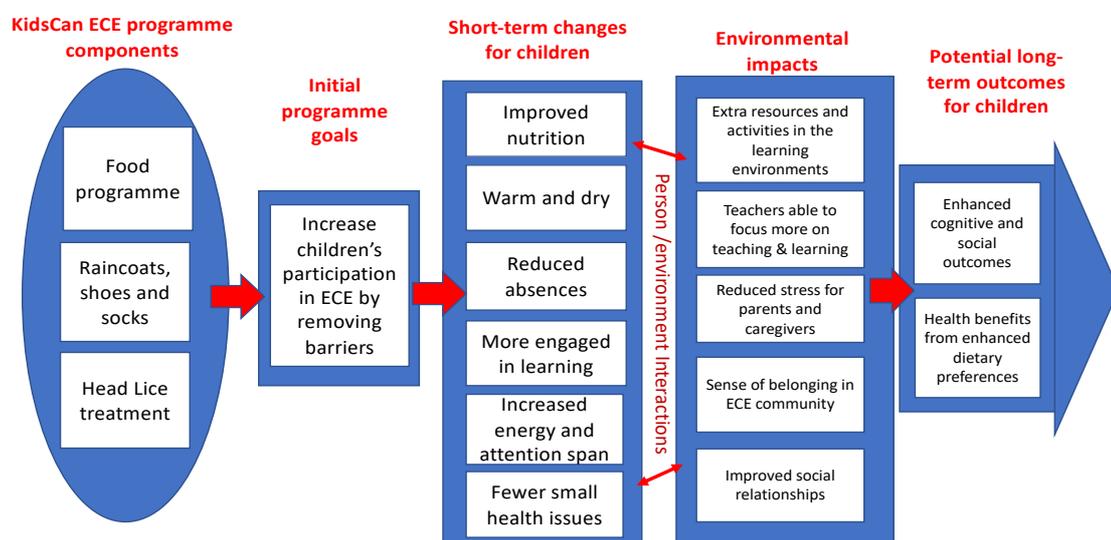
The participants identified the many challenges that families faced in getting their child to ECE. The child's health, the health of family members and the impact of wet weather were the main barriers to ECE participation for both Cohort 1 and Cohort 2. Although the KidsCan programme could not address all the barriers that families faced, it was attributed with playing a key role in reducing absences due to financial difficulties and the children's sickness.

The findings demonstrated that the KidsCan programme had a number of benefits for children, such as good nutrition and keeping them warm and dry. These positive impacts were particularly noticed if the children did not otherwise have access to the items provided. The benefits were also associated with reduced absences, engagement in learning, increased energy and attention span, and fewer small health issues, which all improved the quality of children's participation in ECE. There were positive environmental changes too. For example, if early childhood centres had been investing a lot of money into the resources now provided by KidsCan, it allowed the centre to use their funds to enhance the learning environments through increased teacher time devoted to teaching and learning and/or more educational resources to stimulate and support children's learning. Families reported that the KidsCan programme relieved some of the stress and financial pressures they were experiencing and the provision of the programme to all meant it was very favourably received and there was no stigma attached to receiving the support. Teachers and whānau reported this was also associated with an enhanced sense of belonging in the ECE community and improved social relationships. The range of beneficial changes for children and environments are shown in Figure 1.

Not every child experienced the same benefits and the evaluation highlighted the complex interactions of factors that help to explain the different outcomes. For example, reduced absences may not be possible if a child already had good attendance. However, that child may experience improved nutrition and associated learning and energy benefits. On the other hand, if reduced absences are not possible because sickness, transport difficulties, family work patterns or other

barriers prevent the child from attending ECE they frequently miss out on both the programme provision and the other associated benefits.

Overall, the KidsCan programme had the most favourable impact when a number of positive changes for children and their environment(s) were experienced. An example of this is a child who has improved nutrition and is warm and dry is likely to experience better energy levels and be more engaged in learning. If this focus on learning interacts with enhanced learning resources and experiences, along with a strong sense of belonging and positive interactions with less stressed caregivers, this creates the possibility of beneficial changes to the developmental pathway. If the child's health improves and they attend ECE more often, this further strengthens these possibilities. Figure 1 illustrates how these processes, which will be shaped for each child through the interactions of different person characteristics and features of their environments, can set up potential long-term benefits such as enhanced cognitive, social and health outcomes that children take to new contexts such as school and beyond.



**Figure 1. A summary of the key findings from the evaluation**

In terms of recommendations, whānau strongly supported all the elements being retained in future programmes. Allowing children to take any uneaten perishable food home to avoid it being wasted was really appreciated by teachers and families. A number of teachers recommended including opportunities for families to try to the food and share the recipes to support the healthy food extending to homes.

Overall, while the KidsCan ECE programme cannot address the larger problem of the very low incomes that are leading to poverty and disadvantage, this report provides strong evidence from whānau and teachers that the pilot KidsCan ECE programme is making a valuable positive difference to the wellbeing of participants.

## Introduction

Established in 2005, KidsCan is a charitable organisation that provides the essentials to Kiwi kids affected by poverty so they can participate in learning and have an opportunity for a better future. KidsCan's mission is to level the playing field for children whose families are struggling so they have the same opportunity to learn as others. Working in partnership with low decile schools throughout New Zealand, KidsCan's school programmes include:

- Food for Kids: KidsCan provides nutritious, hearty, shelf stable food which is then targeted and distributed to about 20% of the roll in the lower decile schools they support.
- Clothing for Kids: KidsCan provides warm jackets, quality footwear and socks to those children identified as needing them.
- Feminine Hygiene: KidsCan provides Feminine Hygiene kits and supporting information to young girls, in a youth informed model, designed to reinforce dignity and respect.
- Health for Kids: To help keep children healthy and well, and in the classroom learning, KidsCan provides a variety of hygiene items including hand sanitiser, tissues and plasters.

In 2018 KidsCan created and launched its first national programme to support children under five. The aim of the programme is to help the country's most vulnerable children attend early childhood education. KidsCan developed this new programme (KidsCan's ECE programme) based on the increasing requests for help coming from the early childhood sector as children do not suddenly find themselves in poverty when they turn five and a lack of investment in them means they can be on the back foot before they even start school (KidsCan, 2018).

## Overview of KidsCan’s Early Childhood Education Programme

KidsCan’s ECE programme was designed to remove barriers for children to participate in early childhood education through the provision of freshly prepared meals, raincoats, shoes and basic health items in ECE centres. Ingredients for purposely designed nutritious meals are delivered to each partnership ECE centre every week. Jackets, shoes and head lice treatment are provided to the centre annually and topped up when required. KidsCan works with the New Zealand Heart Foundation to design a nutritious menu—with menus being approved by the Heart Foundation before being implemented in ECE centres. KidsCan also works with the various District Health Boards to educate the centres on how to apply head lice treatments.

Since commencing the programme at 25 centres in October 2018, expressions of interest have been received from ECE centres across the country. As of June 2020, KidsCan is partnering with 57 ECE low equity early childhood centres across the country, with another 97 ECE centres currently on the waiting list to join the programme.



**Figure 2. Location of the KidsCan ECE centres**

As part of setting up of this new programme, an evaluation was commissioned with the Wilf Malcolm Institute of Educational Research within the Division of Education, University of Waikato to assess the impact of KidsCan's early childhood programme and to inform any further developments. This evaluation set out to:

- determine the value of initiatives individually and as a package in supporting sustained participation in ECE, and contributing to health and wellbeing outcomes;
- build an understanding of the factors that contribute to any positive changes for families and children from their involvement in the KidsCan programme.

The research also provided a deeper understanding of the social realities of children and families who received the KidsCan's ECE programme and provide advice to KidsCan to inform future developments.

## Literature regarding the impact of poverty, food insecurity and the importance of early years for children

There is a significant issue with poverty in New Zealand. Very low incomes are associated with food insecurity and material hardship. For children, good nutrition is important for brain development. Where nutrition is lacking in early childhood it may have ongoing effects for children's health and development. At the same time impoverished environments can limit the learning opportunities for children. Food and clothing programmes in schools have helped to address some of the impacts of family hardship. Universal provision of these programmes in low income settings avoids stigma that can lead to further negative outcomes. For younger children, participation in quality ECE is recognised as a way to overcome disadvantage. Together, the studies outlined in this section provide important information to inform the KidsCan ECE programme.

### Poverty in New Zealand

Poverty is a pressing challenge in New Zealand, and this can have many long-term effects. The Child Poverty Monitor website states: "Poverty limits opportunities and choices, and creates toxic stress that can make daily life unbearable. It fractures relationships, undermines health and education, and can make it almost impossible to get out of survival mode" (Child Poverty Monitor, 2019). Duncanson et al. (2019a) noted that achieving equity in child health outcomes is an important and urgent issue. "To give children the best start to life and optimise their health, development and well-being we must reduce and ultimately eliminate health inequities across their life trajectory" (p.13).

Duncanson et al. (2019b) highlighted that an estimated 254,000 children in New Zealand were living in low-income households in 2018<sup>1</sup>. Food insecurity is a very real problem for many of these families: "The proportion of households with children experiencing severe-to-moderate food insecurity was significantly higher for households with a gross income at or below \$50,000 per annum (43%) compared with 8% of households with gross income over \$50,000 per annum" (Duncanson et al., 2019b, p. 3).

In addition to food insecurity, in 2019 there were approximately 151,700 children (13.4%) living in households that were unable to afford six or more essentials for a decent standard of living, while 5.8% of children (approximately 66,100) were living in households experiencing severe material hardship with a lack of nine or more essentials for a decent standard of living (New Zealand Government, 2020; Stats NZ, 2020). For the 6156 participants in the Growing Up in New Zealand study, 9% of the children at age 4 years were reported to be in households experiencing more than four measures of material hardship. The most common material hardship was "being forced to buy cheaper food so that you could pay for other things" (Morton, et al., 2017, p. 58).

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<sup>1</sup> Low income households have disposable equivalised income less than 50% of the national median income after housing costs (Duncanson et al., 2019b).

## Impact of food insecurity for children

Johnson and Markowitz (2018) explored the impacts of food insecurity for children under 5-years-old. They cite a number of studies which consider the effects of nutrition deficiencies during these key years of brain development, which can impede cognitive and emotional functions. In addition, poor nutrition and hunger can increase fatigue, distraction, and irritability; therefore, affecting interactions with peers and adults. At the same time, in households preoccupied by providing food for their children and where caregivers are hungry themselves, the nature of child-adult interactions may be affected, with perhaps less money for resources that stimulate learning and development and less adult attention on these kinds of activities. In their own research, using nationally representative data on a birth cohort of U.S. children in low-income households [Early Childhood Longitudinal Study–Birth Cohort, ECLS–B] (n = 2,800–3,700) Johnson and Markowitz (2018) found that food insecurity experienced during early childhood (especially infancy and toddlerhood) was unfavourably associated with social-emotional outcomes in kindergarten [the first year of primary school education in the US], controlling for household income and prior assessments of child social-emotional skills. Results were less consistent for cognitive outcomes but similar in magnitude. The authors noted that we cannot conclude that these relationships are causal. However, they do suggest the value of reducing food insecurity in the early years (Johnson & Markowitz, 2018).

In a UK review of 109 studies measuring food insecurity, children who experience food insecurity were more likely to be reported to have poorer health on a variety of measures than food secure children. Food insecurity may also affect social well-being, mental and emotional health and school performance (Aceves-Martins et al., 2018).

When food insecurity was looked at in the households of American children from kindergarten to eighth grade, not surprisingly persistent food insecurity was associated with lower health outcomes at eight-grade than transient instances of food insecurity (Ryu & Bartfeld, 2012).

