The changing face of Fruit in Schools: 2009 overview report

Final Healthy Futures evaluation report

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Executive summary

This final overview report summarises the main findings from Healthy Futures. Healthy Futures is the evaluation of the Ministry of Health's Fruit in Schools (FiS) initiative. This evaluation was conducted by the New Zealand Council for Educational Research and Health Outcomes International.

In addition to this overview report, a separate document (Boyd & Moss, 2009), summarises the findings from the 2008 case studies, and presents the stories of six FiS schools. A technical report (Dingle et al., 2009), provides more details about the survey analysis and data.

What is FiS?

FiS is a school-based initiative that is part of the Ministry of Health's strategy to improve health outcomes. FiS has two main objectives and associated support:

1. To promote healthy eating through offering students in low-decile schools a piece of fruit for each school day.
2. To encourage schools to further promote healthy lifestyles. Schools are offered extra support to use the Health Promoting Schools (HPS) approach to develop local solutions to health concerns in ways that involve and empower students, parents, whānau and school staff. Schools also receive extra funding for release time for a FiS lead teacher, and assistance from health agencies, to encourage the promotion of four health priority areas:
   - o healthy eating
   - o physical activity
   - o sunsmart
   - o smokefree

Schools joined FiS in different phases. Phase 1 began in late 2005 in six regions, Phase 2 in early 2006 and Phase 3 in late 2006. Further phases started in 2008 and 2009. The first three phases targeted mostly decile 1 schools. The initiative now involves nearly all decile 1 and 2 schools with primary-age students (Years 0–8). In total, approximately 470 schools, and over 95,000 students, are now part of FiS.

Schools are part of regional clusters and are supported by FiS co-ordinators (FiSC) and a range of partner agencies such as SPARC/regional sports trusts, the National Heart Foundation, the Cancer Society and the Ministry of Education/School Support Services. These partners also work together in regional interagency groups.

How was FiS evaluated?

The Healthy Futures evaluation of FiS ran over 2005–9. This multimethod longitudinal study incorporated aspects of formative (supporting improvements to an initiative), process (describing and assessing activities that happen as part of an initiative) and impact (measuring the short-term outcomes of an initiative) evaluation. The evaluation explored three key questions:

1. What are the factors that support and hinder the implementation of FiS, and are likely to impact on its longer term sustainability?
2. What changes are occurring within schools and to (school and interagency) professional practice in regard to school approaches to health and wellbeing?
3. What changes are occurring in students' knowledge, attitudes and behaviours in regard to the four health areas?

The Healthy Futures evaluation used three main methods of data gathering:

1. baseline (prior to the start of Phase 2 of FiS in early 2006) and yearly follow-up (end 2006, 2007, 2008) surveys of school staff and students at FiS and comparison schools
2. case studies of FiS schools showing good practice in aspects of FiS/HPS (end 2006 and 2008)
3. yearly interviews or online surveys with national and regional agency stakeholders (end 2005–8).

A main focus of this report is comparing the findings from the baseline to the 2008 follow-up school surveys. This report also overviews the findings from agency partner surveys and interviews conducted at the end of 2008, and compares these with earlier findings. A series of interim reports detail earlier findings from the evaluation. These include King, Boyd, and Campbell (2006), Boyd, Dingle, Campbell, King, and Corter (2007), and Boyd, King, and Dingle (2008).

What has worked well about FiS?

- The data from a range of sources suggest that FiS has had a positive impact on schools' and students' approaches to healthy lifestyles, is starting to impact on home behaviours, and is strengthening public health infrastructure.
- Through FiS, the partner agencies have been able to gain access to, and work with, low-decile schools. They have collaborated to better manage their work in schools.
- FiS has helped schools see themselves as "Healthy Schools". Schools have placed higher priority on health and wellbeing, and have adopted the HPS approach. Since joining FiS, schools have:
  - given students more health-related leadership opportunities
  - strengthened their healthy eating and sunsmart policies and practices
  - given students more opportunities to do physical activity
  - increased their involvement with agency partners and their programmes (in particular, Active Schools, the School Food Programme and Sunsmart Accreditation)
  - engaged with other health initiatives (e.g., the Ministry of Education's National Administration Guideline 5 and the Ministry of Health's HEHA nutrition fund)
  - used approaches that highlight and strengthen the connections between healthy eating, physical activity and social, emotional and environmental wellbeing.
- The Healthy Futures study tracked one group of students from Year 4 (prior to their school joining FiS) to Year 6. The student data show that the range of changes FiS schools were making was slowing the expected decline in healthy attitudes and behaviours that occurs as students get older. Over time, FiS students were more likely than a group of comparison students to have either maintained their initially positive health-related practices, or made small positive improvements. This pattern was evident across all four health areas, and these many changes contributed to a collective picture of positive change. In particular, FiS students:
  - maintained their positive attitudes towards, and awareness of, healthy behaviours
  - increased their consumption of healthy foods such as fruit, vegetables and grains
  - increased the mean amount of times they engaged in physical activity
  - maintained positive sunsmart practices
  - had positive views about school
  - reported their school had a greater focus on the four health areas and let them take an active role in promoting their school as a "healthy school".

Why are these changes important?

Students at low-decile schools are more likely to experience poorer longer-term health outcomes than their peers at higher decile schools. The Healthy Futures study showed that FiS schools increased their focus on health and wellbeing and created a "protective climate" around students, and that students at FiS schools were learning skills that were setting them up for the future; and had positive attitudes towards school. These positive views are important because a sense of connection to school is associated with lower engagement in risky health behaviours, as well as improved academic success. In turn, improved academic success is associated with better longer term health. This suggests that FiS has the potential to make a positive difference to the longer term health and education outcomes of these young people.

How sustainable are the changes at schools?

Lead teachers at schools in the earlier phases of FiS (1 and 2) were more likely than Phase 3 lead teachers to report their school had the structures in place to continue promoting health and wellbeing. This suggests that longer time frames are necessary for sustainable practices to be fully embedded in schools.

What were the main things which enabled changes in schools and for students?

- The FiS fruit. This created a positive climate, provided healthy options and acted as a catalyst for change.
- Locating FiS within the HPS approach. This encouraged schools to explore how all aspects of their environment promoted health, and to involve students, parents and whānau in decisions and actions.
- The use of student leadership approaches such as student health teams and Physical Activity Leaders.
- School leaders and staff who championed FiS.
- School staff who had release time for planning, and to support student leaders.
- FiS school cluster sessions (and, in particular, student leadership workshops).
- FiSC and agency partner support, resources and programmes.
- The hands-on and capacity building way FiSC worked with school staff.
- Regional interagency collaboration, which facilitated networking and joint action.
- The overseeing of FiS by District Health Boards which allowed for regional flexibility.
- The other health promotion initiatives in the sector which reinforced each other (e.g., the HEHA nutrition fund).

What were the main challenges?

- The inclusion of only physical health priorities within FiS (and not social and emotional wellbeing).
- Less focus on the smokefree area by schools and agencies.
- The use of a professional development model that focused on the lead teacher rather than the whole school.
- Variable access to agency partners for school staff.
- A perceived lack of health and education sector collaboration.
- National leadership processes which did not fully support the ongoing development of the FiS initiative and sharing of "ground-up" practice.

What are the possible ways forward?

The Healthy Futures study suggests the following actions are likely to maximise the benefits from FiS:

- continuation of support for schools for the time frames known to enable sustainability (five to seven years)
- continuation of the most effective aspects of FiS: free fruit, use of the HPS approach, release time for teachers, and access to external support such as FiSC and agency partners
- review of the FiS model to ensure a close fit with the new school curriculum and holistic approaches to health
- exploration of ways to provide professional development for all teachers, and support for schools to make further connections with parents and whānau
- review of agency capacity (by agency and region) to ensure schools have access to agency partners, as well as support in the area of least focus (smokefree)
- strengthening of processes for agencies such as Ministry of Health, Ministry of Education and SPARC to work together nationally and regionally, and ways for regional stakeholders to share practice and contribute to policy development.

What were the limitations of the evaluation design?

The baseline school survey included 35 Phase 2 FiS schools and a comparison group of 34 non-FiS schools. Since the baseline, all but seven of the comparison schools joined Phase 3 of FiS. The small size of the remaining comparison group, and the fact that the schools in this group were higher decile than FiS schools and therefore had different student profiles, reduced their ability to function as a comparison group. To counteract this, we used a number of different approaches to assess the contribution of FiS to the changes noted in the data. These included comparing: patterns over time as well as between FiS and comparison schools; the findings from qualitative and quantitative data; data from different groups of key stakeholders involved in FiS; and the findings from Healthy Futures to those of other studies. Healthy Futures was designed to address the implementation and impacts of FiS in mainstream New Zealand schools. A kaupapa Māori approach would be needed to explore the implementation and impacts of FiS in Māori-medium education.

1. Introduction to the Healthy Futures evaluation

1.1 Introduction

This report overviews the findings from the Healthy Futures evaluation. Healthy Futures is the evaluation of the Ministry of Health's (MoH) Fruit in Schools (FiS) initiative. This report focuses on exploring the extent to which FiS is embedded in the school system and the resultant changes and impacts for students, school staff and interagency partners. The intent of the report is to draw together the perspectives of key FiS stakeholders to inform policy and practice.

The full report is in three parts. This overview report brings together the main findings from the evaluation. A separate case study report (Boyd & Moss, 2009), summarises the findings from the case study component of Healthy Futures and contains the six school case studies completed in 2008. A technical report (Dingle et al., 2009), provides more details about the analysis of the school and interagency surveys as well as data tables.

What is FiS?

FiS is part of the New Zealand MoH's overall strategy to improve health outcomes for New Zealanders. FiS is one of the actions identified in the MoH's *Cancer Control Strategy Action Plan* (Cancer Control Task Force, 2005) and the *Healthy Eating–Healthy Action* (HEHA) *Implementation Plan* (Ministry of Health, 2004).

FiS has two main objectives and associated support. One objective is to promote healthy eating through offering the students who attend low-decile primary schools a free piece of fruit for each school day. The second objective is to encourage schools to further promote healthy lifestyles. Schools are offered extra support to use the Health Promoting Schools (HPS) approach and work with health agencies to develop local solutions to address four health priority areas:

- healthy eating
- physical activity
- sunsmart
- smokefree.

Phase 1 of FiS started in late 2005, Phase 2 in early 2006 and Phase 3 in late 2006. Since then further groups of schools have joined FiS. In total, approximately 470 schools, and over 95,000 students, are now part of FiS. The phases of FiS encompass almost all decile 1 and 2 primary, contributing, composite and intermediate schools. Initially, each phase of FiS was funded for three years.

FiS schools are organised in regional clusters, and lead teachers from FiS schools attend cluster meetings. The clusters are facilitated by Fruit in Schools co-ordinators (FiSCs) and are supported by a team of agency stakeholders from the National Heart Foundation (NHF), the Cancer Society (CS), Sport and Recreation New Zealand (SPARC) and regional sports trusts (RST), the Ministry of Education (MoE) and School Support Services (SSS), as well as other local health promoters, and community groups. These agency partners work together in regional interagency teams. At a national level, FiS was initially underpinned by a tripartite agreement between the MoH, MoE and SPARC. There are many stakeholders in FiS. To assist the reader, a list of the abbreviations used for these stakeholders, and for other common terms, is provided below (see Table 1.1).

Table 1.1 **Abbreviations used in the report**

Abbreviation	Meaning
CS	Cancer Society
DHB	District Health Board
FiS	Fruit in Schools
FiSC	Fruit in Schools Co-ordinator
HEHA	Healthy Eating–Healthy Action
HOI	Health Outcomes International
HPS	Health Promoting Schools
HSC	Health Sponsorship Council
MoE	Ministry of Education
MoH	Ministry of Health
NAG	National Administration Guideline
NHF	National Heart Foundation
NZCER	New Zealand Council for Educational Research
PD	Professional Development
PAL	Physical Activity Leader
PE	Physical Education
PHN	Public Health Nurse
RST	Regional Sports Trust
SES	Socioeconomic status
SPARC	Sport and Recreation New Zealand
SSS	School Support Services
SWIS	Social Worker in School

What underpins the Health Promoting Schools approach?

FiS is located within a global shift in health promotion practice towards approaches that are underpinned by societal views of health and wellbeing. Societal views emphasise that an individual's capacity for change is affected not only by their health knowledge and beliefs but also by the social and physical environment in which they live. This focus on societal approaches is a shift away from the previous individualised view of health. Individual and societal approaches are premised on different views about what it is to be healthy (Lister-Sharp, Chapman, Stewart-

Brown, & Sowden, 1999). Individualised approaches are underpinned by an assumption that individuals have full control over their health-related behaviours. They prioritise physical health, with disease prevention being their ultimate aim. In contrast, the societal view encompasses physical, social and emotional wellbeing. In terms of educational activities, individualised approaches to health tend to emphasise behaviour change and teaching "about" health. Societal approaches, as well as focusing on "learning about" health, emphasise the need for students to develop skills and competencies for the future as they "learn *for* their health" by "learning by *doing*" health promotion activities that improve their environment. Societal approaches underpin the HPS approach schools are encouraged to use to address the four FiS health areas, and the Health and Physical Education (PE) curriculum in schools (Ministry of Education, 2007).

HPS—a settings-based and ecological approach

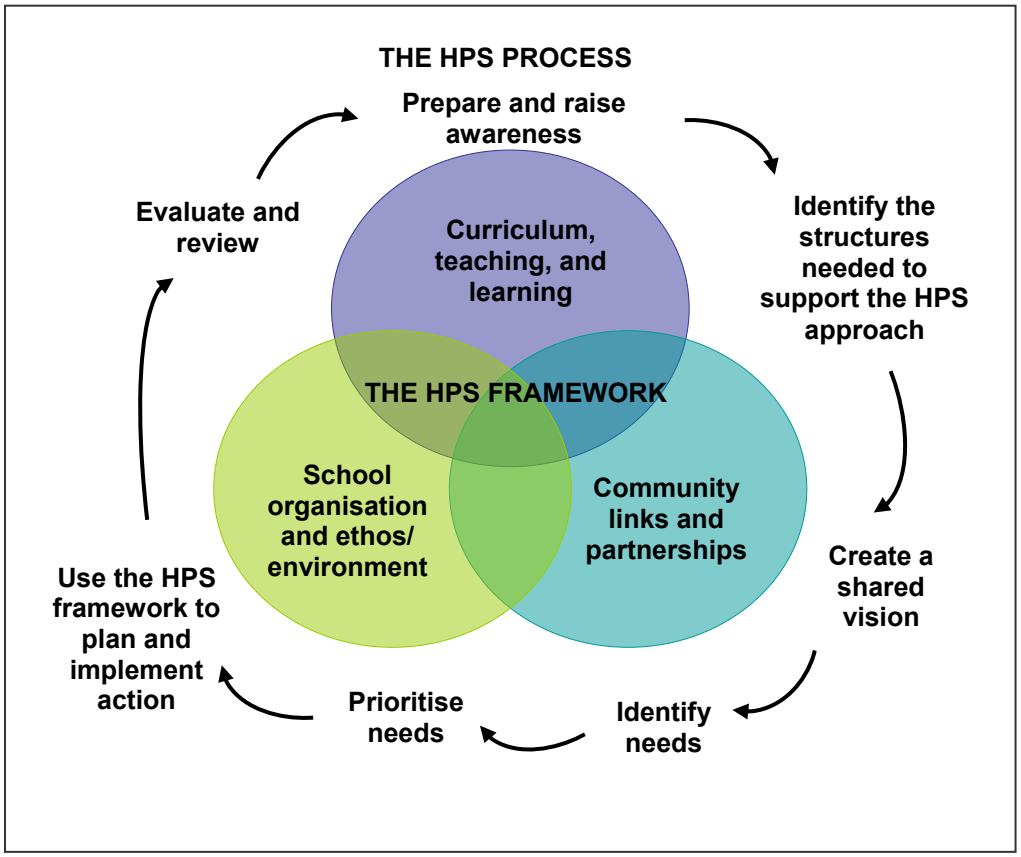
HPS provides a framework, process and infrastructure to support schools to develop health promotion initiatives (see Figure 1.1). Prior to FiS, the HPS approach has been used, with support from the MoH, for approximately 10 years at a regional level in New Zealand schools. There is growing international evidence as to the efficacy of the HPS approach in enhance health outcomes for students (see for example, Lister-Sharp et al., 1999; St Leger, 2006).

The HPS approach is called by a number of terms. These include ecological, whole school and settings-based. HPS is ecological in that it takes into account not only interactions between individuals and their social environment, but also with their physical environment; that is, the ecology of the system. A core assumption underpinning ecological approaches is that there are different interacting layers or levels within a group or community. A premise of HPS is that initiatives will be strengthened if the different aspects of the school system are aligned and give similar messages. The HPS framework specifies three interconnected levels of the school system:

- school organisation and ethos (that is, school-wide policies, practice, culture and environment)
- curriculum, teaching and learning (that is, what happens in classroom programmes)
- community links and partnerships (that is, connections with parents, whānau, health and other agencies and community groups).

In this way, HPS is a "whole-school approach" that takes into account the whole school system, and not just what occurs in the classroom. HPS is also called a settings-based approach because it occurs within the unique setting of an individual school. Therefore, FiS/HPS is not a standard "programme" that is delivered similarly across schools. The HPS process enables each school community to design approaches to effecting change in ways that suit their particular setting or context. Schools are encouraged to use the HPS process to identify priorities and a plan of action that addresses change at the three levels of the system. To ensure sustainability, HPS has a strong focus on empowering the school community. To action the HPS process, schools are encouraged to develop a health team of activists who identify priorities and progress health initiatives. Representation on this team varies but can include students, staff, parents and whānau, and local health and community providers.

Figure 1.1 **The HPS framework and process***



* Diagram adapted from *Fruit in Schools: A 'How to' Guide* (Ministry of Health, 2006, p.9).

1.2 The design of the Healthy Futures study

Study design

The Healthy Futures evaluation was designed as a mixed-method, longitudinal study which draws on qualitative information gathered through interviews and case studies to explore the nature and context of change, as well as findings from a quantitative impact evaluation. Healthy Futures incorporates aspects of formative (supporting improvements to an initiative), process (describing or assessing activities that happen as part of an initiative) and impact (measuring short-term outcomes of an initiative) evaluation. In 2005 and 2006, the emphasis was on process and formative evaluation to generate information to assist stakeholders to improve FiS. In 2007 and 2008, the emphasis moved to a consideration of impacts and sustainability. That is the focus of this report. More details about the design of the Healthy Futures evaluation is contained in earlier reports (Boyd, Dingle, Campbell, King, & Corter, 2007; Boyd, King, & Dingle, 2008). The evaluation explores three key questions:

1. What are the factors that support and hinder the implementation of FiS, and are likely to impact on its longer term sustainability?

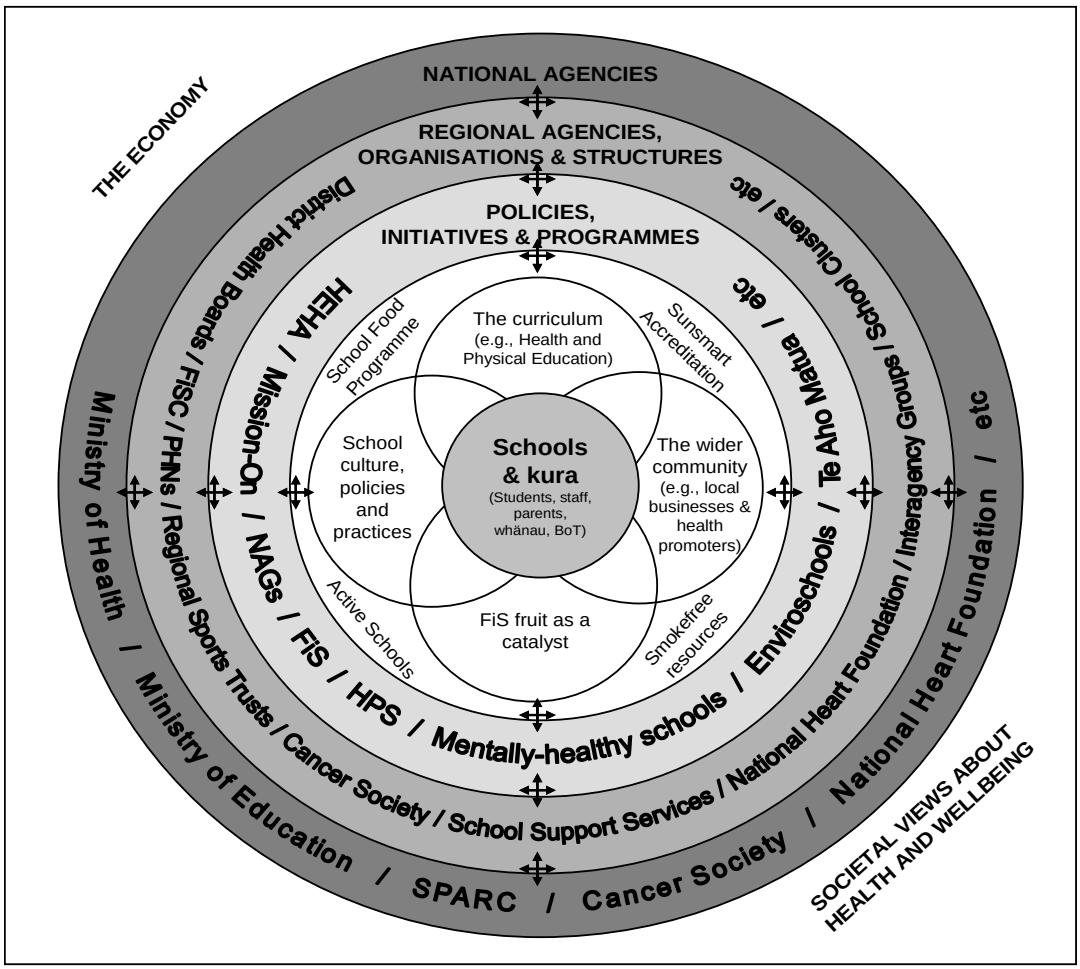
2. What changes are occurring within schools and to (school and interagency) professional practice in regard to school approaches to health and wellbeing?

3. What changes are occurring in students' knowledge, attitudes, and behaviours in regard to the four health areas?

Designing an evaluation that views FiS in the context of a wider system

FiS/HPS is located within the ecology or system of an individual school and therefore school practice influences how FiS is experienced. FiS is also located within the wider interacting systems of the health and education sectors, and New Zealand society (as shown in Figure 1.2).

Figure 1.2 **The wider system influences on FiS schools**



The complexity of the system that FiS is located within, and the ecological and settings-based nature of FiS/HPS, poses a challenge for evaluators. Commentators suggest that new evaluation paradigms are needed for initiatives such as FiS/HPS which are complex and settings-based (Lister-Sharp et al., 1999; Young, 2005; Dooris, 2006; Rowling & Jeffreys, 2006; Stewart-Brown, 2006). Rowling and Jeffreys (2006) comment on the lack of appropriateness of experimental

methods and the "gold standard" of health evaluation—the randomised controlled trial (RCT)—for this purpose. They consider there is a need to develop new evaluation paradigms that draw on both health and education perspectives on evidence and practice.

In the first main Healthy Futures report (Boyd et al., 2007), we outlined why it was not feasible to use an RCT design to evaluate FiS. The number of low-decile schools in New Zealand is too low for sampling purposes, and the relatively small size of the education sector in New Zealand results in practice quickly spreading between schools. A further reason is that the capacity-building procedures used to select the initial FiS regions excluded the possibility of using an RCT.

We endeavoured to design this study using contemporary understandings about evaluating initiatives such as HPS. Therefore we drew on health and educational methods and literature to design the study and interpret the findings. We addressed the systems nature of FiS/HPS by using a multimethod approach which combined qualitative and quantitative data from a range of sources. This enabled us to explore how different parts of the wider system interacted and influenced FiS. For example, the case study component of Healthy Futures explores how FiS/HPS is nested within the system of an individual school, and how recent changes to the wider health and education systems have intersected with FiS and impacted on school practice. Viewing FiS as located within a number of interacting systems, rather than a stand-alone and standard "programme", supports us to interpret the changes that have occurred at FiS schools.

Evaluation focus

Schools are at the heart of FiS, therefore the main focus of the Healthy Future evaluation was on the school setting. As well as exploring change in students' attitudes, knowledge and behaviours, we also looked for change in the school system. To provide a frame for us to categorise the potential sites of change in schools we used the three arms of the HPS framework. That is, we looked for changes to:

- school organisation and ethos/environment (that is, school-wide policies, practice, culture and environment)
- curriculum, teaching and learning (that is, what happens in classroom programmes)
- community links and partnerships (with parents and whānau)
- community links and partnerships (with interagency partners and other local groups).

