



NSW HEALTHY SCHOOL CANTEEN STRATEGY

Canteen Manager Survey Report

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Suggested citation:

Nutrition and Physical Activity Branch. *Canteen Manager Survey Report*. Sydney: NSW Department of Health, 2004

Further information about this document is available from:

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NSW Health website: www.health.nsw.gov.au

October 2004

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Executive summary

The NSW Healthy School Canteen Strategy is currently being implemented as part of the *Prevention of Obesity in Children and Young People: NSW Government Action Plan 2003-2007*. One of the preliminary components in evaluating the NSW Healthy School Canteen Strategy is the Canteen Manager/Supervisor Survey. This survey was completed as an additional component of the NSW Schools Physical Activity and Nutrition Survey (SPANS) that was conducted in a random sample of 90 schools in April and May 2004 by the NSW Centre for Overweight and Obesity (COO).

The aim of the Canteen Manager/Supervisor Survey was firstly to investigate NSW school canteen management and operational practices, and secondly to inform future intervention strategies and components of the evaluation.

The Canteen Manager/Supervisor Survey included questions regarding the canteen's role, operation, staffing and profits; existence and membership of a canteen committee; existence and content of a canteen policy; NSW School Canteen Association Membership; barriers and enablers to the sale of healthier food; healthier food promotions; introduction of healthier products; removal of foods from sale; biggest selling food/drink items; existence of breakfast programs; and vending machines.

The results of the survey are encouraging in that a substantial number of school canteens (77%) had introduced healthier food choices to the school canteen. The majority of canteen managers (72%) reported a positive response to these foods.

Forty-five per cent of school canteens had removed products from sale for health reasons. Of the products removed from sale for health reasons, savoury pastries, chips/savoury snacks, confectionary and soft drinks/flavoured mineral waters were the four most removed products. The NSW Healthy School Canteen Strategy requires that products that lack adequate nutritional value, are high in saturated fat and/or added sugar and/or salt, and contribute excess energy, can only be sold occasionally in school canteens. Many of the products that canteen managers reported removing from sale in the survey would fall into this 'Occasional' food category; suggesting that some schools had already begun to make changes at the time the survey was administered.

Fewer than half of the canteen managers (43%) reported conducting healthier product promotions in the previous 12 months. Promoting healthier products to students and the school community is seen as a key step to successful implementation of the NSW Healthy School Canteen Strategy.

Developing a school canteen policy and establishing a school canteen committee are also seen as necessary steps for successful implementation of the Strategy. Seventy-four per cent of the school canteen managers surveyed reported that their school had a school canteen policy and 70% reported their school had a school canteen committee.

With regard to barriers to the introduction of healthier food choices, the majority (66%) of canteen managers reported that no factors had stopped their school from providing healthier food choices. These canteen managers said the school canteen was already selling plenty of healthy foods. However, based on the types of food the canteen managers reported were the biggest selling items, this does not necessarily mean these canteens would meet the requirements of the NSW Healthy School Canteen Strategy.

Lack of demand from students, staffing issues (lack of volunteers, lack of time to prepare fresh foods), wastage of fresh produce and fear of loss of profits were the most selected factors that had stopped the canteen managers from providing healthier food choices.

Overall, the primary schools surveyed had made more changes towards introducing healthy school canteens than the secondary schools surveyed.

The Canteen Manger Survey provides a good snap shot of what was happening in school canteens across NSW at the time the Survey was completed. Further, it provides some insight into canteen managers' perception of the factors that help or prevent canteens from offering healthier food choices.

The results suggest that positive changes are being made towards introducing healthier school canteens. It is anticipated that further changes will occur over the next 12 months as implementation of the NSW Healthy School Canteen Strategy continues, especially with regard to positioning foods to only be sold occasionally in the school canteen and promoting healthier products.

It is recommended that any future studies of this nature include a larger sample size. Furthermore, detailed information about the type and quantity of products sold would be best obtained by directly observing canteen stocks including product nutritional information and recording sales information or observing purchasing behaviour.

Background

Childhood Obesity and the NSW Healthy School Canteen Strategy

In the decade 1985-1995, the level of combined overweight and obesity in Australia more than doubled. Around one-quarter of Australian children are now overweight or obese, and conservative estimates suggest that this is increasing by 1% per year.

Obese children have a 25-50% chance of progression to adult obesity and it may be as high as 78% in older obese adolescents (Must & Straus 1999). The health consequences of overweight and obesity range from increased risk of premature death, to serious conditions that reduce the overall quality of life, such as: diabetes; cardiovascular disease - hypertension and stroke; and certain forms of cancer (Ebbeling et al 2002).