## Programmes to tackle food insecurity and improve nutrition in childhood

Based on a sample of children in the U.S. national cohort [ECLS-B] study, Korenman et al. (2013) examined outcomes of *The Child and Adult Care Food Program (CACFP)*, an intervention programme designed to address nutritional health by reimbursing child care providers for meals and snacks provided to children in their care. The research compared four-year-old children from low income households who attended centres with CACFP to those who attended centres that did not have the program. CACFP participation was associated with increased milk and vegetable consumption, and a moderate reduction in food insecurity.

Holley and Mason (2019) undertook a systematic review of 42 studies (predominantly from the US) which evaluated interventions to tackle children’s food insecurity. The review highlighted that there is no one measure of this construct and attempts to address the issues were varied, as were the evaluation measures. From the studies included in the review, strategies included either providing families with more resources, or ‘attended programmes’ where support was provided to children as universal provision in spaces and places they already attend, such as school. Universal provision

through ‘attended programmes’ was less likely to further stigmatise children and families but may mean families have little input into shaping the design of the programme to best meet their needs.

There was only one New Zealand study in Holley and Mason’s (2019) review. This research by Munday and Wilson (2017) was based in a low decile kindergarten, with 17 children aged 3- to 5-years. The intervention, which had several components, ran for one term. Children were provided with free lunches, there were education sessions related to ‘healthy’ food, tasting sessions where children were offered small pieces of different fruits and vegetables to try, reward charts where children added stickers for the different items they had tried, increased use of the kindergarten vegetable plot and whānau cooking classes. The results showed a decline in the consumption of ultra-processed snack foods that children had previously brought in their lunchboxes. Nevertheless, food diaries did not show any significant changes in nutrient intake in the short term, which the researchers considered may have been impacted by the choice of white bread jam or marmite sandwiches being offered as an alternative to the healthy lunch options (due to parental concerns their children would be hungry if they didn’t eat the lunches). When compared with the previous term, there was no significant difference in attendance when free lunches were provided.

However, when the researchers followed up after six months with parents of 10 of the children, eight reported their children had an increase in the frequency and variety of fruits and vegetables being eaten, and increased willingness to try new foods. Parents were more willing to buy fruits and vegetables if they were confident they would be eaten. In advice to future programmes, the researchers noted that the preparation of healthy lunches impacted on the ability of the kindergarten staff to carry out their other duties and recommended that future programmes provide both food and personnel to prepare and serve the food (Munday & Wilson, 2017). Munday and Wilson (2017) also suggested it may be more beneficial to have offered a smaller range of fruits and vegetables multiple times over the ten-week period, given that repeated exposure to food increases the likelihood children will try them. The impact of repeated exposure was evident in a study with older children (360 4th and 5th grade students) attending low income schools in the US. The number of children who reported liking previously disliked vegetables was greater after eight or nine tastings (Lakkakula et al, 2010).

### Enhancing educational participation through food and clothing programmes

Heckman (2011) argues that education is an equalising factor that helps to address disadvantage for children. A number of school-based food programmes have aimed to increase children’s participation in education. Bryne et al. (2018) carried out three-year evaluation of a school breakfast programme in Western Australia. The programme was very positively received by all stakeholders, especially for the impacts on students’ learning, including readiness to learn and on task concentration. Although impacts on attendance were not rated as highly as other learning indicators, there was agreement among stakeholders that providing a breakfast did provide an incentive for some students to attend school

The New Zealand ‘Fruit in Schools’ initiative, funded by the Ministry of Health, supplies a piece of fresh produce for each child each school day in low decile schools. An evaluation in 2014 demonstrated the benefits of the programme, for feeding hungry children, enhancing educational outcomes and

providing health benefits for children (Ball & Watts, 2015). Watts (2018) reviewed this programme again in 2018. Key findings were the benefits to health and educational outcomes. Sixty-six percent of principals reported an increase in students' general health. Fruit in schools also led to a sense of equity in schools and the availability of the fruit for all children meant there was no stigma involved, meaning children were more willing to ask for food if they were hungry.

KidsCan have been providing school children with food and clothing since 2005. The food programme initially included a muesli bar and fruit pottle. Both items were enjoyed by children and there were positive benefits for all children and staff sitting together and eating, something that had not happened previously because some children did not have food (Massey University, 2007). A further review of the expanded food programme was conducted in 2010. In most schools the food was made available to all children, so it was accessible to all but not universally accessed. This was important in avoiding stigma and assisting families who were struggling. Findings from parent questionnaires indicated that all participants believed the programme was associated with increased energy levels for children in class and improved concentration. Findings regarding attendance were mixed with half the schools indicating that attendance had improved for children when parents knew they would be fed at school (Massey University, 2011).

In Massey University's (2007) review of the provision of raincoats, school staff reported children's self-esteem being lifted by the raincoats and children's pleasure and pride in wearing and owning them. There were no quantitative improvements in attendance due to the raincoats but participants did comment that for some children it had made a difference. The provision of shoes for school children was evaluated in 2010. Shoes were offered to children who appeared to need them and there appeared to be no stigma associated with children who received them. There were no quantitative changes in attendance reported but children were more able to participate in physical activities. Having new shoes was reported to have lifted children's self-esteem and pride (Massey University, 2010).

While supporting children to engage in learning at school has made an important difference to their education (KidsCan, 2018) even greater gains might be made by also supporting children in their early childhood years (Heckman, 2011). The issues of poverty and disadvantage are complex and addressing these requires investment in both families and children (Britto et al, 2017, Heckman, 2011). However, there are compelling arguments that participation in quality early childhood education makes a long-term impact on outcomes for children (Heckman, 2011, Mitchell, et al., 2008; Sylva, et al., 2010) and is one strategy for breaking the cycle of poverty, especially if provided along with family support (Leseman & Slot, 2014). The KidsCan pilot ECE programme that is the focus of this evaluation was designed to enhance children's participation in early childhood education.

## Approach and methodology adopted for this research

The research utilised an embedded mixed methods approach (Creswell, 2008), incorporating both quantitative and qualitative data from two cohorts of children and whānau. Cohort 1 data were collected prior to the KidsCan programme starting in the ECE service. Cohort 2 included whānau where children had received at least six months of the ECE KidsCan programme.

The research explored:

- Whether the KidsCan ECE programme has helped families to send their children to ECE centres consistently.
- Whether children are healthier because they are now participating in the KidsCan ECE programme.
- Whether the KidsCan ECE programme has helped lift children's wellbeing.
- Whether the KidsCan ECE programme has helped deliver better quality early learning for children.

Central to understanding the impacts of the KidsCan programme is the premise that development is the joint function of person and environment (Bronfenbrenner, 1992). Bronfenbrenner and Morris (1997) described the interaction of individual and environment over time as proximal processes. The power of such processes to influence development varies substantially and systematically "as a function of the characteristics of the developing *Person*, of the immediate and more remote environmental *Contexts* and the *Time* periods in which the proximal processes take place" (Bronfenbrenner and Morris, 1997, p. 994, emphasis in the original). Person characteristics include dispositions, resources and demand characteristics. These interact with features of the environment that invite, permit or inhibit, engagement.

To explore these influences, we took account of the children's characteristics as well as features of the different layers of their immediate and more remote environments. The immediate environments or microsystems include the patterns of activities, roles and relationships experienced in a given setting. The mesosystem comprises the interrelationships between the microsystems. Events in one microsystem can affect what happens in another and this interaction is explained through the mesosystem. The exosystem refers to settings that do not involve the developing person but affect or are affected by what happens in the microsystem. The macrosystem refers to the overriding beliefs, values, ideology, practices and so on that exist, or could exist, within a culture (Bronfenbrenner, 1986). Evans and Kim (2012) discussed the cumulative risk factors that may be present in the environments of disadvantaged children, both within their microsystems (e.g., home, ECE, school) and because, for example, at the exosystem level, parents may work in unhealthy settings that are stressful.

The evaluation, based in 24 ECE services, included:

1. Analysis of the Ministry of Education Early Learning Information [ELI] data (enrolment and attendance data on all children at the 23 of the 24 centres<sup>2</sup>).
2. Whānau surveys at each of the 24 centres.  
(346 Cohort 1 baseline whānau surveys pre KidsCan and 252 Cohort 2 surveys from whānau whose children had received at least 6-months of the KidsCan programme.)
3. Teacher surveys at each of the 24 centres.  
(43 teacher surveys).
4. In depth whānau interviews at seven case study centres.  
(105 whānau interviews comprising; 34 Cohort 1 interviews pre KidsCan with 21 follow up interviews, 34 Cohort 2 interviews with whānau whose children had at least six months of KidsCan; 16 interviews with Cohort 2 whānau once their child started school).
5. In depth teacher interviews at seven case study centres.  
(57 teacher interviews; 31 pre KidsCan and 26 after one year of KidsCan in their centre).
6. Interviews with five new entrant and year one teachers in the schools the children moved to once they left the case study KidsCan ECE centres.

Embedded in the evaluation is Te Tiriti o Waitangi as an important consideration. The research was founded on a partnership approach to respect and drew on the strengths of the research team (both Māori and Pākehā) and of the participants in all phases of the evaluation. Although this evaluation was not a kaupapa Māori research project, it used the principles of kaupapa Māori research described by Bishop (1996, 1997) with regard to initiation, benefits, representation, legitimation and accountability (the IBRLA framework) as a frame to guide decision making and processes when working with different communities and early childhood centres. In addition to the data generation methods, wānanga and whanaungatanga visits allowed participants to have input into the design and were opportunities to strengthen relationships and share information.

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<sup>2</sup> ELI does not hold data for Te Kohanga Reo so there were no ELI data for the one Kohanga Reo in the project

## Overview of ECE Centres and whānau participated in the research

### ECE Centres that participated in the research

The research was based on 24 ECE centres who joined KidsCan’s ECE programme in 2018<sup>3</sup>. There were 11 Education and Care Centres, 12 Kindergartens and one Kohanga Reo.

The 24 centres included in the evaluation were in three regional clusters: Northland; Auckland; and Hawkes Bay. Nested within this total were seven case study settings. The number of case study centres in each region were 3 in Northland, 2 in Hawkes Bay, and 2 in Auckland.

Seven of the 24 centres reported that they had a food programme in place prior to starting with KidsCan and another nine indicated that they provided food, generally fruit, bread or cereal, if children needed it.

### Tamariki and whānau who participated in the research

#### *Ethnicity*

Whānau survey respondents were asked to complete the survey thinking about their oldest child attending ECE in a centre where the KidsCan programme was running. In each Cohort the majority of the children were described as either Māori (39% for Cohort 1 and 37% Cohort 2) or Pasifika (39% and 44%)<sup>4</sup>. The remaining children were described as European (7% and 13%) and Asian (6% and 5%), with a small number identified as ‘other’ ethnicities. There were some regional differences, with more Pasifika respondents in Auckland (52–65%) and more Māori (62-72%) respondents in Northland<sup>5</sup>.

#### *Age and gender*

The majority of survey respondents noted that their oldest child receiving the KidsCan programme was 3- or 4-years-old (75% Cohort 1, 82% Cohort 2). A small number (7% Cohort 1, 4% Cohort 2) had 5-year-olds still attending ECE and the remainder of the respondents had children under three. The baseline survey data in Cohort 1 had more parents of boys included (53%). For the Cohort 2 survey the respondents’ children were evenly divided between girls and boys.