In 2005, the MoH and partner agencies developed continuum for each of the four health priority areas that outlined the process a school is likely to go through as it uses the HPS approach, and a range of activities that might be expected. We used these descriptions to provide possible indicators of change to be included in school surveys. These informed the impact evaluation.

1.3 Data collection methods

The Healthy Futures evaluation used three main methods of data gathering:

- baseline and yearly follow-up surveys of school staff and students at FiS and comparison schools. The baseline survey was conducted in early 2006, prior to Phases 2 and 3 schools joining FiS. Follow-up surveys were conducted at the end of 2006, 2007 and 2008
- case studies of FiS schools showing good practice in aspects of FiS (end 2006 and 2008)
- yearly interviews or online surveys with national and regional agency partners (end 2005–8).

Table 1.2 shows how the data collection methods map to the evaluation questions. For each question, more than one source of information has been used to inform the findings.

Table 1.2 **Data collection methods used to explore the evaluation questions**

Evaluation question	Data collection method						
	Survey			Case studies			Interviews
	Students	School staff	Regional interagency partners	Staff interviews and focus groups	Student focus groups	Parent/ whānau focus groups	National and regional interagency partners
1) What are the factors that support and hinder the implementation of FiS?		√	√	√			√
2) What changes are occurring within schools and to (school and interagency) professional practice?	√	√	√	√	√	√	√
3) What changes are occurring in students' knowledge, attitudes and behaviours?	√	√		√	√	√	

Surveys of school staff and students

The main method used to collect data from schools was a survey of staff and students at FiS and comparison schools. Prior to the start of Phase 2 of FiS, we sent the baseline survey to staff and students at 35 Phase 2 FiS schools, and 34 non-FiS comparison schools. It was planned that this would give two points of comparison. It would enable us to track changes over time within FiS schools as well as compare differences between FiS schools and non-FiS schools. Phase 1 students were not included in the student survey as their schools joined FiS before the baseline data were collected.

In late 2006, FiS was extended to a new group of Phase 3 schools. Most of these schools were in the Healthy Futures comparison group. From late 2006, this resulted in three groups of schools now being involved in follow-up surveys: Phase 2 schools, Phase 3 schools and a small group of seven remaining comparison schools. At the end of 2006, 2007 and 2008 we sent a follow-up survey to students and teachers at most of these schools.

At each survey point, we sent three questionnaires to each school: one each for the FiS or lead health teacher, a classroom teacher and the students in the target year group. Each year we sent the teacher questionnaire to the teacher who taught the students in the target year level. To explore similarities or differences between the first three phases of FiS, we also sent a FiS lead teacher questionnaire to all Phase 1 schools and an additional sample of Phase 3 schools.

We tracked one cohort of students, who were at school for the duration of the evaluation. These students were in Year 4 in 2006 and Year 6 in 2008.[1] Part of the student survey was based on the self-report Day in the Life Questionnaire, which has been validated as a measure to assess the vegetable and fruit intake of students aged seven to nine (Edmunds & Ziebland, 2002). We developed additional questions about the other priority areas, liking of school and the opportunities students had to input into school health-related activities. Each year, the student survey was translated into te reo Māori for students in kura or immersion classes and sent to teachers to administer.

Comparison between the baseline survey and end of 2008

To give the reader a sense of change over time, the main datasets we compare in this report are the baseline and end-of-2008 follow-up surveys. At the end of 2008, Phase 1 schools had been part of FiS for three years, Phase 2 schools for two and a half years and Phase 3 schools for two years. Earlier reports summarise the findings from the follow-up surveys at the end of 2006 (Boyd et al., 2007) and (Boyd et al., 2008). Data already reported are not included in this summary report or the technical report. Table 1.3 shows the number of schools that returned baseline and end-of-2008 student surveys, and the number of staff who responded to the staff surveys.

Table 1.3 **School response rates to surveys**

	Start 2006 Baseline survey		End 2008 Follow-up survey	
Phase 2 FiS school surveys	**School N**	**School response rate %**	**School N**	**School response rate %**
Student	35/54	65	33/54	61
Classroom teacher	33/54	61	24/54	44
FiS lead teacher	31/54	57	21/54	39
Phase 3 FiS school surveys				
Student	27	NA*	23/27	85
Classroom teacher	19	NA*	22/27	81
FiS lead teacher	60	NA*	48	NA*
Phase 1 FiS schools				
Phase 1 FiS lead teacher	31/60	52	35/60	58
Remaining comparison school surveys				
Student	7	NA*	7/7	NA*
Classroom teacher	7	NA*	4/7	NA*
Principal/Health teacher	4	NA*	4/7	NA*

* A response rate is not applicable due to the sampling method used or the small sample size.

In total, 122 FiS lead teachers completed a baseline survey, and 104 completed a 2008 follow-up survey. The figures for classroom teachers are 52 (baseline) and 46 (2008 follow-up). Unless

[1] Year 4 students are in primary school and are about 8–9 years old. In Year 6, students are about 10 to 11 years old.

otherwise stated, in this report, all teacher survey data are reported as a percentage of these numbers. A breakdown of the characteristics of the schools in shown in the technical report.

In earlier reports, we reported data only from the students we were able to track over time. As we predicted, the high mobility of students in low-decile schools meant that the number we were able to track decreased over time. In this report we present the data from the total cohort of students who took part in the surveys. The total number of students who completed baseline and end-of-2008 surveys is shown in Table 1.4. All the student data in the main body of this report are reported as a percentage of these numbers.

Table 1.4 **Student survey returns**

	Start 2006 Baseline survey Year 4 students	End 2008 Follow-up survey Year 6 students
School group	Total surveys returned N	Total surveys returned N
Phase 2 FiS	832	790
Phase 3 FiS (was comparison)	695	600
Comparison	217	205

For each of the three student groups, approximately half of the students were girls and half, boys. A breakdown of the student data by ethnicity is show in Table 1.5. Students were asked to self-identity their ethnicity and were able to choose more than one option. This results in, for the purposes of analysis, some being placed in more than one group.[2] These data show some differences between the three groups. More Phase 2 students identified as Māori, more Phase 3 as Pasifika and more comparison students as NZ European.

Table 1.5 **Student data by ethnicity**

	Phase 2 students		Phase 3 students		Comparison students	
Ethnicity	Baseline (N=832) %	End 2008 (N=790) %	Baseline (N=695) %	End 2008 (N=600) %	Baseline (N=217) %	End 2008 (N=205) %
Māori	47	54	35	36	47	40
Pasifika	38	42	40	47	10	12
NZ European	23	18	29	22	62	57
Asian	2	1	7	9	6	4
Other	3	5	3	8	6	8
TOTAL	**113**	**120**	**114**	**122**	**131**	**121**

[2] Callister (2004) notes that nonprioritised approaches to the analysis of data by ethnicity are becoming increasingly common to take into account New Zealand's changing demographic make-up.

Case studies

The Healthy Futures evaluation includes two sets of school case studies. A case study design is an effective way to share good practice, and is commonly used to explore change or innovations in school settings, and the complexities of the context within which school practice occurs (Yin, 2003). One set of six school case studies was completed at the end of 2006, and is reported in the first main Healthy Futures report (Boyd et al., 2007). A second set of six case studies was conducted at the end of 2008, and is reported in the case study report that accompanies this overview report (Boyd & Moss, 2009). Further details about the design of the case study component of Healthy Futures are contained in the case study report.

Interviews and online surveys of interagency partners

FiS was designed to connect school staff with a range of partners in the health and education sectors. To explore the perspectives of these partners, the Healthy Futures study included yearly interviews with a sample of interagency partners, representing key organisations involved in the governance and implementation of FiS at a national and regional level. Over 2005–8, annual interviews were conducted with interagency partners, as summarised in Table 1.6. Interviewees included representatives from the MoH, MoE, SPARC, RST, NHF, CS, SSS providers and the Health Sponsorship Council (HSC), as well as FiSC (from Phases 1–4 of FiS) and a range of DHB staff (e.g., HPS advisers, HEHA co-ordinators and Public Health Nurses (PHN)). Interviews were conducted predominantly by telephone. Further information about the design of these interviews is included in earlier reports.

Table 1.6 **Interagency partner interviews and surveys**

Time period	National stakeholder interviews	Regional stakeholder interviews	Regional stakeholder surveys
Baseline: End 2005/early 2006	MoH, MoE, SPARC, NHF, CS	FiSC in 6 districts; interagency partners in 2 districts	-
Round 2: End 2006/early 2007	MoH, MoE, SPARC, NHF, CS	FiSC in 6 districts; interagency partners in 2 districts	-
Round 3: End 2007/early 2008	MoH, MoE, SPARC, NHF, CS, HSC	FiSC in 4 districts; interagency partners in 2 districts	80 respondents across all 21 districts and all key agencies
Round 4: End 2008/early 2009	MoH, MoE, SPARC, NHF, CS, HSC	FiSC in 5 districts; interagency partners in 2 districts	72 respondents across all 21 districts and all key agencies

To provide an in-depth perspective on regional interagency practice, the group of interagency partners from two regions were invited to participate in interviews. These regions were selected on the basis of their different interagency steering group compositions, as shown in the data collected for the first Healthy Futures interim report (King et al., 2006). The partners from these two regions were re-interviewed in each subsequent round.

To capture the perspectives of a wider range of interagency partners, and to build on the findings from the interviews, online surveys of all FiSC and regional interagency staff were conducted in late 2007/early 2008, and in early 2009. Survey questions were developed to build on themes identified in preceding stakeholder interviews and sought to explore the prevalence of particular experiences and views nationally.

The findings from each round of interviews were presented in successive Healthy Futures interim reports (King & Boyd, 2006; Boyd et al., 2007; Boyd et al., 2008). Findings from the fourth and final round of interviews, building on earlier findings, are presented in this report.

Data analysis

To assess the extent of FiS's contribution to the changes noted in student, school and interagency practices, we used a number of different approaches to look at the findings. These included:

- comparing the patterns over time for FiS and comparison students (taking into account the three groups of students now in the study: Phase 2 FiS, Phase 3 FiS and comparison)
- data triangulation (that is, looking at what the qualitative and quantitative data from different stakeholders told us about key aspects of student, school and interagency practice)
- comparing changes over time to the expected patterns documented in key literature
- comparing the patterns of changes over time for different stakeholder groups (that is, comparing the responses of stakeholders in different phases of FiS).

In combination, these different approaches enabled us to address concerns about the small size and nature of the remaining student comparison group, and build a more robust picture concerning the contribution of FiS to changes in practice.

To enable similarities and differences between groups of students to be identified, we compared the student data in relation to time of survey (that is, baseline and follow-up), FiS phase, student ethnicity, gender and student liking of school. Where statistical differences were found, this is indicated in the text with the terms "significant", "more likely" or "less likely". In summary tables and figures, significant differences are indicated with footnotes or in bold. We only reported statistically significant differences where the *p*-value was equal to or less than 0.05. This indicates that there is a 95 percent probability that the differences observed were not a chance association.

Adjustments to significance tests were made to take into account the way students are clustered within schools. Results are more likely to be significant if a pattern is shown across schools and is not the result of changes in a small number of schools. The small size of the comparison group, and the clustered nature of the data, means that some of these significance tests may show counter-intuitive results. Also, in some cases, because of the small number of students in a subgroup of the data or the comparison group, relationships were not statistically significant but a clear pattern seemed evident. These are indicated in the text with phrases such as "nonsignificant trend", "trend" or "tended to".

In tables and text the numbers who responded are indicated as a proportion of the total number of respondents replying to each survey. In some cases, because of missing data or rounding, percentages do not always total to 100. For ease of viewing, some of the data are presented in graphs or figures.

A qualitative approach was used to analyse the interagency and case study interview data. The notes and recordings taken during these telephone and face-to-face interviews were categorised against a set of themes relating to the main evaluation questions.

Further information about the methods used to analyse the student, school staff and interagency survey data, as well as frequency tables for these data, are located in the technical report. This overview report contains summaries of these data.

Ethics and informed consent

Prior to collecting data for the Healthy Futures evaluation, an ethics application for the study was approved by the NZCER ethics committee. NZCER ethical requirements stipulate that participation is voluntary and that participants are fully informed about the study. A number of different systems were put in place to ensure that this occurred. See earlier Healthy Futures reports for examples of the letters sent to participants (Boyd et al., 2007).

Limitations of the evaluation design

Healthy Futures uses a multimethod design which is suggested in the literature as being suitable to evaluate settings-based and complex initiatives like FiS. Much of the data collection relies on self-report. The main source of data collection from schools is a survey. Since the baseline, all but seven of the comparison schools have become part of Phase 3 of FiS, reducing their ability to function as a comparison group. To counteract this, we used the approaches outlined in the Data analysis section to infer causality, inform the conclusions and ensure that the reporting is robust.

It is important to note that the seven schools left in the comparison group are of a higher decile than most of the Phases 2 and 3 FiS schools, and more of the students at these schools identify as NZ European. Therefore these schools have a different student population than FiS schools. Students at these remaining comparison schools started from a higher baseline position on most of the survey questions. Given this, differences between the FiS and comparison schools should be interpreted with caution. It is likely that some of the differences shown reflect differences in socioeconomic status (SES). Caveats to this effect are included in the text.

Healthy Futures was designed to address the implementation and impacts of FiS in mainstream New Zealand schools. A different approach, which takes into account kaupapa Māori research principles, would be needed to explore how FiS is enacted within Māori-medium education.

2. Changes for students

This section of the report explores the contribution of FiS to changes in students' knowledge, attitudes and behaviours. Most of the information in this section compares the data from the baseline student survey prior to FiS, to the end-of-2008 follow-up survey. Both these surveys asked about FiS and comparison students' knowledge, attitudes and in- and out-of-school behaviours in relation to the four health areas. The majority of questions asked students what they did the day before the survey. The 2008 survey also asked questions about school approaches to health and wellbeing. The data from three groups of students are reported in most tables and figures. All student data are reported as a percentage of these numbers:

- Phase 2 students: Baseline N=832; End 2008 N=790
- Phase 3 students: Baseline N=695; End 2008 N=600
- Comparison students: Baseline N=217; End 2008 N=205.

The section also includes some data on student outcomes from the lead teacher survey and some findings from the case studies to provide a context for the changes noted. These findings in this chapter need to be interpreted in light of the different contexts of the three groups of schools. At the baseline, over four-fifths of the FiS and comparison schools were decile 1. The Phase 2 FiS group had the highest proportion of decile 1 schools. At the end of 2008, four-fifths of the Phase 2 schools were still decile 1. In contrast, one-third of the Phase 3, and all of the comparison schools, had increased their decile rating to 2 or 3. These differences in decile show that the communities the three groups of schools served had different SES profiles. SES status is associated with different patterns of health behaviours. Therefore caution should be taken when comparing FiS students with comparison students. Phase 3 students are the most similar to the comparison students and Phase 2 schools are the least similar. Further details about student and school characteristics can be found in the technical report.

Following is a summary of the main findings from this chapter. A short summary is also located at the end of the chapter.

At the time of the 2008 follow-up student surveys, Phase 2 students had been part of FiS for two and a half years, and Phase 3 students for two years. These are relatively short time frames within which to expect change to occur. Given this, the information we collected from students suggests that, since their school joined FiS, a number of key changes have occurred for students.

In combination, the student data suggest that the active promotion of health and wellbeing at FiS schools was acting to slow down the expected decline that occurs in healthy attitudes and behaviours as students get older.

The data from FiS students mostly show a pattern of no shift (maintenance over time) or small positive changes in students' attitudes, knowledge or behaviours. These many small changes contributed to a collective picture of positive change. This pattern was evident in the end-of-2007 data and became stronger over time. By the end of 2008 this pattern was noticeable across all four health areas. This suggests that FiS is assisting in creating a generation of students who are more aware of healthy choices overall, and are engaging in related behaviours. The comparison students conformed more to the expected pattern. The combined effect of these changes is that FiS students had become more like their peers in the higher decile comparison schools. There was also some evidence to indicate that practices at FiS schools were starting to spread to the home environment. Since schools joined FiS, the main key patterns of change for the three groups of students (Phases 2 and 3 FiS, and comparison) were:

- maintenance of positive attitudes towards, and awareness of, healthy behaviours (Phases 2 and 3 FiS)
- increases in the consumption of healthy foods such as fruit and vegetables (all groups, with the changes being statistically significant for Phases 2 and 3 FiS)
- increases in the mean amount of mild to moderate physical activity reported (Phases 2 and 3 FiS)
- maintenance over time of sunsmart practices (Phases 2 and 3 FiS)
- a decrease in the number of students who reported they smoked more than one cigarette a week (Phase 2 FiS and comparison).

There were some key differences between FiS and comparison students and schools. FiS students were more positive about school, and FiS schools had a greater focus on the four health areas and offered students more opportunities to take an active role in promoting health. There was an association between these factors and healthy behaviours. This suggests the "healthy schools" focus at FiS schools was acting as a "protective factor". The case studies give more details about how school actions were impacting positively on students' learning, sense of connection to school and physical, social and emotional health. The findings from other studies suggest that the actions occurring at FiS schools are likely to have longer-term impacts on student outcomes. For example, a sense of connection to school is a known protective factor against risk behaviours such as early smoking.

The data from FiS students suggest that school practices differ depending on which phase of FiS the school joined. Phase 2 students showed more change in physical activity and smokefree behaviours, and Phase 3, healthy eating and sunsmart. Girls and boys also showed different patterns. Girls tended to have more positive attitudes and behaviours, and maintain these over time. Although boys' practices tended to be less healthy, the boys at FiS schools showed a stronger pattern of maintenance of positive attitudes and behaviours than their peers at comparison schools. Overall, there were few significant differences by ethnicity. In general, students who identified as Pasifika tended to express more positive attitudes than their Māori or NZ European peers. Each group tended to show some healthy and some less healthy patterns which varied depending on whether they attended a Phase 2 or Phase 3 school. This suggests the differences are related to school and regional variations.

2.1 Students' views about learning and school

Learning about the four health areas

At the end of 2008, we asked students how much they had learnt about the four health priority areas at school during the year. As shown in Table 2.1, FiS students were significantly more likely to say that they learnt "a lot" about three of the FiS health areas compared to their counterparts at comparison schools, suggesting that FiS schools had a greater overall focus on health and wellbeing. This was particularly the case for the sunsmart priority area. All three groups of students were less likely to report a focus on the smokefree area.

Table 2.1 **Students' views on coverage of the four FiS health priority areas in 2008**

	Year 6 students (End 2008)		
	Phase 2	Phase 3	Comparison
How much did you learn about:	A lot %	A lot %	A lot %
Healthy eating*	**79**	**83**	**70**
Exercise (physical activity)	63	63	55
Sunsmart*	**62**	**59**	**38**
Smokefree*	**34**	**47**	**30**

* There was a significant difference between FiS and comparison students on these items.

Students' input into school health and wellbeing activities

As well as larger numbers reporting their school focused on the four FiS health priority areas, students at FiS schools were significantly more likely than comparison students to indicate that they learnt "a lot" about making healthy choices, and had "a lot" of input in school activities and decisions around health, with most of the practices listed in Table 2.2 being more common at FiS schools. This suggests that teachers at FiS schools placed more priority on health and wellbeing and were more focused on encouraging students to take a lead role in health promotion.

Table 2.2 **Students' input into school health activities and decisions**

	Year 6 students (End 2008)		
	Phase 2	Phase 3	Comparison
How often do these things happen at school?	A lot %	A lot %	A lot %
I learn about making healthy choices*	**64**	**68**	**47**
We work together to make our school healthier*	**61**	**58**	**37**
We work together to make our community healthier*	**48**	**52**	**29**
We set goals for ourselves about our health*	**47**	**54**	**32**
I help make decisions about things to do with health	43	46	32
I help lead things to do with health*	**33**	**35**	**18**

* There was a significant difference between FiS and comparison students on these items.

We asked students to describe how they worked together to make their school healthier. Common examples included students contributing to:

- healthy eating (e.g., "Everyone, because we all make rules and make them eat healthy.")
- physical activity (e.g., "By being a sports leader. Helping kids get active.")
- environmental sustainability (e.g., "Built a worm farm. Cleaned the whole school—rubbish.").

Liking of school

To give us a measure of the "climate" of the schools in this study, in the follow-up surveys we added a question that asked how much students liked being at school. The majority of students at FiS schools reported they liked being at school "a lot" (see Table 2.3). Looked at in combination with the case studies, these data suggest that FiS schools were active in promoting a positive climate (see Boyd & Moss, 2009).

Table 2.3 **How much do you like being at school?**

	Year 6 students (End 2008)		
	Phase 2	Phase 3	Comparison
	%	%	%
A lot*	**57**	**61**	**31**

* There was a significant difference between FiS and comparison students on this item.

Connections between liking school, school practices and health behaviours

We compared students' responses about liking school to key items about the four health areas and school practices. This tested the association reported between young people's sense of connection to school and improved health and wellbeing (Resnick et al., 1997; Libbey, 2004). There were a number of statistically significant differences between those students who were positive about school, and those who were less positive. This relationship was strongest for the students who had been part of FiS for longer (Phase 2). At the end of 2008, Phase 2 students who were more positive about school:

- were more likely to consider their school was health promoting
- had higher awareness of the importance of healthy behaviours
- had more positive attitudes towards health behaviours such as eating fruit and vegetables
- reported eating more fruit and vegetables and drinking fewer fizzy drinks
- reported engaging in more physical activity and less TV watching or computer gaming
- were more likely to report engaging in sunsmart practices at school and home
- were less likely to report they had tried smoking
- were more likely to live in health-promoting home environments.

In general, those who were more positive about school were also more positive overall. We analysed the data to see if there was a school effect (that is, if students with more positive attitudes went to the same school). We split the schools into three groups. Only FiS schools were in the most positive school group. The largest difference between these three groups of schools

was that the students in the most positive group were more likely to consider they were able to "help lead things to do with health" and "help make decisions about things to do with health". This suggests that the actions FiS schools were taking and the student leadership opportunities offered to students were creating a "protective climate" around students that supported them to engage in healthy behaviours.

2.2 Student outcomes relating to the four health areas

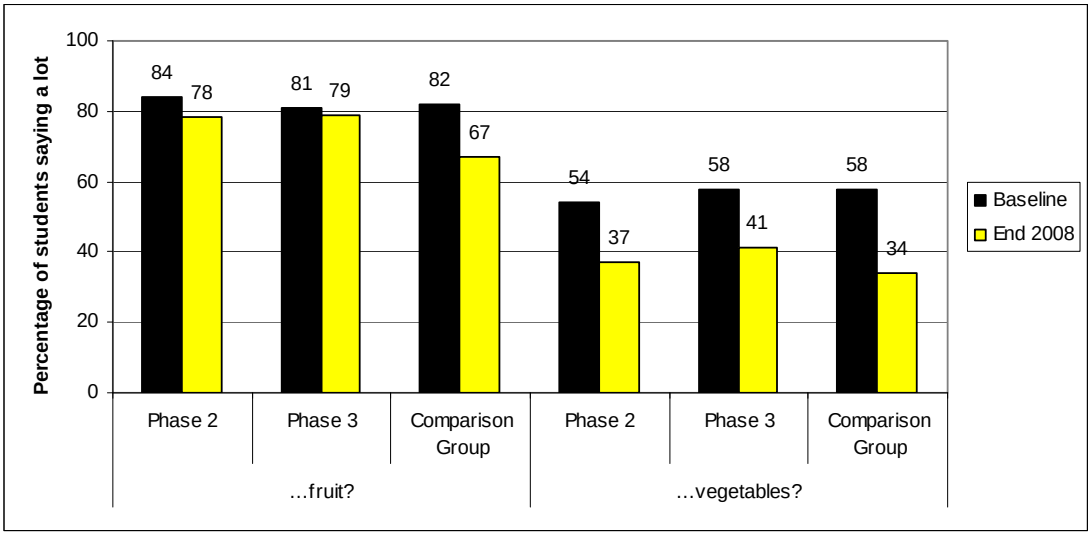
The next section of this report uses the data from the student survey to explore changes to student outcomes relating to the four health areas. This survey contained a number of questions about students' attitudes, knowledge and behaviours in these four areas. Rather than large shifts over time, the data from FiS students mostly show a pattern of no shift (maintenance) or small positive changes. This trend is different from the usual pattern which is for students' attitudes to get less positive as they get older (Russell, 2003; Wylie & Hipkins, 2006), and for older students to engage in behaviours that are less healthy than younger students (Parnell, Scragg, Wilson, Schaff, & Fitzgerald, 2003; Wylie & Hipkins, 2006; Ministry of Health, 2008). This pattern of maintenance or small gains was evident in the end-of-2007 data, and by the end of 2008, could be seen across all four health areas. The comparison students conformed more to the expected pattern. This adds further weight to the view that FiS schools are creating a "protective climate" around students.