In September 2002, the NSW Childhood Obesity Summit was convened at Parliament House in recognition of the increasing problem of overweight and obesity. The Summit brought together health experts, parliamentary representatives, industry, parents, teachers and children to develop practical solutions to the problem of childhood obesity. At the end of the 3-day event, Summit delegates presented the Government with 145 resolutions calling for actions to address overweight and obesity.

Ensuring that school canteens in NSW are healthier was one of the key messages from the summit. Two summit resolutions specifically addressed this issue. Resolutions 3.14 and 7.1, respectively, stated:

3.14 That it be ensured that no canteen sell high fat or high sugar foods or drinks through over the counter sales, vending machines, special events or contractors. This may be achieved by: (a) Legislation; (b) policy directives; (c) support or incentives for school canteens; and/ or (d) other means.

7.1 That the NSW Government develop mandatory rules for implementation in school canteens from years K-12 and that children and young people should be involved in the development of such rules.

The strategy, *Prevention of Obesity in Children and Young People: NSW Government Action Plan 2003-2007*, was developed in response to the NSW Childhood Obesity Summit. A key priority area in the Plan being 'Healthier Schools'.

Within the 'Healthier Schools' priority the school canteen related initiatives state:

The Department of Education and Training and NSW Health will develop a mandatory healthy school canteen framework that ensures all Government schools (and encourages other schools) provide a canteen service that provides healthy and nutritious food consistent with the national dietary guidelines.

The framework will require schools to base their menus on food from the following broad categories:

- *Fruit*
- *Vegetables and legumes*
- *Breads, cereals, pasta and noodles*
- *Milk, yoghurt, cheese*
- *Lean meat, fish, poultry, eggs and nuts.*

Commercial food products will be required to meet agreed nutritional criteria in order to be sold by canteens. Foods high in sugar and/ or fat that fall outside of the 5 food groups will only be sold on special occasions to be consistent with the national dietary guidelines.

Since mid 2003 this framework has been used to develop the NSW Healthy School Canteen Strategy. The Strategy seeks to ensure that foods of minimal nutritional value (particularly those high in fat, and/or sugar and/or salt) are offered infrequently, and more nutritious products are readily available and promoted. An 'Occasional Food Criteria' has been developed to help schools identify those products that should be sold only occasionally i.e. limited in sale to two occasions per term.

There are two significant differences between this Strategy and the approaches that have been employed towards school canteens in the past. Firstly, this Strategy clearly defines – through nutrient criteria – what can and cannot be sold in school canteens. Secondly, for many years, Australian states and territories have encouraged and supported guidelines for the operation of healthy school canteens, however, NSW is the first state to implement a Government mandated approach to ensure that Government schools provide a canteen service that provides healthy and nutritious foods.

The Strategy will be phased in over 2004 with Term 1 2005 being the target date for implementation. That is, all Government schools will be expected to have made changes towards operating a healthy school canteen food service by Term 1 2005 and non-government schools have been encouraged to implement the Strategy.

For many schools, the transition to a healthy canteen is very challenging, and hence adequate support is required. The NSW Healthy School Canteen Strategy seeks to support schools in changing their menus through effective communication, dissemination of information, provision of support materials, and training. Support materials were distributed to schools in Terms 2 and 3 2004.

The Canteen Manager Survey

The NSW Healthy School Canteen Strategy warrants a thorough evaluation as it is one of the most significant statewide public health nutrition initiatives in recent years. A comprehensive evaluation framework has therefore been developed.

The Canteen Manager/Supervisor Survey is one of the preliminary components of this evaluation. It was completed as an additional component of the NSW Schools Physical Activity and Nutrition Survey (SPANS) that was conducted in a random sample of NSW schools in April and May 2004 by the NSW Centre for Overweight and Obesity (COO).

As the first round of support materials was distributed to schools around the time as the Canteen Manager Survey was being completed (i.e. April 2004), most canteen managers would not have been aware of the specific requirements of the Strategy or have begun implementation of the requirements at the time the Survey was administered. However, many canteen managers may have begun introducing healthier food choices and removing less healthy products from sale in anticipation of the Strategy requirements. For this reason the survey did not aim to provide a clear 'pre-intervention' or baseline of information regarding school canteens.

Aim

The aim of the Canteen Manager Survey was firstly to investigate the NSW school canteen management and operational practices at the time the survey was completed and secondly to inform future intervention strategies and components of the evaluation.

The objectives of the Canteen Manager Survey were:

1. To provide basic information regarding canteen management, the role of the canteen in the school, canteen committees and policies, profit and membership of the NSW School Canteen Association
2. To provide a snapshot of what was happening in school canteens with regard to the types of products that were sold, promoted; removed from sale; or introduced in the 12 months prior to the survey
3. To better understand the barriers and enablers for the provision of healthier food choices in school canteens.

