



External Evaluation of Fruit in Schools Final Report

Updated June 2023

**Prepared for
5+ A Day Charitable Trust.**

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Acknowledgements

This work would not have been possible without the support of many people. We could not have hoped for a better response from schools/kura. The response rate from school and kura principals is a testament to the high regard they have for Fruit in Schools.

Thank you to all the school principals that completed the survey and those who also undertook an interview. We appreciate the willingness of school and kura principals to take part in an interview, of whom we could only select a few to take part.

Your insights and feedback are an important part of this work.

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Executive summary

Fruit in Schools is funded by Te Whatu Ora and managed by United Fresh. It provides daily fresh fruit and vegetables to children in schools/kura in low socio-economic areas across Aotearoa. Fruit in Schools is available to Year 1-8 schools and kura (primary and intermediate schools/kura). At the beginning of 2023 Fruit in Schools was supporting 566 schools.

The 5+ A Day Charitable Trust commissioned Quigley and Watts Ltd to conduct an independent evaluation of the initiative. The purpose of the evaluation was to continue to explore and document the effectiveness and value of the Fruit in Schools initiative and in particular to understand how well Fruit in Schools and Ka Ora, Ka Ako, Healthy School Lunches Programme (Ka Ora, Ka Ako) were working together.

All 535 primary and intermediate schools receiving Fruit in Schools at the start of 2023 were invited to participate in the evaluation. The evaluation used both quantitative and qualitative methods and drew on a range of information including an online survey of principals (response rate of 83%), interviews with eight school and kura principals, previous evaluations, and programme documentation.

Since the last Fruit in Schools evaluation in 2018 the main change to food provision in schools/kura has been the introduction of Ka Ora, Ka Ako. Schools/kura surveyed participate in a range of initiatives that provide food.

Fruit in Schools continues to support healthy school/kura environments. As was the case in both the 2014 and 2018 evaluations, Principals rated Fruit in Schools as the most effective initiative at supporting a healthy school/kura environment.

Fruit in Schools is well regarded by ākonga/students and kaiako/teachers, integrates well into the school day and supports healthy behaviours. Fruit in Schools also supports a healthy cultural environment, one of manaakitanga and connection with whānau and visitors.

Fruit in Schools continues to feed hungry children with healthy food. Principals reinforced the findings of the 2014 and 2018 evaluations, that the Fruit in Schools initiative supports them to feed hungry children with healthy food. They emphasised the importance of the fruit being available for use at any time of the day, as schools/kura determined. In many schools/kura fruit is the first port of call for feeding hungry children and made freely available to remove the embarrassment of children having to ask for food.

It's the first port of call if any children are hungry, it's like right, there's fruit there, off you go and snack and work at the same time (Principal, Canterbury School).

Fruit in Schools continues to promote healthy eating. Once again, Fruit in Schools was rated by principals as the most effective support to their school/kura to promote healthy eating, followed by Ka Ora, Ka Ako and Kickstart Breakfast.

Our school used to bring in their own morning tea, and I can assure you not one child was bringing in fruit. We had highly processed, packaged food. So when Fruit in Schools came I said there would no longer be any processed packaged food coming into school, it was a big turning point. Now, our children, if they bring something extra from home it's a sandwich or something. It has absolutely had a flow on effect to home, I have had whānau members express their absolute gratitude, how it has helped them, their situation. (Principal, Gisborne Kura).

Fruit in Schools supports school and kura values. All principals interviewed spoke about the way Fruit in Schools supported the values of their school/kura.

This included values such as respect, ownership, rangatiratanga, kaitiakitanga and other cultural values.

We are trying to reflect some of the situations our family have, or on the marae itself, we are able to maximise the amazing resources we get through Fruit in Schools and deal with it in a culturally responsive way (Hawke's Bay Intermediate Principal).

Fruit in Schools means a lot to the tamariki and to families. All principals we spoke to told us the ākonga/students loved the fruit, that Fruit in Schools means a lot to them and to their families.

Fruit in Schools supports whānau with the cost of living. An important benefit of Fruit of Schools, raised often by Principals in the 2023 evaluation was supporting whānau with the high cost of living. Principals spoke about the money that remained in the pockets of whānau as a result of Fruit in Schools. It relieves stress knowing children get fruit every day at school.

If it ended [Fruit in Schools] it would be disastrous for some of our kids, it would be absolutely disastrous. It's about their wellbeing, we are very blessed for what we receive. Fruit is something our children would not be able to get at home (Principal, Northland Kura).

Fruit in Schools provides high quality produce. Ninety-five percent of principals said the quality of the produce from Fruit in Schools was good or great.

Fruit in Schools is well managed. 97% of principals rated it as good/great.

Fruit in Schools continues to support learning. The most commonly used resource to support teaching about healthy eating and nutrition continues to be the 5+ A Day resources provided to support Fruit in Schools. Eighty-four percent of schools/kura use the 5+ A Day resources, followed by resources from the Ministry of Education/TKI Health and Physical Education Curriculum (76%).

The 5+ A Day resources were once again rated as the most effective at supporting curriculum teaching, with 60% of principals who used them saying they were a great support compared to 47% of those using the Ministry of Education/TKI resources.

Fruit in Schools supports children to learn because there are fewer behavioural issues, freeing teachers up to teach. Prior to Fruit in Schools there was a lot of work for teachers checking whether children had enough food and if not, organising that food. Principals report their teachers now have more time to plan, to teach and *it is a massive weight off our mind.*

The commitment of schools and kura never to waste the fruit and vegetables means tamariki learn how to preserve fruit and vegetables, prepare it in different ways and to compost any peelings and cores. All the principals we interviewed talked about how they used any surplus fruit or vegetables. The lengths they went to not to waste anything were admirable.

You know if there is any leftover, we stew it up and keep it in the freezer, for apple pie or apple crumble and the kids absolutely love that. If there are carrots left over, we chop them up to go with lunch, I am an absolute stickler for not having waste (Principal, Waikato Kura).

Both Fruit in Schools and Ka Ora, Ka Ako are considered vital initiatives by schools/kura. One of the clearest findings from this evaluation was how valued and needed both Fruit in Schools and Ka Ora, Ka Ako are. 95% of principals in the survey said both programmes are necessary. The fear of losing either initiative was very real.

They are absolutely both necessary as between these two programmes, along with Breakfast, our students are fed healthily throughout the entirety of the day. It has a positive impact on engagement and learning, as well as physical wellbeing. We could not do without them, as students would return to arriving with no food for the day or, for many, default to unhealthy foods such as chips and biscuits (Comment from the survey).

As an investment the quality, management and impact of Fruit in Schools make it well worth the cost. We recommend that Fruit in Schools is continued and if possible, expanded to more schools/kura.