Students' attitudes towards healthy practices

At the baseline and end of 2008, we asked students how much they liked engaging in healthy practices related to the four FiS health areas. At the baseline, the students from all three groups expressed positive attitudes to these behaviours. By the end of 2008, the views of FiS students had either stayed similar to the baseline or were slightly more negative. The comparison students conformed more to the expected pattern, which is for attitudes to get more negative over time.

Figure 2.1 shows that FiS students tended to maintain their initially positive attitudes towards eating fruit and vegetables. Overall, FiS students were also very enthusiastic about the fruit they were given at school, with around 80 percent indicating they liked this "a lot". This sense of enjoyment stayed at similar levels over 2006–8. This suggests that the fruit students receive at school, or the way it is promoted at school, is contributing to FiS students' positive attitudes.

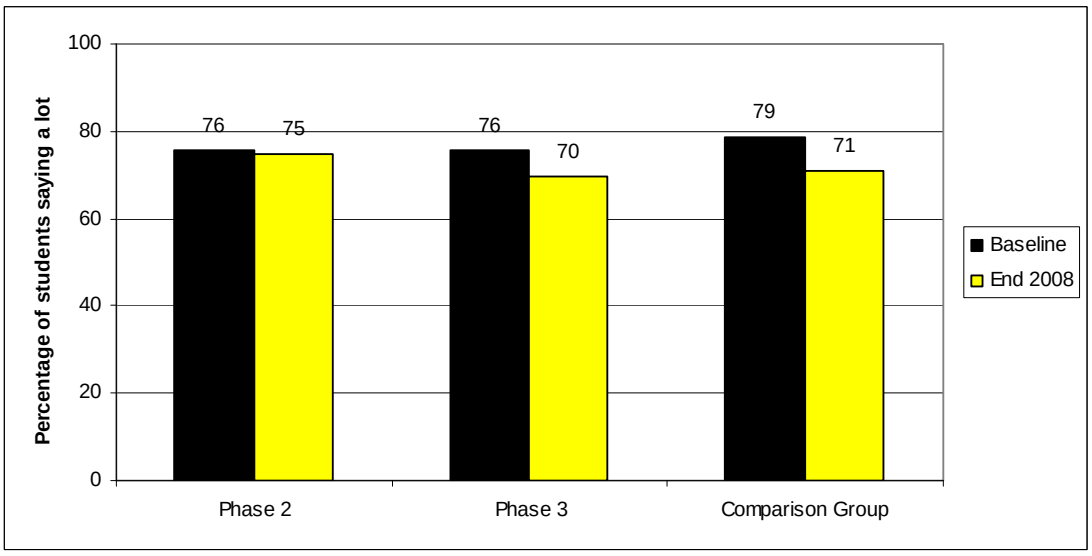
Figure 2.1 **How much do you like eating fruit and vegetables?***



* All groups showed a significant shift in views about eating vegetables from 2006–8. Comparison students showed the largest percentage decrease.

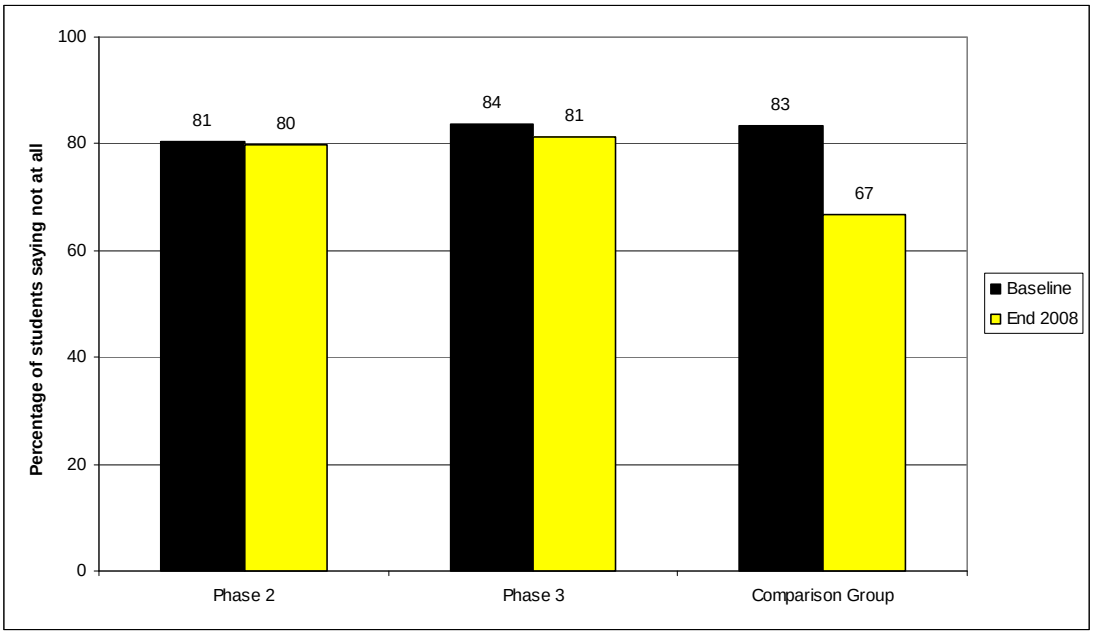
A similar pattern was shown in relation to students' attitudes towards physical activity (called "exercise" in the survey) and smokefree behaviours (see Figures 2.2 and 2.3). In general, FiS students were more likely than comparison students to maintain positive attitudes over time.

Figure 2.2 **How much do you like doing exercise?***



* FiS students showed a significant shift from 2006–8. Comparison students showed the largest percentage decrease.

Figure 2.3 **How much do you like it when people around you smoke?***



* Comparison students showed a large significant shift from 2006–8.

Students' awareness and knowledge about healthy behaviours

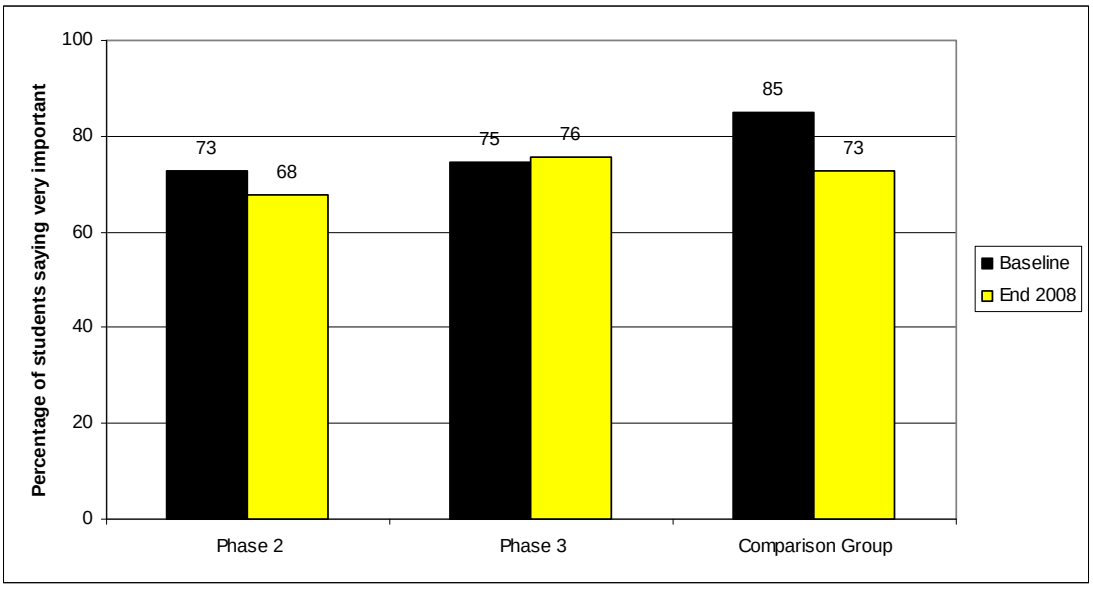
A number of the survey questions explored students' awareness and knowledge about healthy practices. At the baseline, the comparison students tended to have the highest levels of awareness and knowledge. The usual pattern you would expect is, as students get older, their knowledge should increase. This pattern was more evident for FiS students, who showed the largest increases in awareness and knowledge about healthy behaviours in the four FiS priority areas.

Students' awareness about healthy behaviours

To ascertain students' levels of awareness about healthy practices, we asked them to rate the importance of key behaviours relating to the four health areas. At the baseline, the majority of students in all three groups considered these key behaviours to be "very important" for their health (see Figures 2.4 to 2.7), with comparison students having the highest levels of awareness. For example, Figure 2.4 shows that, at the baseline, many students were already aware that eating vegetables and fruit every day was important for their health.

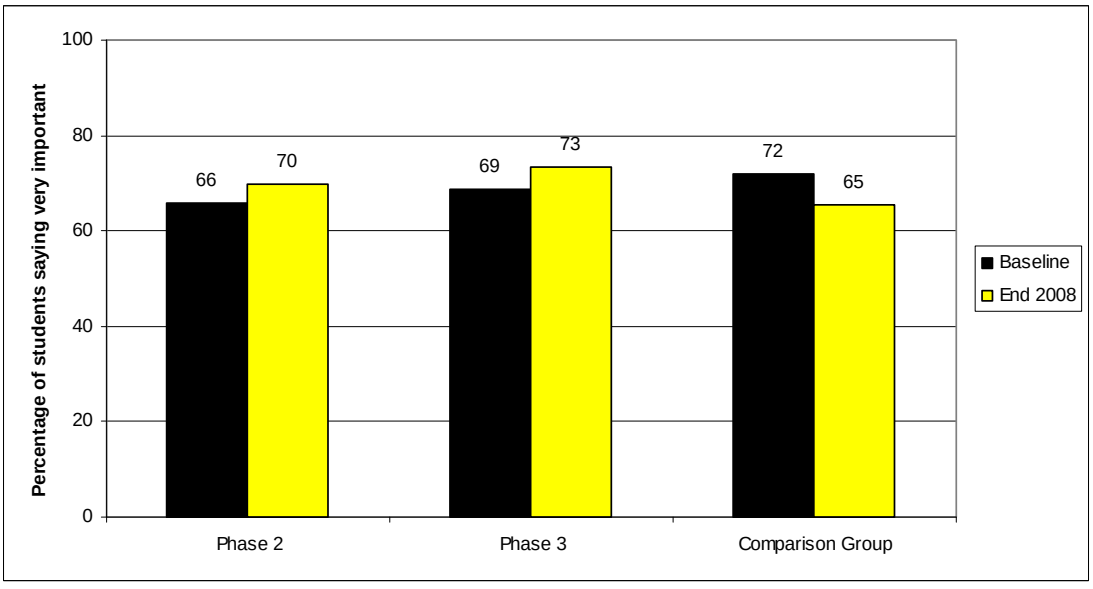
Overall, by the end of 2008, FiS students were significantly more likely than comparison students to have maintained their awareness about the importance of key healthy behaviours or had significantly increased their levels of awareness. Comparison students showed the opposite trend; over time, they showed a decrease in awareness about key healthy behaviours. This pattern was shown across all four health areas and was particularly strong for the sunsmart area (see Figure 2.6). Therefore, by the end of 2008, FiS students had higher levels of awareness about healthy behaviours than their counterparts in the higher decile comparison schools.

Figure 2.4 **How important is it for me to eat vegetables and fruit every day?***



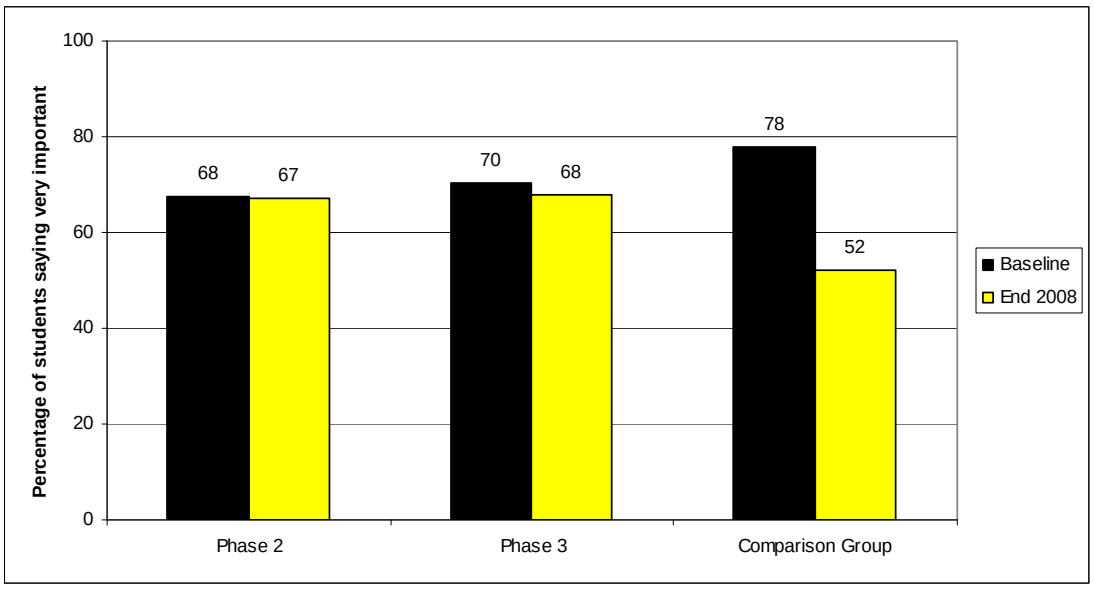
* All groups showed a significant shift from 2006–8. Comparison students showed the largest percentage decrease.

Figure 2.5 **How important is it for me to exercise every day?***



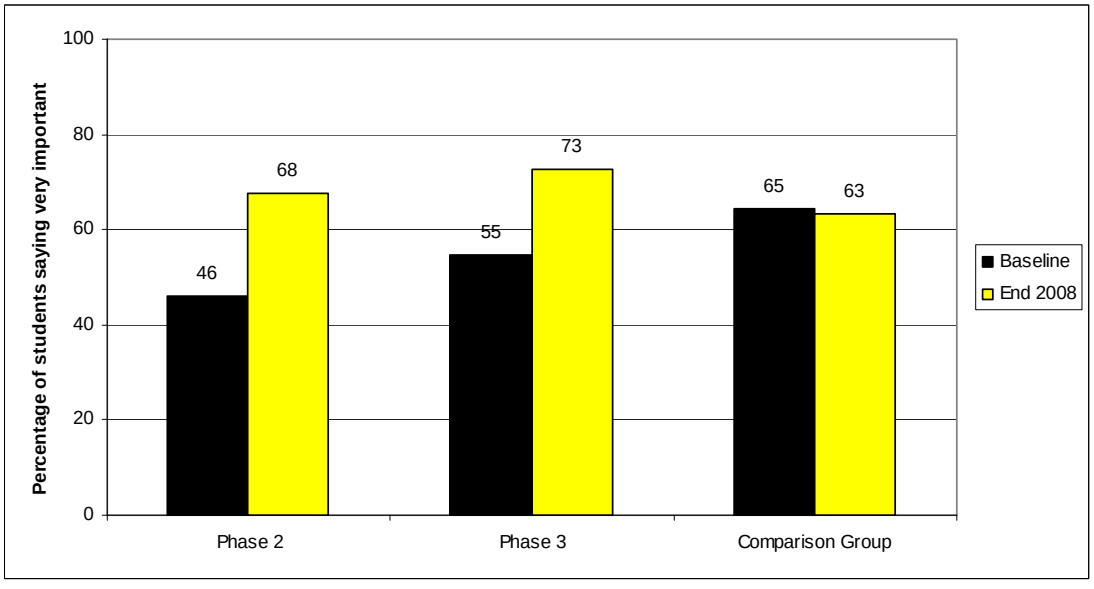
* FiS students showed a significant shift from 2006–8.

Figure 2.6 **How important is it that I wear a sunhat, sunscreen and clothes in the sun?***



* Comparison students showed a significant shift from 2006–8.

Figure 2.7 **How important is it that people around me do not smoke?***



* FiS students showed a significant shift from 2006–8.

Students' knowledge about key healthy behaviours

We also asked students' some additional questions about their knowledge of healthy eating and sunsmart behaviours. To explore students' knowledge about healthy eating we asked them to complete a question which gave them nine opportunities to select the healthiest food from two options (e.g., "Which food is the most healthy? Fruit or ice-cream?). We then calculated students' mean score. As shown in Table 2.4, prior to FiS, all three groups had a relatively good knowledge

of healthy choices. Comparison students had the highest mean knowledge. By the end of 2008 the means for all three groups had significantly increased, with the largest movement being shown by Phase 3 students.

Table 2.4 **Students' mean healthy eating knowledge scores**

Student group	Year 4 students Baseline Mean	Year 6 students End 2008 Mean	Shift from baseline
Phase 2*	**6.62**	**7.24**	**+0.62**
Phase 3*	**6.53**	**7.62**	**+1.09**
Comparison*	**7.37**	**8.12**	**+0.75**

* Items in bold show a statistically significant shift from 2006–8.

To assess students' understanding of the 5+aDay message, we also asked students how many pieces of vegetables and fruit they should be eating every day. Table 2.5 shows the mean number of students who answered this question correctly. An answer of five to eight options was accepted as correct. The number in brackets shows the proportion of students who selected "5" (the "best" answer). At the baseline, comparison students had a significantly higher level of understanding than FiS students of the meaning of 5+aDay. By the end of 2008, FiS students had significantly increased their knowledge of the meaning of the 5+aDay message. A corresponding shift in understanding was not shown by the comparison students.

Table 2.5 **Students' understanding of the 5+aDay message**

Student group	Year 4 students Baseline % selecting 5–8 (% selecting 5)	Year 6 students End 2008 % selecting 5–8 (% selecting 5)	Shift from baseline % points
Phase 2*	**65 (44)**	**80 (67)**	**+15 (+23)**
Phase 3*	**59 (29)**	**80 (66)**	**+21 (+37)**
Comparison	71 (50)	80 (65)	+9 (+15)

* Items in bold show a statistically significant shift from 2006–8.

To ascertain students' knowledge of sunsmart practices, we asked three questions about which type of hat, lotion and shirt provided the most protection from the sun. We then calculated students' mean score. Table 2.6 shows that, prior to FiS, comparison students had the highest mean. By the end of 2008 all three groups had increased their knowledge of sunsmart practices.

Table 2.6 **Students' mean sunsmart knowledge**

Student group	Year 4 students Baseline Mean	Year 6 students End 2008 Mean	Shift from baseline
Phase 2	1.77	1.99	+0.22
Phase 3	1.71	2.04	+0.33
Comparison*	**2.05**	**2.33**	**+0.28**

* Items in bold show a statistically significant shift from 2006–8.

Changes in student behaviours

Studies show that the increases in health-related knowledge, such as those outlined above, do not always translate into behaviour changes (for example, see Thomas & Perera, 2007), and as noted previously, the usual pattern is for older students to engage in less healthy behaviours than younger students. In contrast, the main behaviour pattern over time for FiS students was either maintenance of healthy behaviours or increases in healthy behaviours. This parallels the trends shown in the data on students' attitudes and knowledge. The main behaviour changes are summarised below. Following this, more details are provided about changes in each of the four health areas. The main overall pattern of change was:

- **Healthy eating:** all three groups of students showed an increase in healthy eating behaviours. For FiS students, these increases tended to be statistically significant. All three groups also showed a small pattern of increases and decreases in less healthy behaviours.
- **Physical activity:** FiS students reported a significant increase in the mean number of times they engaged in physical activity in the day prior to the survey.
- **Sunsmart:** FiS students were significantly more likely than comparison students to maintain sunsmart behaviours over time. This pattern was strongest for Phase 3 students and evident at school and home.
- **Smokefree**: All groups of students showed an increase in the number who reported they had tried smoking. There was, however, a significant decrease in the number of Phase 2 and comparison students who reported they were regular smokers.

Healthy eating: Consumption of main food types

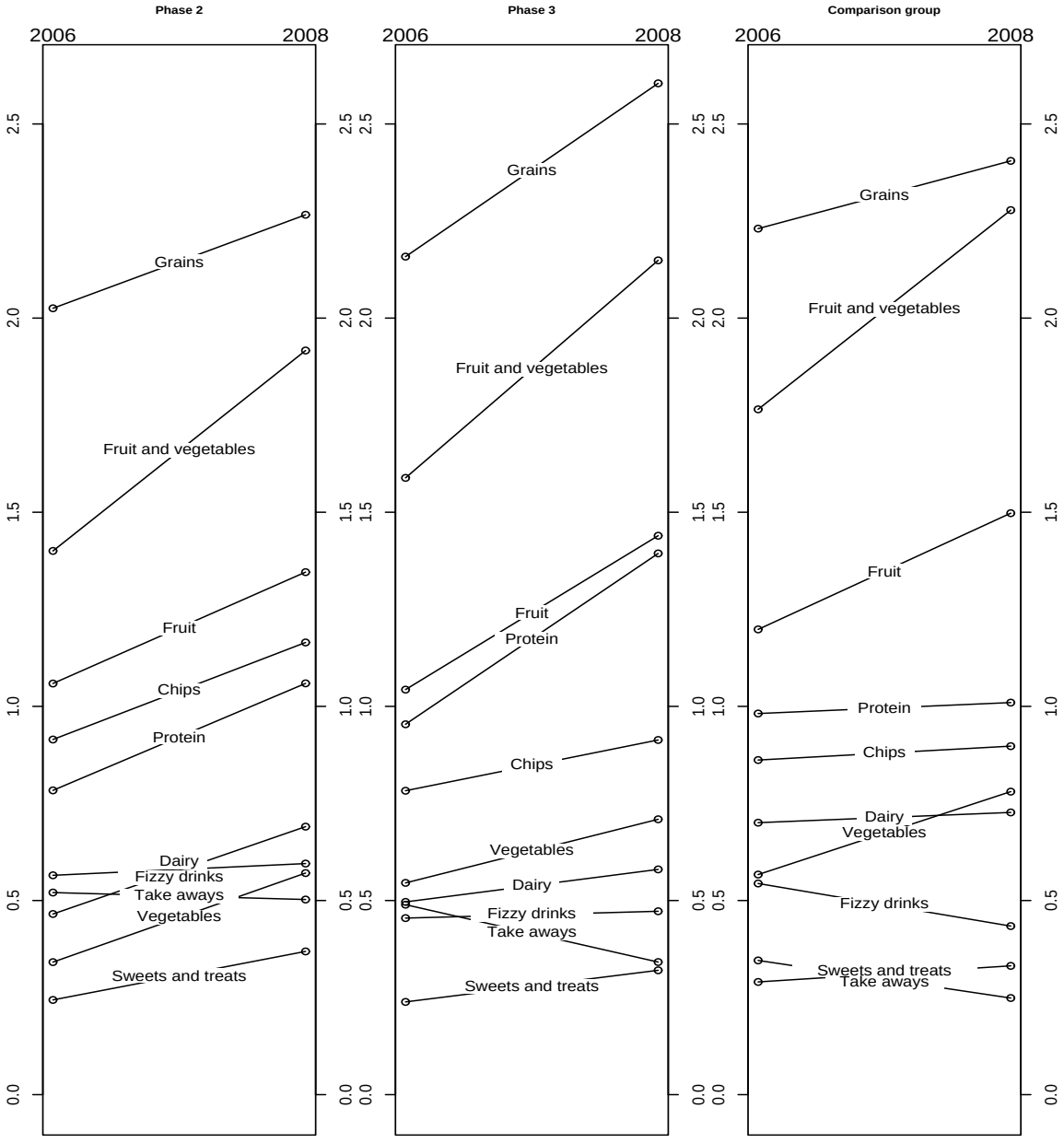
The student survey asked students to write or draw all the food they had eaten the day before the survey. These foods were then grouped into categories. Measuring changes in students' food consumption over time is complex as you need to take into account how *many* students ate each food type as well as the *amount* they ate. In this report we have used "bumps charts" which reflect both these factors by showing the mean portion of each food consumed by *all* students. Any student who did not report consuming a food type was counted as eating an amount of zero. Bumps charts give a visual picture of changes over time, and the differences between groups. Figure 2.8 shows students' mean reported consumption of the main food types at the baseline (left axis) and end of 2008 (right axis).[3] The axes on the side of each panel show the mean number of times each food was eaten. (See the technical report for the full set of data.)

The main pattern shown is an increase in healthy eating behaviours. All three groups reported significant increases in fruit consumption. In a review of healthy eating interventions for children,

[3] The survey questions were validated as comparable to observations (Edmunds & Ziebland, 2002), but the lower literacy levels of students from low-decile schools suggest it is likely that the data are under-reported. Given this, the data should not be interpreted as a nutritional survey, but as an indicator of eating patterns.