Methods

Ethical Approval

Approval for SPANS (incorporating the School Canteen Manager Survey) was received from both The University of Sydney Human Research Ethics Committee and the Strategic Research Directorate at the NSW Department of Education and Training. The NSW Centre for Overweight and Obesity implemented SPANS through NSW Health Funding.

Sample Selection

SPANS employed a stratified sampling frame to generate a statewide representative sample of NSW students in school years K, 2, 4, 6, 8 and 10.

The number of schools selected in each education sector was proportional to the number of students enrolled in that education sector (approximately 69%, 22% and 9% for Government, Catholic and Independent schools, respectively). The likelihood of a school being selected in each education sector was proportional to the size of the student enrolment.

Schools for students who require intensive levels of support, schools with enrolments of less than 180 students and schools in the most remote regions of NSW were excluded from the sampling frame. Despite this, more than 95% of the high school population and more than 90% of the primary school population were included in the sampling frame.

Based on this sampling design a random sample of 90 schools was selected by the Australian Council for Educational Research (ACER), who provided a first, second and third choice by sector, school size and location.

School Recruitment

In November and December of 2003, the first 90 schools identified by the ACER were sent packages of information regarding SPANS, and asked to fax back a form to indicate their willingness to participate. The package of information included an introductory letter outlining the purpose and procedures of the survey and the school's role. Also included were copies of the approval letters from the Department of Education and Training (DET) and a letter from the NSW Minister for Health encouraging schools to participate.

Schools that declined to participate were replaced by the next school on the list that was chosen so as to be similar in terms of size and socio-economic status. If the replacement school also declined, the third school was approached.

The sample size for the Canteen Manager Survey was 86 because the final sample of 90 schools for SPANS included five schools that did not have school canteens and one school that had two separate and independently run canteens. Therefore there were potentially 86 schools that could complete the Canteen Manager Survey.

Instrument Development

The questions used in the Canteen Manager Survey were largely based on a survey developed for NSW Health as part of the *School Canteen Assessment and Monitoring Kit (SCAM)* (Stickney et al 1997). The *SCAM Kit* was designed for use by Area Health Service (AHS) workers and aimed to provide a standardised method of obtaining information about school canteens. While the *SCAM Kit* was not implemented in 1997, a

considerable amount of work went into the development of the questions contained within the *Kit*.

Prior to administering the Canteen Manager Survey, three canteen manager focus groups were completed in order to make sure the survey questions were: clear; unambiguous; could be answered by canteen managers; and did not overburden respondents. The NSW School Canteen Association (NSWSCA) assisted with the organisation of two of these focus groups, which were held at the NSWSCA offices in Sydney. The remaining group was conducted as part of a metropolitan Canteen Network Meeting.

The questions asked in the Canteen Manager Survey covered the following topics:

- Basic descriptive information about the school
- Canteen operating hours
- Canteen staffing arrangements
- Computer accessibility and use for canteen business
- The role of the school canteen
- The existence and membership of a School Canteen Committee
- The existence and content of a School Canteen Policy
- Profit
- NSW School Canteen Association Membership
- Factors affecting the types of foods sold (who makes decisions about what products are stocked; factors stopping and assisting the sale of healthier food choices)
- Healthier food promotions in the last 12 months
- The introduction of healthier products in the last 12 months
- The removal of foods from sale in the last 12 months
- The biggest selling food/drink items
- The existence of breakfast programs and
- Vending machines

A copy of the survey instrument is provided in Appendix 1.

Survey Administration

The Canteen Manager Survey was administered in Term 2 2004 by the SPANS field staff.

Participating schools were instructed that the survey should be completed by the school's canteen manager/supervisor. If there was no designated canteen manager/supervisor then a member of the Canteen Committee was asked to complete the survey. As well as completing the survey canteen managers were asked to provide a copy of their school's canteen menu or price list.

Canteen Managers were asked to provide a contact number and availability schedule in case further information was required. Schools were informed that individual schools would not be identified in any way when the results were presented.

In most cases the surveys were collected by the SPANS field staff on the subsequent visits they made to the schools. Schools that had not completed the questionnaire on the

day of the collection were contacted by phone and encouraged to complete the questionnaire and post it to the NSW Department of Health.

Data Analysis

The data was manually entered into Microsoft Excel after an identification number was assigned to each school. Where data was missing or not understood the canteen manager was contacted to clarify the information or provide a response. If the canteen manager could not be contacted the question was left blank. The data was then cleaned and checked against the source documents. Changes were only made to the data file where it was clear that a suspect value was an error.