Introduction

Fruit in Schools is a government-funded initiative that supplies a piece of fresh produce for each child each school day in schools and kura facing the greatest socio-economic barriers nationally. The programme is funded by Te Whatu Ora and delivered by United Fresh New Zealand Incorporated (United Fresh) and supported by the 5+ A Day Charitable Trust (5+ A Day) with curriculum-linked resources.

In 2023, 5+ A Day commissioned Quigley and Watts Ltd to conduct an independent evaluation of the initiative. This report presents the findings of the external evaluation.

This evaluation builds on the findings of two previous evaluations of Fruit in Schools undertaken in 2014 (Ball J & Watts C, 2015) and 2018 (Watts C, 2018).

The school food environment has changed significantly since the last evaluation in 2018. In 2019, the Government began the Ka Ora, Ka Ako, Healthy School Lunches programme (Ka Ora, Ka Ako). Ka Ora, Ka Ako aims to reduce food insecurity by providing access to a nutritious lunch in school every day. The initiative began with a two-year trial in 120 primary and intermediate schools across Bay of Plenty/Waiariki, Hawke's Bay/Tairāwhiti and Otago/Southland. By January 2023 Ka Ora, Ka Ako was reaching 224,424 students across 974 secondary, intermediate, and primary schools.

Kickstart Breakfast, an initiative providing Weetbix and milk to schools, continues to support many schools and kura facing socio-economic barriers. Kickstart Breakfast was started in 2009 by Fonterra and Sanitarium and is now co-funded by the Ministry of Social Development (MSD).

Evaluation purpose and questions

Previous evaluations (in 2014 and 2018) explored the education and health impacts of Fruit in Schools, the value of Fruit in Schools to children and parents/whānau and the wider health promotion benefits.

The purpose of this evaluation was to continue to explore and document the effectiveness and value of the Fruit in Schools initiative and in particular to understand how well Fruit in Schools and Ka Ora, Ka Ako was working together.

Evaluation questions:

1. Which initiatives school/kura receive food from and how well does each initiative support the school/kura to:
 - a. create a healthy school food environment
 - b. promote healthy eating
 - c. feed hungry children with healthy food
 - d. provide authentic learning opportunities for teaching nutrition
2. How good is the quality of the food provided by each initiative?
3. How good is the management (support, communication, and logistics) of each initiative?
4. Which resources do schools/kura use to support curriculum teaching for nutrition and healthy eating and how well do these resources support teaching?
5. Are the two government-funded initiatives, Fruit in Schools and Ka Ora, Ka Ako both necessary?
6. How well do Fruit in Schools and Ka Ora, Ka Ako work together?
7. To what extent do Fruit in Schools and Ka Ora, Ka Ako add value to each other?

Evaluation methods

The evaluation used both quantitative and qualitative methods and drew on a range of information sources including:

1. An online survey of school/kura principals conducted in March 2023. A total of 470 responses were received, which after data cleaning was reduced to 442 responses containing adequate information for analysis. The final response rate 442/535¹ was 83%.
2. Interviews with eight school principals randomly selected from the 228 willing to be contacted for a follow up interview. Principals were interviewed over the phone in late March and early April 2023. There was a good geographical spread, and a range of different school types represented including Kura Kaupapa Māori, two intermediate schools, bilingual schools, rural and urban and large and small.
3. Previous evaluations of Fruit in Schools and other programme documents.

¹ Twenty-four schools and kura seriously impacted by Cyclone Gabrielle were removed from the sample. A further 6 schools/kura did not have valid email addresses giving a sample size of 535 schools/kura.

The methods are described in full in Appendix A.

Structure of the evaluation report

The report is organised around the evaluation questions. It begins with a programme description and a brief summary of findings from previous evaluations. This is followed by a section detailing the findings of the current evaluation. The last section brings the evaluation findings together and presents conclusions about the overall effectiveness of the programme.

Fruit in Schools description

This section provides a brief overview of Fruit in Schools.

Fruit in Schools is funded by Te Whatu Ora and managed by United Fresh. It provides daily fresh fruit and vegetables to children in schools/kura in low socio-economic areas across Aotearoa. Fruit in Schools is available to Year 1-8 schools and kura (primary and intermediate schools/kura). Fruit in Schools currently supports 566 schools.

A wide range of high-quality fruit and vegetables are supplied to schools with an emphasis on New Zealand-grown seasonal produce. Most schools receive two deliveries per week on Mondays and Wednesdays with fruit and vegetables for all students and staff at each school.

The 5+ A Day Charitable Trust provides participating schools with support including posters, teaching resources and food safety and storage information.

The 5+ A Day Charitable Trust continues to develop and provide participating schools with curriculum-linked teaching resources to support the fresh produce provision. 5+ A Day also engages in ongoing communication with principals, teachers and school-appointed Fruit in Schools coordinators through E-newsletters and phone calls for example.

Findings of Previous Evaluations

The 2014 evaluation completed by Quigley and Watts drew on a range of information sources including findings from an online survey of principals of Fruit in Schools schools (n=378) with a response rate of 81%; 16 key informant interviews with school principals, Health Promoting Schools facilitators, and a Ministry of Health official; and previous Fruit in Schools evaluations. The evaluation found principals valued Fruit in Schools highly and believed it was very beneficial for their school and the wider community (Ball J and Watts C, 2015).

According to principals, feeding hungry children was the number one benefit of Fruit in Schools. 85% of principals surveyed reported their school had fewer hungry children because of Fruit in Schools. 80% reported reduced stigma as a result of Fruit in Schools and said that children were more willing to ask for food if they were hungry.

In the survey, 72% of principals agreed or strongly agreed that 'if Fruit in Schools was ended, academic outcomes would suffer.' Principals explained that the main way fruit provision contributed to academic outcomes was by providing

'brain food' that enabled children to concentrate and stay on task and 74% reported they had observed increased concentration in class as a result of Fruit in Schools. Many principals also observed that Fruit in Schools was contributing to learning by providing authentic learning opportunities (89%), reducing behaviour problems (46%), and improving attendance and engagement (60%).

Both principals and Health Promoting Schools facilitators agreed that Fruit in Schools was providing direct health benefits for children in low decile schools due to increased consumption of fresh produce and wider dietary changes triggered by Fruit in Schools. For example, in the survey:

- 66% of principals reported they had observed an improvement in students' general health as a result of Fruit in Schools
- 43% had observed fewer cases of school sores and skin infections
- 35% said students had fewer sick days due to Fruit in Schools
- 91% agreed or strongly agreed that 'the overall health of children would decline' if Fruit in Schools was ended
- 97% agreed or strongly agreed that 'if fruit in schools was ended many of our kids would eat little or no fruit'

The majority of key informants agreed that Fruit in Schools was successful because:

- it is meeting a genuine need and making a real difference
- it is very well managed, and easy for schools/kura to participate
- the fruit and vegetables provided are varied and of high quality
- it has been consistent and reliable over many years

These factors, and the fact that the programme is delivered at no cost to schools or communities, made Fruit in Schools sustainable from the schools' perspective.