Thomas et al. (2003) report a significant positive effect is an increase of about one-fifth of a portion a day. The Healthy Futures data show a greater increase for fruit.

Figure 2.8 **Students' mean portion of main food types consumed***



* The main statistically significant changes from 2006–8 were: Phases 2 and 3 FiS: increases in consumption of fruit and vegetables, fruit, vegetables, grains, protein, chips, fizzy drinks, and sweets and treats. Comparison: increase in consumption of fruit.

FiS students also showed a significant increase in vegetable consumption of around one-fifth of a portion, and they also reported significant increases in consumption of other healthy foods such as grains (bread and cereals) and protein. Further analysis showed that the increase in grains was mostly due to a significant increase in the number of FiS students who reported they ate

sandwiches for lunch. This is likely to be related to the healthy lunchbox focus at many FiS schools (for examples, see the school case studies, Boyd & Moss, 2009). These changes were all statistically significant, indicating they represent a pattern occurring across FiS schools. The patterns for comparison students tended not to be statistically significant. This is related to the size of the comparison group as well as the cluster analysis used for the data. This suggests that the changes shown at the comparison schools were not spread across all these schools.

When looking at these data it is important to consider the context of the students and schools. By the end of 2008, students were older and therefore likely to be eating more food. At the end of 2008, four-fifths of Phase 2 schools, two-thirds of Phase 3 and no comparison schools were decile 1. Therefore, Phase 3 schools are the most similar with the comparison group, and Phase 2 schools, the least. Reflecting general population trends, those in the higher decile schools tended to show more healthy eating behaviours overall.

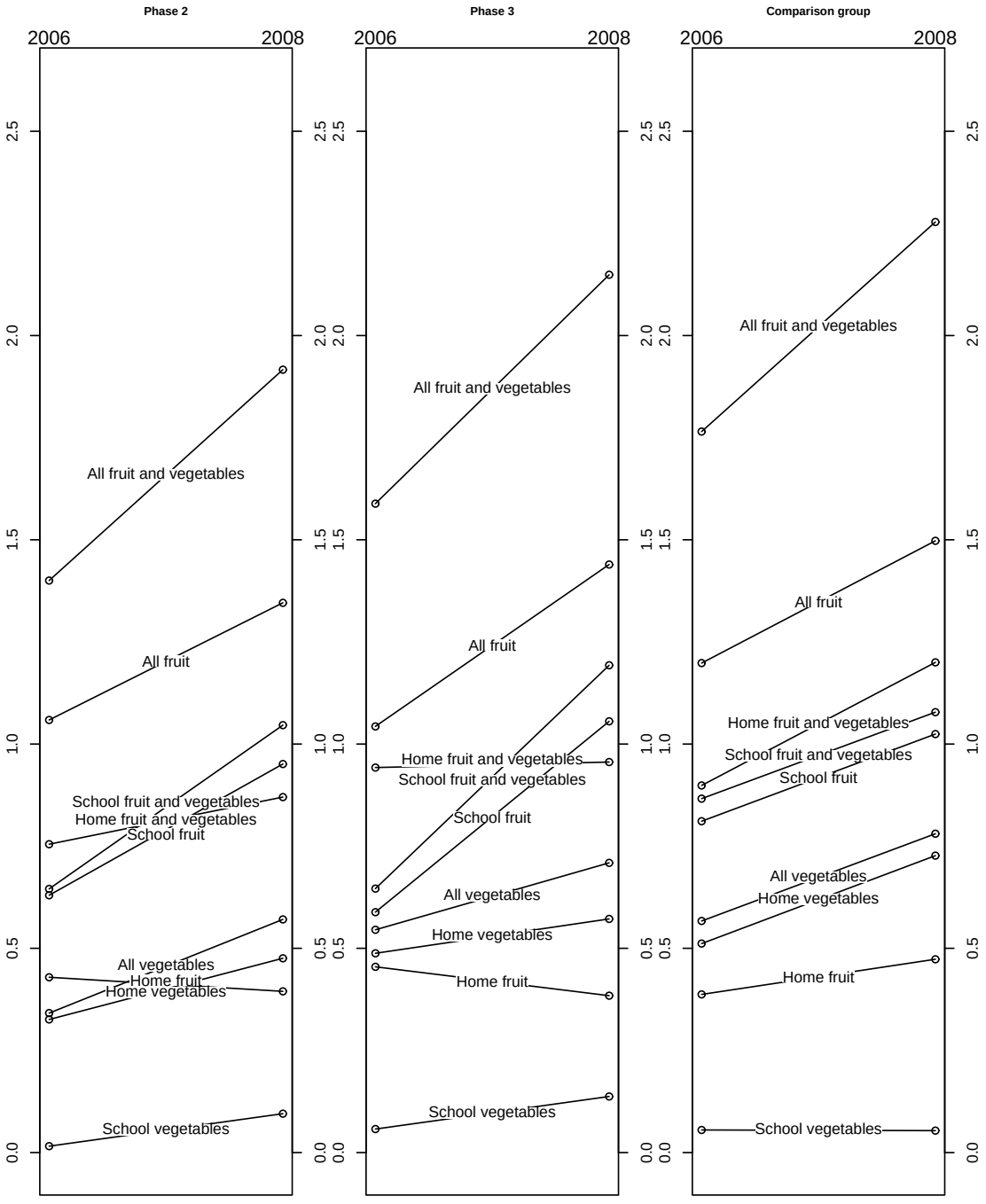
Phase 3 FiS students showed the most change in regard to healthy eating. They also showed the greatest decrease in the amount of takeaways consumed. There were some exceptions to this healthy eating trend, with FiS students also showing small significant increases in consumption of chips, fizzy drinks and sweets and treats. This pattern was most noticeable at Phase 2 schools. In part this may well be explained by the lower SES status of Phase 2 students compared to the other two groups of students. Data from the 2006/7 New Zealand Health Survey show that older children, boys, Māori and Pasifika children and those who lived in areas of high deprivation are likely to drink more fizzy drinks and eat more fast food (Ministry of Health, 2008). There was also some indication that there was a small "intervention effect" for Phase 2 students. That is, after an initial increase in healthy eating attitudes, knowledge and behaviours, there was a trend for these data to return to a position that was nearer, but still higher than, the baseline.

Consumption of fruit and vegetables at school and at home

Figure 2.9 shows students' consumption of fruit and vegetables, overall, and at school and at home. At the baseline in 2006, all three groups reported relatively low consumption of fruit and vegetables. Phase 2 students' consumption was the lowest. By the end of 2008, all three groups had increased their consumption of fruit and vegetables. This increase consisted of a rise in both fruit and vegetable intake. Most of the change in eating patterns occurred in the food students ate at school. For FiS students, the increase in fruit intake is likely to be explained by the FiS fruit, and for comparison students the similar schemes their schools had started (as reported by staff). FiS students also showed a significant increase in the consumption of vegetables at school and at home. This may be due to schools engaging in a range of activities (as reported in the school case studies), such as the promotion of vegetable eating through gardening or healthy lunch days.

Comparison students showed a larger increase than FiS students in home fruit and vegetable consumption but this was not statistically significant, suggesting this pattern was not spread across all the comparison schools. Further analysis also suggests that this pattern may be related to student SES status, as students at the higher decile Phase 3 schools also showed a similar trend.

Figure 2.9 **Mean portion of fruit and vegetables consumed at school and home***



* The main statistically significant changes from 2006–8 were: Phases 2 and 3 FiS: increase in consumption: overall (fruit and vegetables, fruit, vegetables); school (fruit and vegetables, fruit, vegetables); home (vegetables). Comparison: increase in consumption: overall (fruit); school (fruit and vegetables, fruit).

Healthy eating: Eating breakfast

Eating breakfast is acknowledged as an important aspect of healthy eating. Table 2.7 shows the number of students who reported eating breakfast the day before. All three groups showed a

decline. This was statistically significant for FiS students. This pattern conforms to general trends which show that older students are less likely to eat breakfast (Ministry of Health, 2008).

Table 2.7 **Eating breakfast**

Student group	Year 4 students Baseline %	Year 6 students End 2008 %	Shift from baseline % points
Phase 2*	**93**	**89**	**-4**
Phase 3*	**93**	**88**	**-5**
Comparison	96	94	-2

* Items in bold show a statistically significant shift from 2006–8.

Students' physical activity behaviours

The student survey included eight opportunities for students to indicate if they had engaged in mild to moderate physical activity in the day prior to the survey (examples included: walking, cycling or skateboarding to school; doing active things in class time or at lunchtime; or doing sport or kapa haka after school). Prior to FiS, students from all three groups reported they did mild to moderate physical activity an average of 4.4 to 4.5 times a day (as shown in Table 2.8). For FiS students these averages significantly increased by the end of 2008. This change in physical activity resulted from a mix of changes to school and home practices. Examples of these practices are described in the case studies (Boyd & Moss, 2009). This pattern was different for comparison students: they showed no real change between the baseline and end of 2008.

Table 2.8 **Students' mean opportunities to engage in mild to moderate physical activity**

Student group	Year 4 students Baseline Mean	Year 6 students End 2008 Mean	Shift from baseline
Phase 2*	**4.51**	**4.82**	**+0.31**
Phase 3*	**4.54**	**4.64**	**+0.10**
Comparison	4.38	4.35	-0.03

* Items in bold show a statistically significant shift from 2006–8.

We also gave students three opportunities to indicate whether they had watched TV or played computer games during the day before the survey. Their mean responses are shown in Table 2.9. Prior to FiS, students from all three groups reported they watched TV or played computer games on average two times a day. By the end of 2008, the mean for all three groups had decreased, suggesting that students or their parents were becoming more aware about the longer term impacts of these behaviours. Comparison students showed the greatest decrease. The case studies show how some FiS students were becoming more aware of the need to be physically active at home rather than watch TV (Boyd & Moss, 2009).

Table 2.9 **Students' mean amount of TV watching and computer gaming**

Student group	Year 4 students Baseline Mean	Year 6 students End 2008 Mean	Shift from baseline
Phase 2*	**2.05**	**1.91**	**-0.14**
Phase 3	1.90	1.78	-0.12
Comparison*	**2.07**	**1.78**	**-0.29**

* Items in bold show a statistically significant shift from 2006–8.

Students' physical activity behaviours at home

Prior to FiS, almost two-thirds of FiS, and three-quarters of comparison students reported they had engaged in some form of physical activity with their family during the week and the weekend before the survey. By the end of 2008, FiS students showed a tendency to report engaging in more activity in the most recent weekend (see the technical report). Significantly more Phase 2 FiS students also reported engaging in physical activity with their families during the week (see Table 2.10). Phase 3 students showed a similar trend. Comparison students showed the opposite pattern.

Table 2.10 **Do you do exercise or active things with your family during the week?**

Student group	Year 4 students Baseline Yes %	Year 6 students End 2008 Yes %	Shift from baseline % points
Phase 2*	**66**	**72**	**+6**
Phase 3	68	72	+4
Comparison	72	68	-4

* Items in bold show a statistically significant shift from 2006–8.

Students' sunsmart behaviours

At the baseline prior to FiS, comparison students tended to engage in more sunsmart behaviours than FiS students. Between the baseline and end of 2008, the data from FiS and comparison students showed different patterns. At the end of 2006, no clear pattern was observable in the FiS student data (Boyd et al., 2007). By the end of 2007, FiS students were starting to show a pattern of maintenance over time of sunsmart behaviours (Boyd et al., 2008). By the end of 2008, FiS students, and in particular those in Phase 3, were showing a much stronger pattern of maintenance, both at school and at home. Paralleling the large decrease shown in comparison students' views about the importance of sunsmart behaviours (see Figure 2.6), they tended to show a pattern of significant decreases in sunsmart behaviours at school and at home. The two practices that showed the most change are shown below (see the technical report for the full set of data). Table 2.11 shows the number of students who reported wearing sunhats "most of the time" at school and at home, and Table 2.12 shows the number reporting wearing clothes that protected them from the sun.

Table 2.11 **When you are outside in summer, do you wear a sunhat?**

Student group	Year 4 students	Year 6 students	Shift from baseline % points
At school	Baseline Most of the time %	End 2008 Most of the time %	
Phase 2	33	30	-3
Phase 3	42	40	-2
Comparison	55	39	-16
At home			
Phase 2*	**23**	**16**	**-7**
Phase 3	23	20	-3
Comparison	32	22	-10

* Items in bold show a statistically significant shift from 2006–8.

Table 2.12 **When you are outside in summer, do you wear clothes that protect you from the sun?**

Student group	Year 4 students	Year 6 students	Shift from baseline % points
At school	Baseline Most of the time %	End 2008 Most of the time %	
Phase 2*	**35**	**28**	**-7**
Phase 3*	**38**	**36**	**-2**
Comparison*	**51**	**34**	**-17**
At home			
Phase 2*	**30**	**29**	**-1**
Phase 3	33	34	+1
Comparison*	**49**	**31**	**-18**

* Items in bold show a statistically significant shift from 2006–8.

A history of childhood sunburn is a risk factor for melanoma later in life (The Cancer Society, 2007). At the end of 2008, the number of FiS students who reported they "hardly ever" got sunburnt, both at school and at home, had significantly increased, suggesting they were engaging in more sunsmart practices (as shown in Table 2.13). This pattern was the strongest for Phase 3 students. Comparison students showed a smaller nonsignificant trend in the same direction.

Table 2.13 **When you are outside in summer, do you do get sunburnt?**

Student group	Year 4 students	Year 6 students	Shift from baseline % points
At school	Baseline Hardly ever %	End 2008 Hardly ever %	
Phase 2*	**52**	**62**	**+10**
Phase 3*	**56**	**68**	**+12**
Comparison	60	68	+8
At home			
Phase 2*	**49**	**56**	**+7**
Phase 3*	**52**	**64**	**+12**
Comparison	54	60	+6

* Items in bold show a statistically significant shift from 2006–8.

We also asked students about their families' home sunsmart practices. These data showed the same trends. Phase 3 students reported their families had maintained their sunsmart practices, Phase 2 students reported a slight decrease in family practices and comparison students reported a larger decrease (see the technical report for the full set of data). This suggests there was more sharing of messages between school and home at FiS schools about the importance of being sunsmart.

Students' smokefree behaviours

New Zealand studies show that most children first try smoking between the ages of eight to 11 (TNS, 2004; Health Sponsorship Council, 2005), and those who try smoking earlier are more likely to become regular smokers (Health Sponsorship Council, 2005). The Healthy Futures student data show that, at the baseline prior to FiS, between 7 to 10 percent of each group of students reported they had tried smoking (see Table 2.14). By 2008, these numbers had increased. But the Healthy Futures data are different from the national picture because the number of students who had developed a longer term smoking habit appeared to be decreasing. Prior to FiS, a relatively high proportion (4.5 percent) of Phase 2 FiS students reported they smoked more than one cigarette a week. By the end of 2008, significantly fewer students (1.7 percent) reported the same. In 2007, this trend was only noticeable for Phase 2 students (see the data reported in Boyd et al., 2008). By the end of 2008, all three groups of students reported less actual smoking behaviour compared to the baseline. The case studies provide some explanation for this pattern. Some FiS schools were becoming more aware of student, staff and parent smoking and were increasing their focus on promoting smokefree behaviours (Boyd & Moss, 2009). Students also reported that their behaviours were influenced by the visits of external providers to school such as Life Education and smokefree role models, as well as the smokefree ad campaigns on TV.

These changes are also likely to reflect wider societal changes. Students' responses to survey questions about family smoking behaviours show that the family members who did smoke were increasingly doing so outside the house (see the technical report for the full set of data).

Table 2.14 **Students' smokefree behaviours**

Tried smoking	Year 4 students Baseline Yes %	Year 6 students End 2008 Yes %	Shift from baseline % points
Phase 2 FiS*	**10.2**	**15.4**	**+5.2**
Phase 3 FiS*	**6.9**	**14.3**	**+7.4**
Comparison	7.8	11.2	+3.4
Smokes more than one cigarette a week			
Phase 2 FiS*	**4.5**	**1.7**	**-2.8**
Phase 3 FiS	3.6	2.3	-1.3
Comparison*	**3.2**	**1.5**	**-1.7**

* Items in bold show a statistically significant shift from 2006–8.

Differences in the student data by gender and ethnicity

At the baseline prior to FiS, there were a number of gender differences in the student data in relation to the four health areas. These differences mostly favoured girls. Girls tended to: be more positive about school; have more knowledge of, and more positive attitudes towards, healthy practices; engage in a wider range of healthy behaviours; and maintain these behaviours over time. Gender differences in regard to healthy eating and smokefree tended to continue over time. This suggests girls are more concerned about their health, and are more likely to take on board messages and make behaviour changes related to these messages. Although boys' practices tended to be less healthy, the boys at FiS schools showed a stronger pattern of maintaining positive attitudes towards school and healthy behaviours than their peers at comparison schools.

We also analysed the student data to ascertain if there were any significant differences between Māori, Pasifika and NZ European students. Overall, there were few significant differences by ethnicity. In general, students who identified as Pasifika tended to express more positive attitudes than their Māori or NZ European peers. Each group of students tended to show some healthy and some less healthy patterns which also varied depending on whether they attended a Phase 2 or a Phase 3 school. This suggests these differences are more to do with school and regional variations. The follow-up surveys over 2006–8 showed that some of the more pronounced differences had diminished and over time the different groups had become more similar to each other, and more similar to their peers at the comparison schools.

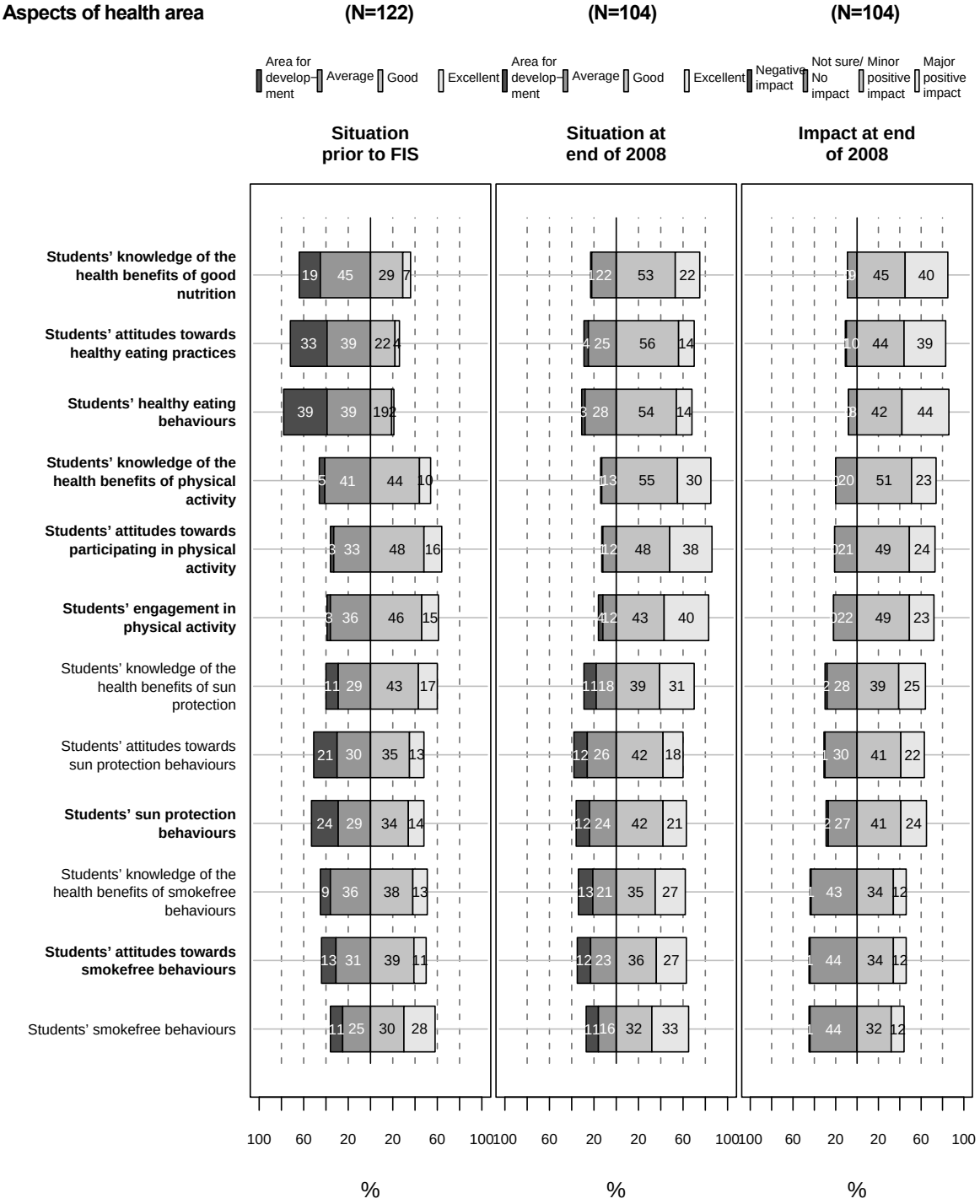
Teachers' views on the contribution of FiS to student outcomes

To ascertain teachers' views on whether FiS was having an impact on student outcomes in the four FiS priority areas, in the baseline and end-of-2008 teacher surveys we asked lead and Year 6 classroom teachers to rate students' knowledge, attitudes and behaviours in relation to each health area. The data from Phases 1 to 3 lead teachers are shown in Figure 2.10. The left-hand scale shows ratings prior to FiS, the middle scale—ratings at the end of 2008 and the right-hand scale shows views on whether being part of FiS had contributed to changes.

At the end of 2008, teachers' ratings of all of the healthy eating and physical activity practices, and some sunsmart and smokefree practices, showed a shift from the baseline, with significantly more rating students' practices as "excellent" or "good". Lead teachers considered that FiS had contributed to these changes with over 80 percent reporting that FiS had impacted positively on students' healthy eating practices, over 70 percent on physical activity, over 60 percent on sunsmart and over 40 percent on smokefree practices.

Year 6 teachers' views were similar to lead teachers in regard to three of the health areas: healthy eating (over 80 percent); physical activity (around 60 percent); and smokefree (over 50 percent). Year 6 teachers had different views about the sunsmart area with only approximately one-quarter reporting impacts in this area (see the technical report for the full set of data).

Figure 2.10 **Lead teachers' views on the impact of FiS on student outcomes***

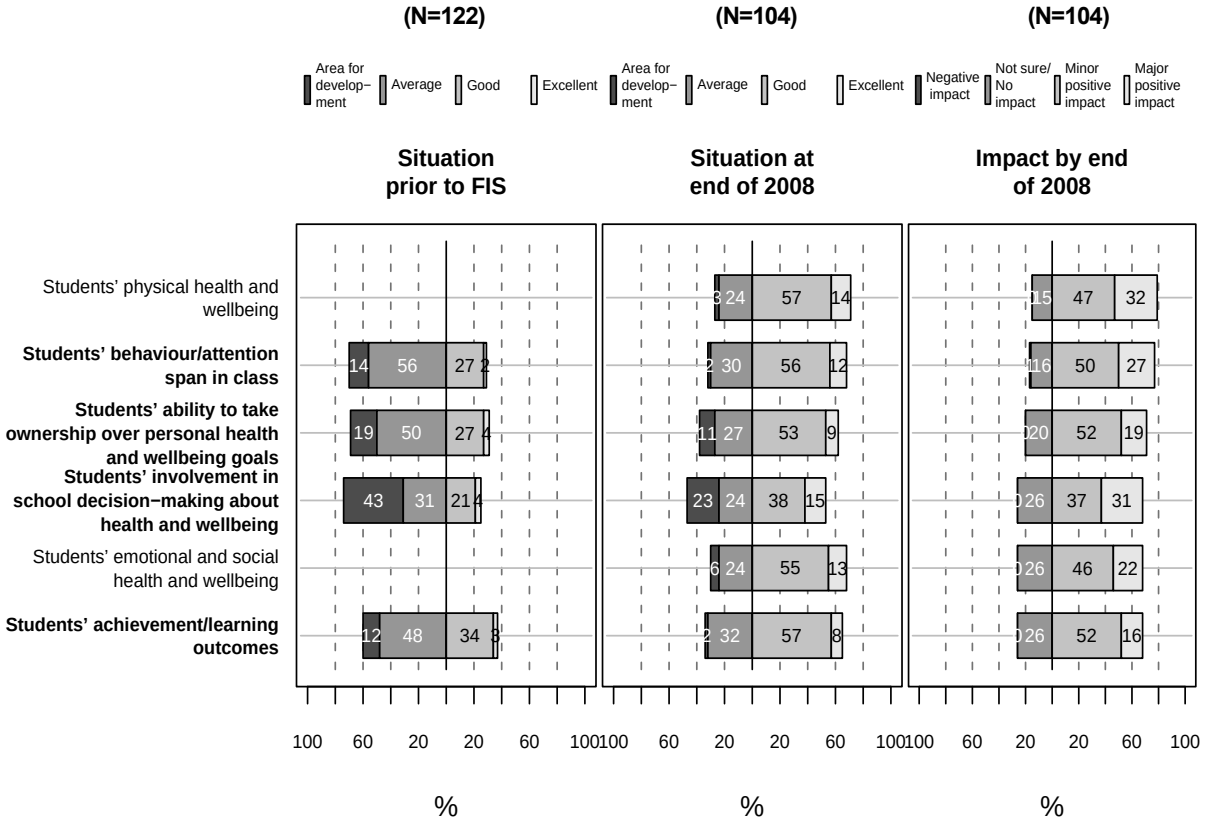


* Items in bold show a statistically significant shift from 2006–8.