Microsoft Excel was used for descriptive analyses. Univariate analyses were performed using Epi Info, to determine if there were any statistically significant differences between the variables. The independent variables considered in the analysis were the nature of school (primary vs secondary) and its locality (rural vs metropolitan). Combined schools (school with a mixture of primary and secondary students) (3) were merged with secondary schools.

Results

Response Rate

Of the 86 schools that could have potentially completed the survey, 12 schools either did not return a survey (8) or did not answer enough questions to be included in the data set (4).

Six of the schools that did not return a survey were secondary schools (4 Government, 2 Catholic). The other two were Government primary schools. Schools that did not return the survey either reported that they hadn't received the survey, did not recall seeing the survey or that they had already handed it in.

Of the schools that returned incomplete surveys three were secondary schools and one was a primary school. Two of the schools that returned incomplete surveys reported the school canteen management had recently changed and the new manager did not know the answer to many of the questions.

In total 74 schools returned complete surveys giving an overall response rate of 86%.

Participating School Characteristics

Of the 74 four schools that returned a complete survey 47% (35) were primary schools, 49% (36) were secondary schools and 4% (3) were combined schools.

There were 69% (51) Government, 22% (16) Catholic and 9% (7) Independent schools. The sample consisted of 62% (46) metropolitan schools and 38% (28) rural schools.

The size of the schools ranged from 219 to 796 (mean = 451) students for primary schools, 330 to 1367 (mean = 862) students for secondary schools and 905 to 1240 (mean = 1022) students for combined schools.

Canteen Operating Hours

Overall, 88% (65) of the canteens were open Monday through to Friday. The nine school canteens that were not open Monday to Friday were all primary school canteens, the school size ranged from 220-560 students and they operated from one day a week to four days a week.

With regard to opening times, 60% (45) of the school canteens were open before school, 95% (71) were open at recess, and 97% (72) were open at lunch. A few canteens were also open for afternoon drink break (1), after school (3) and during social events (2).

The majority of school canteens (58%, 43) were open before school, recess and lunch inclusively. The details of school canteen operation hours are listed in Table 1.

Table 1: Number and percentage of school canteens open at various times by school type

	Primary		Secondary		All Schools	
	n	%	n	%	n	%
Before school*	13	37	32	82	45	60
Recess	32	91	39	100	71	95
Lunch	33	94	39	100	72	97
Afternoon drink break	0	0	1	3	1	1
After school	0	0	3	8	3	4
School socials	1	3	1	3	2	3

* $\chi^2 = 15.6, p < 0.001$

There were fewer primary school canteens (37% n=13) open before school than secondary school canteens (82% n=32) at a statistically significant level ($p < 0.001$).

There was no statistically significant difference between rural and metropolitan school canteens with respect to opening times.

Staffing Arrangements

Overall, most schools (89%) had a paid manager and or contractor working in the canteen—58 schools had paid manager and 4 had a contractor/lessee working in the canteen. Additionally, 4 canteen managers reported that both the contractor/lessee and a paid manager worked in the school canteen. Secondary school canteens were more likely to have a paid manager and/or contractor/lessee working in the canteen than primary schools (100% vs 77%). Approximately half of secondary school canteens (51%) also had paid staff members compared with only one primary school canteen. These differences were statistically significant (Table 2). None of the participating rural canteens (primary and secondary schools) were staffed by contractors/lessees compared to 17% (8) of metropolitan canteens ($\chi^2 = 3.81$ $p = 0.02$).

Overall, rural canteen managers reported having significantly more volunteer staff than metropolitan canteen managers (100% vs 74%, $\chi^2 = 6.9$, $p = 0.009$). Primary school canteens received more volunteer assistance than secondary school canteens (94% vs 74%). In fact, eight (23%) primary school canteens were staffed entirely by volunteers. However, secondary school canteens received more help from students than primary school canteens (36% vs 14%). Table 2 shows the staffing arrangements of secondary and primary school canteens.

Table 2: Canteen staffing arrangements by school type

Type of staff	Primary % (n)	Secondary % (n)
Paid manager**	69% (24)	97% (38)
Paid assistant(s) **	3% (1)	51% (20)
Volunteers*	94% (33)	74% (29)
Student help*	14% (5)	36% (14)
Contractor / Lessee	9% (3)	10% (5)