The 2018 evaluation (Watts C, 2018) reinforced the findings from 2014 and added additional findings from parents and whānau.

Fruit in Schools improved both health and educational outcomes. One of the key ways was by ensuring all students had access to healthy food. Children who are hungry struggle to concentrate and learn. Eighty-three percent of principals surveyed said the overall health of their children would decline if Fruit in Schools ended, concentration would suffer (74%), academic outcomes would suffer (62%), behaviour problems would increase (56%), and absenteeism would increase (53%).

Feeding hungry children remains the number one benefit of Fruit in Schools.

Eight out of ten of principals surveyed reported their school or kura had fewer hungry tamariki as a result of Fruit in Schools. Nine out of ten principals said Fruit in Schools led to a sense of equality between students regardless of their family circumstances.

Of all the food and nutrition programmes in schools **Fruit in Schools was rated the most effective programme at promoting a healthy school food environment.** 9 out of 10 principals said Fruit in Schools was very effective at promoting a healthy school environment.

Ninety-eight percent of principals told us that Fruit in Schools helped keep health and wellbeing on the agenda.

Principals were clear that Fruit in Schools represented far more than just a piece of fruit. It was described as *health promotion in action*, embedded into the curriculum and life of the school. Ninety-four percent of principals said Fruit in Schools contributed to increasing students' knowledge about nutrition and health.

Ninety-five percent of principals said Fruit in Schools contributed to raising awareness among staff and students about the importance of healthy eating and 96% said it promoted positive attitudes among students about eating fruit and vegetables.

Fruit in Schools supported learning about kai and how to prepare kai.

Both principals and parents said Fruit in Schools removed the worry and anxiety for themselves, and also for their children, if there was not enough food to take to school. The availability of the fruit for all children meant there was no stigma involved. Fruit in Schools reduced the anxiety and stress for children, whānau and teachers that is caused when families don't have enough food.

Fruit in Schools had positive impacts for children at home as well as school.

Three quarters of the parents surveyed (76%) said their child ate more fruit because of Fruit in Schools. Nearly half (47%) also ate more vegetables. Seven out of ten parents said Fruit in Schools supports them to provide healthy food at home.

Over a third of families (39%) said the whole family now eats more fruit and about a quarter (27%) eat more vegetables. Parents described how their children will encourage other family members to eat fruit as a snack.

Findings from the 2023 Evaluation

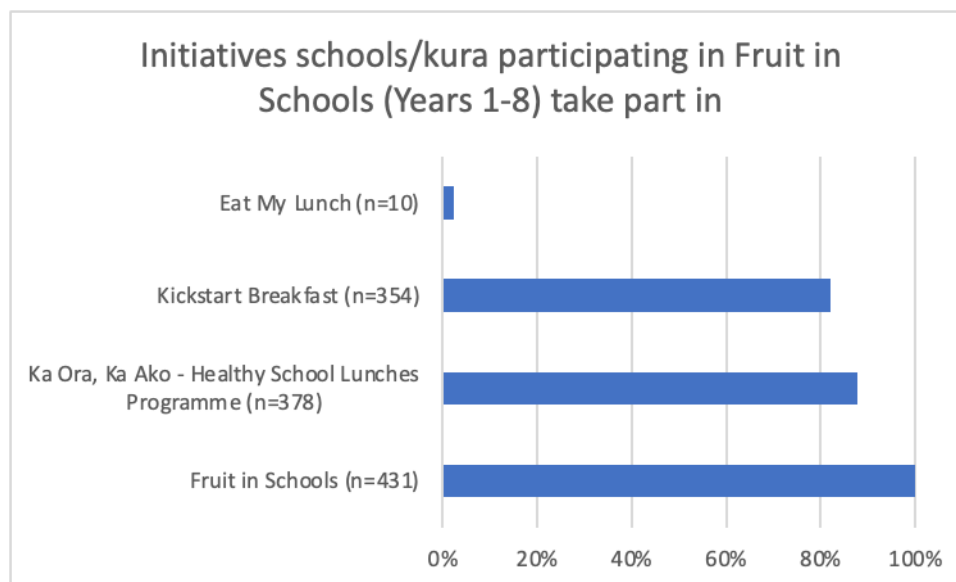
The findings in this section are drawn from the online surveys of principals and individual interviews with eight principals.

Participation rates

Schools/kura surveyed participate in a range of initiatives that provide food. The sample population for this evaluation was schools/kura participating in the Fruit in Schools initiative. Of the 431 schools/kura participating in Fruit in Schools (who responded to the evaluation survey), 378 also reported receiving Ka Ora, Ka Ako (see Figure 1 below).

Since the last Fruit in Schools evaluation in 2018 the main change to food provision in schools/kura has been the introduction of Ka Ora, Ka Ako. There has been a large decline in the provision of Eat My Lunch, likely due to Ka Ora, Ka Ako filling this gap.

Figure 1: Participation of schools receiving Fruit in Schools in initiatives that provide food



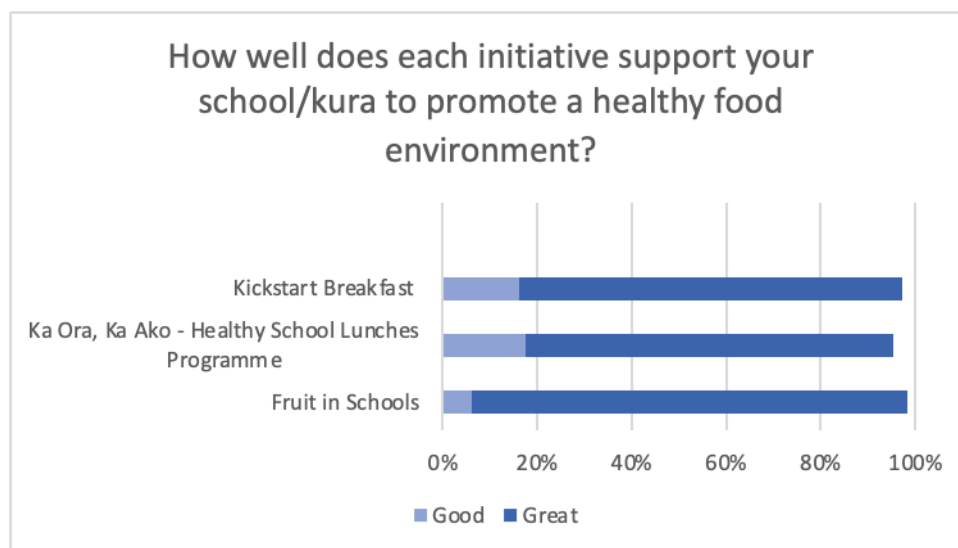
Fruit in Schools continues to support healthy school/kura environments

As was the case in both the 2014 and 2018 evaluations, Principals rated Fruit in Schools as the most effective initiative at supporting a healthy school/kura environment (see Figure 2 below).