Looked at in combination, this suggests that FiS has had most impact on three health areas: healthy eating, physical activity and sunsmart. The impacts reported by teachers are generally consistent with the student data which show change across all four areas. Reflecting their longer involvement in FiS, there was a tendency for a larger number of Phase 1 lead teachers to report that FiS had a "major" impact on many of the listed items.

To ascertain if FiS was having an impact on student outcomes beyond the four FiS priority areas, we also asked teachers to rate students' behaviours or actions in regard to other selected key areas. As shown in Figure 2.11, teachers' ratings of these practices also showed a positive shift, with more rating practices as "excellent" or "good" by the end of 2008. The majority of lead teachers and Year 6 teachers considered that FiS had contributed to these changes. Teachers considered the greatest impacts to be in regard to students' physical health (as also shown in Figure 2.10 above). But this information also suggests that FiS is having an impact on other practices such as student involvement in school decision making. This finding is supported by the student data. Reflecting their longer involvement in FiS, there was a tendency for a larger number of Phase 1 lead teachers to report that FiS had a "major" impact on many of the listed items.

Figure 2.11 **Lead teachers' views on the impact of FiS on wider student outcomes***



* Items in bold show a statistically significant shift from 2006–8.

2.3 What enabled the changes to the student data?

In combination, these data suggest that, at FiS schools, the focus on being a "healthy school" and the prioritisation of health and wellbeing was acting as a "protective factor" which was contributing to the positive climate at these schools and better outcomes for students. This finding is corroborated by the case studies (Boyd et al., 2007; Boyd & Moss, 2009), which show that FiS students' sense of connection to school and their interest in healthy lifestyles was supported by: their schools' overall focus on being a "healthy school"; the free fruit they received at school

which created a positive climate; FiS/HPS-related leadership activities such as being a member of a school health team or a PAL, or working on school garden or enviroschool projects; and active learning opportunities such as taking part in healthy lunch days or promoting health at school events. Both staff and students considered student leadership opportunities to be connected with positive changes to students' emotional and social, as well as physical, wellbeing, as well as their skills and competencies. These findings suggest that there is a wide range of both health and educational benefits that can stem from actively involving students in health promotion.

2.4 Short summary of changes for students

In combination with insights from the school case studies, the student survey data suggest that the active promotion of health and wellbeing at FiS schools was acting to slow down the expected decline that occurs in healthy attitudes and behaviours as students get older. The data from FiS students mostly show a pattern of no shift (maintenance over time) or small positive changes in students' attitudes, knowledge or behaviours. By the end of 2008 this pattern was noticeable across all four health areas. The many small changes contributed to a collective picture of positive change. This suggests that FiS is assisting in creating a generation of students who are more aware of healthy choices in general, and are engaging in related behaviours. The comparison students conformed more to the expected pattern. There was also some evidence that practices at FiS schools were starting to spread to the home environment. Since schools joined FiS, the main key patterns of change for the three groups of students (Phases 2 and 3 FiS, and comparison) were:

- maintenance of positive attitudes towards, and awareness of, healthy behaviours (Phases 2 and 3 FiS)
- increases in the consumption of healthy foods such as fruit and vegetables (all groups, with the changes being statistically significant for Phases 2 and 3 FiS)
- increases in the mean amount of mild to moderate physical activity (Phases 2 and 3 FiS)
- maintenance over time of sunsmart practices (Phases 2 and 3 FiS)
- a decrease in the number of students who reported they smoked more than one cigarette a week (Phase 2 FiS and comparison).

There were some key differences between FiS and comparison students and schools. FiS students had more positive views about school, and FiS schools had a greater focus on the four health areas and offered students more opportunities to take an active role in promoting their school as a "healthy school". The data suggest that this "healthy schools" focus was assisting in creating a positive climate of "protective factors" that are linked to longer term improvements in both health and education outcomes.

There were some differences between groups of schools or students, especially at the baseline. But, in general, the combined effect of the changes at FiS schools was that students were becoming more like their peers in the higher decile comparison schools.

What are the main enablers of change for FiS students?

- The FiS fruit which created a positive climate and contributed to students' positive attitudes towards healthy eating and school.
- The "healthy schools" focus at FiS schools and the prioritisation of health and wellbeing.
- Use of approaches that enable students to actively promote health (e.g., health teams and PALs).

3. Changes to school practice

School and teacher practice is important in creating a health-promoting environment. This section of the report summarises the main findings from the school staff surveys concerning FiS's contribution to changing school practice. Most of this information comes from baseline and end-of-2008 surveys of FiS lead teachers from Phases 1 to 3 schools, and classroom teachers from Phases 2 to 3 schools. The baseline classroom teacher survey was completed by Year 4 teachers (who taught the students we were tracking), and the end-of-2008 survey, by Year 6 teachers (who now taught the students we were tracking). The data are reported as a percentage of the total number of teachers who completed the surveys. These figures are:

- FiS lead teachers: Baseline N=122; End 2008 N=104
- Classroom teachers: Baseline N=52; End 2008 N=46.

In a few cases, we discuss or report data from earlier follow-up surveys, and we have also included some findings from the case studies to provide a context. The numerical data presented in this section should be interpreted with care, given than in some cases, the total number of people responding to a particular survey is small (around 50). This section also includes a short summary of findings from the comparison staff surveys. The small number of comparison schools (seven) meant it was not feasible to do a detailed analysis of these data. Instead, a few selected findings are reported.

A summary of the main findings from this chapter is presented below. A short summary is also located at the end of the chapter.

The information we collected from staff at FiS schools suggests that, since joining FiS, a number of key changes have occurred at FiS schools. Looked at in combination, the teacher data show a similar pattern to the student data; that is, school staff have made many small changes that collectively contribute to a systematic shift in practice. The changes reported by teachers generally reflect the findings from the student surveys.

To look at what was changing in schools we looked for shifts in the areas that are targeted in the HPS framework as sites of potential change. These are:

- school organisation and ethos (that is, school-wide policies, practice and environment)
- curriculum, teaching and learning (that is, what happens in classroom programmes)
- community links and partnerships (with parents and whānau)
- community links and partnerships (with health and other agencies).

The types of changes shown in the data spanned these four areas, with most change being related to school-wide approaches and practice and to the connections made with health and other agencies.

Overall, there has been an increase in school staff's awareness of, and commitment to, promoting health and wellbeing and the use of the HPS approach. In general, FiS is supporting changes to the way schools promote health that align with the Ottawa Charter (World Health Organization, 1986) and the revised curriculum (Ministry of Education, 2007). This is shown by the way that, since the baseline, staff at FiS schools have become more focused on involving students in decision-making and leadership roles, and are creating more opportunities for students to actively "learn by doing" health promotion (rather than just "learning about" health). The student leadership workshops run by FiSC were cited as key enablers of this change, as was support from agency partners such as PALs training.

Parent and whānau involvement in school health activities showed smaller changes over time. There was increased parental involvement in healthy eating activities, and classroom teachers were making more use of parents' specific expertise. The case studies show how schools are increasingly using HPS processes to consult parents and review priorities. In general, the Healthy Futures data suggest that gaining wider involvement by parents is an ongoing challenge for many schools, and requires time and support.

Over time the data show a growth in the involvement of agency partners in schools. By the end of 2008 there had been a significant increase in the number of schools taking part in the programmes provided by three of the main agencies (NHF, SPARC/RST and CS). Classroom teachers also reported a greater depth of involvement by others in their health programmes. Prior to FiS, teachers were already using many of the resources provided by the main agency partners, and this continued over time. Overall, it appears that increased contact with ***people***, that is, agency representatives, has been a key factor in supporting changes both to wider school practices and within the classroom. These findings suggest FiS is facilitating increased access to low-decile schools for agency partners. There was one main exception to this trend: the data showed a pattern of continued low involvement by SSS.

Initially it was planned that FiS schools would, over a three-year time frame, improve their approaches to four health priority areas. Instead, the data suggest that many schools prioritised the two areas that were most closely linked to the curriculum—healthy eating and physical activity—and have spent 2 to 3 years building approaches to these areas. In 2007–8, staff attention was also focused on the sunsmart area. Since the baseline, FiS schools have improved their healthy eating and sunsmart policies and guidelines. They have also improved practices in these two areas and in regard to physical activity. The actions schools have taken are evident in the student data. Information from the comparison schools also suggests that the practices evolving at FiS schools were spreading across the sector.

Over 2006–8, schools showed little change in practice in regard to the smokefree component of FiS. The smokefree area has received less regional agency support than the other health areas, suggesting more "hands-on" support could be required.

Many survey schools also had a focus on social and emotional health and wellbeing and the case studies show how schools saw student leadership activities to be one aspect of their focus on enhancing social and emotional wellbeing. Given the importance of this aspect of health, more priority could be placed on including this area within the FiS model to ensure that FiS reflects holistic approaches to health and wellbeing and the school curriculum.

The follow-up surveys over 2006–8 paint a picture of FiS as an initiative that is raising the profile of health and wellbeing within schools and supporting schools to make changes to their environment that are having positive flow-on effects for students. A number of these changes are starting to become embedded within the culture of schools. As you would expect in a staged initiative, those who joined FiS in earlier phases (1 and 2) now report the most change and greatest access to agency partners. The data also suggest that longer time-frames and ongoing support are necessary for all schools to get to the point at which they have structures in place that will enable changes to be sustained in the longer term.

3.1 Health priorities and ways of working

As part of FiS, there was an initial expectation that schools would cover the four health areas within a three-year time period. In the 2006–8 follow-up surveys we asked school staff which areas they had focused on during the year, and whether they had made changes to this area. As shown in Table 3.1, these data show a continued focus over time on three of the four FiS areas by the majority of schools—with healthy eating and physical activity being the highest priority. Both the lead teacher and student data show that smokefree was the area of least focus. At the end of 2008, there were some differences between the phases of FiS. Phase 2 lead teachers were more focused on making changes to sunsmart and smokefree practices than Phase 1 and Phase 3 teachers. Given connection between emotional and social wellbeing and student outcomes, we also asked about this aspect of health and wellbeing. There was a trend over time for schools to be increasing their focus on this area.

Table 3.1 **The health priority areas focused on at FiS schools**

	Lead teachers		
Area	**Focus in 2006 Phases 1&2 (N=75) %**	**Focus in 2007 Phases 1–3 (N=130) %**	**Focus in 2008 Phases 1–3 (N=104) %**
Healthy eating	95	93	93
Physical activity	93	89	86
Sunsmart	67	64	65
Smokefree	40	31	38
Emotional and social wellbeing	55	61	66
Other areas	9	14	14
No areas	3	1	1
Not sure	NA	1	-

A number of factors had influenced schools' decisions to focus on the FiS health areas. These included: school priorities and long-term plans; input from community consultations; a desire to explore the FiS priority areas; the existence of NAGs in an area; and the availability of programmes to support an area.

When asked what aspects of school practice they had changed, most teachers described a range of practices (see the technical report and school case studies for specific examples). Rather than covering all four areas within the three-year time period, instead this information suggests that schools are building their approaches over time by focusing on a few priority areas. The most common focus areas were healthy eating and physical activity. Both these are closely linked to the curriculum, and have associated NAGs. This gives some indication of the likely time frames for the enhancement of school practices in one or two health areas and also shows the importance of regulations such as NAGs in facilitating change. The data also reinforce the concern raised in earlier reports that schools are not addressing the smokefree component of FiS as staff perceived their schools to be "already smokefree" as required by legislation (Boyd et al., 2008).

Increased use of health promotion processes

Another expectation of FiS is that schools will use the HPS approach to develop ways to address the four health areas. At the baseline, 33 percent of schools were using the HPS approach. Since joining FiS, the number of schools using this approach had nearly tripled. Most schools (92 percent) reporting using the HPS approach by the end of 2008.

To action the HPS process, schools are encouraged to develop a health team. At the end of 2008, most schools (75 percent) had a health team which included representation from a range of people. Those most likely to be a member of this team were FiS lead teachers (67 percent) and students (53 percent), other teachers with responsibilities for health and PE (51 percent) and the principal (47 percent). Around one-third of teams also included representation from parents and whānau (31 percent), and local health professionals (27 percent). One-fifth of teams included other senior staff (22 percent), teaching assistants (21 percent) and board of trustee members (21 percent). A few teams also included members of local community groups (9 percent). This suggests that many schools have a range of people involved in setting the directions for school health and wellbeing initiatives and in building approaches to health and wellbeing.

3.2 The contribution of FiS to changes to the school system

The data presented above suggest that school health and wellbeing focuses and approaches were changing as a result of FiS. But what exactly was changing and did this make a difference? The next section of this report explores these questions by looking at the changes that have occurred in schools. The following section then gives more detail about how being part of FiS had influenced practices at different levels of the school system as defined by the HPS framework.

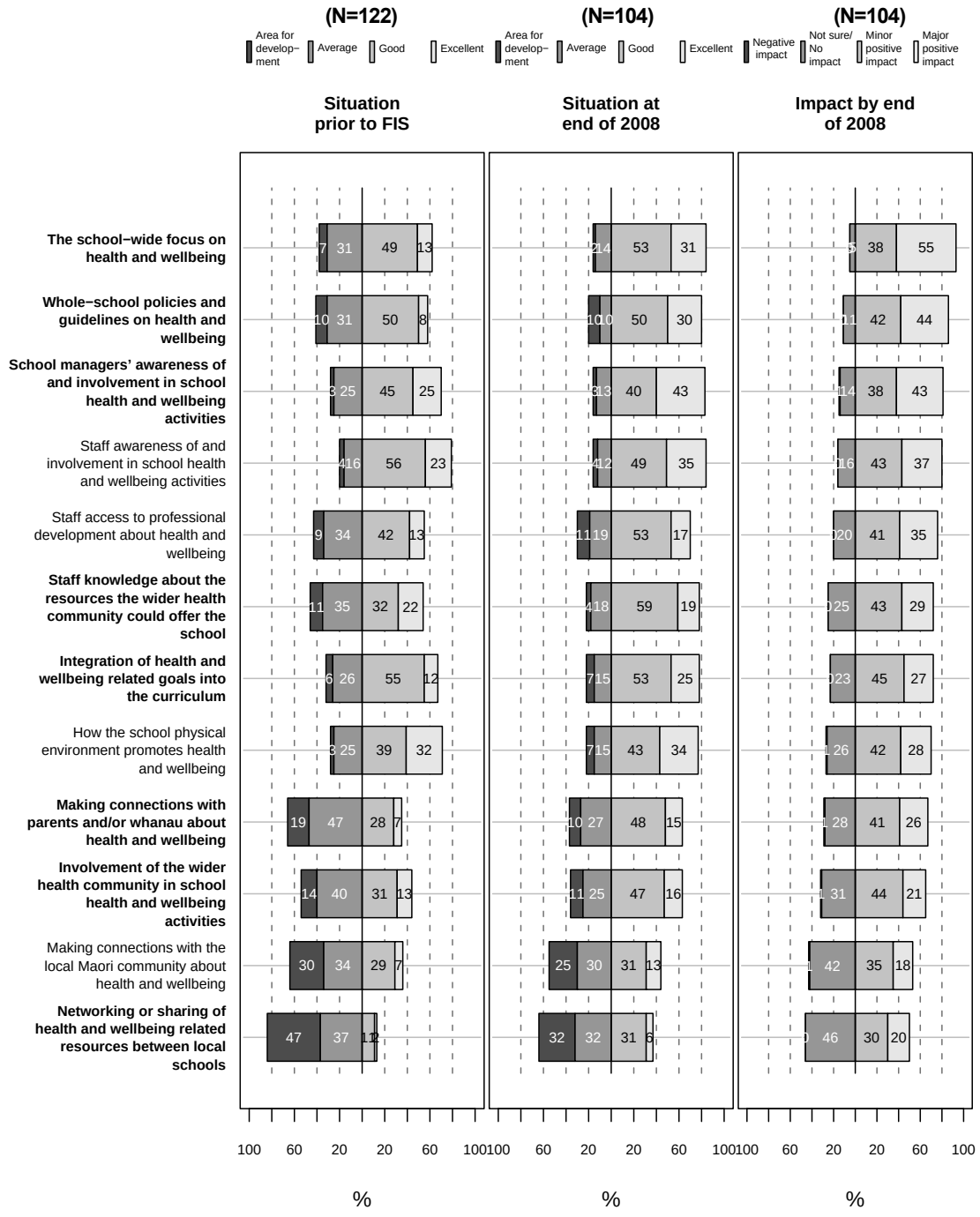
The contribution of FiS to changes to school-wide practices

To ascertain FiS's contribution to change at a school-wide level, in the baseline and end-of-2008 surveys we asked school staff to rate their school's situation in relation to a number of school-wide practices. At the end of 2008 we also asked staff to indicate whether being part of FiS had supported changes. The data from Phases 1–3 lead teachers are shown in Figure 3.1. The left-hand scale shows lead teachers' ratings of school practices prior to FiS, the middle scale shows ratings at the end of 2008 and the right-hand scale shows views on whether FiS had contributed to change.

At the end of 2008, lead teachers' ratings of eight of the 12 practices showed a shift from the baseline with significantly more rating these practices as "excellent" or "good". Half or more lead teachers considered that FiS had facilitated a "major" or "minor" positive change to all the listed practices, with the largest impacts being on schools' overall emphasis on health and wellbeing and policies and guidelines. This suggests that being a FiS school is supporting a change to school culture.

Overall, most Year 6 classroom teachers had similar views to lead teachers in regard to the main impacts of FiS. But classroom teachers also showed more diversity in their views, with small numbers considering FiS to have had a negative impact on each school practice. This was most evident in regard to staff access to PD, and networking or sharing between schools. This is likely to be related to the lead teacher model used by FiS which channels most PD and networking through lead teachers and school leaders (see the technical report for the full set of data).

Figure 3.1 **Lead teachers' views on the impact of FiS on school-wide practices***



* Items in bold show a statistically significant shift from 2006–8.

Lead and classroom teachers tended to report that FiS had facilitated the most change in areas where their school had a stronger base on which to build. That is, prior to FiS, they rated these areas as "excellent" or "good". The two areas that lead teachers considered needed the most development stayed the same over time. These were networking or sharing of resources between local schools, and making connections with the local Māori community.

Given the rapidly changing health policy environment surrounding FiS schools, we also asked lead teachers about other initiatives that might have influenced their approaches (see Table 3.2).

Table 3.2 **Other health-related initiatives impacting on FiS schools**

Initiative	Lead teachers (Phases 1–3) End 2008 (N=104) %
The new food and beverage classification system, tool kits for schools and NAGs	51
Other initiatives that are part of Mission-On or HEHA	28
Media campaigns (e.g., focus on healthy lifestyles or obesity)	12
Regional initiatives (such as Project Energize)	5
Other	5
No initiatives	30

Although other initiatives were also influencing school practice, the amount of change shown in Figure 3.1, and the fact that FiS lead teachers were attributing these changes to FiS, suggests that FiS had acted to place health and wellbeing squarely on the agenda in FiS schools. One lead teacher provided a comment that was echoed by others:

> Our school has changed and improved its approaches to health and wellbeing over the past few years—FiS has been an outstanding catalyst to make the changes. The children are now guiding what parents need to buy from supermarkets for healthy eating!!

3.3 Changes to school policies and practices

Figure 3.1 above shows that teachers considered one main impact of FiS to be the way it had supported changes to school policies and guidelines. Reviewing school-wide practices to ensure they are health promoting is one way of changing the school environment. This is acknowledged in the HPS framework which specifies "School organisation and ethos" as an aspect of the school system to consider when planning change. To explore the impact of FiS on this aspect of school practice, we asked lead teachers about the policies, guidelines and practices at their school. The data below mostly cover the policy development occurring at schools. Specific examples of the types of actions and practices schools used to promote the four health areas are contained in the school case studies (Boyd & Moss, 2009).

Overall, these data show that, at the baseline and end of 2008, most schools had some policies, procedures or guidelines in place in each of the health priority areas. For some of the health areas, or aspects of an area, a larger number of schools had policies or guidelines. At the baseline, schools varied as to how many health areas were covered by policies: 49 percent had some form of policy or guideline in all four areas, 30 percent in three, 20 percent in one or two and 2 percent in no areas. By 2008, all had some policies, with 55 percent having policies in all four areas, 32 percent in three areas and 14 percent in one or two areas. The area on which more schools focused—healthy eating—showed the largest increase in policy development over time, and the area that had been least focused on—smokefree—showed least change.

Changes to healthy eating policies, guidelines and practices

Table 3.3 shows the number of schools that had some form of healthy eating policy or guideline. At the baseline, many schools (85 percent) already had some form of policy in place. By the end of 2008, most schools had some form of policy in place. Many schools had also added more components to their policies, with all the listed items showing a positive significant shift in the number reporting having this item. In particular, prior to FiS only 35 percent of schools had a policy or guidelines about the food eaten at school events. By the end of 2008, this figure had nearly doubled to 75 percent. By the end of 2008, nearly all schools (94 percent) were making efforts to publicise and share their guidelines with parents and whānau.

Table 3.3 **School healthy eating policies, guidelines and practices**

	Lead teachers (Phases 1–3)	
Aspect of policy, guideline or promotion	Baseline (N=122) %	End 2008 (N=104) %
Some form of healthy eating policy or guideline*	**85**	**94**
A school-wide healthy eating or nutrition policy or guidelines*	**70**	**85**
Healthy food guidelines for interval, lunch or breakfast food*	**78**	**88**
Healthy food guidelines for food on sale at school*	**67**	**75**
Healthy food guidelines for school events*	**35**	**75**
Healthy food guidelines for buying food or rewards for students*	**43**	**72**
Healthy food guidelines for fundraising sales*	**36**	**68**
Guidelines for the modelling of healthy eating by staff*	**44**	**62**
Publicised school healthy eating or nutrition guidelines*	**77**	**94**

* Items in bold show a statistically significant shift from 2006–8.

As noted in Figure 3.1, lead teachers considered FiS to have supported these changes in school policies and practices. The changes to NAG 5, which initially required schools to promote healthy eating and sell only healthy options, had also reinforced the need for schools to improve their policies. Many lead teachers (70 percent) reported their school had made changes as a result of this NAG. For 30 percent this involved improving on the changes they had already made as a result of joining FiS. Of the schools that did not make any changes, 19 percent had done so prior

to the NAG as a result of joining FiS, and 5 percent already met the requirements of this NAG prior to FiS. Only 1 percent noted they had not considered the NAG.

Changes to physical activity policies, guidelines and practices

At the baseline, many schools (86 percent) already had a number of physical activity policies in place. This is likely to reflect the emphasis placed on physical activity in the Health and PE curriculum, and NAG requirements around physical activity. Table 3.4 shows that there was a nonsignificant pattern for schools to have fewer policies in this area by the end of 2008. The case studies and Table 3.7 below show that instead, much of the change to this area was centred around developing student leadership approaches such as setting up student PAL teams, introducing students to a wider range of different types of physical activity and organising lunch-time activities (Boyd & Moss, 2009). By the end of 2008, both lead and classroom teachers reported a small increase in the mean number of sessions of physical activity Years 4–6 students took part in each week in class time (lead teachers: from 4.2 to 4.7 times), and the mean amount of time students engaged in physical activity a week (lead teachers: 2.4 to 2.6 hours). This is consistent with student reports.

Table 3.4 **School physical activity policies, guidelines and practices**

	Lead teachers (Phases 1–3)	
Aspect of policy, guideline or promotion	**Baseline (N=122) %**	**End 2008 (N=104) %**
Some form of physical activity policy or guideline	86	78
A whole-school policy or guidelines about physical activity	80	73
Guidelines for the amount of physical activity students do each week*	**79**	**63**
Guidelines for the modelling of physical activity by staff	51	43
A focus on students staying active during class time	NA	58
Promotion of walking or cycling to school (e.g., Walking School Bus)	50	40
Publicised school physical activity guidelines (e.g., in newsletters)	60	65

* Items in bold show a statistically significant shift from 2006–8.