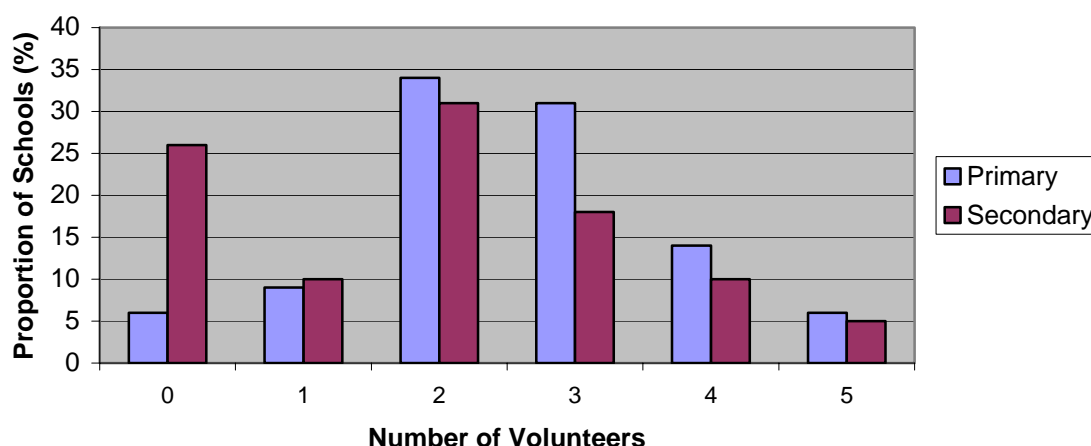
* $p < 0.05$

** $p < 0.01$

Canteen managers were also asked two specific questions related to volunteers. Firstly, canteen managers were asked how many volunteers they usually get to help out each day. The majority (57%, 42) of school canteens had 2 to 3 volunteers working in the canteen each day. The number of volunteers ranged from 1 to 5 (Figure 1). Approximately one quarter (26%) of the secondary school canteen managers reported they usually had no volunteers each day compared to only 6% of primary school canteen managers.

Secondly, canteen managers were asked how many volunteers they needed on their busiest day. This answer was compared to the answer of the preceding question to determine if supply was equal to demand. Overall, 60% (44) of canteen managers reported they did not have enough volunteers on their busiest day, 36% (27) reported they had the number of volunteers they needed and 4% (3) reported they had more volunteers than needed. These figures were very similar when the responses of primary and secondary school canteen managers were compared.

Figure 1: Number of volunteers by type of school



Computer Use

Overall 58% (43) of canteen managers reported they had access to a computer to assist in their role as canteen manager. Of these managers, 54% reported using a computer at school; 23% reported using a computer at home and 23% reported using a computer at home and at school.

The managers of primary school canteens had statistically significantly greater access to computers than their secondary school colleagues (71% vs 46%, $\chi^2=4.8$, $p<0.05$). However, there was no significant difference between primary school managers and secondary school managers with respect to computer access at school (72% vs 77%).

The canteen managers who reported having access to computers were then asked to select the tasks, from a designated task list, for which they used the computer. The most commonly reported task that computers were used for was management (rosters, budget etc) (81%), followed by menu development (63%), printing materials (60%) and developing promotional materials (42%), (Table 3). Two canteen managers reported they had access to a computer but did not use it for canteen related tasks.

Table 3: Tasks computers were used for by those canteen managers that had access to them

Task	n = 43	Proportion of Managers (%)
Management Tasks (rosters, budget etc)	35	81
Menu Development	27	63
Printing Materials	26	60
Developing Promotional Material	18	42
Internet Access	8	19
Food Ordering	5	12

**more than one task could be selected by each canteen manager*

Role of the School Canteen

Canteen managers were asked to select, from a designated list, the roles they saw their canteen had in their school. The four most commonly reported roles were providing a food service; providing and promoting healthy food; making a profit for school needs; and supporting classroom nutrition education (Table 4).

Table 4: Role of the school canteen

Role	Primary n=35		Secondary n=39		All school canteen managers n=74	
	%	(n)	%	(n)	%	(n)
Providing a food service	100	(35)	100	(39)	100	(74)
Providing and promoting healthy food	97	(34)	85	(33)	91	(67)
Making a profit for school needs	69	(24)	85	(33)	77	(57)
Supporting classroom nutrition education	57	(20)	56	(22)	57	(42)
Making a profit for the canteen	17	(6)	33	(13)	26	(19)
Teaching skills (social, money handling)	15	(5)	9	(3)	11	(8)
Safe area before/after school	0	(0)	3	(1)	1	(1)

More secondary school canteen managers selected ‘making a profit for school needs’ (85% vs 69%) and ‘making profit for the canteen’ (33% vs 17%) as roles of their school canteen than primary school canteen managers. However, these differences were not statistically significant.

Almost all the canteen managers (93%) reported that the role of the school canteen included supporting classroom nutrition education and/or providing and promoting healthy food.

Canteen Managers were then asked to list the three roles they saw as the most important, second most important and third most important in that order.

Most important role

Overall, 60% canteen managers selected ‘providing a food service’ as the most important role and 34% of canteen managers selected ‘providing and promoting healthy food’ as the most important role’ (Table 5).