92% of principals said Fruit in Schools supported their school/kura greatly to promote a healthy food environment

Figure 2: Support to promote a healthy food environment



Note: Eat My Lunch has not been included as it reached only 2% of schools/kura

I am deeply, deeply grateful, like my community is, that we have got Fruit in Schools and none of it is wasted (Principal, Hawkes Bay).

When asked why Fruit in Schools was the most effective initiative principals said it was because it was well regarded by ākonga and kaiako, integrates well into the school day and supports healthy behaviours. Alongside supporting a healthy food environment for ākonga Fruit in Schools supports a healthy cultural environment, one of manaakitanga and connection with whānau and visitors.

One of the cool things about Fruit in Schools that I really love, is that it is there for everyone. So, in our foyer we have a big fruit bowl, in our meeting room there is a big bowl, so it's there for when we have whānau in. It's our cultural responsibility to provide food, so it's through food that we connect with people. Last night we had a whānau hui and there was fruit out so it's not just teaching

our kids to eat fruit at morning tea and lunch time, it's much bigger than that, its way more than food in tummies. We see it as a critical part of what we do, and if it wasn't provided, we would have to provide it ourselves out of our operational budget (Hawke's Bay Intermediate Principal).

Fruit in Schools continues to feed hungry children with healthy food

Principals reinforced the findings of the 2014 and 2018 evaluations, that Fruit in Schools supports them to feed hungry children with healthy food (see Figure 3 below). They emphasised the importance of the fruit being available for use at any time of the day, as schools/kura determined. In many schools/kura it is the first port of call for feeding hungry children and freely available to remove the embarrassment of children having to ask for food.



93% of principals said Fruit in Schools is a great support for feeding hungry children with healthy food

While many schools/kura also received the Ka Ora, Ka Ako and Kickstart Breakfast initiatives, Principals interviewed emphasised the importance of having the fruit available to use at any time of the day. Schools/kura decide what works best for them, some make the fruit freely available all day, for others it is used as a healthy morning tea snack, a brain break, to supplement breakfast and lunches or it is given to children to eat on the way home.

We use it in classrooms, so many of our kids don't come to school having had breakfast, they don't even have a school bag. They can help themselves to fruit in the classroom (Hawke's Bay Intermediate Principal).

For many schools/kura fruit is the first option available if children are hungry.

It's the first port of call if any children are hungry, its like right, there's fruit there, off you go and snack and work at the same time (Principal, Canterbury School).

The period before Fruit in Schools starts each year is really noticeable to the principals. One principal said she went to the School Board and said I absolutely have to buy fruit. She spent \$75 on a box of apples because she knew they couldn't go without it.

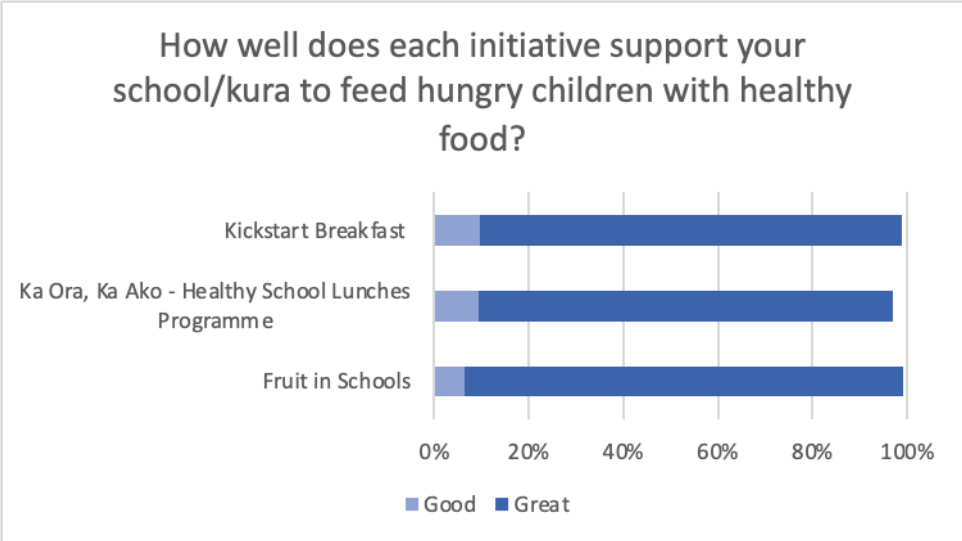
Several principals spoke about the reality of poverty and hunger in their communities. Being able to make the fruit freely available throughout the day

was important. Fruit filled the gaps between breakfast and lunch and most important it was a healthy option. It also means children didn't have to be whakama (embarrassed) about asking for food.

If Fruit in Schools was taken away that would be the greatest travesty, if we are looking at child poverty (Principal, Gisborne Kura).

You know if the kids want an extra apple after lunch, they can just have it, they don't have to be whakama, it's about that manaakitanga, that caring for them, we know that there is kai in their puku (Principal, Waikato Kura).

Figure 3: Support for feeding hungry children



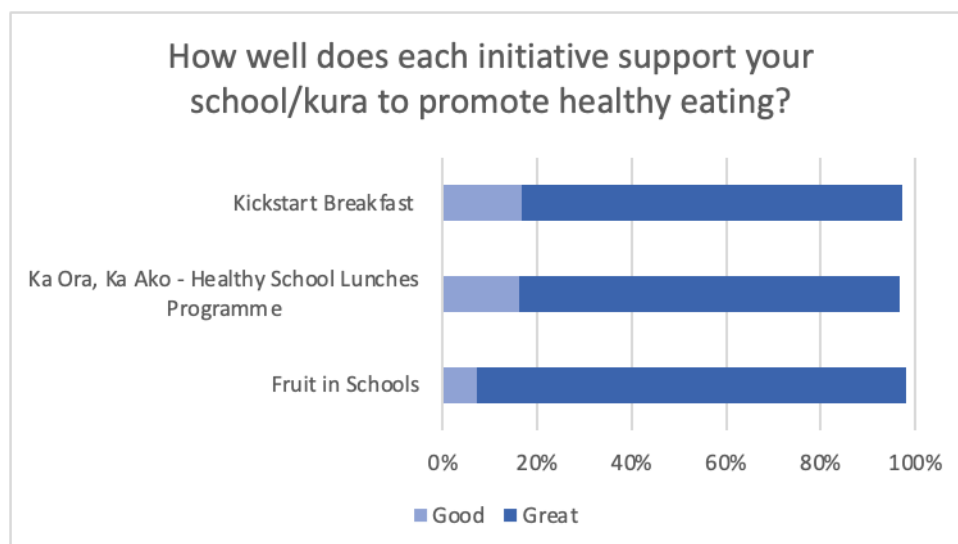
Fruit in Schools continues to promote healthy eating

Once again, Fruit in Schools was rated by principals as the most effective support to their school/kura to promote healthy eating, followed by Ka Ora, Ka Ako (Healthy School Lunches Programme) and Kickstart Breakfast (see Figure 4 below).