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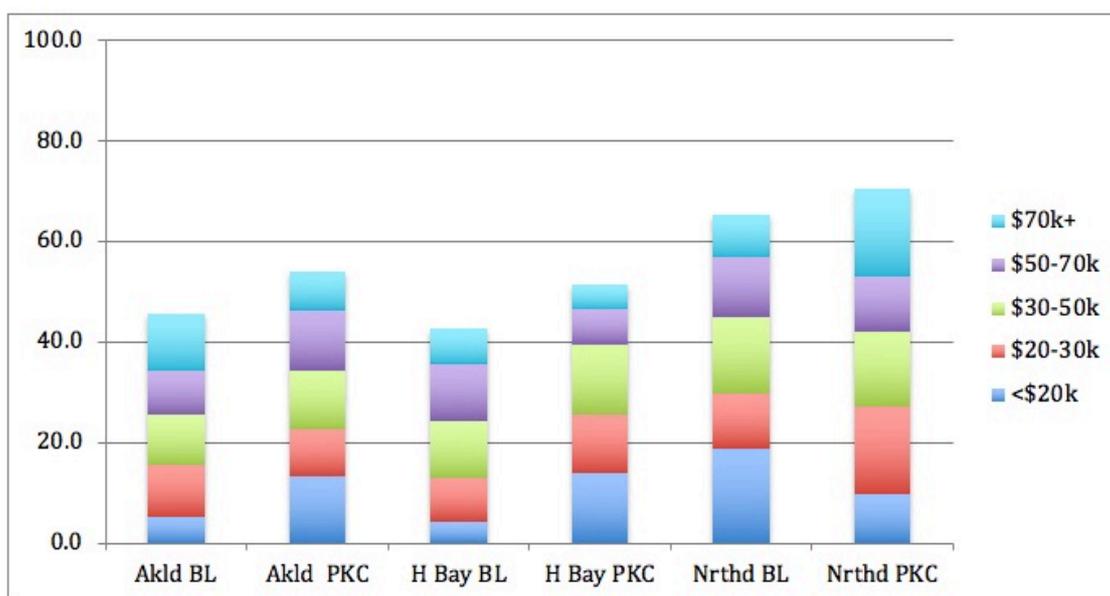
<sup>3</sup> There were 25 early childhood services included in the KidsCan ECE programme. Over the two years of the evaluation, one centre in Hawkes Bay decided to withdraw from the KidsCan programme and one Auckland centre closed down. Data for the centre that withdrew were included in the evaluation up until they left the programme. The centre that closed had limited participation in data collection and was omitted from the evaluation, leaving a total of 24 centres.

<sup>4</sup> These data describe the first ethnicity, in the same way as Ministry of Education data records ethnicity, although many children (over ½ in each cohort) were described as having two or more ethnicities.

<sup>5</sup> Given that the 2018 New Zealand Census found that “huge numbers” of New Zealanders had been missed out by the ‘digital-first’ census (Edwards, 2019), with “unprecedented” low response rates to the census online by Māori (Kukutai & Cormack, 2018, p.132), we feel the provision of both paper and online surveys assisted participation, as well as support from teachers and ‘thank you’ Goody Bags provided by KidsCan.

## Household income

The survey respondents were asked to share their total household income from all sources before tax or other deductions for the last 12 months. Just over half the sample in each cohort were willing to provide this information (51% in Cohort 1 and 59% in Cohort 2). Figure 2 shows the percentage of these families in each income bracket.



**Figure 3. Composition of the Cohort 1 (Baseline BL) and Cohort 2 (Post KidsCan PKC) survey responses by Family Income and Region for the participants who provided this information**

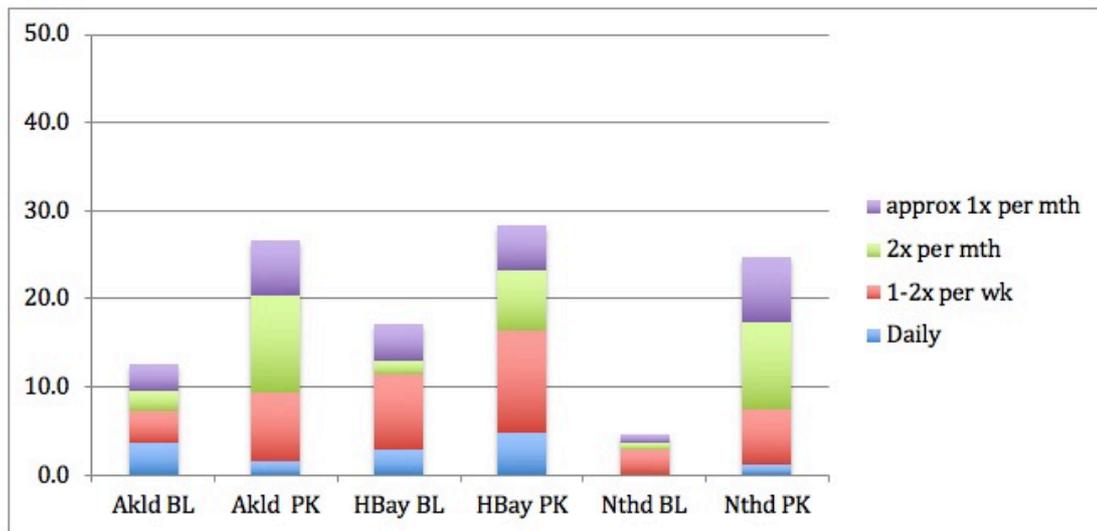
Overall, more than 30% of the total survey participants indicated their annual total household income was under \$50,000 (31% of Cohort 1, 38% of Cohort 2)<sup>6</sup> Statistics New Zealand reported that the average annual household income (before-tax) from all regular sources was \$105,719 for the year ended June 2018 (Stats NZ, 2018). The whānau receiving KidsCan on incomes under \$50,000 were managing on less than half the average annual household income. Compared with Cohort 1 respondents, the post KidsCan Cohort 2 respondents on average had lower incomes. This was particularly evident in Hawkes Bay where 40% of Cohort 2 had a reported household income of less than \$50,000. In both Auckland and Hawkes Bay those with a reported income of less than \$20,000 increased from around 5% in Cohort 1 to around 14% in Cohort 2.

Just over half (53%) of Cohort 2 whānau described themselves as unemployed, 21% in regular full-time work, 16% in part time work and 8% in casual work. Unemployment was highest in Hawkes Bay (65%).

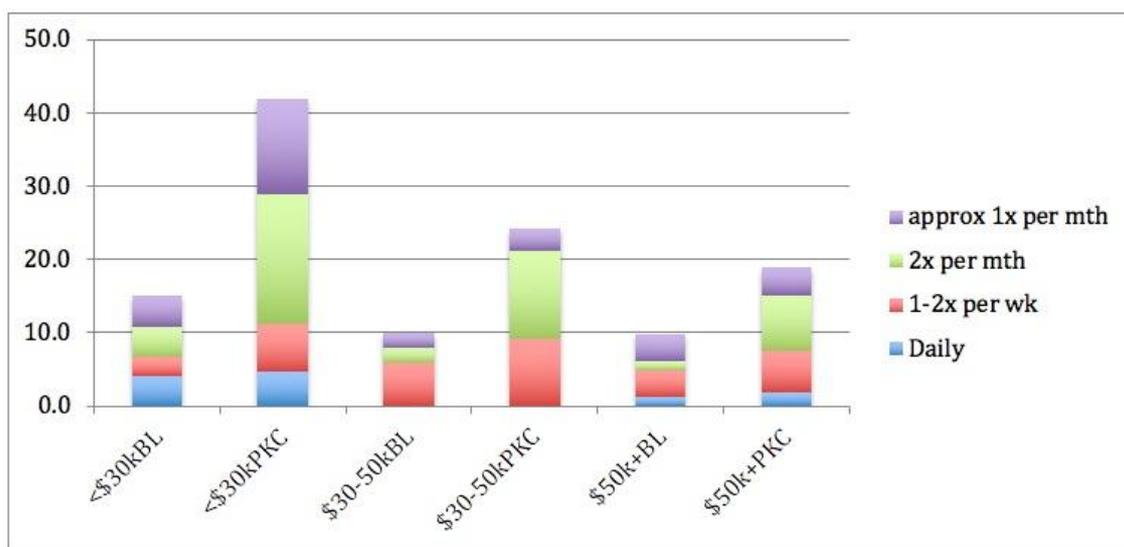
<sup>6</sup> Those who chose not to disclose their income may also be in this group, making the actual totals even higher.

*Families' access to food*

Survey participants were asked “In the last three months, roughly how often have you found yourself without enough food at home to feed yourself or your child?” While the majority of whānau selected “never”, 11% of Cohort 1 and 26% of the Cohort 2 survey participants reported that food insecurity was a regular occurrence, with 16% of the Hawkes Bay Cohort 2 families reporting that they did not have sufficient food either daily or weekly (see Figure 3). Food insecurity was reported by families across all income brackets but unsurprisingly was higher in families with household incomes under \$30,000 (see Figure 4).



**Figure 4.** The percentage of whānau in each region in Cohort 1 (Baseline BL) and Cohort 2 (Post KidsCan PK) surveys who reported not having enough food at home to feed themselves or their child over the last three months



**Figure 5.** The percentage of whānau survey respondents in each household income bracket in Cohort 1 (Baseline BL) and Cohort 2 (Post KidsCan PK) who reported not having enough food at home to feed themselves or their child over the last three months

Participants were also asked questions from the Deprivation Index (Salmond et al., 2014). In both cohorts around 60% indicated that they had been forced to buy cheaper food to pay for other things they needed, more than 35% put up with feeling cold to save heating costs and more than 30% noted going without fresh fruit and vegetables often, so they could pay for other things they needed (see Appendix A for details).

As a comparison, these Deprivation Index figures are all higher, in some cases double, the percentage of households in the Growing Up in NZ study experiencing the same hardships when their children were age 4 (Morton et al., 2017). In addition, the percentage of respondents experiencing five of the six measures was greater in Cohort 2 compared to Cohort 1.

With both food insecurity and Deprivation Index figures being higher in Cohort 2, it suggests that the families who received the KidsCan programme were facing even greater challenges than the initial cohort.

## Barriers to ECE participation identified by the families and centres participated in the research

Participants in Cohort 1 pre KidsCan and Cohort 2 who received at least six months of KidsCan were asked about the barriers they had experienced that prevented their child attending ECE. Appendix B shows the percentage of whānau survey respondents who answered ‘often’ and ‘sometimes’ to a range of possible reasons that might prevent attendance. These findings demonstrate that child’s health, the health of family members and the impact of wet weather were the main barriers to ECE participation for both Cohort 1 and Cohort 2. In addition to the whānau survey, we engaged with teachers across the 24 centres to compare their views with the whānau survey responses. The teacher survey indicated that all the barriers in Appendix B were ‘sometimes’ a barrier to children attending ECE (over 60% for all except fees; 34%) with a further 20–25% responding that the child’s health, minor health issues, family/whānau work patterns and weather ‘often’ created barriers to participation.

Looking in depth at the experiences of the case study families, both whānau and teacher interviewees reported that participation in the KidsCan programme reduced barriers to children’s ECE attendance associated with financial costs of food and clothing. Moreover, the child’s sickness presented less of a barrier in Cohort 2, which may indicate that children receiving KidsCan products had fewer minor health issues (see Table 1 for details). Despite these improvements, other barriers were still present, especially transport difficulties and parent/caregiver work patterns. Nevertheless, the value of these small gains for families navigating many challenges, should not be underestimated.