Table 5: Most important role

Role	Primary		Secondary		All school canteen managers	
	%	(n)	%	(n)	%	(n)
Providing a food service	50	(17)	69	(27)	60	(44)
Providing and promoting healthy food	41	(14)	28	(11)	34	(25)
Supporting classroom nutrition education	6	(2)	0	(0)	3	(2)
Making a profit for school needs	3	(1)	0	(0)	1	(1)
Making a profit for the canteen	0	(0)	3	(1)	1	(1)
Teaching skills	0	(0)	0	(0)	0	(0)

Second Most Important Role

‘Providing and promoting healthy food’ was listed as the second most important role by the greatest proportion of canteen managers from both primary and secondary schools (Table 6). More secondary school canteen managers selected ‘making a profit for school needs’ as the second most important role than primary canteen managers, however the difference was not statistically significant.

Third Most Important Role

‘Making a profit for school needs’ was selected as the third most important role by the greatest per centage of canteen managers overall (Table 7).

Table 6: Second most important role

Role	Primary		Secondary		All school canteen managers	
	%	(n)	%	(n)	%	(n)
Providing and promoting healthy food	32	(11)	33	(13)	33	(24)
Making a profit for school needs	15	(5)	31	(12)	23	(17)
Providing a food service	20	(7)	18	(7)	19	(14)
Supporting classroom nutrition education	15	(5)	5	(2)	9	(7)
Teaching skills	15	(5)	3	(1)	8	(6)
Making a profit for the canteen	3	(1)	10	(4)	7	(5)

Table 7: Third most important role

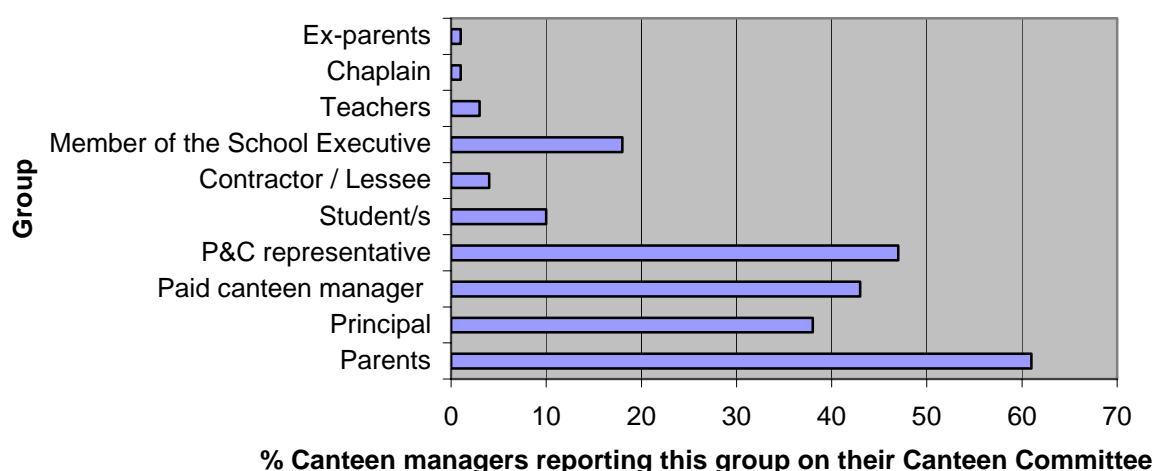
Role	Primary		Secondary		All school canteen managers	
	%	(n)	%	(n)	%	(n)
Making a profit for school needs	32	(11)	33	(13)	32	(24)
Supporting classroom nutrition education	32	(11)	21	(8)	26	(19)
Providing and promoting healthy food	15	(5)	23	(9)	19	(14)
Providing a food service	15	(5)	8	(3)	11	(8)
Making a profit for the canteen	3	(1)	10	(4)	7	(5)
Teaching skills	3	(1)	5	(2)	4	(3)

School Canteen Committee

Seventy per cent (52) of canteen managers reported their school had a school canteen committee. However, significantly more primary school canteen managers reported their school had a canteen committee than secondary school canteen managers (86% vs 57%, $\chi^2 = 7.58$, $p < 0.01$). The same was true for rural canteen managers compared to metropolitan canteen managers (89% vs 59%, $\chi^2 = 6.4$, $p = 0.01$).

Of the canteen managers (all schools) that reported their school had a canteen committee, 41% reported the committee had members from four or more different school community groups. Figure 2 shows the different school community groups reported to be on the school canteen committees. Parents, principals, paid canteen managers and P&C representatives were the most selected committee members.