Changes to sunsmart policies, guidelines and practices

School leaders and teachers at the case study schools described how joining FiS encouraged them to "re-activate" their sunsmart policies and practices (Boyd & Moss, 2009). This appeared to be the case for most FiS schools. Table 3.5 shows that, since the baseline, many had added more components to their sunsmart policies, with most of the listed items showing a significant shift in the number who reported having this item in place.

Table 3.5 **School sunsmart policies, guidelines and practices**

Aspect of policy, guideline or promotion	Lead teachers (Phases 1–3) Baseline (N=122) %	End 2008 (N=104) %
Some form of sunsmart policy or guideline	92	95
A sun protection policy or plan*	**76**	**88**
A requirement that students wear sunhats when outside in summer*	**82**	**89**
A requirement that students wear sunscreen at lunchtime or during school events in summer*	**69**	**79**
Suggested times for outside activities and PE in summer*	**59**	**74**
Guidelines for the modelling of sun protection behaviours by staff*	**69**	**88**
Shady areas provided in the school grounds	98	95
Shady areas provided at sporting or other outdoor events	80	88
Publicised school sunsmart guidelines (e.g., in newsletters)	77	85

* Items in bold show a statistically significant shift from 2006–8.

Changes to smokefree policies, guidelines and practices

Prior to FiS, reflecting legal requirements around smokefree workplaces, nearly all schools reported they had a smokefree policy and publicised their school as smokefree (see Table 3.6). Unlike the changes shown in some of the other health areas, since the baseline there had been little change to school smokefree policies and guidelines.

Table 3.6 **School smokefree policies, guidelines and practices**

Aspect of policy, guideline or promotion	Lead teachers (Phases 1–3) Baseline (N=122) %	End 2008 (N=104) %
Some form of smokefree policy or guideline	97	97
A smokefree policy	94	94
Guidelines for ensuring school events are smokefree	89	91
Guidelines for the modelling of smokefree behaviours by staff	75	80
Guidelines on avoiding tobacco-sponsored organisations and products	55	58
Guidelines for addressing student smoking	69	60
The school is publicised as smokefree (e.g., by signs, posters, or newsletters)	97	98

3.4 Partnerships with students, parents and whānau

"Community links and partnerships" is noted in the HPS framework as one aspect of the school system to consider when developing approaches. As part of the HPS process, it is suggested that students are included on health teams. Therefore, you would expect that FiS would be supporting increased student involvement in decision making and health promotion activities at school. The student data show that FiS students considered they had "a lot" of input into school activities in relation to health (see Table 2.2). The teacher data confirm this. Table 3.7 below shows a

significant increase in the number of lead teachers who reported students were involved in school-wide decisions and activities. In some of the health areas, students also had more opportunity to actively participate in school-wide health promotion events. This change occurred in the three main health areas on which the schools focused. Again, the smokefree area showed little change.

We asked teachers to give examples of the types of decision-making and leadership opportunities provided to students. Most commonly mentioned were activities such as being a member of a health team, promoting health messages at school events or assemblies or acting as healthy eating monitors or PALs.

Table 3.7 **Student involvement in school-wide health decisions and activities**

	Lead teachers (Phases 1–3)	
Type of student involvement in the four health areas	Baseline (N=122) %	End 2008 (N=104) %
Healthy eating		
Decisions about school healthy eating activities*	**61**	**89**
Participation in school-wide healthy eating activities*	**78**	**92**
Physical activity		
Decisions about school physical activity*	**66**	**82**
Participation in organised lunchtime physical activity	86	94
Participation in organised weekly out-of-school time physical activity	71	70
Sunsmart		
Decisions about school sun protection activities*	**47**	**66**
Participation in school-wide sun protection activities*	**30**	**64**
Smokefree		
Decisions about smokefree activities	39	39
Participation in school-wide smokefree activities	45	44
Participation in local, national or international smokefree activities	37	50

* Items in bold show a statistically significant shift from 2006–8.

As part of the HPS process, it is also recommended that parents and whānau are included on health teams and that schools engage with their community to promote health and wellbeing. The 2008 data show that some change was happening to this aspect of school practice, but also that it continues to be an area which requires more support. Earlier Healthy Futures reports show that forming partnerships with parents and whānau was an aspect of FiS that schools found more challenging (Boyd et al., 2007; Boyd et al., 2008). Other research also shows that building successful home–school partnerships requires shared goals, time and commitment (Bull, Brooking, & Campbell, 2008).

Tables 3.3 to 3.6 above show that schools were making more effort to share information about health priorities in newsletters and had developed policies to encourage the wider school community to promote health at school events. Figure 3.1 shows that lead teachers considered FiS to be facilitating increased connections with parents and whānau. In addition, almost one-third (31 percent) of schools had parent representation on health teams and the case studies show how

schools were increasingly consulting parents about health and wellbeing priorities and developing new ways to address these priorities (Boyd & Moss, 2009). Table 3.8 shows parent and whānau involvement in school decision making and activities in the four health areas. These data show increased involvement by parents and whānau in regard to the main health area on which schools had focused—healthy eating—and little change in over time in relation to the other three health areas.

Table 3.8 **Parent and whānau involvement in school-wide decisions and activities**

	Lead teachers (Phases 1–3)	
Type of parent and whānau involvement in four health areas	**Baseline (N=122)** %	**End 2008 (N=104)** %
Healthy eating		
Decisions about school healthy eating activities	66	78
Participation in school healthy eating activities*	**61**	**78**
Physical activity		
Decisions about school physical activity	57	65
Weekly involvement in physical activity events during school	61	62
Weekly involvement in physical activity events in out-of-school time	69	66
Sunsmart		
Decisions about school sun protection activities	51	47
Participation in school sun protection activities	42	48
Smokefree		
Decisions about smokefree activities	30	34
Participation in school smokefree activities	40	45

* Items in bold show a statistically significant shift from 2006–8.

We also asked classroom teachers if parents and whānau were involved in classroom activities relating to FiS. Parents and whānau were most likely to be involved in activities connected to the three FiS priority areas on which schools had focused. The number of schools that had parental involvement in the classroom did not change significantly over time, but the type of involvement did. There was a significant increase in the number of teachers who reported parents and whānau were contributing specific skills to classroom work (from 17 percent to 39 percent), suggesting that teachers are increasingly drawing on the expertise of their community. There was also a trend for more parents and whānau to be involved in working jointly with students on projects, suggesting that community members were taking a more active role and supporting students as they "learnt by doing" health promotion.

3.5 Increased access to health and community agencies

One premise of FiS is that interagency collaboration will result in agency partners improving their access to, and support of, low-decile schools, and that this increased contact should increase

teachers' access to a range of support people, resources and programmes. This section of the report explores FiS schools' access to interagency partners and their programmes and resources.

Use of interagency programmes, resources and support

Table 3.9 shows schools' involvement in some of the main programmes provided by interagency partners to support each FiS health area. Since the baseline, the number of schools taking part in these programmes had significantly increased, suggesting that FiS is achieving its aim of facilitating increased support for low-decile schools. This pattern became stronger over time. In general, more Phases 1 and 2 than Phase 3 lead teachers reported taking part in these programmes. These findings are confirmed by reports from regional interagency partners who noted that participation in their programmes had "taken off" over 2008 (see the interagency section).

Table 3.9 **Lead teacher reports of enrolment in agency programmes**

	Lead teachers (Phases 1–3)	
Programme (and agency provider)	Baseline (N=122) %	End 2008 (N=104) %
Registered for School Food Programme (NHF)*	**22**	**46**
Gained a School Food Programme award (NHF)*	**16**	**35**
Involved in Active Schools (SPARC/RST)*	**48**	**70**
Working towards sunsmart accreditation (CS)	19	25
Gained sunsmart accreditation (CS)*	**7**	**23**
Working towards a smokefree award (HSC)	8	8
Gained a smokefree award (HSC)	5	6

* Items in bold show a statistically significant shift from 2006–8.

As well as taking part in agency programmes, lead teachers also accessed a range of people who assisted them to develop activities related to the FiS health areas. At the end of 2008, all lead teachers had access to at least one person. The people they most commonly worked with were FiSC/HPS advisers (87 percent), PHNs (68 percent), Life Education Trust educators (57 percent) and Police educators (50 percent), RST/SPARC (49 percent) and NHF (40 percent) and representatives, and SWIS (36 percent). Many of these people are key partners in FiS. Lead teachers reported less access to two of the key FiS partners: CS (29 percent) and SSS (14 percent) representatives. Reflecting their role as a conduit, lead teachers had more access to support people than classroom teachers.

The follow-up survey in 2007 showed the pattern you would expect in a staged initiative; that is, Phase 1 lead teachers reported more access to agency programmes and partners than their Phases 2 and 3 counterparts (Boyd et al., 2008). The current data show that Phases 1 and 2 lead teachers are now reporting similar levels of access. Phase 3 lead teachers were the least likely to report access. This could reflect the time it takes for awareness to grow, or agency capacity issues.

Prior to FiS, many lead and classroom teachers were already using a range of resources to teach about health and wellbeing, and many of these resources came from the main agency partners

(Boyd et al., 2007). Overall, teachers showed a relatively high use of resources, with the majority of both lead and classroom teachers accessing at least one resource to support healthy eating, physical activity or sunsmart activities. In contrast, reflecting schools' lesser focus on smokefree, a much smaller number had accessed resources to support this area. (See the technical report for the full set of data.)

Reflecting lead teachers' role as health leaders and their access to agency partners, they tended to report greater usage of resources than classroom teachers. Again, as you would expect in a staged initiative, at the end of 2007, Phase 1 lead teachers were making more use of resources than their Phases 2 and 3 counterparts (Boyd et al., 2008). By the end of 2008, Phases 1 and 2 lead teachers reported similar access, and Phase 3, less access.

Support people accessed by classroom teachers

Similar to the pattern shown by lead teachers, by the end of 2008, across all four health areas, significantly more classroom teachers reported they had support from other people to assist them to develop their classroom approaches to the four health areas (see Table 3.10). This suggests that classroom teachers are also placing more priority on health and wellbeing.

Table 3.10 **Contribution by others to classroom teachers' programmes**

	Classroom teachers (Phases 2&3)	
Health area contributed to	Baseline Year 4 teacher (N=52*) %	End 2008 Year 6 teacher (N=44) %
Healthy eating*	**69**	**96**
Physical activity*	**50**	**86**
Sunsmart*	**31**	**73**
Smokefree*	**21**	**46**
Other	39	32

* Items in bold show a statistically significant shift from 2006–8.

The people classroom teachers most commonly reported gaining assistance from were staff at their school (85 percent) including the FiS lead teacher (59 percent), PHNs (72 percent), Life Education Trust educators (67 percent), RST/SPARC representatives (47 percent), FiSC/HPS advisers (38 percent) and SWIS (34 percent). Over one-fifth of classroom teachers also reported they had access to the other key FiS partners (NHF (26 percent), SSS (23 percent) and CS (21 percent) representatives). (See the technical report for the full list of people who supported lead and classroom teachers.)

Over time the type of contribution these people were making to classroom programmes had significantly broadened in scope. As shown in Table 3.11, by the end of 2008 other people were contributing more frequently to all the activities listed, suggesting that FiS is providing a conduit for a wider range of agencies to work with school staff in a more in-depth fashion.

Table 3.11 **Type of contribution to classroom teachers' programmes**

Type of contribution	Classroom teachers (Phases 2&3)	
	Baseline Year 4 teacher (N=52) %	End 2008 Year 6 teacher (N=44) %
Provide information or resources*	**65**	**93**
Provide advice*	**56**	**82**
Provide PD*	**31**	**59**
Talk to student groups*	**40**	**71**
Work on joint class-school/community projects	33	39
Involved in setting topics or content	21	32
Other	4	2

* Items in bold show a statistically significant shift from 2006–8.

3.6 Integrating the FiS areas within the curriculum

The HPS framework specifies "Curriculum, teaching, and learning"—that is, what happens in the classroom—as one of the three components of the school system that needs to be aligned when developing approaches to health promotion. The end-of-2008 data show a similar pattern to previous follow-up surveys with more than half of Year 6 teachers noting that, in the last year, they had made some changes to their approaches to teaching in relation to healthy eating (61 percent), physical activity (72 percent) or sunsmart (52 percent). In contrast, only 18 percent had made any changes to their approaches to smokefree. These data suggest that teachers are evolving their approaches over time. This is supported by the information collected from the school case studies (Boyd & Moss, 2009). Compared to 2006, the 2008 case study schools were more focused on developing curriculum topics to coincide with school-wide focuses on the health areas. The information presented above also suggests that teachers were increasingly drawing on the knowledge of parents and whānau and agency partners to design classroom approaches.

To explore the impact of FiS on classroom practice, we also asked classroom teachers to indicate the different ways they supported students to learn about health. Prior Healthy Futures reports suggested that most of the changes occurring in schools were happening at a school-wide level. This still appears to be the case, but the data did suggest that schools are moving away from a "learning about" model of health education towards the consultative approaches advocated by HPS. At the end of 2008, many (68 percent) classroom teachers reported using the HPS approach. They also reported a significant shift in the number of their students who were involved in school-wide decision making. There was also a trend for students to be more involved in classroom decisions about topics, content or assessment. (See the technical report for the full set of data.)

3.7 What were the key enablers of change?

We asked lead teachers to describe the main ways being part of FiS had supported their school to improve approaches to health and wellbeing. Their responses and other data showed there were three main enablers of change at FiS schools. These were:

- the way FiS and the free fruit acted as a catalyst (to raise awareness about health and wellbeing and encouraged schools to improve policies and practices in the four health areas)
- use of the HPS approach (and in particular, that HPS gave a process for change and prioritised student leadership and parent and whānau involvement)
- the support and PD provided to school staff (and in particular, school clusters, access to FiSC and agency partners and their tools, resources and programmes) which enabled schools to improve health-related school-wide practices as well as approaches to the curriculum.

3.8 Sustainability of FiS

The longer term sustainability of FiS is a concern for all partners in this initiative. In general, Phase 1 (60 percent) and Phase 2 (62 percent) lead teachers considered their school mostly had the relationships, supports, and processes in place that would enable them to continue developing their approaches. As you would expect in a staged initiative, fewer Phase 3 lead teachers (48 percent) thought the same.

Earlier interviews and surveys asked stakeholders about their views on the aspects of FiS which are likely to support longer term sustainability. Using this information, and factors mentioned in the school change literature, we developed a list of key success factors for FiS. At the end of 2008 we asked all survey respondents to rate whether they considered these to be in place (see Table 3.12 for lead teachers' views and Table 4.6 for interagency stakeholders' views). In general, lead and Year 6 teachers had similar views about these success factors.

We divided the success factors into three groups depending on how many lead teachers considered each factor was in place. The factors considered mostly in place were broadly related to awareness raising; that is, the commitment of staff, and the existence of a shared vision. Many success factors were considered to be partially in place. One group of factors was related to support (that is, for lead teachers, curriculum resources, PD or from agencies). Another group was related to processes and plans, such as a shared understanding about HPS. There was a small group of factors that one-quarter or more of lead teachers considered were not yet in place. Nearly all of these were connected to funding. On some items, teachers appeared to be located in two groups. One group considered a factor to be mostly in place, whereas a number had the opposite view. This, and the case study data, suggests there are regional differences in practice.

Overall, these data indicate that much of the infrastructure that could support longer term sustainability is starting to be put in place, but has yet to be fully embedded, either within schools or the wider system. This suggests a longer term view of change may be necessary.

Table 3.12 **Lead teachers' views on school success factors for FiS**

	Lead teachers (Phases 1–3) End 2008 (N=104)		
	Mostly	In part	No/Not sure
Success factor	%	%	%
Factors that are in place (50% or more considered this to be mostly in place)			
Commitment of the principal to health and wellbeing activities	79	16	2
Support by all staff for our school's focus on health and wellbeing	66	25	8
A school-wide focus (or vision) on health and wellbeing	64	29	5
Policies and systems that support our school's focus on health and wellbeing	55	36	8
Factors that are partially in place (70% or more considered this to be mostly or partially in place)			
Support and communications from FiSC and HPS advisers	49	38	10
Clear understanding of messages from the MoH and MoE about the changes expected of schools	46	38	13
Curriculum resources around the four health areas	34	51	11
Support from the staff at local health and education agencies	33	54	10
Skilled staff members who lead health and wellbeing activities	31	63	5
Inclusion of the four health areas in school curriculum plans	30	50	15
Access to PD for lead health teachers about health and wellbeing	29	53	16
A long-term plan for addressing our school's health and wellbeing priorities	26	50	22
Realistic timelines for making changes	22	52	23
A shared understanding among staff about HPS and ways to support student leadership	21	53	23
Student involvement in decision making about health and wellbeing	20	59	18
Factors that require more support (25% or more considered this not to be in place)			
Parent and whānau involvement in decision making about health and wellbeing	12	55	30
Systems that support schools to share ideas (e.g., school clusters)	19	46	32
Access to PD for all staff about health and wellbeing	15	49	32
Funding or release time for lead health teachers	32	32	35
Access to an ongoing source of fruit, or funding for fruit	24	11	63

Sustainability of the FiS fruit

In Table 3.12 above, the main success factor considered not in place by lead teachers was access to an ongoing source of fruit. When asked if they could change one thing about FiS, lead teachers' highest priority was continued funding for the fruit and other resources such as lead teacher time. They noted the fruit was important, both for its health benefits, as well as for its value as a catalyst.

In the 2006–8 follow-up surveys, we asked lead teachers if their school had started to develop plans to continue providing fruit once the funding for this ceased. Table 3.13 shows that most schools had not developed firm plans either at the end of 2007 or 2008. By the end of 2008,

significantly more were starting to explore a wider range of options such as school gardens and orchards. The fact that many schools still did not have plans suggests that schools may need more support to sustain this aspect of FiS.

Table 3.13 **Plans for fruit sustainability**

Sustainability plan	Lead teachers (Phases 1–3)	
	End 2007 (N=130) %	End 2008 (N=104) %
No plans developed yet/will explore if funding stops	63	69
Developing school orchards or gardens*	**12**	**28**
Fundraising or seeking sponsorship or donations	10	8
Working towards families taking responsibility/funding	7	10
Working with cluster or school team on options	4	7
Applied for HEHA funding	NA	11
Other (e.g., will sell at school)	3	6

* Items in bold show a statistically significant shift from 2006–8.

3.9 Practices at the comparison schools

Selected findings from the comparison school surveys are reported below. At the end of 2008, we received surveys from four lead health and four classroom teachers from six of the seven comparison schools. Like their FiS counterparts, most of these teachers reported their school had recently increased the priority placed on health and wellbeing and had made changes to approaches to healthy eating, physical activity and sunsmart practices. Nearly all these changes were rated as a "minor positive change". This was in contrast to the staff at FiS schools, many of whom rated recent changes as "major". One change was introducing a free fruit or vegetable scheme. At the start of 2006, none of the comparison schools had these schemes, but by the end of 2008, all did. In addition, at the end of 2008, most of these schools were about to join FiS.

Most staff at the comparison schools reported the recent changes at their school were influenced by a range of initiatives. Those commonly cited included the new NAGs, information from FiS schools, PD attended by teachers and media campaigns about healthy lifestyles. PD was commonly provided by HPS advisers or PHNs, or through Mission-On food and nutrition workshops. Most schools also had some form of contact with RST/SPARC. Few schools had contact with the other partners in FiS, that is, the NHF, CS or SSS.

Half of the schools were using the HPS approach, and these schools tended to have parent involvement on health teams. Only one classroom teacher reported parent involvement in the classroom, or offered examples of student leadership, suggesting these practices were less common at comparison schools. This is supported by the findings from the comparison students.

These data give some indication that a range of initiatives in the health and education sector, including FiS, are also influencing practice at the comparison schools. Although change was

occurring across the sector, looked at in combination, the data suggest that more change was happening at FiS schools, and that practices at FiS schools were spreading to other schools.

3.10 Short summary of changes to school practice

What are the key changes for schools? FiS is supporting schools to:

- develop a vision of themselves as a "Healthy School" and increasingly promote health and wellbeing
- make changes to their environment and culture to better promote health and wellbeing
- make more use of HPS processes (e.g., increasing student and community involvement)
- strengthen their healthy eating and sunsmart policies and practices and increase students' opportunities to engage in physical activity
- increase their involvement with agency partners and their programmes (in particular, Active Schools, the School Food Programme and Sunsmart Accreditation)
- engage with other initiatives (e.g., NAG 5 and HEHA nutrition funds).

How sustainable are these changes?

- About two-thirds of those in Phases 1 and 2 of FiS reported they had the structures in place that will enable them to continue developing approaches in the future. This suggests that sustainable practices are starting to become embedded in the system but are not yet fully in place

What are the main enablers of change at FiS schools?

- The FiS fruit which creates a positive climate and acts as a catalyst for change.
- Support from school leaders and staff who champion FiS.
- Use of a HPS approach for planning and to consult with the community.
- The use of student leadership approaches such as health teams and PALs.
- FiSC and agency partner support, resources and programmes.
- FiS school cluster sessions and student leadership workshops.

What are the main disablers of change at FiS schools?

- Potential removal of resourcing for fruit and lead teacher time.
- Variable access to agency partners.
- Lack of PD for all teachers.

What are the areas which could be further developed?

- The inclusion of social and emotional health and wellbeing as an additional health priority area in FiS.
- Further support for schools to make connections with some parents and whānau.
- Further support for schools to address the smokefree component of FiS.

4. Changes to interagency practices

4.1 Introduction to the interagency findings

This section of the report discusses FiS's contribution to strengthening interagency practice. It draws on cumulative findings from four years of annual interviews with national and regional interagency stakeholders including, most recently, 27 people who participated in interviews in Term 4, 2008 and 72 people who participated in an online survey in February 2009. Stakeholders who took part in interviews or the survey represent key organisations involved in the governance and implementation of FiS, including: MoH, MoE, SPARC, RST, NHF, CS, HSC, FiSC, SSS and HPS advisers, as well as a range of other DHB staff (e.g., HEHA co-ordinators and PHNs).[4] Key findings from this section are summarised below. A short summary is also located at the end of this chapter.

Interagency processes are becoming more common in the government sector, and FiS has acted to strengthen these practices. From the perspectives of FiSC, HPS advisers and interagency representatives, FiS has positively impacted on the way that agencies collaborate to support low-decile schools to promote health and wellbeing. Specifically, FiS has provided a catalyst to improve sharing of information between interagency partners, joint planning and problem solving and access to PD for agency staff. Through their involvement in FiS, agencies have improved the co-ordination of their activities and support to schools.

As a result of FiSC and interagency support, agency stakeholders consider that awareness has been raised in schools about the connection between healthy lifestyles and learning outcomes—spurring FiS schools to further enhance their approaches to health and wellbeing and actively seeking out more support. Interagency feedback strongly suggests that these inroads would not have taken place without FiS, as it has facilitated access to schools that agency partners perceived as hard to reach.

FiS is also nested within a complex web of interconnections and relationships at the school level and between agencies (at both a national and regional level). This web of interconnections creates a range of factors that can act as enablers or disablers of FiS. Key enablers included alignment of FiS with HPS, regional interagency collaboration, the ways FiSC work to build capacity, the regional structure in which DHBs oversee FiS practice, the FiS fruit which encouraged schools to join the initiative and the array of other health promotion initiatives which are (predominantly) reinforcing FiS. Key disablers include a perceived lack of health and education sector collaboration, and the current national leadership structure which does not fully support the ongoing development of the FiS initiative and sharing of "ground-up" practice.

[4] These stakeholders are referred to as regional or national agency representatives, or collectively as agency representatives throughout the report.

4.2 Key impacts and changes over time

From the perspectives of national and regional agency representatives, FiSC and other DHB staff, FiS was generally functioning well (see Table 4.1), and was having a range of positive impacts on interagency and school practice. The key impacts and changes facilitated by FiS are summarised below.