**Table 1. Barriers that prevent children’s participation in ECE: Percentage of responses in the case study interviews**

Barrier to children’s ECE attendance	Cohort 1 whānau	Cohort 2 whānau	Cohort 1 teachers	Cohort 2 teachers
Sickness	56%	15%	55%	30%
Financial difficulties	41%	3%	42%	12%
Number of participants	34	34	31	26

Overall, the analysis of surveys and interviews highlighted the many challenges that families faced in getting their children to ECE. Arguably many of these barriers reflect the low income for families which impact on transport or even having a raincoat for the caregiver and buggy cover for a baby sibling to assist in bringing a child to ECE in wet weather. These findings highlight that while addressing barriers such as food security and children’s health are important to enhance participation in ECE, aspects of the family microsystem environment are also influential. They also reflect the wider ecological context

impacting on a child's experiences, where for example, exosystem factors such as the parents' work hours or place of work make it difficult for the child to attend (Bronfenbrenner, 1986).

These findings regarding the many barriers to ECE participation, along with some small gains made, provide background context to the analysis of the impact of the KidsCan ECE programme.

Barriers to ECE attendance as described by Cohort 1 whānau (W) and teachers (T):

Sickness, illnesses would be a huge one with us. A huge one. (2018SW37)

I didn't send [name] to kindy until he was about one and half. For the fact that I couldn't get him there for transport, so I just kept him home. And same with costs—it just costed far too much for me to enrol him. (2018SW04)

Sometimes she's not coming to school [ECE] because I have not enough money to buy the lunch. Yeah. And the other thing—the petrol for my car. So that's why I said to her, 'Stay home.' (2018NW31)

I think the main barrier for participation sometimes is travel. So, whether it's no car, public transport isn't available. Or you know, needing to—so especially in winter. When it's raining, or when it's cold, or needing to walk. And then also when they're walking, they've got other siblings as well. So, some of them have babies that they've got to push in a pushchair. So, they might have more than one baby, so a baby and a toddler, and then their child who comes here... That's the biggest issue for our families. The next—I think the next biggest issue is cost.... I think they might not have a school bag. Or they might not have a lunchbox. And so sometimes they might not want to bring them because of that. Or them not having enough food. (2018T28)

For the attendance-wise, I'm pretty sure.... The most common thing that I would know is when the parents call and say that the children are sick. But probably some of them, maybe they also worry about sending their children without lunches. (2018T34)

Cohort 2 teachers explained why there were still barriers to participation even when the challenges of sickness and financial difficulties had been assisted by the KidsCan programme:

I think sometimes... Like if grandparents are looking after the child, so they've no transport, transport... one child like that at the moment who [se parent/caregiver] goes to work in the morning, early morning, so Aunty has to bring her some days.... it affects her... for attendance. (2019T31)

I feel like the main thing is the—the ability to get here. So obviously like having the jackets and the shoes, that was great because our children who walk were able to walk, but often the parents might not have a rain jacket. So might not want to walk... Or there's a baby and they don't have a rain cover for the pushchair and they can't bring the baby. And also, if it's really raining, you know, the shoes, the shoes and socks can still get wet. So,... Yeah, the shoes are great, but on really wet, rainy days sometimes our children need gumboots to get here. (2019T28)

Transport. Yeah, that would probably be the biggest one, just getting, getting here still is that transport, and that cost of actually living.... (2019T04)

And I think the housing, because we've so many families move around. Even today I heard one of our little ones, who's attendance hasn't been great, but the family has been split because Dad's working full-time in [city]. Mum and son are... here. But trying to spend as much time with him as possible. So that—his attendance was really, really poor. And now they're moving back down to [city] so they can be together. Which is good, it's what you want. But employment, housing, health and transport I think are the big ones, yeah. Yeah. (2019T09)

## Impact of the KidsCan ECE Programme

The evaluation showed that the KidsCan programme was appreciated by families and teachers and had a favourable impact on child and family wellbeing. Both groups considered it had made very positive differences to children's health and participation in ECE. Whānau and teachers also noticed enhanced engagement in learning when children were warm, dry and well fed. The fact that the programme was provided to all children attending an ECE service had important influence on social connections and on the sense of belonging within the communities involved.

The following sections outline the key quantitative and qualitative findings in relation to the impact of the KidsCan ECE programme on:

1. ECE participation for children.
2. Nutrition and children's health.
3. The wellbeing of children and families.
4. Children's early learning.

## Impact on ECE participation for children

In general, we found the provision of a food programme in ECE was related to reduced absences for children.

Ministry of Education Early Learning Information (ELI) data, which collects and stores information on enrolment and attendance, were analysed from Jan 2016 to Dec 2019 to see if there were any changes in attendance evident from September 2018 when the KidsCan programme started.

ELI data were available for 23 of the 24 centres<sup>7</sup>. This information demonstrated the different patterns of absences across the centres<sup>8</sup>. Looking at the individual centres, comparing the months of the KidsCan programme in 2019 with the same months in 2017 before KidsCan, showed 10 centres having lower absence rates (although the changes were not statistically significant). According to the teacher survey, none of these centres had previously had a food programme in place, although they might have provided something if a child came without food.

The ELI data were also analysed to see if there had been changes in centre enrolment and the length of time children attended ECE after the KidsCan programme started. The enrolment patterns across the centres did not show a marked change after the KidsCan programme started. Length of time attended increased in six of the centres that did not have a food programme prior to the KidsCan programme, and remained consistent in the others.

For those centres who had a food programme in place prior to partnering with KidsCan there were no significant changes in average attendance, as measured by the absence rates, enrolment patterns or hours per month attended. Gains in attendance had presumably already been made, leaving little room for further reduction in absences when this was replaced by the KidsCan programme. However, as later sections will show, moving to the KidsCan programme freed resources that enhanced the quality of participation and learning.

The transient nature of the communities where the KidsCan programme was operating added further complexity when analysing the participation data. If, instead of comparing the whole (changing) cohorts pre and during the KidsCan programme, we look only at the children who were attending the centres before the KidsCan programme started and went on to participate in the KidsCan programme, their absences were lower during KidsCan, when compared to the same months the previous year before KidsCan. In three of these months the reduction in absence rates was statistically significant. We cannot say these changes are directly causal, as other factors may be at play, such as the children being a year older. Nevertheless, the qualitative data from the case study whānau and teachers provides strong evidence that does attribute improved participation in ECE to the KidsCan programme. Sixty-five percent of Cohort 2 case study whānau (n=34) said their child's attendance had increased since participating in the programme. For example, they described how having food provided made it more likely they would send their child, when in the past they may have kept them home when they

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<sup>7</sup> The analysis is based on these 23 centres (12 Kindergartens and 11 Education and Care Centres). Te Kohanga Reo are not included in the ELI data.

<sup>8</sup> ELI data calculates the absence rate as the number of absences divided by the sum of absences and attendances.

couldn't provide a lunch. For the case study whānau whose children were in centres that had a food programme in place before the KidsCan programme (n=18) 67% attributed the jackets and shoes with keeping children warm and dry and therefore assisting participation by reducing sickness.

Across all three regions 58% of teachers (n=26) in Cohort 2 interviews described how providing healthy food at the ECE centre had enhanced participation because children were able to attend even when there was no food at home. Forty-six percent of teachers also noted that the coats and shoes had made a difference to attendance.

Only 25% of Cohort 2 whānau and 15% of teachers felt having the KidsCan programme had made it more likely that whānau would enrol their children in the centre. It was noted that this might increase if the programme was advertised, as currently people found out about it when they came to enrol or through 'word of mouth' recommendations.

In common with earlier New Zealand studies of food programmes in ECE (Munday & Wilson, 2019) and schools (Massey University, 2007) there were no significant changes in attendance for the total cohort. However, the improved attendance for children who were enrolled at the centres before KidsCan and went on to participate in the KidsCan programme is an important finding, as it is based on independent data gathered by the Ministry of Education. Earlier studies, e.g., Massey University (2011) and Watts (2018) have relied on participant reports. The data in this ECE evaluation have been analysed over a longer period of time with a much larger sample of children compared to the small exploratory study by Munday and Wilson (2019).

In addition, over half, 58%, of the case study centre teachers agreed children's attendance had increased, a finding comparable Massey University's (2011) evaluation of the KidsCan school programme where half the schools indicated children's attendance had improved.

Although the absence rates did not improve drastically, there are two factors to consider. Gains in attendance cannot be made when participation is already good (Massey University, 2011) e.g., where a food programme was already in place. Where attendance still has room for improvement, we need to be mindful of the many barriers affecting participation that were identified in both surveys and interviews. Supporting children's attendance through food, clothing and health products was very well received and made a huge difference to children's health, nutrition and learning. However, the wider microsystem and exosystem factors (Bronfenbrenner, 1986) described in the barriers section were still at play for many whānau.

Cohort 2 whānau commented in interviews and surveys about their child's increased attendance when participating in the KidsCan programme:

Yeah, yeah, I guess I'm more likely to send them, yeah. ... 'cause I don't have to worry about like their lunches and stuff.... (2019SW44)

I'd say it's helped us as parents, knowing that she's... that she's being well looked after, and well fed. And so, we're more comfortable that we can send her to school [ECE], in that sense. (2019SW34)

It's hard if you want to provide healthy things when I can't afford it. So that's who... like if I don't bring him anything from home, there's something here... KidsCan helps so much with food, healthy meals. (2019SW57)

Well yes because like we always walk every day, even if it's raining. So, yes, the jackets and that do come in handy. They're really helpful... He knows when it's raining, he has to wear his raincoat when he goes outside. So, he'll grab that out! [Laughter]... Yeah. (2019SW14)

Help for breakfast and lunch some days if I don't have enough money during the week. Also never stop him from going to school if it is a food issue—Always available at the center. (Cohort 2 whānau survey)

All of the above [items in the KidsCan programme] was very helpful to make my child attend school [ECE] on a regular basis. They were less sick, full tummy and very settled at school. My daughter has been more settled and sleeping through the night at home. (Cohort 2 whānau survey)

Teachers also commented about children's attendance when participating in the KidsCan programme:

So, participation for us has increased. We now have tamariki that were attending 3–4 days now attending 5, and that is directly related to the impact of KidsCan. Like whānau did share with us that they weren't attending on the fifth day... it was a pay cycle for a Tuesday, so they were getting to the Friday and kind of conscious of the weekend and falling short... or definitely the Monday. (2019T30)

...certainly, on a Monday. Mondays were days where numbers were really, really low.... As soon as food is provided, you see the numbers slightly increase. Especially after the weekend when things have been tight, and the money's run out. You know, things aren't accessible to families until later in the week. Participation has increased that way. (2019T09)

I think that that's improved participation especially over winter, because they are having warm, warm meals, we are providing food. (2019T28)

...we've had a more consistent attendance with our babies coming out. Them having jackets, decent footwear, that's contributed to, to them being able to come here. We've always provided kai, but giving them healthier options too, you know? It has been really good.... (2019T13)

I feel well we did already have quite a few things in place that we were doing, but I do feel that within our centre, we've noticed our tamariki coming a lot more prepared—with shoes, with socks on, every day. Especially over these winter months, coming with shoes and socks is a big thing. ...I definitely feel at least over 50 percent them come every day in those shoes, which has contributed to their health and wellbeing, and ... Participation. Definitely. Jackets—as much as we've got jackets here, they're coming in their jackets which means they can walk to kindergarten, and things like that, and get here dry and warm. Yeah, definitely ... I think we've seen some good changes. (2019T14)

## Whānau (W) and Teacher (T) also commented about the KidsCan Programme and enrolments

Well he was already enrolled... I think it actually did encourage a lot of other families around the area once ... after it ... came into effect... There was a few more starting to come... If they need it. So, I think it did influence a lot of families.... (2020MW59)

They [hours] increased.... He went from 15 hours a week to 25 hours. (2020MW06)

I'd say it's kind of [pause]... It probably, as far as I can see, I haven't seen a great change. But what I have noticed is that new children are coming through. A lot of our referrals are our new families, [who] come through word-of-mouth. We've struggled as a [centre] with marketing, because we're teachers, we're not marketers in advertising. We don't know how to get people in. But when we listened to the people that are coming in, it's other families have said, 'Go. You know, it's a great environment, great teachers, you'll get food.' All those things. So, we're, we're getting bits-and-pieces of that feedback coming through the community. So, it's out there, people are aware. There's talk about it. (2019T09)

They are happy to know when we do the enrolments ... when the parents come to enrolments when you say like we are providing... KidsCan food, they're happy to hear that. (2019T31)

And I think because you know, once they come in and they enrol their children, and they realise you know, they don't have to bring any food, and they get this and they get that, 'Oh well yeah, we're coming here.' (2019T30)

I sort of feel it's the same. I think when new—like new enrolments come then certainly they're like, 'Oh cool,' like that's cool, they don't have to supply it.... I think it's definitely kind of an incentive for people to come here, but I don't know about the current enrolments, I don't know how it's changed for them. (2019T04)

Despite all the positive feedback, the programme could not address all the issues affecting participation. As one teacher noted:

I need to be honest and let you know that our rolls have really dropped, and our attendance can be, at times, poor. And it comes down to health matters. And a day like today [wet day], a lot of our families do not have transport... So, it is a big thing, and I don't think food alone will combat that... there's been some improvement with regards to, 'Oh I don't need to worry because I know they're going to get a fairly good feed on a Monday.' So, numbers have increased slightly that way. But on the whole, I think the health issues—and transport, they're the two greatest barriers to participation for us. (2019T09)

## Impact on nutrition and children's health

We have identified positive impacts of the KidsCan ECE programme on children's nutrition and health.