Figure 2: Types of people represented on school canteen committees



School Canteen Policy

Overall, 74% (55) school canteen managers reported their school had a school canteen policy. More primary school canteen managers reported their school had a canteen policy than secondary school canteen managers (80% vs 71%), however the difference was not significant. There was also no significant difference between metropolitan and rural schools with regard to the existence of a canteen policy.

The topics reported to be covered by these canteen policies are shown in Table 8. Almost all of the policies (90%) included information on food safety and hygiene. The next most covered topic areas were nutrition (types of food sold), pricing of products and membership/role of the canteen committee. Five canteen managers reported they had a policy but did not know what information the policy contained.

Table 8: Content of the school canteen policies

Policy Contents	% Canteen managers	Number n=55
Food safety and hygiene	90	50
Nutrition	69	38
Pricing policy	60	33
Canteen Committee members and role	58	32
Food /drinks in vending machines	33	18
Promotions	31	17
Special activities	18	10

Profit

Seven canteen managers reported they did not know what the financial status of the canteen was in the last 12 months. Of the canteen managers that did know, 79% (53) reported the canteen made a profit in the last school year. Significantly fewer primary school canteen managers reported the canteen made a profit than secondary school canteen managers (68% vs 91%, $\chi^2 = 4.17$, $p=0.04$). There was no significant difference between the number of metropolitan canteen managers that reported the school canteen made a profit compared to rural canteen managers.

No secondary canteen managers reported the school canteen ran at a loss, but some primary school canteen managers did (6%). Twenty-seven per cent (9) of primary school canteens managers reported the canteen broke even compared to 9% of secondary school canteen managers (Table 9).

Table 9: Canteen financial status in the last 12 months

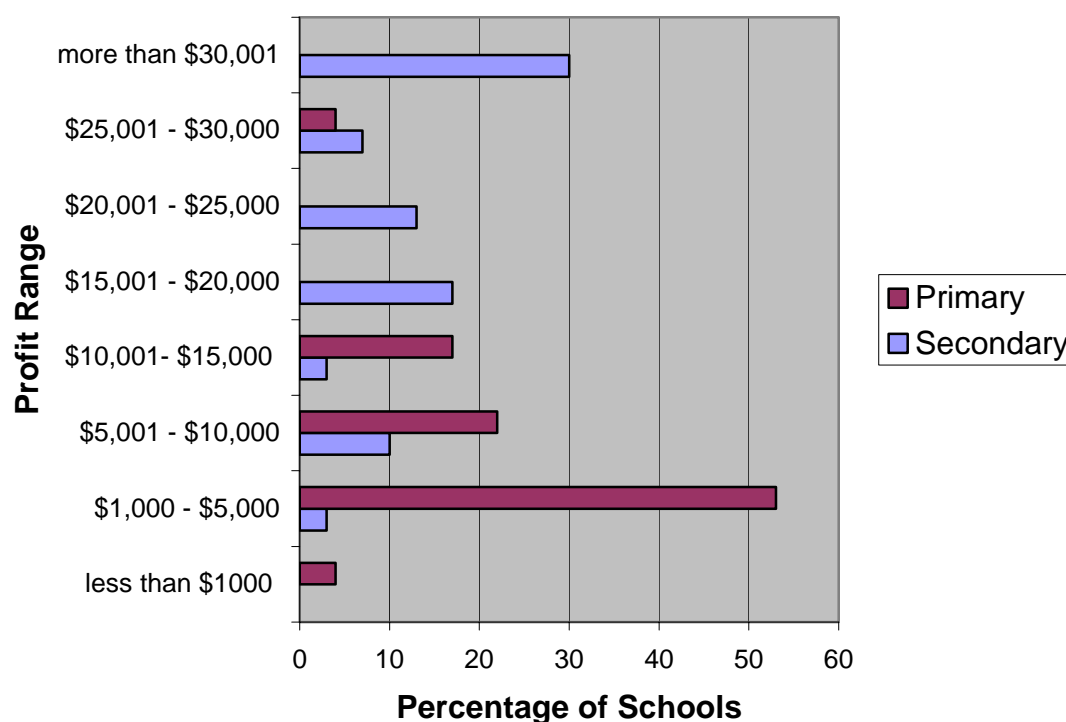
Financial Status	Primary n=34		Secondary n=33		All school canteens n=53	
	%	n	%	n	%	n
Make a profit	67	23	91	30	79	53
Break even financially	27	9	9	3	18	12
Run at a loss	6	2	0	0	3	2

The canteen managers that reported their canteen had made a profit in the last 12 months were asked to provide an estimate of the amount of profit they made. Overall, 48 schools provided a response. The most frequently reported profit range was \$1,000-\$5,000 (27%, 13) followed by more than \$30,000 (20%, 9) and \$5,001-\$10,000 (17%, 8).