9 out of 10 principals said Fruit in Schools is a great support to promoting healthy eating

Figure 4: Support for promoting healthy eating



The fruit and vegetables are integrated into the school day and influence what is seen as normal for morning tea, snacks and as part of main meals. Without Fruit in Schools schools/kura feared a return to the old days of heavily processed snacks being the norm. Because of the variety of fruit supplied by Fruit in Schools children are exposed to fruit they have never eaten before.

One small rural kura principal said before Fruit in Schools the norm for morning break was highly processed food, such as chips or biscuits. Since Fruit in Schools began and she was confident there was always fruit available for morning and break and other snacks she asked whānau to stop sending snacks to school. She noticed an immediate impact on the behaviour of children. Whānau expressed their gratitude as fruit was often not available at home.

Our school used to bring in their own morning tea, and I can assure you not one child was bringing in fruit. We had highly processed, packaged food. So when Fruit in Schools came I said there would no longer be any processed packaged food coming into school, it was a big turning point. Now, our children, if they bring something extra from home it's a sandwich or something. It has absolutely had a flow on effect to home, I have had whānau members express their absolute gratitude, how it has helped them, their situation. (Principal, Gisborne Kura).

Fruit in Schools exposes children to a variety and quantity of fruit and vegetables that, for many children, may not be available at home.

Without Fruit in Schools, we would go back to highly processed packaged foods coming from home and their palate would go back to that unhealthy food, high sugar, fatty foods. As a child that is where they are developing life long habits. So those life long habits that we are influencing, if we don't do that I would be brave enough to say we will be facing a lot of diet related issues in the adulthood (Principal, East Coast Kura).

One principal explained that fruit was always made freely available for tamariki. She did not want the food to be used as a weapon against children, for it to be restricted or used as a reward. When Fruit in Schools began they noticed a lot of children got diarrhoea. The school thought this was because having fruit available was a huge change for the children. Many children didn't have fruit at home, they weren't used to the fibre. To begin with the children just wanted to eat it non-stop, because they were afraid it would run out, but after a period of time this abated. Now they are able to moderate themselves, they enjoy eating the fruit knowing they won't miss out. Having fruit freely available is a privilege many of us take for granted.

They looked forward to Fruit in Schools, they were just ravenous for fresh fruit. I think it is quite sad actually, because it was an indicator that children were not having access to fresh whole foods, largely because of cost and availability (Principal, Gisborne Kura).

Fruit in Schools supports school and kura values

All principals interviewed spoke about the way Fruit in Schools supported the values of the school/kura.

This included values such as respect. The concept of respect was broad, respect for those who grew the fruit, respect for the whenua that nurtured the

fruit, respect shown in how the fruit is cared for (washed, displayed in baskets), respect and caring for others (manaakitanga) as fruit is shared with visitors and whānau and the respect shown through not being wasteful (cutting up the fruit to avoid wastage, preserving left over fruit to use later).

We look at fruit in terms of respecting food, the gift that it is to us. So really getting the kids to connect to the fruit and it is a beautiful way to do that (Principal, East Coast Kura).

One principal talked by the children having ownership, they wash the fruit, set it up in beautiful baskets and care about how it is treated. They get cross when they see an apple with just a bit out of it thrown in the compost bucket.

It is respecting the people who have grown the food, the people who have taken the time to put it together, to get the fruit to us. In that way the children enjoy the fruit, it brings about really good eating etiquette (Principal, East Coast Kura).

Another value mentioned was rangatiratanga, stewardship or responsibility for the fruit.

For us it is an area of responsibility for the kids, looking at rangatiratanga, looking after the fruit (Hawke's Bay Intermediate Principal).

Another principal told us they employ a much respected local Nani to take care of the Fruit in Schools programme. She is an amazing resource bringing stability, no matter how disregulated the kids are, the kids really respond well to her and to the fruit.

We are trying to reflect some of the situations our family have, or on the marae itself, we are able to maximise the amazing resources we get through Fruit in Schools and deal with it in a culturally responsive way (Hawke's Bay Intermediate Principal).

Kaitiakitanga was another frequently mentioned value, being a guardian of the environment.

Kaitiakitanga, after lunch times, if apples cores or mandarin skins are left on the field, out of respect for the whenua and the people who give us the fruit and our kura, its good to teach those values too. (Hawke's Bay Intermediate Principal).

Other principals talked about cultural values, of whānau, eating together and being one family.

So being able to provide kai at school, that whānau concept, everyone goes to the kitchen together they get their kai together, we go back with our tamariki and we show them we all eat together, the teachers sit with the kids and eat their kai and I might too, grab a piece of fruit and sit with them (Principal, Waikato Kura).

Fruit in Schools means a lot to the tamariki and to families

All principals we spoke to told us the ākonga/students loved the fruit, that Fruit in Schools means a lot to them and to their families.

I can tell you our children absolutely adore Fruit in Schools, when the postman comes in they run around, so excited wanting to see what fruit is there. If Fruit in Schools stopped it would be incredibly noticeable, they love Fruit in Schools, they respect it, they don't take it for granted but if that was taken away, it would be huge (Principal, Gisborne Kura).

Our families really appreciate it, any fruit leftover is offered to them, there are bags out there on the verandah and they know they can just pick it up, and they appreciate it (Principal, Canterbury School)

It would be incredibly disappointing to see it [Fruit in Schools] go, it would be a kick in the guts really...for our kids, it's the best thing that ever happened (Principal, Wellington School)

Fruit in Schools supports whānau with the cost of living

An important benefit of Fruit of Schools, raised often by Principals in the 2023 evaluation, was supporting whānau with the high cost of living. Principals spoke about the money that remained in family's pockets as a result of Fruit in Schools. It relieves stress knowing children get fruit every day at school. Schools and kura will often send home extra fruit with children. Bags of fruit are quietly given to families who are struggling, or an extra apple popped into a pocket or school bag for kids to eat on the way home.

We have amazing families, we have an amazing community, but it's hard sometimes they just can't afford enough food. Now that is taken care of at school it's amazing and for us as a school we can spend money on what's important, learning and for our community not on toast (Principal, Wellington School).