Whānau provided feedback in regards to the benefits their child had received from the programme in the Cohort 2 whānau survey. The largest category of responses (43%) related to the improved nutrition for children.

My child (has) slowly changed, he's eating less junk food. (Cohort 2 whānau survey)

Tries and will eat food he wouldn't have touched before. (Cohort 2 whānau survey)

He's become more of a confident eater, because he's always trying new things at kindy. (Cohort 2 whānau survey)

The second highest category of responses regarding the benefits of the KidsCan programme related to children being warm and dry (21%).

Before the KidsCan programme started, 61% of the teacher survey respondents (n=41) rated the diets of the children in their centre as "Poor—most children have a diet that doesn't regularly meet their nutritional needs for healthy development". A further 24% rated them as "Ok—most children have a fairly adequate diet but it could be more nutritious".

Sixty four percent of Cohort 2 whānau surveyed reported their child's diets had become more nutritious as a result of participating in the KidsCan programme, which indicates some major changes had taken place in the programme's first year of operation. Parents noted particularly the inclusion of more fruit and vegetables in their child's diet. This would have helped the children who were not already consuming sufficient fruit and vegetables to come closer to or meet NZHS guidelines (Duncanson, et al., 2019b, p. 29). As well as eating healthier food children's consumption of 'junk' and poor-quality food was reported to have fallen.

An important part of the food programme was teachers sitting with children, eating the same food and encouraging children to try new foods. Previous research found it can take children eight or nine tastings to start enjoying previously disliked foods (Lakkakula et al., 2010) so regularly presenting nutritious choices was another key factor. Centres have indicated that changes to the children's diets happened over time. Initially many of the new foods were unfamiliar, and teacher encouragement and continuing to offer the foods was important in getting children to try them. At the same time, centres with cooks were able to adapt some of the recipes or presentation of the food to make them more enjoyable for their children, whilst using the same healthy ingredients.

The changes are likely to be long lasting for the children who not only were eating well at ECE but whose families commented that the children's tastes had changed so that they were now enjoying fruit and vegetables and being more likely to eat these at home too. For some families, what happened in the microsystem of ECE was now influencing the home microsystem too so that the shifts were taking place in both contexts through the supportive mesosystem connections (Bronfenbrenner, 1986).

The raincoats, shoes and socks contributed to the children's health too, keeping children warm and dry, which was especially appreciated by families who would struggle to provide these items. Although

not all families needed to use the head lice treatment, having it available was an important factor in supporting the health of children who did have problems with head lice.

Overall 68% of case study families commented on their child's improved health since participating in the KidsCan programme. Teachers observed the changes too, with 77% commenting on children's improved health.

While these findings were very positive it is important to note that they related to the child's day-to-day physical and emotional health, their energy levels and reductions in ailments like colds and skin conditions. After participating in the KidsCan programme, there were no clear patterns of change to the percentage of children who experienced a range of health conditions as described in questions also used in the Growing Up in New Zealand [GUINZ] study (Morton et al., 2017) to explore the health of the participant children. Both Cohort 1 and Cohort 2 reported higher percentages of children experiencing ear infections, chest infections, gastroenteritis, throat infections and skin infections during the last 12 months than the more materially advantaged GUINZ 4-year-olds. This helps to explain why, although both whānau and teachers reported improvements to children's health, this was still identified as 'often' and 'sometimes' a barrier to ECE participation, even with the KidsCan programme.

In addition, keeping in mind the criteria for inclusion in Cohort 2 was that children had received at least six months of the KidsCan programme, it was perhaps too early to see large changes in the response to these questions which looks at health over the last year. It may also be that while the programme made a valuable contribution to children's health, being well-fed, warm and dry can help but not prevent a range of illnesses. In addition, as discussed under participation, some centres had already been providing a food programme so not all children experienced a major change in diet because of the KidsCan programme, because their families and/or their ECE centre were already providing nutritious food.

Whānau in the Cohort 2 interviews and survey commented on their children's improved health due to the items KidsCan provided:

Yes... It stopped her having seizures, because she has febrile convulsions... And she hasn't had one for a whole year now... It could be the environment she's in.... The temperatures that she's been keeping her in. Not too hot.... The kai they've been giving her. (2019FW15)

Definitely the food. He's not eating rubbish, he's getting good meals, that would help. Shoes, jacket keeping him nice and warm ... not getting sick.... A happy boy. A happy, healthy boy. (2019SW38)

Well his lunches—the lunches provided, so healthy and it helped to change his diet because he was more open to you know, more of what they're having at school, or having at home.... I think... He's always warm when he comes to school. ... he's growing really quick. (2019SW21)

Well the lunches are good I reckon. Health wise too. I suppose he's hardly been sick. Oh yeah, they're (jacket and shoes) always good. Yeah, always good for rainy days and cold days. (2019SW14)

...lunches. The lunches that they get. Because [previously]... a packet of chips, juice box, crackers. Junk stuff. But it's hard if you want to provide healthy things when I can't afford it. So that's why I prefer KidsCan... KidsCan helps so much with food, healthy meals. (2019SW5)

Yeah. 'Cause also his sister she goes to [school]... And she comes back with headlice quite often as well. So, with both of them having long hair, they were sharing baths... And it's going to get into my boy's hair then. She ... just going to go back-and-forth to each other, they're not going to clear. So, they stopped that. (2019SW44)

The head lice treatment we received was very helpful as I have older children attending primary school and when it is swimming season for them tend to have nits... I find this product safe and useful on my children. (Cohort 2 whānau survey)

Teachers also described a number of health-related benefits for children:

...we're getting more children coming to kindergarten more. ... You know, if the children have headlice, or they've got a, they've got a cough, or anything like that, everyone was staying at home [before KidsCan]. ... I think there's really more attendance [now], definitely. And less, less sickness. Less sores on their legs and things like that. (2019T33)

I suppose the energy levels have been different... that's a part of health, and their attention spans in the afternoons ... there probably has been less smaller health problems.... Like common colds and stuff like that. ... So, I guess the food, or the content, that we've been having with more fruit and vegetables, and healthier options possibly has done a bit. (2019T08)

Oh, the children... they've got that good energy, you know what I mean? It's not the sluggish, the sluggish type of feeling of, 'I don't want to get up.' Or things like that. Not that they did that, but you can see that there is an excitement and energy in their, in their bodies. So, you know... We had quite a few children that had a lot of problems health-wise, yeah, yeah. So, there's some... They're loving their yoghurt, they're loving the fruit, they're asking for more when they can. And they know they can. You know? It's just good, it's just good like that. (2019T33)

Well the lunches are getting nourishment. They're getting good health kai. It's also... different tastes, different experiences. Because a lot of it was new, there was a lot of talk about what the food is. So, there was lots of new learning for them, you know? 'This gives me energy; I need energy to fuel my body. I need energy to make my brain work.' So, there's been lots of discussion about that as encouragement to get them to eat something that's new to them.... And I think having good nutrition definitely makes a difference to the health. You know we get children that suffer a lot from dermatitis and eczema, those sorts of things. Skin allergies. And although I'm not medical, I know a lot of that can come from just poor nutrition, food intolerances.... I know just having good nutrition makes a difference to the healing processes.... the overall wellbeing, it's not just the physical, it's that emotional wellbeing. Everything. Holistic.... (2019T09)

## Impact on the wellbeing of children and their families

The surveys and interviews indicated that parents and caregivers were very appreciative of all aspects of the KidsCan ECE programme. The programme made a contribution to the wellbeing of the children and supported parents as well. An important aspect was the provision of the programme to all in a way that brought pleasure to children and families and helped to support a positive sense of community.

Cohort 2 whānau rated the following items as 'Very Helpful': lunches 92%, raincoats 87% and shoes 84%. The head lice treatment was available to families who required it, so not everyone had used it. It was rated 'Very Helpful' by 71% of respondents. Overall, the feedback shows that KidsCan selected appropriate elements to assist the wellbeing of children and whānau participating in the ECE programme.

When whānau were asked about the benefits of the KidsCan programme for themselves, 220 of the Cohort 2 survey respondents described the benefits the programme had provided for them personally. Of these 29% mentioned that it reduced stress and worry. The key reduction in stress related to the provision of food for their child at ECE. This impact was two-fold, both a reduction in worry about providing the lunches and reduced pressure in the mornings to prepare a lunchbox. Other comments indicated a more general reduction in stress.

The next most frequently mentioned benefit for whānau was that the KidsCan programme helped them financially (22%). The whānau who said it had benefited them financially appreciated not having to purchase food and clothing. In most cases these were items they would have struggled to afford. Some survey respondents mentioned that they were now able to direct the money saved to other things. Other key benefits for whānau included the healthy food, appreciation of the help provided and the happiness of the children. The majority of whānau interviews (70% of Cohort 1 second interviews, 56% of Cohort 2 interviews and 63% of Cohort 2 interviews) reiterated that the KidsCan programme assisted families because it reduced stress and worries associated with the financial challenges of trying to provide for their children. These benefits contribute to the children's development too. In homes where there are low incomes, caregivers may be focussed on providing food and be hungry themselves, which can affect the nature of interactions with their child (Johnson & Markowitz, 2018). Any help to alleviate that pressure is important in changing the nature of the day-to-day relationships in the child's microsystem (Bronfenbrenner, 1986).

Another key component was the fact that all the children in each ECE service participated in the programme. This related to both the encouragement for children to try new foods and the sense of social cohesion and belonging in the centre community. Everyone eating the same food together was described as an important aspect of the programme by Cohort 2 whānau survey respondents who felt this had encouraged their child to eat what was provided and to try new foods.

In addition to all the practical elements, a delightful aspect of the KidsCan programme was where whānau in the Cohort 2 interviews described the pleasure and happiness for children from receiving the 'gift' of new clothing. There was further pleasure for some children in having the same shoes and raincoats as their friends. When the research team visited one of the case study settings, teachers

described children regularly showing and commenting that they had “same shoes!”. Universal provision of food and clothing has shown similar results in schools too, with reports of children’s self-esteem being lifted by new clothing and no stigma associated with receiving these items (Massey University, 2007, 2011).