Table 4.1 **Survey respondents' perspectives on effective aspects of FIS (N=61)**[5]

Aspects of FiS	Strongly agree %	Agree %	Neutral %	Dis-agree %	Strongly Disagree %	Not sure %
I understand how the new school curriculum is connected to the work I do	34	44	14	3	-	5
FiS is supporting schools to develop ongoing processes for working on health and wellbeing goals	33	45	5	8	2	7
My organisation is supportive of my work in FiS	32	58	9	2	-	-
FiS and Health Promoting Schools (HPS) are well-aligned	28	42	17	8	2	3
FiS is working well overall	27	40	20	7	3	3
My organisation's contribution to FiS is understood and valued by other agencies	27	43	20	5	2	3
My organisation has enough resources to fulfil its role in FiS in this region	22	43	12	12	8	3
The regional leadership of FiS is working effectively	22	43	20	7	-	8

The impact of FiS on interagency practice

FiS facilitates interagency collaboration

Right from the start, FiS processes have acted to enhance interagency collaboration at both a national and regional level. This improved interagency collaboration is contributing to the MoH's goal of "strengthening systems", by improving the package of support available to schools.

At a national level, interagency collaboration was initially facilitated by the FiS External Reference Group which created a space for the co-ordination and planning of FiS-related activities by the national agencies involved (mainly the MoH, MoE, SPARC, NHF and CS). This reference group was successful in reducing patch protection issues and facilitating formal and informal connections amongst these agencies (Boyd et al., 2007; Boyd et al., 2008). However, a restructuring of the group occurred in late 2007—causing some concern amongst national agency representatives who saw it as a forum for shared decision making and accountability.

At a regional level, interagency collaboration was established quickly in areas with pre-existing relationships or interagency groups. Where this was not in place, interagency groups spent more

[5] Individuals who responded to this question included representation from all stakeholder groups. For the full table see the technical report.

time on the developmental or relationship-building stages of collaboration. By the end of 2007, collaboration was "embedded as a way of working at the regional level, and processes which supported this were running effectively" (p. 87, Boyd et al., 2008). While challenges such as staff turnover still existed, the latest interview and survey data indicated that interagency collaboration has continued to strengthen as agency representatives work together as part of FiS. For example, 89 percent of respondents to the 2009 survey who were members of an interagency group thought FiS had a "positive impact" on information sharing between agencies (see Table 4.2), and the majority also considered "my organisation's contribution to FiS is understood and valued by other organisations" (see Table 4.1). Survey responses also suggested FiS had positive impacts on other practices including joint planning and co-ordination of activities (see Table 4.2).

Regional and national agency representatives indicated that FiS had facilitated a better understanding of the benefits of collaboration; better understanding of the constraints schools are under; and provided a growing body of knowledge and experience that improved practices as new phases of FiS came on board. In addition, regional representatives reported that working together as part of FiS had: provided their group with a clearer sense of direction and purpose; improved collaboration; and enabled them to deliver a more coherent package of support to schools.

Table 4.2 **The impact of FiS on interagency group practices (N=62)**[6]

FiS impact on aspects of interagency group practices	Major positive impact %	Minor positive impact %	No impact/ Not sure %	Negative impact %
Information sharing between agencies	38	51	12	-
Joint planning and co-ordination of activities	31	47	23	-
Professional development	29	45	26	-
Issue identification	23	53	22	3
Other aspects	21	21	58	-
Problem solving	15	50	34	2

FiS helps agencies address inequalities

Prior to FiS, a number of regional agency representatives described how they had little or no presence in schools in some low SES areas. By the end of 2008, most noted they had an increased presence in low-decile schools. They considered this to be a key change facilitated by FiS:

> …in some instances FiS has been the only route into schools to address wider health promotion issues. (Regional CS representative)

The free fruit and the resources that accompanied FiS, along with the development of a shared vision and common goals between agencies, were enabling factors in this process (King & Boyd, 2006). Ongoing involvement with FiS had widened and strengthened agency partners' networks

[6] Some respondents were not involved in interagency groups so did not respond to this survey question. For the full table see the technical report.

with schools and improved their practice in terms of working with schools. For example, agency representatives reported that:

- FiSC have brokered introductions to schools for other agency partners.
- FiSC's engagement in schools has meant agencies don't have to engage in "cold calling".
- Because of the way FiS encourages schools to use the HPS approach, schools now often have health promotion foundations in place when agencies initiate work with them.

The impact of FiS on school practice

Similar to the views of school staff (see the students and school section of this report), interagency survey and interview data suggested that FiS was having strong impacts on school practice.

Increased school-wide emphasis on health and wellbeing

Most survey respondents (including FiSC, HPS advisers and agency partners) believed FiS to have had either a "major" or "minor" positive impact on all of the school practices listed in Table 4.3. Like school staff, most agency respondents (90 percent) considered the main impact of FiS to be the way it had enhanced the emphasis on health and wellbeing at a school-wide level. Most respondents also considered FiS to have had a positive impact on school-wide approaches to promoting a healthy social and physical environment, students' ability to engage in healthy behaviours and take ownership over personal health and wellbeing goals, school policies and guidelines, as well as staff access to PD about health and wellbeing:

> The schools that I have had the chance to work with have really taken ownership of having a school-wide emphasis on health and wellbeing. The difference in the school environments and cultures has been amazing this year. I have noticed a huge change in the practices and policies in some schools. With the school taking ownership, I can also see the parents are beginning to come on board. (FiSC)

Table 4.3 **FiS impacts on aspects of school practice (N=60)**[7]

FiS impact on aspects of school practice	Major positive impact %	Minor positive impact %	Not sure/ No impact %
School-wide emphasis on health and wellbeing	63	27	10
School-wide approaches to promoting a healthy social and physical environment	44	46	10
Students' ability to engage in healthy behaviours and take ownership over personal health and wellbeing goals	42	36	23
School policies and guidelines on health and wellbeing	39	44	17
Staff access to professional development about health and wellbeing	37	40	23
Staff modelling of healthy behaviours	33	41	26
Integration of health and wellbeing goals into the curriculum	31	36	34
Students' involvement in school decision making about health and wellbeing	29	48	24
Staff awareness of health promotion and ownership over health goals	28	42	30
Involvement of the wider community at schools	18	63	18
Parent and whānau involvement in school activities	12	62	27

No respondents considered FiS to have had a negative impact on any of the practices in Table 4.3. Similar again to school staff, the areas in which survey respondents tended to report less change were in relation to the involvement of parents, whānau and the wider community in schools.

Supporting development of policies and practices in the four health areas

It was noted by most FiSC who were interviewed that, over time, schools (and in particular, those in Phases 1 and 2) had developed a much better idea about how to use agency support, and how to explore ways of using community relationships and resources to their advantage:

> Staff are committed to addressing the health and wellbeing of their students. Through our support as advisers this has been enhanced as the access to different organisations has been much easier. (FiSC)

This change was also acknowledged by staff at the case study schools, who indicated that new relationships with agency partners had been brokered by FiSC. This support was assisting schools to enhance their approaches to the four health areas. In 2008, the interviewees from the two regions we tracked over time noted that, like 2006–7, healthy eating was still a big focus in many schools. They considered Phase 1 schools to have well-embedded healthy eating policies and practices, and reported that many Phases 1 to 3 schools were engaged in the School Food programme. The changes to the NAGs had less impact on these schools as they were already promoting healthy eating. In these regions there had also been an increase in the number of FiS schools where RST/Active Schools facilitators and CS representatives were working to enhance approaches to physical activity and sunsmart.

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[7] Some respondents did not work directly with schools so did not respond to this survey question. For the full table see the technical report.

Increased ownership by school staff over FiS

Feedback suggested that HPS processes and a focus on the health areas were embedded within Phases 1 and 2 schools, and these schools were progressively looking for new ways they could draw on the support and structures offered by FiS to continue to enhance their approaches to health and wellbeing.

Over the course of the Healthy Futures evaluation, challenges to school staff taking ownership over FiS were reported (e.g., schools only participating because of the free fruit, school staff not grasping HPS processes). The last round of interviews indicated that these issues existed in a minority of schools, but overall, regional agency representatives considered there was more enthusiasm and engagement with FiS now than ever before.

There were also reports that FiS had supported school staff to improve their understanding of the wider benefits for learning outcomes of healthy students. For example, one FiSC noted that, as a result of FiS supports and cluster meetings, teachers in her region had become more aware of "the bigger picture as to why a child is not working well" while a CS representative believed there had "been a huge increase in awareness of how crucial wellbeing is to learning". There was general consensus that increased awareness facilitated school ownership over FiS.

The FiS fruit addresses inequalities

One aim of FiS was to contribute to reducing health inequalities. While it is difficult to assess the extent to which this has been achieved, feedback from agency representatives, FiSC and school stakeholders suggested that the "free fruit" aspect of FiS had substantially addressed issues of access to healthy food—particularly in low SES areas such as Northland. The benefit for schools to have free fruit to offer children who come to school without eating breakfast or needing lunch was highlighted. For these students, the fruit improved their nutritional intake. As a number of agency representatives noted, FiS "is creating a generation of students who like fruit". This view is supported by the student data reported earlier. Anecdotal accounts of drops in school sores and colds suggest this is leading to better health outcomes for FiS students. Similar findings were reported by staff at the case study schools (Boyd & Moss, 2009).

Wider impacts for schools and students

FiS has also supported some wider positive changes and impacts for schools. Regional agency representatives noted that FiS is:

- supporting school staff to see the value of student empowerment and increasing students' opportunities and ability to actively promote health and wellbeing
- supporting schools to collaborate with community groups and other schools.

There was also mention of FiS having an effect on the wider school sector through the spread of good practice. One SSS representative noted that "the FiS image is so strong" that non-FiS schools are learning from FiS schools, developing their own fruit schemes and making more use of agency resources and collaborative approaches. This view is supported by information from the

comparison schools, as noted in the schools section of this report. FiS was also having some impact on the community near schools, with FiSC and HPS advisers reporting that some shop owners had stopped selling cigarettes, or that some sports clubs were reviewing their sunscreen, smoke and food policies in support of FiS. One HPS adviser also noted that the free fruit had made entire communities in low-SES areas feel valued by the Government—in turn giving them a "confidence boost".

4.3 Enablers and disablers

This section discusses some of the key enablers and disablers of FiS, as identified throughout the life of the evaluation. FiS is part of a complex system and there are three levels of practice that impact on the initiative—national, regional and school-level. The main enablers and disablers at each of these levels are discussed below.

National-level enablers and disablers

Multifaceted initiatives: Adding HEHA and Mission-On into the mix

To facilitate change, the health promotion literature suggests that multifaceted approaches are used to ensure that different levels of the system are addressed. In terms of the wider system in and around schools, since FiS started, new initiatives have been developed such as HEHA regional co-ordinator positions to administer a Nutrition Fund and Mission-On. One aspect of Mission-On was a change to NAG 5, which initially required schools to sell only healthy options and promote healthy eating.

Survey and interview data suggest that the package of health promotion initiatives and policies with which schools are involved, in combination with an array of public health campaigns, are currently acting as enablers of FiS. The way these initiatives are mutually reinforcing has enhanced FiS by providing schools with access to a wider range of resources. For example, schools have further progressed healthy eating or physical activity goals by accessing HEHA funding to purchase new physical activity or cooking equipment, or establish orchards. In some cases these initiatives have also provided further impetus for schools to revise their healthy eating policies and practices. Conversely, the existence of FiS has impacted on how these other initiatives are experienced by schools. For example, FiSC have helped to show school staff how the initiatives fit together and have assisted staff to apply for HEHA funding in an effort to ensure this reaches the Nutrition Fund's target group (that is, low-decile schools), rather than the schools that are more experienced at gaining funding (that is, high-decile schools). Examples of this assistance are reported in the school case studies (Boyd & Moss, 2009).

Challenges related to the number of health-related initiatives in the sector were also reported. Just over a quarter of survey respondents indicated they did not believe clear messages were communicated to schools about how FiS, Mission-On and HEHA support each other (see Table

4.4). This reflects findings from earlier reports (see Boyd et al., 2008), that the number and intensity of initiatives brought challenges and complexity for those involved, including, for example, a lack of processes for integrating initiatives.

Table 4.4 **Survey respondents' perspectives on less effective aspects of FiS (N=61)[8]**

Aspects of FiS	Strongly agree %	Agree %	Neutral %	Dis-agree %	Strongly Disagree %	Not sure %
Clear messages are communicated to schools about how FiS, Mission-On and HEHA support each other	12	32	13	27	7	10
The national leadership of FiS is working effectively	8	22	28	15	3	23
FiSC have enough resources to fulfil their role in FiS in this region	8	33	18	20	-	20
FiS is effectively meeting the needs of Māori and Pacific communities	7	37	20	17	2	18
Fruit provision is sustainable by schools	2	12	18	37	17	15

The FiS model: Combining FiS with HPS

When FiS was developed, it was located alongside HPS, and the meshing of the two was recognised as an enabler in the design of FiS, with most (70 percent) survey respondents agreeing that FiS and HPS are well-aligned (see Table 4.1). The HPS model provides a structure to enable people in each school community to work together to develop health promotion activities that target school needs and address different levels of the school system. Schools that were already using a HPS approach when FiS started, and therefore were promoting themselves as "healthy schools", were more likely to quickly see the value of FiS. Conversely, FiS provided an incentive for other schools to increase their understanding and use of the HPS approach. The combining of FiS with HPS was viewed as a strong enabler by many agency representatives.

A few issues relating to the relationship between FiS and HPS were also highlighted. FiSC and HPS advisers noted that, at times, the methodologies of the initiatives clashed.[9] They and other agency representatives also suggested that the FiS model should be more inclusive of emotional wellbeing, in recognition of the intersection between emotional and physical health, and to better align FiS with holistic Māori and Pasifika approaches and the Whare Tapa Whā model advocated by the Health and PE curriculum. One way to allow this more holistic approach to health and wellbeing would be to emphasise Māori and Pasifika representation in decision making at all levels, a point which has been an ongoing concern throughout the life of FiS.

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[8] Individuals who responded to this question included representation from all stakeholder groups. For the full table see the technical report.

[9] The HPS model is based on bottom-up and community empowerment principles (i.e., schools identify their needs and processes), whereas FiS has a more top-down structure (i.e., four health areas are specified).

Health and education sector collaboration

Most agency representatives considered that health promotion initiatives in a school setting are likely to be more successful when there is an effective working relationship between the health and education sectors. Most, however, felt that this collaboration was not working as well as it could be and is currently a disabler of FiS. For example, MoE and regional agency representatives expressed concern about: "the abundance of nutrition initiatives still firing at schools"; SSS advisers not being asked to support educational input in some regions; and the way that not all agency representatives reinforced the possible educational benefits of healthy lifestyles. It was suggested that people who worked within FiS needed more educational input and a better understanding of how to manage change in school settings. In the words of one health promoter:

> Health people need to get better at identifying the educational benefits and communicating these to the school … the dilemma is that people with a health hat go into educational settings but are not necessarily communicating educational benefits as well as they could or should. (NHF representative)

It was also considered that a different funding model and formalised connections similar to the initial tripartite agreement (which was discontinued in 2006) between the MoH, MoE and SPARC could be beneficial for FiS. Rather than relying on the current "goodwill approach" in which the MoH funds FiSC, and other government and nongovernment agencies self-funded their involvement in FiS, international models could be explored. One example could be the UK model where the MoH funds the MoE to oversee health promotion in school settings. A recently developed joint MoH and MoE strategic planning process was seen as a good start towards achieving better collaboration between the health and education sectors. Over the life of FiS, processes for collaboration between agencies at a national level have been developed, then dismantled, then redeveloped. For long-term collaboration to be successful it appears that a more formalised and ongoing process is required.

National leadership

Previous Healthy Futures reports (Boyd et al., 2007; Boyd et al., 2008) noted that effective national leadership was necessary for FiS success and sustainability. However, the survey suggested low levels of satisfaction with the current leadership structure, with only 30 percent agreeing with the statement, "The national leadership of FiS is working effectively" (see Table 4.4), suggesting that the current national leadership structure is currently a disabler of FiS.

Issues of national leadership emerged in late 2006, following structural changes at the national level. While FiS initially had a national co-ordinator who managed national interagency collaboration and to whom FiSC reported more directly, responsibility for FiSC was devolved to DHBs in late 2006. Although a national co-ordinator role still exists, the function of this role is not to direct regional activity. Most regional and national agency representatives, including FiSC, felt that this structure did not offer sufficient national direction and that there was a "leadership gap"—both in terms of connecting the various health promotion initiatives in schools, and in connecting national and regional practice. Opportunities for cost-effective resource development

at a national level had also been lost. One often cited example was resources in te reo Māori to support FiS.

It was also noted that since the devolution of some FiS responsibilities to DHBs, there did not seem to be mechanisms in place for ground-up suggestions to be acted on at a national level, leading to perceptions that the MoH was not following good practice health promotion principles of community involvement. This was seen to be in contrast to the strong emphasis on HPS within the FiS initiative. In summary, this feedback indicates that many national and regional agency representatives did not yet consider that the maximal balance between national and regional oversight was in place.

Regional enablers and disablers

Regional leadership

Many (67 percent) survey respondents (including FiSC, HPS advisers and interagency representatives) agreed with the statement "Regional leadership is working effectively" (see Table 4.1). Only 7 percent disagreed. These results suggest the regional leadership structure is currently mostly an enabler of FiS. One reason for this is the focus on regional interagency teamwork. Another likely reason is that the change towards increased oversight of FiS by DHBs in 2006 gave DHBs flexibility to respond to local conditions. In one region, FiS/HPS resourcing was transferred to the NHF to support an additional adviser to work with schools. In another region, the team of health promoters was restructured to better support schools.

Despite these advantages, different funding structures within DHBs had led to some inconsistencies within and across regions. For example, DHBs had different approaches to prioritising FiS in relation to other initiatives and offered different amounts of PD to FiSC. FiSC in some regions reported a need for better processes to facilitate more collaboration between those working on HEHA and FiS.

Working collaboratively with interagency groups

The existence of regional interagency groups is a key enabling factor for FiS. These groups provide agency representatives with a forum for building relationships, and developing new ways to support FiS schools. By the end of 2008, the core initial partners of FiS, that is, FiSC, SSS advisers and representatives from RST, NHF and CS, reported that interagency collaboration was embedded as a way of working and they had developed effective systems for ensuring their work in schools connected with and supported FiS and schools' priorities. For agency partners this meant showing schools how the programmes and resources they offered were connected to FiS (that is, Active Schools, the School Food programme and Sunsmart Accreditation). By aligning their work in this way they were acting as a key enabler of FiS.

One challenge to successful interagency work was experienced in regions with multiple DHBs, some of which had different processes. Working across different groups could be time-consuming for agency representatives.

FiSC practices and hands-on support from agency partners

Most agency representatives considered FiSC to be key enablers as they facilitated the use of HPS approaches in schools, and because of their hands-on approach to building capacity. This included the way FiSC:

- acted as brokers to connect schools with the representatives of partner agencies
- supported schools to develop priorities and plan FiS-related activities
- supported lead teachers, health teams and student leaders
- worked as connectors between different schools, and to share practice between schools and regions
- showed schools how health initiatives can complement each other.

FiSC were seen to be particularly effective when they were flexible and worked to meet individual schools' needs by supporting schools to develop priorities and plans. This was one practice that appeared to be strengthening over time. By the end of 2008, many FiSC reported working in a more focused and individualised way with schools. Another key change was the way many FiSC were now running student leadership workshops—these were viewed as a key enabler of student-led activities in schools.

The ability of other agency representatives to provide this type of hands-on support was also an enabler. For example, a CS representative found that sitting alongside school staff as they worked through the Sunsmart Accreditation process was much more effective than introducing schools to the online resources and then assuming they would be used.

FiSC PD

FiSC said that to be able to work successfully with schools, they needed ongoing PD which "increases confidence and ability in the workforce". FiSC workforce days were seen as one form of PD that was important for sharing practice across regions. FiSC PD is currently an enabler of FiS; however, some FiSC wanted further training that addressed their individual needs.

Resourcing and capacity

The majority of survey respondents (65 percent) agreed or strongly agreed that their organisation had enough resources to fulfil its role (see Table 4.1),[10] suggesting that resourcing and capacity is currently mostly an enabling factor of FiS. As shown in Table 4.5, in 2008 the sunsmart and smokefree areas, and curriculum support were the areas that were the least well covered. Concerns had previously been expressed about the limited funding allocated to support smokefree

[10] These respondents were spread across a range of organisations including FiSC, HPS, NHF and CS.

and SSS advisers (who play a crucial role in making connections between FiS and the curriculum) (see Boyd et al., 2007). However, the majority of respondents (64 percent) considered their region to have adequate support for the sunsmart area, and between the 2007/08 and 2008/09 surveys there was an increase in the number who considered their region to have adequate support for the smokefree area (from 49 percent to 64 percent). (See the technical report for more details.)

Table 4.5 **Areas of support provided by respondents (N=72)***

Areas in which respondents were providing support for FiS	%
Physical activity	49
HPS and health promotion processes	49
Healthy eating	46
Sunsmart	35
Smokefree	28
Integration of the four health areas into the curriculum	22
Other	7
None	1

* Total adds to more than 100 percent because some respondents were working across more than one area.

School enablers and disablers

Free fruit

The provision of free fruit was recognised as a key enabler of FiS. As anticipated, the free fruit was embraced by staff and students and created enthusiasm for FiS. This fruit acted as a catalyst and door opener for initiating health promotion work with low-decile schools. Agency representatives also reported the fruit provided substantial value as it offered additional healthy food for those students who needed it, and had other positive spinoffs such as the leadership opportunities offered to student fruit monitors.

School champions, management support and whole-school approaches

Previous reports suggest that having a person at a school who is a FiS champion (such as the FiS lead teacher or principal), along with support from other school leaders and the board of trustees, are important success factors of FiS (Boyd et al., 2008). The commitment of school leaders facilitates: school and community ownership over FiS; the development of a shared vision about the processes needed to be a "healthy school"; and the embedding of priorities relating to the four FiS health areas within the wider school system. Table 4.6 below shows that most survey respondents considered FiS had support and commitment from principals and staff. This type of support is currently an enabler of FiS.

A number of agency representatives and FiSC considered that, rather than relying on one school leader or the FiS lead teacher to drive change, FiS needed to sit firmly within a whole-school approach, such as that advocated by HPS, and therefore be driven by a team of people from each school. As well as enhancing community involvement, a team approach offers a framework which

allows for staff and student turnover. Nevertheless, although many schools had health teams, turnover of lead teachers or principals could still impact on school priorities related to FiS.

Parent and whānau community involvement

The HPS approach prioritises parent and whānau community empowerment and involvement as an important aspect of health promotion practice[11] and has been recognised in previous reports as an important success factor for FiS (see Boyd et al., 2007). Fostering parent and whānau involvement in health-related activities was an area many FiS schools found challenging when they joined FiS. However, many agency representatives (74 percent) who responded to the survey indicated that FiS was having a positive impact on this aspect of HPS practice (see Table 4.3). Some of those who were interviewed described how FiSC were supporting schools to use HPS processes to consult with parents and whānau. Staff at the case study schools noted that this process takes time and requires school leaders who are skilled in working with different communities. When parents and whānau are working with schools, this is an enabler for FiS.

FiS school cluster meetings

Earlier Healthy Futures reports indicated that school cluster meetings are valued by school stakeholders. These meetings have enabled: FiSC and agency partners to build relationships with school staff; sharing of information and resources between schools; provision of information and resources about the four FiS health areas and HPS processes; identification of school needs; shared problem solving; and teacher PD (Boyd et al., 2008).

Over time, FiSC have started to adopt flexible approaches to meeting emerging school needs and to accommodate the difficulties some teachers had in getting release time to attend cluster meetings. One key example of FiSC practice that has evolved is the spread of student leadership workshops across regions. FiSC organise these workshops and a range of agency representatives provide support. The workshops are attended by school staff and students, and in some cases parents and whānau. Agency representatives noted the workshops have been a key enabler which has supported the growth of student health teams and sharing of ideas about student leadership. Other changes that have occurred over time in the way FiSC work with schools include:

- working in a school cluster for the first year of FiS, then moving to a one-on-one approach
- working with school staff to develop strategic plans around the four health areas
- developing cluster sessions for schools targeted around particular needs.

FiS lead teacher release time

Lead teacher release time plays an important role in facilitating opportunities for teachers to plan and attend cluster meetings. Many survey respondents (63 percent) believed lead teachers had access to teacher release time (see Table 4.6). Thus this is currently mostly seen as an enabling

[11] For example, see *HPS Support Manual:* http://www.healthed.govt.nz/uploads/docs/1429.pdf

factor of FiS. A few FiSC held the view that additional release time would better enable teachers to carry out tasks related to FiS and keep the momentum going within schools.

Sustainability of school practices

Over the course of Healthy Futures we developed a list of success factors for FiS that are likely to impact on the sustainability of whole-school and health promotion approaches in the longer term. Interagency survey data indicate that a majority of respondents (60 percent or more) considered most of the success factors to be mostly or partially in place. These include, for example: support and communications from FiSC and HPS advisers; a school-wide focus on health and wellbeing; and commitment of the principal to health and wellbeing activities (see Table 4.6).[12] This reinforces the teacher data which indicate that health promotion practices and support are starting to be embedded in schools. These data also indicates that longer time frames are needed before all schools have the structures and processes in place that are likely to result in longer term sustainability.