You know when you come from a low socio-economic area, and you have to decide, do I buy a bag of apples for five dollars, or do I buy a

pack of pies that will feed the whānau for four dollars (Principal, Gisborne Kura).

My biggest fear has always been the school holidays, you know if you have got four tamariki, so those families are having to deal with there not being enough kai (Principal, Waikato Kura).

If it ended [Fruit in Schools] it would be disastrous for some of kids, it would be absolutely disastrous. It's about their wellbeing, we are very blessed for what we receive. Fruit is something our children would not be able to get at home (Principal, Northland Kura).

It's great that we can offer our children a piece of fruit every day, this isn't available at home, because of prices and all that (Principal, Canterbury School).

Fruit in Schools provides high quality produce

Ninety-five percent of principals said the quality of the food from Fruit in Schools was good or great. The quality of the food being provided by all initiatives is high. Initiatives providing non-perishable foods rated slightly higher with 98% saying the quality of the Kickstart Breakfast foods were good/great. The quality of the Ka Ora, Ka Ako food was rated as good/great by 88% of principals (see Table 1 below).

Table 1: Quality of the food received from each initiative

	Good	Great
Fruit in Schools	19%	76%
Ka Ora, Ka Ako - Healthy School Lunches Programme	26%	62%
Kickstart Breakfast	18%	80%

Fruit in Schools is well managed

The management of all initiatives is very good, with 97% of principals rating Fruit in Schools and Kickstart Breakfast as good/great. There was very little difference between the initiatives, with Ka Ora, Ka Ako rated as good/great by 94% of principals (see Table 2 below).

Table 2: Quality of the management of each initiative

	Good	Great
Fruit in Schools	15%	82%
Ka Ora, Ka Ako - Healthy School Lunches Programme	20%	74%
Kickstart Breakfast	18%	79%

Fruit in Schools continues to support learning

Schools and kura use a range of resources to support curriculum teaching for nutrition and healthy eating. Table 3 shows the percent of schools that use different resources.

Table 3: Resources used to support curriculum teaching for nutrition and health eating

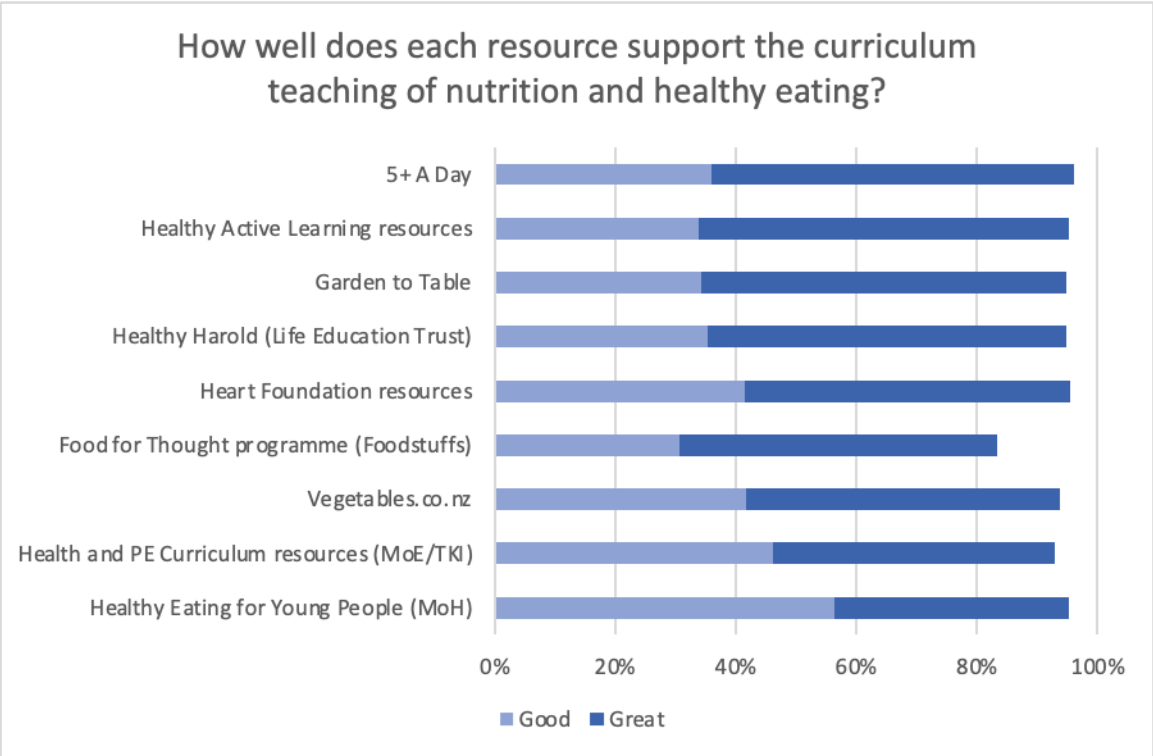
5+ A Day	84%
Health and PE Curriculum resources (MoE/TKI)	76%
Healthy Harold (Life Education Trust)	56%
Healthy Active Learning resources	38%
Heart Foundation resources	36%
Healthy Eating for Young People (MoH)	29%
Garden to Table	27%
Vegetables.co.nz	11%
Food for Thought programme (Foodstuffs)	8%
Other	8%

The most commonly used resources continue to be the 5+ A Day resources provided to support Fruit in Schools (84%) followed by the Ministry of Education/TKI Health and Physical Education Curriculum resources (76%).

The 5+ A Day resources were once again rated as the most effective at supporting curriculum teaching, with 60% of principals who used them saying they were a great support compared to 47% of those using the Ministry of Education/TKI resources.

Other highly rated resources (with a smaller reach) included Life Education Trust Healthy Harold, Healthy Active Learning and Garden to Table (see Figure 5 below).

Figure 5: Support for curriculum teaching on food and nutrition



Fruit in Schools acts as a catalyst for other health promotion and learning opportunities, such as composting, cooking, and growing kai. In the 2018 evaluation 74% of principals said that Fruit in Schools had been a catalyst for action on other health issues in their school or kura.

We do use the 5+ A Day resources and when there is fruit left over we do use that too to support learning. I know last week we had left over apples and the kids made apple crumble, so we do try to integrate that (Principal, Hawke's Bay School)

It has a huge impact for learning, you know just having the fruit there, showing them this is what you can put in a smoothie (Principal, Canterbury School)

We have bought it into our learning programme and one of the classes is doing from the ground up for a deep learning enquiry. Looking at how we can grow our own food at school, so its having a flow on effect. We have the fruit in schools and now they are thinking about how could we grow our own fruit and provide for our community. So they have planted their own fruit trees (Principal, Canterbury School)

Supporting environmental changes (such as the provision of food) with educational resources is important. In a review of measures that work to promote fruit and vegetable consumption in schools the European Commission found school-based interventions that combine education components along with environmental changes (such as the provision of fruit and vegetables, composting, gardening) were more effective than those simply providing produce.