The experience of care and pleasure from everyone participating in the same programme led a number of whānau and teachers to credit the KidsCan ECE programme with affective changes for children that made a difference to the social connections and the sense of belonging in the community. Sixty-two percent of Cohort 2 teacher interviews expanded on this idea with comments that the programme, and especially the provision of food, helped in building a sense of belonging, a sense of community and stronger bonds between teachers and whānau. The principles of the early childhood curriculum, *Te Whariki* are empowerment, holistic development, family and community and relationships (Ministry of Education, 2017). Strengthening these in a centre has benefits for children’s learning too, as does fostering the goals of the curriculum strand ‘belonging’ for children and families (Ministry of Education, 2017)

It is hard to measure the nature of the affective change’s participants described, but in communities where many families were experiencing financial challenges it appears key that the KidsCan programme was offered in such a way that it brought pleasure to children and families, and helped to support a positive sense of community. The programme being offered to all seems a crucial element of its success. It is a delicate undertaking for any charitable organisation to ensure the programme continues to be experienced in these ways and any fund raising needs to take account of the recipients’ feelings.

Whānau in the Cohort 2 interviews and survey commented on the lessening of stress for them with the KidsCan ECE programme:

As a parent it’s made a big impact on our family. It’s like helped us—you know, I have seven tamariki, and it’s hard work. It costs a lot to raise a big family. And if we can get that extra help, that is out there from this service, I will take it. Like you know, we struggle... Even though my husband and I, we both work, but we still struggle. And it has helped us a lot. (2019FW61)

I’d say the lunches have been a huge help.... I think for us, you know, people have the assumption that working parents, they’re stable, and they’re you know, financially ... But we’re the working poor. Like we struggle to provide even the basic needs. So just having that one lunchbox that we don’t have to do, because we still do [older child’s] lunchbox. It’s a huge help for us... So that’s one less thing for us to worry about. And we know that it’s nutritious.... (2019SW34)

It takes a lot of stress off the shoulders knowing that she’s eating properly, and that if there is a chance, she doesn’t have a raincoat in her bag or something, that we can get help with that. (2019SW07)

The headlice stuff... Well, ‘cause I don’t have to go to the pharmacy and buy \$30.00 ... Accessibility. And the combs. (2019SW17)

I do not have to worry about making lunch, knowing that my child is fed healthy food. (Cohort 2 whānau survey)

Less stress having to provide food every day. Which means less wasted trips to the supermarket for top up supplies. (Cohort 2 whānau survey)

It is so much easier with lunches being provided... not having to worry or stress about buying lunches help a lot. (Cohort 2 whānau survey)

It has taken a lot of financial stress for our whānau, not just financial but everyday stress. (Cohort 2 whānau survey)

When Cohort 2 whānau were revisited when their children were at school, they again recalled the assistance from the KidsCan programme for finances and stress levels:

It helped a lot because we didn't have the stress about getting a raincoat at that time 'til he got one. Or shoes – they do go through shoes quite a bit. He got shoes so we didn't have to worry about that a little bit. And food, I didn't have to stress about the food ... he had snacks and everything. And just those sort of things he actually wasn't missing out on stuff when other kids were eating in front of him, because they all had the same (2020MW59).

Yeah, knowing that he had the stuff that he needed definitely. It can be stressful when you don't have enough money to get food or whatever else he needs. So definitely it did help... 'Cause I had two boys at kindy at the time.... (2020MW58)

Helps financially because I don't have to buy nit treatment, oh and the socks and shoes came at the right time because I was going to buy him some more but they told me about the KidsCan socks and shoes and how you can change them if they were to get small, and the jackets -you're allowed to get a bigger size. And the nit treatment, how I didn't have to go to the pharmacy and buy expensive nit treatment. Um, he probably would have had to wait longer until I had enough money to buy those things, probably just had to wait a bit longer... and if his hair wasn't treated then he would have to stay home! (2020MW14)

It just made it easier as a mum not having to worry so much about providing those stuff because they were provided... Yes, definitely, and it just saves the stress of having to run out and get it just before we go to kura or something.... I wasn't stressing out and frantically running around trying to look for other stuff to, or things that you had already provided ... I don't know how to explain it but yeah, it wasn't as stressful as it would have been if I had to [find the things provided] (2020MW26).

Everyone eating the same food together was described as an important aspect of the programme by Cohort 2 interviews and survey whānau respondents

The difference is if I feed him at lunch and breakfast at home, I have [him] sit down, eat, 'You have to eat this, you have to eat this.' But here, I don't need that.... Just sit on the chair, enjoy with other kids, see other kids eating... He loves to copy other kids; they're eating the same food. And he ate himself. (2019SW28)

She now eats more variety of foods because all kids have the same meal. (Cohort 2 whānau survey)

It's healthy food for her and being around other kids helps encourage her to try foods she otherwise would not. (Cohort 2 whānau survey)

Eating the same kai as everyone else has made her experiment with foods she may not always try at home. (Cohort 2 whānau survey)

Yes, she's so much more healthy. She would almost never eat vegetables without being bribed but with it being a routine and seeing all the other kids eat the same she has really come round.

Whānau in the Cohort 2 interviews described the pleasure and happiness for children from receiving the 'gift' of new clothing:

When the kids get these things you know, it's like wow... It just brings a sparkle in their eyes. Like it's like Christmas all over again. Yeah. I saw that with my son and my niece 'cause she goes here. Yeah, it's like, it's like it's Christmas all over again. And it may just be shoes, and a jacket, and socks—but you know those are everyday things, especially when it's in, in like cold weather like this. (2019SW09)

Oh, they're warmer, much warmer. And it's—yeah, with winter on it was just hard to provide them with those things. So, having things provided for us... helpful. Helpful and put a smile on their face. It was like a little gift.... (2019SW24)

...the shoes were really good. Since he's the youngest. ...so, he gets passed on... brothers, and when he gets ... all paru [dirty]. But it was really good for him to have a new thing for his own—the socks, the shoes, the raincoat.... Oh, he's very happy, and he doesn't want anyone to touch it—his raincoat... 'No, no don't touch, that's my, my school jacket.' Yeah, he likes it. (2019SW16)

Whānau (W) and teachers (T) described the impact on social connections and the sense of belonging in the community.

And there's a lot of love in there, you know? And you see a lot of parents that come in, and when they've got things from KidsCan, it just like... Not so much the child... it lights the parents' faces too ... And I think it brings them back, makes them keep bringing their child... Which is really good.... (2019SW20)

...I reckon, there is a saying at home we have; the family that eats together stays together... So that's kind of brought the parents more to bond with their kids, kind of thing. Like even making meals, helping other kids, that's... here. (2019SW57)

...children seem more happier; parents seem more approachable. (2019T30)

They [the children] all have more of a sense-of-belonging, not nearly so outcast... Especially being able to eat the same kai as everyone else, not being like, 'Oh well they have this, and I don't have...' Their self-belonging, I think has improved a lot. (2019T23)

They are warm, they love them [the clothes], they are not whakama about having them, it puts them on a level playing field—they all have the same; they are not logoed—so the whānau are not seen as low income family in the community; a big decrease in head lice in the centre. (2019T24).

...well there is a sense of pride in their shoes and their coats, yeah. They're like, 'Oh no, that's mine! There's my name.' I think too kind of a sense of calm, and you know, knowing that there's lots of kai here. Because some of our children are, you know, really quite hungry. (2019T35)

Our whānau is a lot more open. And I don't know if it's to do just, like, with KidsCan.... I feel everyone's more open, and it's more of a community feel again. (2019T09)

I know when the programme was first put together and we got that big bulk load of shoes and coats, it was like, 'Oh, Santa's come.' Everybody was running around. They were so proud of their coats, and their shoes. And you know something that's so simple, the way that can actually lift a child. You could just see their whole manner lift, and they were really proud of their new coats and their shoes. And taking pride in, you know, ownership. So, there was that, that kind of learning coming into it. And again, I think families were ... really grateful. (2019T09)

When, when we had the lunch boxes here, the rubbish that was coming in. And you could tell with the children that... the mood swings... And that might have been just the children as they settled into a new kindergarten. But the differences that consistency of behaviour throughout the day. Knowing that they've got, you know, full tummies all day long has made a huge difference. .... Sometimes being able to give at the end-of-the-week, being able to give Mum to take home some fruit has been incredible. And you know it's making a difference. (2019T11)

Yes. Basically yes. Definitely KidsCan made a big impact.... First—we were able to create a good environment where parents also help. So, it's a camaraderie for parents, because when they see me quite busy for my time, doing some chopping and things, they would, like, volunteer, 'Oh [name] you want a hand?' So, I feel grateful for them because... They give a hand, and everybody's happy working with us. And for the teachers, yes. They are also happy, and it's an impact for them because we are confident, they are confident telling the parents, especially incoming children that, 'We have KidsCan to provide your, your food for the children'. (2019T34)

For whānau, definitely seen the pressure lifted... their whole ahua lifts and they come in, they feel that much more [confident]... they don't have to come in with their head down, feeling that embarrassment—that sense that sits there about what you can and can't afford and what you can and can't give your child. With that taken care of it uplifts their whole spirit, they start to look around, they see you, you can see them, you can talk about other things. (2019T24)

## Impact on children's early learning

In addition to the food programme supporting children's attendance, Cohort 2 whānau survey responses indicated that they had seen a connection between the food programme's provision of healthy 'brain food' and their children's learning. The impact of improved health and nutrition on children's learning was also highlighted by 27% of teachers in the case study ECE centres during Cohort 2 interviews. They commented on the positive changes that they had observed in children's engagement in learning, attention span and behaviour. Whānau from the Cohort 1, second round of interviews (76%) and Cohort 2 interviews (68%) also mentioned the positive effect on their children's learning because of the KidsCan programme. This is consistent with evaluations of food programmes in schools where the main benefits have been to the children's learning through improved concentration and attention span (Bryne et al., 2018; Massey, 2011) and fewer problem behaviours (Watts, 2018)

The KidsCan programme not only assisted children and families, it lifted the financial pressure on the centres too, many of which had been providing food and other resources such as head lice treatment from their own budgets. This meant that more funds could be put into teaching and learning resources and activities. Having more funding freed up to improve learning resources in the centre was a key motivation to join the KidsCan programme for 60% of the centres surveyed.

In the Cohort 2 interviews with teachers, 62% reported that the saved money was utilized in various ways to build a more positive environment for centres to support teaching and learning. For example, in one centre, a teacher explained that the money previously spent on food had bought kapa haka uniforms for when the children performed at events, outdoor equipment and books. In the Cohort 2 whānau interviews 35% of whānau had noticed that centres were being able to direct money previously spent on food to other resources. Whānau also noticed that the KidsCan programme seemed to have eased the pressure on teachers, allowing them to focus more on teaching and learning. When children who are experiencing disadvantage at home, attend centres who are stretched to provide learning resources because their funds are diverted to food and other essentials, this compounds the disadvantage. Given that participation in quality early childhood education makes a long-term impact on outcomes for children (Heckman, 2011) if we want to for breaking the cycle of poverty through participation in ECE (Leseman & Slot, 2004) then programmes that help lift the quality of teaching and learning in the centres is important.

Whānau were interviewed again after their children had made the transition to school to see if participating in the KidsCan programme in ECE had influenced their transition to school. Sixteen of the original Cohort 2 whānau from the case study settings were able to be located and were willing to be interviewed. Eighty-one percent stated that the KidsCan ECE programme helped in the transition to school.