As shown in Tables 4.4 and 4.6, the free fruit was the main aspect of FiS that regional agency representatives and FiSC considered unsustainable. However, this was not the case at all schools. A few survey respondents (26 percent) considered the schools they worked with to have access to an ongoing fruit source. Some FiSC noted that many schools were working towards sustainability by growing orchards, accessing funding and involving local businesses or the community.

[12] Similar views were held by lead teachers (see Table 3.12). In contrast, however, more lead teachers thought these factors were "mostly" in place. For example, 79 percent of lead teachers and 31 percent of interagency respondents considered commitment of the principal to health and wellbeing activities to be mostly in place.

Table 4.6 **School success factors for FiS and the extent they are in place (N=54)[13]**

Success factors	Mostly %	In part %	Not sure/No %
Factors that are mostly in place (more than 40% considered these to be mostly in place)			
Support and communications from FiSC and HPS advisers	49	42	10
Commitment of the principal to health and wellbeing activities	42	47	12
A school-wide focus (or vision) on health and wellbeing	41	50	10
Factors that are partially in place (60% or more considered this to be mostly or partially in place)			
Support from the staff at local health and education agencies	35	46	19
Access to PD for lead health teachers about health and wellbeing	35	44	21
Policies and systems that support schools' focus on health and wellbeing	33	56	12
Systems that support schools to share ideas (e.g., school clusters)	33	54	13
Support by all staff for schools' focus on health and wellbeing	28	48	24
Realistic timelines for making changes	26	35	39
Funding or release time for lead health teachers	25	38	38
A long-term plan for addressing schools' health and wellbeing priorities	20	41	39
Inclusion of the four health areas in curriculum plans	17	52	32
Curriculum resources around the four health areas	15	61	24
Skilled staff members who lead health and wellbeing activities	15	65	20
A shared understanding among staff about HPS and ways to support student leadership	15	54	32
Student involvement in decision making about health and wellbeing	11	62	26
Factors that require more support (40% or more considered this to be not in place)			
Parent and whānau involvement in decision making about health and wellbeing	8	51	42
Clear understanding of messages from MoH & MoE about changes expected of schools	11	44	45
Access to PD for all staff about health and wellbeing	26	24	50
Access to an ongoing source of fruit, or funding for the fruit	6	20	74

As with previous Healthy Futures reports (Boyd et al., 2007; Boyd et al., 2008), there were concerns about the potential withdrawal of the free fruit, and in particular, the prospect of this happening too early and therefore damaging existing relationships and slowing the current momentum in schools. Agency representatives, including FiSC and HPS advisers, queried whether it was realistic to expect schools to be sustainable with fruit provision, bearing in mind the suggested five- to seven-year time frame for schools to achieving HPS status (International Union for Health Promotion and Education, 2008). Agency representatives offered a number of ideas for reducing the fruit provision in ways that minimised some of the risks, including:

- a "weaning off" period that allowed schools sufficient time to establish sustainable practices for continuing the fruit provision in some form
- a half and half model in which the MoH provided partial funding and school communities "top up" this by providing extra fruit

[13] Some respondents were not working directly with schools so did not respond to this survey question. For the full table see the technical report.

- continuing fruit provision to schools "in most need" or for those that might have difficulty providing their own fruit (e.g., lack of space for a garden or orchard)
- encouraging MoH and community collaboration to find alternative funding structures.

4.4 Short summary of changes to interagency practice

In terms of working with schools, FiS is supporting:

- partner agencies to gain access to, and work with, low-decile schools
- greater awareness in low-decile schools of the services partner agencies can offer and the types of support they can access to build approaches to health and wellbeing
- the embedding of health promotion practices within schools.

In terms of interagency collaboration, FiS is supporting:

- partner agencies to collaborate to better manage their work in schools
- partner agencies to gain a better understanding of each other's priorities and ways of working
- opportunities for joint interagency planning and decision making
- increased opportunities for PD for agency staff.

Key enablers include:

- alignment of FiS with the HPS approach
- opportunities for regional interagency collaboration
- the hands-on and capacity building nature of the ways in which FiSC work
- the current regional leadership structure in which DHBs oversee FiS practice
- the free fruit which catalysed low-decile schools to use the whole-school HPS approach and engage in health promotion. The fruit also addresses inequalities by providing increased access to healthy options
- the array of health promotion initiatives currently in the sector which are supporting and enhancing each other.

Key disablers include:

- a perceived lack of health and education sector collaboration
- the current national leadership structure which does not fully support the ongoing development of the FiS initiative and sharing of "ground-up" practice.

5. Summary and conclusions

5.1 What has changed for FiS students and schools?

The introduction to this report explained the complexity of the system within which FiS is located, and the ways in which the unique setting of each school influences how FiS is experienced. This poses a challenge for evaluators and policy makers. Commentators suggest that new evaluation paradigms are needed to evaluate complex and settings-based initiatives such as FiS/HPS, and that these need to draw on both health and education perspectives (Rowling & Jeffreys, 2006). When summarising the main findings from Healthy Futures, we used a number of different methods to assess FiS's contribution to the changes we observed in the data, and we have attempted to explore what these findings mean from both a health and education perspective. In addition, viewing FiS as located within an interacting system, rather than a stand-alone and standard "programme", provides a wider frame to interpret the changes occurring at FiS schools. This is best illustrated by the school case studies which are located in a companion report (Boyd & Moss, 2009). These describe the journeys of some FiS schools, and show how different aspects of the wider system influence schools.

The data from students, schools and interagency partners show many shifts in practice. Rather than looking at each individual shift, it is important to view these findings as a collective picture. This picture shows systemic change which, over time, is gaining momentum. The evidence collected as part of the Healthy Futures study suggests that joining FiS has supported schools to increase the priority they place on health and wellbeing, see themselves as "healthy schools" and make more use of the HPS approach which prioritises student and community involvement. Since the baseline, FiS schools have also strengthened their approaches to three of the FiS priority areas: healthy eating, physical activity and sunsmart.

At the baseline prior to FiS, the Phases 2 and 3 FiS students we tracked throughout this study were in Year 4. At the time of the follow-up surveys in 2008, they were in Year 6. This is a relatively short time frame within which to look for change. The data from FiS students mostly show a pattern of maintenance over time of the positive health-related attitudes or behaviours shown at the baseline, or small positive changes in students' attitudes, knowledge or behaviours. This trend is different from the pattern you would expect, which is for older students to have less positive attitudes and engage in less healthy behaviours than younger students. The collective picture for FiS students is a pattern of change that is evident across all four health areas, suggesting that FiS is assisting in creating a generation of students who have raised awareness about healthy choices in general, and are engaging in behaviours that reflect this awareness. With the exception of healthy eating behaviours, the comparison students conformed more to the expected pattern.

The data show that students at FiS schools were experiencing a different type of health promotion than their counterparts at the comparison schools. At FiS schools, the increased use of HPS processes, and access to interagency partners who offered student leadership training, was resulting in FiS students having more opportunities to take an active role in leading health-related activities. There is international evidence to suggest that these sorts of empowerment or participatory approaches are likely to enhance students' health outcomes (Lister-Sharp et al., 1999). The data from Healthy Futures support this view. One of the more important outcomes of FiS is the way it has supported the creation of a "healthy schools" ethos and student leaders. This ethos is resulting in students maintaining healthy behaviours, contributing to their sense of connection to school and giving them the knowledge they need to make healthy choices and the skills they need to address their or their communities' health and wellbeing concerns now and in the future. In this way this "healthy schools" ethos is acting as a "protective factor" that is leading to short-term improvements in health and education outcomes. These short-term outcomes are connected to longer-term health and education gains; for example, a sense of connection to school is a "protective factor" which is linked with lower take-up of smoking (Health Sponsorship Council, 2005) and retention at school (Boyd, McDowall, & Ferral, 2006). The changes evident in the student and school data suggest that FiS is supporting schools and their communities to increasingly promote MoH population health messages (Ministry of Health, 2003a), such as:

- **eat a variety of nutritious foods** (as evidenced by FiS students' increased consumption of fruit and vegetables and other healthy food such as grains)
- **be active every day for at least 30 minutes in as many ways as possible** (as evidenced by FiS students' positive attitudes towards physical activity, and reports of increased physical activity at school and at home)
- **promote and foster the development of environments that support healthy lifestyles** (as evidenced by the changes schools were making to ensure they were health promoting, such as improving guidelines about the food eaten at school and increasing the opportunities students had to actively promote health).

The main enablers that were supporting these changes to occur were:

- the FiS fruit which is improving students' access to healthy choices, contributing to their positive attitudes, and which acts as a catalyst for change at schools
- support of the school principal and lead teachers
- the use of HPS processes in ways that actively involve students, parents and whānau
- the hands-on support, programmes and resources provided by FiSC and partner agencies
- the support provided through school cluster sessions and student leadership workshops.

5.2 What has changed for interagency partners?

FiS is nested within a complex web of interconnections and relationships between agencies (at both a national and regional level). As embodied in the MoH's framework for public health action under the New Zealand Health Strategy: *Achieving Health for All People*, it has long been recognised that strengthening interagency collaboration could contribute to building healthy communities and healthy environments; for example, through sharing of information and through joint planning processes to identify and address local priorities (Ministry of Health, 2003b).

Evidence from the Healthy Futures study suggests that FiS is helping to realise this potential by impacting positively on the way that agencies collaborate to support low-decile schools to promote health and wellbeing. Because FiS is part of a wider system, this improvement helps to strengthen public health infrastructure more generally. FiS has facilitated improvements in the sharing of information between interagency partners, joint planning and problem solving and opportunities for PD for agency staff. Interagency collaboration on FiS has also enabled agencies to improve the co-ordination of their activities and deliver a more coherent package of support to schools.

Agency partners also reported that, through their work connected to FiS, they have gained access to schools that they perceived as hard to reach. Awareness has been raised in these schools about the connection between healthy lifestyles and learning, and about the services agencies can offer to help support the development of approaches to health and wellbeing.

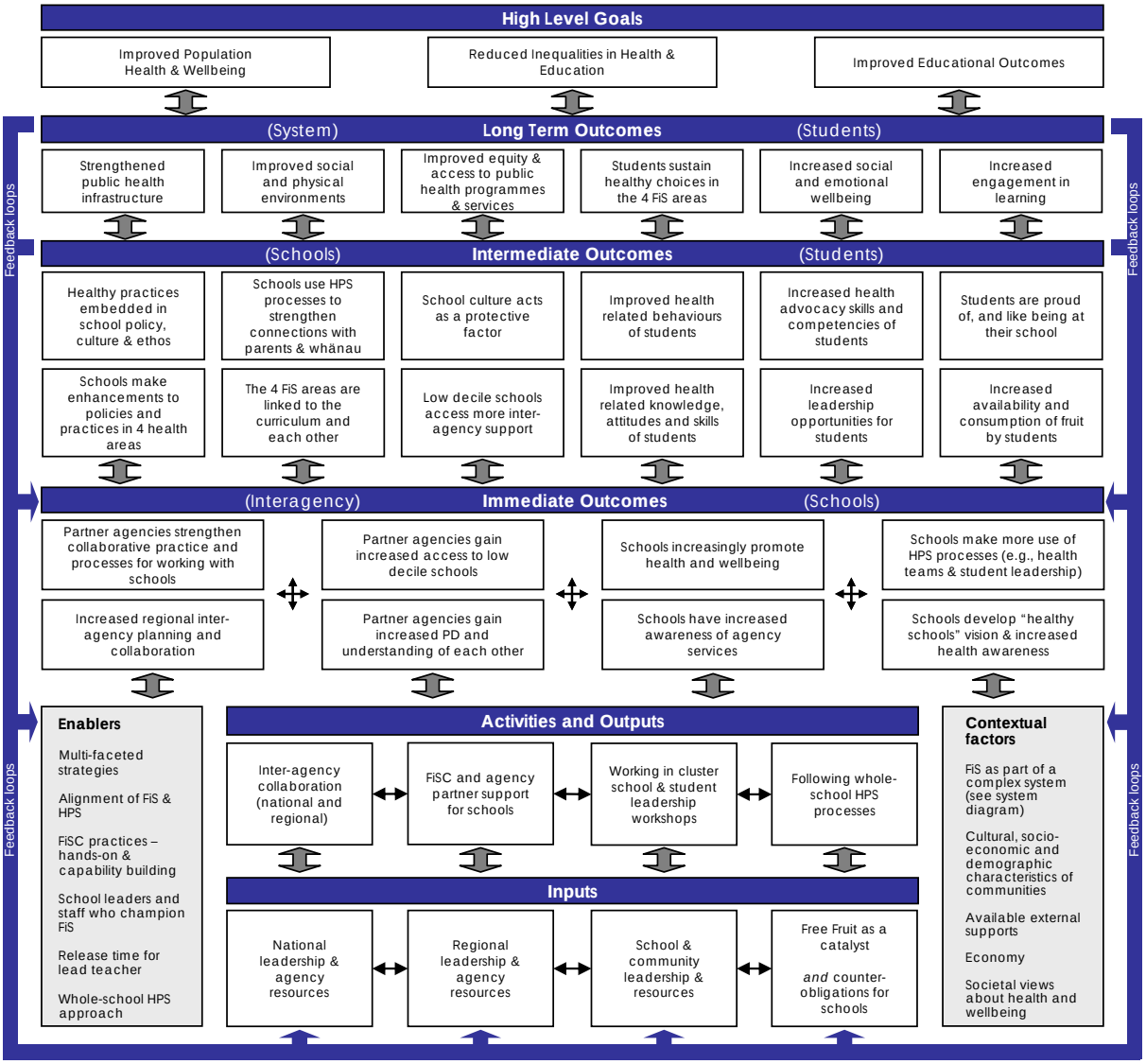
5.3 Looking at the big picture through a system's lens

Putting these findings together, we have developed a retrospective programme logic for FiS (see Figure 5.1). This model attempts to show how FiS is contributing to higher level goals for both the health and education sectors. This model also shows that FiS is not experienced as a linear pathway of actions and reactions. Rather, an understanding of the way different actions and outcomes interact and enable or disable each other are essential in interpreting the impacts of the initiative. For example, as school staff started to see the range of benefits that could occur when students actively engaged in health promotion (such as enhancements to students' wellbeing, connection to school, skills, competencies and learning, as well as physical health outcomes), they started to look for more opportunities to promote health and wellbeing and new relationships with agency partners to support this. This in turn strengthens connections with agency partners and further enhances student outcomes.

Figure 5.1 shows that FiS and the changes and structures that are part of it are also supporting the MoH to address a number of health and systems outcomes (Ministry of Health, 2000, 2003a), such as:

- **reducing inequalities in health** (as evidenced by the lower decile FiS students' maintenance of healthy views and behaviours which, over time, was resulting in them becoming more similar to their peers at the higher decile comparison schools)
- **improved social and physical environments** (as evidenced by the strengthening of HPS processes and health-related policies and practices at FiS schools, and by the positive climate at FiS schools that was acting as a "protective factor")
- **improved equity and access to all public health programmes and services** (as evidenced by the increased access by low-decile FiS schools to MoH and partner agency support)
- **strengthening public health infrastructure** (as evidence by improvements in agency understandings about how to work with schools and enhanced interagency relationships at a regional level).

Figure 5.1 A system-based programme logic for FiS



FiS is also contributing to the MoE priority outcome 3: "Every young person has the skills and the qualifications to contribute to their and New Zealand's future" (Ministry of Education, 2009). As noted in the MoE's statement of intent (Ministry of Education, 2009), one of the sources of evidence for this outcome is increased student engagement.

How you consider the impacts of FiS depends on whether you have a long- or short-term view on outcomes and whether you view the primary purpose of FiS to be an "intervention" to address the "disease" of obesity or an initiative that is primarily about setting up young people with the knowledge, skills, attitudes and behaviours that are likely to assist them to make healthy choices in the future. When FiS was developed it was envisioned that it would lead to change in each school's parent community. Given the difficulties of changing health behaviours, this was an ambitious aim. Some of the changes schools and students were making were starting to filter to home practices, but it is likely that longer time frames or support which directly targets the home environment would be necessary for this to occur in a more systematic way. Rather than changing practice in the wider community, the more important outcome of FiS, and the HPS processes schools are using, is the empowerment of young people so that they can make changes for themselves now, and in the future.

Current good practice in designing health interventions is to use an ecological and multifaceted approach to develop a range of strategies to address different aspects of the wider system (Lister-Sharp et al., 1999; Sallis & Owen, 2002). FiS is best viewed as one component of a wider strategy that also includes regulation (such as through legislation and the NAGs) of the environment within which students and schools are located, as well as other ways of promoting healthy lifestyles. The question we need to be asking is not, "What is the most effective ***sole*** way of creating change?", but "What is the best ***package*** of initiatives that are likely to impact on the school setting and set young people up with the skills they need to make healthy choices?" It is clear that use of the HPS and student leadership approaches in schools, and the hands-on support of people such as FiSC and agency representatives has been a key enabler of change in schools. Increased environmental regulation such as changes to NAG 5 has also supported change. There is also an interaction between these different approaches. For example, the case studies show how the groundwork FiS schools had put in place, and support from FiSC, assisted schools to use these environmental changes to build on their existing approaches.

5.4 Possible ways forward

FiS is an evolving initiative which over time has adapted to meet the needs of the sector and to take into account emerging practice. The Healthy Futures data suggest that the following actions are likely to further strengthen the initiative and maximise its possible benefits.

Working in partnership

In developing FiS, the MoH has contributed a substantial investment to an innovation in the education sector. At the start of FiS, policy makers, government and agency partners and practitioners worked together to build and evolve FiS practice. This type of multistakeholder engagement, which includes top-down as well as bottom-up development of practice, is an emerging policy model. Stern (2006) notes that globalisation is creating an international trend away from more traditional regulatory practices towards policy making that relies on consensus and collective multistakeholder action and takes into account different perspectives. Interagency processes are also becoming more common in the New Zealand government sector, and FiS has acted to strengthen these practices. Locating FiS within the DHBs gave regions more flexibility to tailor their work towards local needs, but also slowed some of this momentum. The dismantling of formal collaboration mechanisms such as the tripartite agreement between the MoH, MoE and SPARC also slowed momentum. Ongoing concerns have also been expressed about the lack of Māori and Pasifika representation in decisionmaking. Although some actions have been taken to address these concerns, the information collected from a range of stakeholders suggests that a longer term commitment to developing more formalised and ongoing partnerships with the key stakeholders in FiS is required to ensure that the potential of the initiative is fully realised and "ground-up" suggestions are able to influence national policy making.

Recommendation: Review partnership processes to ensure that the balance between regional and national leadership is effective, and that there are opportunities for all stakeholders to contribute to the ongoing development of FiS.

Reviewing the FiS model

The four health priority areas of FiS evolved from the MoH's *Cancer Control Strategy Action Plan* (Cancer Control Task Force, 2005). This has resulted in FiS prioritising physical health. In contrast, one of the foundations of HPS and the Health and PE curriculum in schools is the holistic Whare Tapa Whā model developed by Mason Durie (Ministry of Education, 1999).[14] Reflecting this, part of the "healthy schools" focus at many FiS schools was an emphasis on supporting students to learn how to make healthy choices that could be related to their emotional, social or physical wellbeing. Teachers also recognised that FiS-related activities and leadership opportunities were connected to outcomes beyond physical health, such as improved learning, as well as social and emotional wellbeing. Improved wellbeing and a sense of connection to school are important as these factors link to improved longer term health and education outcomes. This suggests that the potential impacts of FiS could be enhanced if it was better aligned with holistic approaches to health and wellbeing. This type of holistic approach is evident overseas. It underpins the UK Healthy Schools model.[15] To maximise the benefits of FiS, it is important that

[14] This model is also a key underpinning of Te Aho Matua, the foundation document for kura kaupapa Māori.

[15] http://www.healthyschools.gov.uk/About-Themes.aspx

school health promotion initiatives are broad in scope, give schools the flexibility to focus on areas of need for their community which are also important for longer-term health and wellbeing and are not captured by a focus on physical health. International research suggests that HPS is a successful vehicle for developing approaches to wellbeing (Stewart-Brown, 2006).

Recommendation: Include a focus on social and emotional health and wellbeing within FiS.

FiS and the curriculum

Follow-up surveys shows that FiS students have more opportunities than comparison students to input into health-related activities at school. This finding suggested that FiS is acting as a catalyst for schools to use approaches that involve students and staff learning by "doing" or taking action. Earlier reports (Boyd et al., 2007; Boyd et al., 2008) noted that, although the HPS process encourages schools to develop health teams of students, teachers, parents and whānau to act as activists, this model is located ***outside*** the core curriculum and tends to involve a small group of students. This study suggests there is a need to support schools to develop models of action that are located ***within the curriculum*** and are for ***all*** students. The fact that most change was occurring at a whole-school level rather than in the classroom reiterates the point that the full potential of HPS processes has yet to be realised.

The 2008 data showed that the lead teacher model used by FiS does not always enable classroom teachers to access PD, suggesting that there is still a need for support for classroom teachers on how health promotion processes can be used within the curriculum, and these relate to the recent revision of the school curriculum (Ministry of Education, 2007). The findings suggest that the following action could provide additional support for teachers.

Recommendation: Review the HPS model to ensure that it provides scope for health promotion work in the classroom and provide additional PD for classroom teachers that focuses on the use of health promotion processes within the curriculum and how these align with the changes in direction noted in the recent revision of the curriculum.

Agency support

The Healthy Futures findings suggest that the hands-on way that FiSC work with schools, along with support from partner agencies, has assisted schools to develop new ways of promoting health and wellbeing that prioritise student and community involvement in decisions and actions. Schools in different regions and phases of FiS reported varied access to agency partners, and less access overall to SSS. This suggests that agency capacity varies across regions.

Throughout the Healthy Futures evaluation, the smokefree area has been the "poor cousin". This area lacks a dedicated agency partner, and much of the smokefree education in schools is covered by external providers such as Life Education and DARE educators. Given the longer term health statistics in regard to smokefree, which show that students with the profiles of those in FiS schools are likely to be at risk of poorer outcomes, there appears to be a need to raise awareness in

the school sector about good practice in relation to the smokefree area. This could include more information about the resources which are available to schools and how to create a climate which reduces risk factors and enhances protective factors such as a sense of connection to school, participation in sports teams or volunteering (Health Sponsorship Council, 2005), or about the most successful forms of smokefree education. Although FiS/HPS is assisting schools to create such a climate, the data also suggest that more support is necessary in this area.

Recommendation: Review agency capacity (by agency and region) to ensure schools have access to FiSC and agency partners who work in a hands-on way with schools.

Recommendation: Consider ways of providing additional smokefree support for schools.

Sustainability and the longer term

The Healthy Futures data suggest that schools are starting to develop the infrastructure that will enable them to continue to be health promoting in the future. As you would expect, this infrastructure is more embedded in the schools that joined the earlier phases of FiS (Phases 1 and 2). The International Union for Health Promotion and Education (2008) guidelines for achieving HPS status note that specific actions in schools take approximately three to four years to implement. Longer term change requires ongoing action and support over a period of five to seven years. The education literature suggests similar time frames for embedding change (Russell, 2003; Timperley, 2003). This literature alerts us to the dangers of looking for quick fix solutions to complex problems. In the two to three years FiS schools have been part of the initiative, many have developed an HPS infrastructure and have started to enhance their approaches to three health priority areas. For longer term sustained change, the data suggest that FiS schools require ongoing support over a longer time period.

The FiS fruit is an important component of FiS. The data collected from schools suggest that this fruit is contributing to students' wellbeing, physical health and positive attitudes towards school and healthy behaviours, and thus is acting as a protective factor that is likely to lead to improved longer term health outcomes. The data presented in this report suggest that continued fruit provision in some form is likely to benefit future students. In addition, evidence from the FiS pilot (Ashfield-Watt, 2005), and international studies (Ransley et al., 2007) suggests ceasing fruit provision might have a detrimental effect on students' fruit consumption.

As well as creating goodwill, the free fruit is an important catalyst of change at schools, and therefore sustainability of this fruit is an ongoing concern for the FiS community. Some schools were starting to develop plans to continue this aspect of FiS if the funding stopped, but many had yet to fully explore possible options. A number of stakeholders considered these low-decile schools would be unable to self-sustain the fruit provision without some ongoing assistance.

Recommendation: Fund FiS for at least the time frames known to be necessary for sustainability (five to seven years).

Recommendation: Explore models for continuing some form of free fruit provision.

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