A third important reinforcing factor was encouraging parental support (Mak et al, 2016).

One principal interviewed said that since Fruit in Schools had become available, she had noticed the nutritional value of any food sent from home had improved. She attributed this to two things, parents understanding the school was now providing healthy kai and parents having more and therefore being able to afford healthier kai because of the money saved because of Fruit in Schools and Ka Ora, Ka Ako.

We know from the 2018 evaluation that Fruit in Schools has an impact at home. 72% of parents said Fruit in Schools supported them to provide healthy food at home. Parents said, as a result of Fruit in Schools their tamariki:

- liked fruit (70%) and vegetables (37%) more
- were more willing to try fruit (52%) and vegetables (42%)
- were more likely to ask for fruit (52%) and vegetables (27%) as a snack or with their meals

Fruit in Schools supports children to learn because there are fewer behavioural issues, freeing teachers up to teach.

Prior to Fruit in Schools there was a lot of work for teachers checking whether children had enough food and if not organising that food. Principals report their teachers now have more time to plan, to teach, *it is a massive weight off our mind.*

Fruit in Schools, along with the other school food programmes, means schools are not responsible for meeting the basic human right of having healthy, nutritious food. They can focus on learning and that is a huge relief for teachers. Principals also report there are fewer behavioural issues because children are not hungry, they are more settled.

I think it has a huge impact on how our kids are in the classroom, the kids are more settled, there are less behaviours. They are comfortable, they are healthy, they are well fed, and school is the place to be (Principal, Wellington School).

One principal spoke about the wonderful community around her school, that had previously donated food and money for food. Now the school has sufficient food the money still comes in, but it can be used to support learning or support school trips.

It just means that now we can focus the money on learning instead of, you know, that human right that you will get food (Principal, Wellington School).

The commitment of schools and kura never to waste the fruit and vegetables means tamariki learn how to preserve fruit and vegetables, prepare it in different ways and to compost any peelings or cores.

All of the principals we interviewed talked about how they used any surplus fruit or vegetables. The lengths they went to, not to waste anything, were admirable.

You know if there is any left over we stew it up and keep it in the freezer, for apple pie or apple crumble and the kids absolutely love that. If there are carrots left over we chop them up to go with lunch, I am an absolute stickler for not having waste (Principal, Waikato Kura).

Principals also gave examples of how the children learn different techniques for preserving the fruit and vegetables.

One of our Nani's who is a great cook, she comes in early and she chops up the fruit and she sprinkles a bit of lemon juice over. Its those things, teaching them different ways to eat the fruit, or preserve it (Principal, Waikato Kura).

We got a family sized dehydrator, and we tried dehydrating apples and oranges, and the kids absolutely loved it, we tried dehydrated tomato and put it in a salad (Principal, Gisborne Kura).

Students learnt about how to use any scraps or peels from the fruit and vegetables with many schools composting leftovers.

I am well aware of the cost, we don't waste anything, the leftovers go into the worm farm or the compost and then the kids use it on their garden. They grow tomatoes and bok choy (Principal, Northland Kura).

Principals were really upset about the stories in the news when Ka Ora, Ka Ako began about food being wasted. They said this was definitely not their experience and wished they could be one of the good news stories.

We have heard a lot about wastage, you know of lunches and fruit, my greatest fear is, in my little community it would be taken away, it is so impactful for us. I would really hate for those of us who are vulnerable to have that taken away because other centres are wasting it (Principal, Bay Of Plenty School).

Both Fruit in Schools and Ka Ora, Ka Ako are considered vital initiatives by schools/kura

One of the clearest findings from this evaluation was how valued and needed both Fruit and Schools and Ka Ora, Ka Ako are. 95% of principals in the survey said both programmes are necessary. The fear of what they would do if either initiative was ended was very real.

The two initiatives are complementary, each adding value to the other

The two programmes complement and add value to each other. Many principals told us they now feel they are fully supported to provide healthy, nutritious food throughout the school day. They were also clear the two initiatives serve different purposes, and one could not replace the other.

They tie in really well together [Fruit in Schools and Ka Ora, Ka Ako] and they sustain us, pretty much (Principal, Northland).

One principal interviewed said Fruit in Schools goes *hand in glove with lunches in schools, if you want to build up a great nutritional guide for kiddies*. She explained that the children were now very responsive to trying the new fruit and this had a flow-on effect to them being willing to try new veges, or pulses and legumes at lunch time.

A small sample of quotes from the survey show how the initiatives add value and complement each other:

The initiatives complement each other, serving different purposes.

One supplements the other – Fruit in Schools is more about changing snacking habits- low/no sugar choices. Ka Ora Ka Ako is more about a gap and meeting needs. I wouldn't want to see Fruit in Schools go – it is very responsive to kids – provides us with nutrition in between meal deliveries.

They meet different needs – our lunch providers supply the main meal of the day and Fruit in Schools provide healthy snacks. Our children are hungry for both. Both initiatives support us to get our children trying different, healthier options of food.

We use the fruit mostly in the morning for fruit breaks and morning tea time, by which time the fruit is demolished by students who have been active in the morning. Ka Ora Ka Ako food is lunch food, so consumed after 1.00pm. With the cost of living having gone up, and wages of most staying the same, the food in school is something families are actually relying on to feed their tamariki.

Teachers can teach instead of worrying about how they will provide food

This has allowed teachers to focus on other learning knowing that kids are well fed.

Hungry children cannot learn.

Engagement, behaviour and attendance improve when tamariki are well fed

We have seen a great improvement with student engagement academically, physically and spiritually - a perfect balance to a rounded student. We thank the government for introducing these programmes and want them to continue. It has shown that with a stable balanced programme, we are producing well balanced students.

We have better attendance, lower behaviour incidents, increased whanau engagement. Whole school atmosphere is positive.

Tamariki that are well fed and eat good nutritional kai are more engaged, their attendance improves, and they are happy tamariki.

Along with Kickstart Breakfast schools can now provide all the food ākongā need to learn

They are absolutely both necessary as between these two programmes, along with Breakfast, our students are fed healthily throughout the entirety of the day. It has a positive impact on engagement and learning, as well as physical wellbeing. We could not do without them, as students would return to arriving with no food for the day or, for many, default to unhealthy foods such as chips and biscuits.

They complement each other beautifully. There is no way each meets our 5+ A Day independently, however together we do. Through our dual delivery all kids have enough to eat from breakfast through to dinner, once you include Breakfast. Our kids fundamental needs are being met which means our high-quality education is landing on fertile minds.

The nutritional quality and variety of food tamariki eat during the school day is vastly improved

We have a community who can find it challenging to provide their children with healthy options. This also exposes our students to a range of healthy options that they will not be exposed to otherwise.