The hope of the programme was to enhance learning and support in the transition to school. Creating patterns of enjoying health food assists this in an ongoing way. One school teacher reported a definite shift since the KidsCan programme started with more fruit and yoghurt coming to school in lunch boxes instead of junk food. In addition, she found fewer children seemed to be coming to school with

no ECE experience than in the past. In another school, teachers reported increased attendance “I’ve noticed a big difference this year to last year... attendance overall this year, for all of my children, has actually been very good” (2020ScT1) along with improved behaviour. However, the school offered “many layers of support” so it wasn’t possible to attribute this directly to the KidsCan programme in ECE.

...if you come in now you've got some more... You've got children ready for learning. And that's because we've catered for the food, we've catered for their health, we've catered for everything.... I think whanaungatanga is very important and you foster that from the beginning. And that getting that working together and learning is something we do together. And we share that experience. (2020ScT2)

Whānau in the Cohort 2 survey and interviews commented on the positive changes that they had observed in children’s learning:

My child is warm and full that enhances her ability to learn. (Cohort 2 whānau survey)

Fresh lunches are an essential part of a child’s health and wellbeing and their ability to learn throughout the day. (Cohort 2 whānau survey)

Lunches provided means she has good decent food which helps with learning. (Cohort 2 whānau survey)

I find that my son eats a lot healthier at kindy compared to seven months ago when he first started KidsCan. No more pies and not so much unhealthy food. He gets a lot more brainfood. (Cohort 2 whānau survey)

Oh, he’s come a long way. Letters, numbers—he was good with them before, but now he can pick out words, especially his own name. And all the letters to his name now. ... His speech has come a really long way. And he’s using big words that you know I don't think I was using at his age. And his confidence—he’s really confident now in everything that he does, it’s amazing. I love it. (2019SW21)

It’s also allowed him to be more active out of, out of school [ECE] as well. (2019FW03)

He’s interacting more with the other children. (2019SW38)

You know, they’re really supportive in every way here. And that’s the thing that I love about this place, is that... Not only that—and it’s the learning. Like you know the kids learn by play, but you know certain areas you think like play... And then you look at your children when they come home, and you see the things—how they speak, how they talk to you. It’s like, ‘Whoa!’ You know? And it’s just by the teacher spending time with them every day and playing. ...she’s learnt a lot from being here. (2019FW22)

Teachers also commented on the positive changes that they had observed in children’s engagement in learning, attention span and behaviour.

Far more attention and focus, and I do believe it [being well fed] frees their mind up to actually focus on what is around and what they might like to do rather than coming from a survival instinct. Like when you’re in that survival instinct lots of fight, flight or freeze, you can’t really focus on anything else, so relationships have improved hugely between teachers and tamariki, and it’s an enjoyment.... Like the environment, the sound of the environment has changed and that’s because you’re coming from a basis of a full puku. (2019T30)

Well for me, the dynamics of the kids are a lot more engaged, they will be engaged for a lot longer period of time, we can give them more one-on-one help. That they are a lot more persistent and resilient. And... have a much better, you know, ‘can-do’ attitude. (2019T10).

For me there’s just been an ongoing improvement in engagement.... You don’t see those kids around who are lethargic, or who are just tired.... If you’ve got a full belly, you’re not feeling tired and grumpy. We certainly are in a totally different space around behaviour. ...we just don’t have it [problems with behaviour] anymore. (2019T14)

...before KidsCan, you know a physical activity, or a mental activity... a learning activity—they would just give up on.... Whereas now the kids are really, really persistent. And really striving, striving to do something. They’re not just give up and defeatist. They will come back and.... (2019T10)

The kids' behaviour are so improving. It's all to do with food, their health, when they're healthy they learn healthy they learn a lot of things. They play happily and have fun.... (2019T17)

But some of their shift in their attention span is huge... I mean because you can't measure whether that's an age thing, or whether it's been like that, they've been coming all the time regularly for the last two years. And now you add all the factors in, and they want to... Their learning is different... four years ago, and the older children that were coming in—no attention span, lots of learning for them about the expectations and being with other children, and sharing and all of that. To the ones that are the same age now... that have been here for those two years. And seriously like they've been more creative in their involvement. (2019T11)

The KidsCan programme lifted the financial pressure on the centres, allowing them to provide more resources for children's learning:

Part of the extra funding [created by no longer having to pay for a food programme] allows us to employ a person for an hour. ...a teacher can go over there [to school with a group of ECE children] every Friday. So that's made a difference. And so, the children, they get a really lovely long induction—or transition period—into the school... they spend the time over there [school], because we know we've got an extra support person back here. And that's what extra funding has allowed us to do. (2019T11)

The financial side means we've been able to just buy more resources instead of spending it on food ... We are able to buy more resources and books ... And like just having that time and the quality—like quality resources instead of ones that are old and dated. (2019T04)

For us as a kindergarten, it's taken the responsibility, and the worry about the finances. 'Cause what we spent on food meant that we had to jiggle with resources. There was less money for resources, less money for other things. So that has been a big weight off our minds ... Having the food in the kindergarten just makes such a big difference. And it sets an equality within the children themselves... when we had lunch boxes, some lunchboxes you were topping up... And sometimes you were thinking, 'Oh I don't really want you eating that at kindy.' Lollies... packed full of stuff. So, it's set everything on quite an even keel for the children. 'Cause they do notice, they do notice differences. (2019T09)

Whānau had noticed the difference the KidsCan programme made to their children's ECE centres:

Yeah, I've noticed that actually quite often here they're doing a lot of like changing of the grounds, adding things, swings and that. Yeah, it's really nice. I just love this place. So, I've notice that, yeah. And they—and the sandpit getting fresh new sand in, yeah, just totally changing the grounds which is really nice. (2019SW08)

I think they definitely got more resources for the kids... ...they've got the hot wheels track, which has been a hit with all the boys.... There's been a lot... a lot of that was new. (2019SW02)

I think the teachers have been a lot happier, they're not so in the kitchen all the time, stressing, trying to get the food and stuff. And having the kids turn up and asking for clothes... because they're running out of clothes and stuff. I think it's taken a big weight off their shoulders. (2019SW07)

I do think it helps them relieve their [teachers'] minds of the stressors of making sure the kids are warm and all that kind of stuff as well. I guess when we first started coming ... a lot of kids would come in bare feet. And that was quite an issue. Especially in the mornings. (2019SW52)

## An illustrative case study

The case study from one centre in the vignette below illustrates several themes that were evident across the findings of the evaluation and demonstrates what these look like and how they interact in a specific context. In this centre children's absences had been reduced when a food programme had first been introduced. When the centre-provided food programme was replaced by the KidsCan programme, 'word of mouth' about the programme at the centre brought families to enrol and the rolls stayed full. Children benefited from improved nutrition, increased participation and more learning resources at the ECE service. Families benefited from reduced costs and learning nutritious recipes they could try at home. They enjoyed the sense of wellbeing from everyone being treated the same. Instead of ECE teachers struggling to provide children with healthy food, the large ongoing cost of food could now be spent on learning resources and enhancing the environment and therefore improved the learning opportunities for children. The vignette is drawn from information provided by one teacher at the centre and a school teacher in a local school.

This ECE centre provided food for children before KidsCan because without it, children were coming without food/very minimal food or unhealthy food. There were also obvious absences when children were asked to bring a lunchbox. Providing food for the children was the biggest outgoing cost for the centre. It was hard to keep providing the food to a healthy standard with the budget allocated. This also meant that any resources and equipment purchased was the bare minimum and the Centre wish list kept getting longer without any means to purchase materials.

The KidsCan pilot programme has been a godsend for our centre and we have only received positive feedback (e.g. whānau asking for recipes of meals served to try at home).

Attendance from our children is steady and regular especially in the colder months since we have provided jackets and shoes.

Children are more settled after their nutritious meals.

We have been able to use some funds to hire a teacher for two hours a day to assist the team with our priority learners.

And we are also so grateful that we have now been able to purchase resources and begin enriching the environment for our attending tamariki. We have:

- created a bike track for the children as we had mainly only bark areas;
- bought plants and grasses to make quieter areas for our children that benefit from a quiet space;
- been able to get some furniture for inside;
- bought resources to make a vegetable garden here and get whānau involved with planting, etc.

We have had a lot of families come to us via word of mouth and they have mentioned how grateful they are that we provide meals and are also fees free. This means our rolls are staying full and are easy to fill once children go to school because we have such a good waiting list.

Another thing that has been said to us is that families like that "everyone is treated the same" so it doesn't look like any family is singled out when everyone is wearing the same shoes and jackets and eating the same meals.

A teacher at one of the schools the children from this centre moved to commented that 'we are very aware of the KidsCan programme operating in the centre' and that families who had previously kept children at home when they had no food for lunches were now able to send them to ECE every day.

The school also provided a lot of support to children and families, such as food, clothing and stationery. While it wasn't possible to tease out the specific difference the KidsCan ECE programme had made compared to the new initiatives provided within the school, teachers were very clear that having nutritious food and support with clothing and other expenses made a huge difference to children's school attendance and learning.

## Understanding the overall impacts of the KidsCan ECE Programme

The three elements of the KidsCan ECE programme (food, clothing and headlice treatment) were designed to increase children's participation in early childhood education. The findings demonstrated that the programme had a number of benefits for children (see Figure 5), such as good nutrition and keeping them warm and dry. These impacts were particularly noticed if the children did not otherwise have access to the items provided. The benefits were also associated with reduced absences, engagement in learning, increased energy and attention span, and fewer small health issues, which all increased the quality of children's participation in ECE. Not every child experienced the same beneficial changes, which explains the results that we have found regarding large positive impacts of the programme for some children and less obvious ones for others.

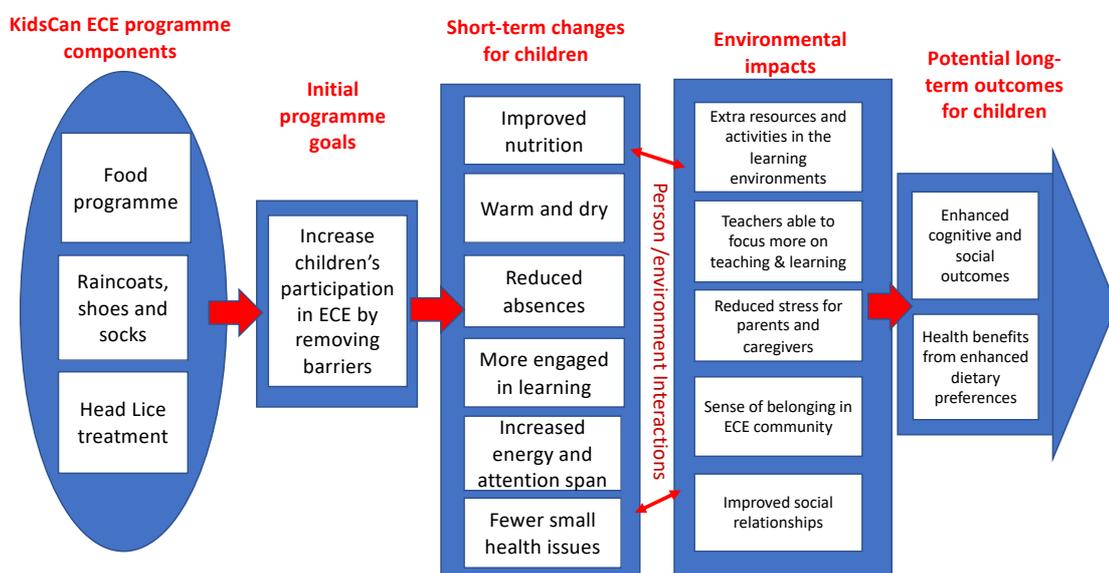
Figure 5 illustrates the complex person/environmental interactions that help explain the different outcomes and build an understanding of the factors that contribute to any positive changes for families and children from their involvement in the KidsCan programme. For example, looking at changes for children, reduced absences may not be possible if a child already had good attendance. However, with continued good attendance that child may experience improved nutrition and associated learning and energy benefits. On the other hand, if reduced absences are not possible because sickness, transport difficulties, family work patterns or other barriers prevent the child from attending ECE they frequently miss out on both the programme provision and the other associated benefits.