Without Fruit in Schools many tamariki would have no fruit.

Children eat the fruit throughout the day; Ka Ora, Ka Ako provides for lunch only. A lot of children don't have morning tea, or they have highly processed/packaged snacks and so fruit gives us a healthy alternative. Also fruit is so expensive for whānau; by having fruit at school we at least know they are getting some fruit.

For many whānau the cost of living means they are unable to provide enough healthy kai, both these initiatives are vital

A lot of our whānau are struggling to provide their tamāriki with healthy food and to provide breakfast, morning tea and lunch. This allows our ākonga to be able to concentrate on school instead of worrying about what they'll eat. Also, it gives them the energy to focus.

This reduces whānau pressure on their weekly food bill, with the increase in cost of living this is a huge saving for our families.

The cost of living and providing fresh fruit and healthy lunches on a daily basis has become beyond the reach of many of our whānau.

We are in a rural community catering for whānau who have low incomes. Isolated communities like ours don't have access to quality fruit and food due to economical reasons and because the next shopping centre is 1-2 hours away. Both programmes [Fruit in Schools and Ka Ora, Ka Ako] have taken the stress off whānau which has increased school attendance. Thank you very much.

Evaluation conclusions

One of the clearest findings from this evaluation was how valued and needed both Fruit and Schools and Ka Ora, Ka Ako are. 95% of principals in the survey

said both programmes are necessary. The fear of what they would do if either initiative was ended was very real.

The two programmes complement and add value to each other. Many principals told us they now feel they are fully supported to provide healthy, nutritious food throughout the school day. They were also clear the two initiatives serve different purposes, and one could not replace the other.

They compliment each other beautifully. There is no way each meets our 5+ a day independently, however together we do. Through our dual delivery all kids have enough to eat from breakfast through to dinner, once you include Breakfast. Our kids fundamental needs are being met which means our high-quality education is landing on fertile minds.

They are absolutely both necessary as between these two programmes, along with Breakfast, our students are fed healthily throughout the entirety of the day. It has a positive impact on engagement and learning, as well as physical wellbeing. We could not do without them, as students would return to arriving with no food for the day or, for many, default to unhealthy foods such as chips and biscuits.

As an investment, the quality, management, and impact of Fruit in Schools make it well worth the cost. We recommend that Fruit in Schools is continued and if possible, expanded to more schools/kura. Along with Ka Ora, Ka Ako and Kickstart Breakfast, Fruit in Schools ensures children have access to healthy nutritious food throughout the school day.

References

5+ A Day (n.d.) *Fruit in Schools Telephone Survey Comparison- 2008 and 2009*. Unpublished report.

5+ A Day (2023) *FIS Fact Sheet 2023*.

<https://5adayeducation.org.nz/assets/img/site/Fruit-in-Schools-Fact-Sheet-2023.pdf>

Ball J and Watts C (2015) *External Evaluation of Fruit in Schools*. Wellington: Quigley and Watts.

Boyd S, Dingle, R & Hodgen E (2009) *The changing face of Fruit in Schools: 2009 overview report. Final Health Futures evaluation report prepared for the Ministry of Health*. Wellington: New Zealand Council for Educational Research.

Colmar Brunton (May 2010a) *Fruit in Schools research: Gauging public opinion of Fruit in Schools initiative* [Presentation]. Auckland: Colmar Brunton.

Colmar Brunton (July 2010b) *Fruit in Schools* [Presentation]. Auckland: Colmar Brunton.

Nielsen (2019) *Fruit in Schools Research 2019* [Presentation]. Wellington: Nielsen.

Tsz Ning Mak, Stefan Storcksdieck gennant Bonsmann, Sandra Cladeira and Jan Wollgast. (2016) *How to promote fruit and vegetable consumption in schools: a toolkit*. EUR 27946EN. DOI:10.2788/33817.

Watts C (2018) *External Evaluation of Fruit in Schools*. Wellington: Quigley and Watts.

Appendix A: Evaluation methods

Fruit in Schools Principals Surveys

The online survey was prepared using Survey Monkey. The questions were developed in collaboration with 5+ A Day and Te Whatu Ora, based on previous evaluations and the aims of the current evaluation. The survey was pre-tested internally before being finalised.

Quigley and Watts Ltd emailed a link to the survey to all participating schools for whom email addresses were available (provided by 5+ A Day) in March 2023. The subject line and brief cover message made it clear that the survey was to be completed by the principal.

Schools and kura impacted by Cyclone Gabrielle in late February 2023, which were not receiving fruit, were excluded from the survey.

Two reminder emails were sent out to principals who had not responded, and the survey was left open for 2 weeks.

Key informant interviews

Data collection also included 8 key informant interviews with school principals.

The survey included a question asking principals if they would be willing to participate in a follow up interview; 228 responded 'yes'. These records were numbered, and every 20th school was used to randomly select 11 principals to be interviewed. Interviews were completed with 8 principals within the allocated 2-week timeframe.

There was a good geographical spread, and a range of different school types represented. Two were principals of a school in a main urban centre, four in provincial towns, and two in rural settings. School size ranged from two classes to over 400 children, and school types included Kura Kaupapa Māori, a dual language school (Years 1-8), an intermediate school, contributing schools (Year 0-6) and full primary schools (Year 0-8).

Materials

An information sheet was prepared for potential key informants explaining the purpose of the evaluation, the interview procedure, and explaining that their name would not be used in the final report.

Procedure

In most cases potential participants were invited to be interviewed by email, which included the information sheet about the evaluation and an online interview booking schedule. In some cases this was followed up by a phone call to establish willingness to be involved, and arrange an interview time. Each interview began with a brief discussion about the purpose of the interview, confidentiality and anonymity, and each interviewee had an opportunity to ask questions. Participants gave verbal consent for the interview to be recorded. They were recorded using a digital voice recorder.

All the interviews were conducted by telephone. The interviews followed a semi-structured format based on a pre-prepared interview schedule. Notes were written up immediately after each interview with reference to the interview recording. Verbatim quotes were marked as such in the notes, and other sections paraphrased.

Analysis

The evaluation objectives and research questions formed the framework for analysis. Material relevant to each objective and question was identified in each data source. Material from each data source was analysed and summarised separately, and then brought together and overall findings identified.

Reporting

The evaluation report was organised according to the evaluation objectives. The draft report was internally peer reviewed by a senior Quigley and Watts staff member before being submitted to the client.

Strengths and limitations

There was an excellent response rate of to the survey, so we can be confident that the findings accurately reflect the majority views of principals. The use of both qualitative and quantitative methods adds depth to the findings, and triangulation of data sources further adds to the validity of the findings.

A limitation of the evaluation is that it is based on the perceptions and observations of school principals. Objective measurement of outcomes was beyond the scope of the current evaluation.