The participants described how the KidsCan ECE programme had a positive influence on the learning environment as well as individual children. Some of these environmental impacts were particularly evident if the early childhood centre had been investing a lot of money into the resources now provided by KidsCan. For example, it allowed the centre to use their funds to enhance the learning environments through increased teacher time devoted to teaching and learning and/or more educational resources to stimulate and support children's learning. Again, the environmental benefits may not be experienced equally. For example, if a centre had not previously been providing food, they may not see a difference to their funding so the resources stay the same. However, they might see more changes to the children's attendance, energy, attention span and engagement in learning than a centre that already had a food programme in place.

The benefits were felt too for the whānau through some of the stress and financial concerns they experienced being reduced, and importantly providing a strong sense of belonging in the ECE community due to the programme being provided for all. Again, this depended on the starting place for families. For those who could not otherwise provide the items for their children the positive impacts were greatest in taking some of the 'weight off their shoulders'. There was a strong sense of care for and pride in their children. Seeing the children happy, healthier and engaged could change the whole culture of the wider ECE community.

Overall, the programme had the most favourable impact when a number of positive changes for children and their environment(s) were experienced, which goes some way to meeting the aim of levelling the playing field (KidsCan, 2018) for these children. The power of the KidsCan intervention

can be seen in the interaction of individual and environment over time through proximal processes (Bronfenbrenner & Morris, 1997). An example of this is a child who has better nutrition and is warm and dry is likely to experience better energy levels and be more engaged in learning. If this focus on learning interacts with enhanced learning resources and experiences in ECE, along with a strong sense of belonging and positive interactions with less stressed caregivers, this creates the possibility of positive change to the developmental pathway. If the child's health improves and they attend more often this further strengthens these possibilities. Figure 5 illustrates how these processes, which will be shaped for each child through the interactions of different person characteristics and features of their environments (Bronfenbrenner & Morris, 1997), can set up potential long-term benefits such as enhanced cognitive, social and health outcomes that children take to new contexts such as school and beyond.



**Figure 6. A summary of the key findings from the evaluation**

## Recommendation for future KidsCan ECE Programmes

The literature reviewed and the quantitative and qualitative insights have indicated strong support for KidsCan's ECE programme. The Cohort 2 survey showed that whānau strongly supported all the elements being retained in future programmes (97% lunches, 94% raincoats, 93% shoes and socks and 92% head lice treatment). In Northland 97% of whānau recommended that each element should be retained. The findings indicated that the KidsCan programme had included the most appropriate elements.

Feedback on the programme was overwhelmingly positive but teachers and whānau did have some advice and suggestions, which are noted below.

### Suggestions for other possibilities to include in future programmes

Of the 252 Cohort 2 whānau survey responses, only a small number of families made suggestions for other possibilities to include in future programmes. The most common suggestions were sunhats (n=15), nappies (n=13), breakfast (n=10), toothbrushes (n=10), warm hats or beanies (n=9), milk (n=8). Other suggestions were: gloves (n=6), sunscreen (n=5) and undies (n=4). Some families suggested lunch boxes (n=8) and drink bottles (n=5), especially as children got nearer to school age. From the 34 Cohort 2 whānau interviews, suggestions for future programmes included extending the programme to other centres (n=4), nappies/ underwear (n=4) dental health programme (n=1), transport (n=1) and providing greater awareness of the programme for parents (n=1). From the 26 Cohort 2 teacher interviews other items suggested for inclusion were dental health programme (n=4) and transport (n=3).

### How the programme is promoted

There was some distress reported in response to newspaper articles stating that children were sent to ECE without food. In these cases, teachers noted that families felt shame at being labelled as not good parents and not providing. As noted earlier, everyone attending a centre participating in the programme, regardless of individual circumstances, was a key factor in ensuring KidsCan was perceived positively. Consideration of the way's families are positioned in press and social media coverage is important to ensure the programme does not create unintended negative consequences.

### Supporting centres to manage the food programme

Managing a food programme could be challenging for teachers if they did not have a cook or other help. Storage was also a factor for some of the centres.

I think probably for us it's been easier than for somewhere that hasn't managed, or done meals before. Storing of the food is a big thing. You know when the food comes in on the Monday, and struggling for places to find food—or to put food. And our kitchen's not small, it's big. And we've had to put some food into our resource room. But that doesn't sit well with our... The tikanga of the place, food should be where food is, play resources should be where... and we shouldn't mix them. It's a hard one but you just have to try and work round it. (2019T09)

...storage has been difficult for the food, the extra food. That's always been difficult, but we've just had to buy a new freezer, because our other freezer got overheated from just the excess kai! (2019T12)

### Avoiding food waste

There were many ethical reasons why participants felt it was important that children were able to take any uneaten perishable food home to avoid it being wasted. Once this was allowed to happen it was really appreciated by teachers and families.

### Reducing packaging

In some cases, teachers also worried about the amount of packaging and wondered if this could be reduced, for example providing 5kg bags of rice and a rice cooker instead of microwavable bags of rice with lots of packaging (this has since been introduced in 2020).

The other thing is... microwavable bags of rice. The centres are all trying to be sustainable... same with the EasiYo sachets. (2019T12)

When we first started, we looking at the food aspect of it and thinking, 'Oh you know, there's a lot of packets here'. (2019T09)

### Supporting long-term benefits

Three teachers noted that the food programme in ECE could have a wider impact if it was accompanied by sessions for families where the menus and recipes were shared and sampled. Coming together to try the food would let whānau experience what their children were eating in the ECE centre and this could support the provision of low-cost nutritious food at home, for the wider family and for the ECE children once they move to school.

It [some of the food provided] was so incredibly foreign and our tamariki were like 'what is this?!'... showing whānau, opening it up, letting them see it, smell it, taste it.... That ripple effect is, for us, is that if they [whānau] can see it, they experience how we're cooking it and putting it together here they know that tamariki are trying it here, then out in the community they're more than likely either give other options a go, try it, go to the local supermarket—it might be something now that catches their eye on the shelf that wouldn't have otherwise. (20019T24)

I have a firm belief around the cooking, the parents have got to learn how to cook the food, and be familiar with it. (2019T14)

Get more centres in the country on board; whānau focused programmes i.e., skills like cooking; costs of food; management of time for cooking healthy kai; takeaways should be a treat not an everyday purchase. (2019T24)

Given encouragement and resources the centres could choose to take this next step to building capacity, perhaps also including financial literacy:

I'm in for the long haul. That's my, my basis of practice, building capability and capacity. And I think KidsCan is great in that yes, we've made an immediate impact. But in terms of building capacity and capability, they haven't done that. (2019T14)

The thing that I would really like is, is that there is some education for families around how to cook and use the food that their childhood are eating through the day.... I personally think it should be part of the signing up of it. So that if, if you want your children to be receiving KidsCan, that there is 'We are expecting you to attend, I don't know, four sessions of cooking.... if there were maybe two or three financial literacy workshops for parents, and someone like [bank] might get behind that. (2019T20)

## Concluding comments

This report provides strong evidence from whānau and teachers that the pilot KidsCan ECE programme is making a valuable difference to children. Providing food, clothing and health products to children from low income families who may struggle to provide these, impacted favourably on the children's health and wellbeing. When these changes for children interacted with features of ECE environments where more time and resources could be devoted to teaching and learning it benefited the children's early education. If the children moved on to a school that also offers a focus on wellbeing and a positive new entrant programme we can see in action the vision of a strong, supported learning journey where "each part of the education system has a responsibility for supporting children" (Ministry of Education, 2017, p. 51).

KidsCan's focus in their ECE and school programmes on "enabling disadvantaged New Zealand children to reach their potential" (KidsCan, 2018) aligns well with the 2019 Government Wellbeing Strategy to lift the wellbeing of tamariki and young people (Ardern, 2019). While the KidsCan ECE programme cannot address the larger problem of the very low incomes that are leading to poverty and disadvantage, it does provide evidence of making an important contribution to enhancing the wellbeing of participants. Final comments from participants include:

Hopefully this programme will continue as it will help us parent to continue bring our children to school every day.

Thank you so much kids can for everything you do for us. We really appreciate your hard work and don't take it for granted.

KidsCan is greatly appreciated... I will one day become a kids can sponsor myself. Hopefully soon.

Thank you for the programme, I'm sure it is helping a lot of people taking some stress out of families, as well as ours.

I just want to share my appreciation for KidsCan. There is a great need for our kids and parents to get every bit of help with the cost of living in NZ being so difficult to meet. Even parents who work hard full-time struggle in Auckland. Every bit helps. Proud of the contribution KidsCan is making.

We conclude with two comments from whānau interviews, asking for the KidsCan ECE programme to go wider and not to stop!

What I would tell them—I would put my full support to help, to get financial, or funding from the government, to help other schools, yeah. I'd love to see other schools [ECE services] to receive the benefits from them. Like what this school [ECE] is getting. (2019SW28)

Don't stop what you're doing because it's wonderful. It is, it's very... Oh, it's awesome, it's wonderful what you do, yeah. Please don't stop, please don't stop! (2019SW20)

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## Appendix A: Whānau responses to deprivation index questions in

In the last 12 months have you personally.....	Yes % BL	Yes % PKC
1. Been forced to buy cheaper food so that you could pay for other things that you need?	58	63
2. Put up with feeling cold to save heating costs	36	44
3. Made use of special food grants or food banks because you did not have enough money for food?	28	34
4. Continued to wear shoes with holes because you could not afford replacements?	25	24
5. Gone without fresh fruit or vegetables often, so that you could pay for other things that you needed	32	38
6. Received help in the form of food, clothes or money from a community organisation (like the Salvation Army)?	12	22

**Appendix B: Barriers that prevent children’s participation in ECE: Percentage of response in the Cohort 1 (Baseline BL) and Cohort 2 (Post KidsCan PKC) whānau surveys**

Have you experienced any of the following that have prevented your child attending ECE? (Please tick all that apply and their frequency—Never, Sometimes, Often)	Often % Cohort 1	Often % Cohort 2	Sometimes % Cohort 1	Sometimes % Cohort 2
1. Major health issues for my child (hospitalisation)	1	2	20	16
2. Child’s sickness (not requiring hospitalisation)	<b>7</b>	<b>10</b>	<b>68</b>	<b>66</b>
3. Family sickness (e.g. caregiver/ siblings/ other family members unwell)	<b>5</b>	<b>8</b>	<b>55</b>	<b>59</b>
4. Minor health issues for my child and/or the family/whānau (e.g. head lice)	<b>6</b>	<b>4</b>	<b>47</b>	<b>43</b>
5. Child not having suitable clothing	2	4	17	16
6. Child not having food to bring	2	5	20	15
7. Cultural/community events and responsibilities	4	5	31	25
8. Irregular employment patterns for family/whānau (e.g. unexpected/ casual/ irregular work hours for caregiver(s))	4	6	26	22
9. Caregiver routines (e.g. needing to sleep late after night shifts)	4	4	22	22
10. Transport difficulties for whānau to get to the centre	4	5	24	27
11. Weather (e.g. staying home on wet days)	<b>4</b>	<b>6</b>	<b>37</b>	<b>41</b>
12. Costs of attending (fees, donations, etc.)	4	4	19	16