Secondary school canteen managers were significantly more likely to report a profit over \$10,000 than primary school canteen managers (87% vs 22%, $\chi^2 = 20.0$, $p < 0.001$). Figure 3 shows a comparison of the amount of profit reported by primary and secondary school canteen managers. For primary schools the most reported profit range was \$1000-\$5000 (53%), where as for secondary schools it was more than \$30,000 (30%).

Seventeen per cent of secondary school canteen managers reported making a profit but did not know the profit range, however, this was not the case for any of the primary school canteen managers that reported making a profit.

Figure 3: Profit range by school type



NSW School Canteen Association Membership

Overall, 69% (51) of school canteen managers reported the school was a member of the NSW School Canteen Association (NSWSCA). This breaks down to 80% of primary school schools and 59% of secondary schools, however the difference was not statistically significant. There was a statistically significant difference for metropolitan and rural schools in that more rural schools were members (86% vs 59%, $\chi^2 = 4.74$, $p=0.03$).

The actual membership statistics of the NSWSCA at the time of the survey are not known, however membership at the time this report was written was approximately 57% of NSW schools with canteens. There is a slight difference in these actual membership statistics compared to the Survey results ($p=0.043$), but it is possible that more schools could have become members of the Association in the time since the survey was completed. The NSWSCA also reports a trend that more primary and rural school canteens overall, are members of the Association.

Twenty-seven per cent of canteen managers at NSWSCA member schools reported their school had applied for a Healthy School Canteen Award in the past.

Factors Affecting the Types of Food Sold

Canteen managers were asked who had decided, in the last 12 months, which foods could be stocked in the school canteen. The canteen manager was the most commonly reported decision maker followed by the school canteen committee and the school principal (Table 10).

The majority of canteen managers (74%) reported that decisions regarding stock selection were made by more than one person. At some schools these decisions were made by as many as seven people.

Table 10: Groups/Individuals involved in making decisions about what is sold in the school canteen

Group/Individual	%	n
Canteen manager /supervisor	85	63
School canteen committee	60	44
Principal	35	26
Canteen volunteers	22	16
P&C	19	14
Students	18	13
Parents	15	11
Contractor	8	6
Business manager	1	1

Canteen managers were also asked if any factors, from a designated list, had stopped their school's canteen from providing more healthier food choices. Overall, 66% (49) of canteen managers reported that no factors had stopped the canteen from providing healthier food choices. These canteen managers said the school canteen was already selling plenty of healthy foods.

The remaining canteen managers most commonly selected lack of demand from students (72%) and lack of volunteers (68%) as the factors that had stopped them from providing healthier food choices (Table 11). There was no difference in the responses to this question between primary and secondary canteen managers.

Canteen managers were then asked to identify the factors, from a designated list, that had helped the school's canteen to provide healthier food choices. Nineteen per cent (14) of the canteen managers reported that none of the factors had helped them. Of the canteen managers that did list factors for this question, the most commonly selected factors were membership of the NSW School Canteen Association (52%), support from teaching staff/parents (52%) and easy access to healthier food choices (43%) (Table 12). The majority (69%) of canteen managers reported that more than one factor had helped them provide healthier food choices (mean = 2.6).

Table 11: Factors that have stopped school canteens from providing more healthier food choices

Factor	% of canteen managers reporting this factor	Number of canteen managers reporting this factor n = 25
Lack of demand from students	72	18
Lack of volunteers	68	17
Competition from local shops that sell less healthy foods	48	12
Have tried - too much wastage	48	12
Poor shelf life of fresh food	44	11
Lack of time to prepare - more labour intensive	40	10
Need to make profit - selling healthier food is less profitable	32	8
Can't get easy access to healthy food products	32	8
Healthy food is too expensive to buy in to the canteen	28	7
Lack of support from parents	24	6
Lack of storage space	20	5
Lack of suitable equipment - specify	20	5
Lack of support from canteen staff	8	2
Special deals from distributors for less healthy food	8	2
Lack of support from canteen committee	4	1

Factor	% of canteen managers reporting this factor	Number of canteen managers reporting this factor n = 25
Lack of preparation area	4	1
Lack of display space	4	1
Erratic electricity supply	4	1

**more than one factor could be selected by each canteen manager*

Table 12: Factors that have helped school canteens to provide more healthier food choices

Factor	% of canteen managers reporting this factor	Number of canteen managers reporting this factor n = 25
Membership of the NSW SCA	52	31
Support from teaching staff/parents	52	31
Easy access to healthier food choices	43	26
Knowledge of the childhood obesity problem	28	17
Networking with other schools in the area	25	15
Promotions of healthier food products or 'meal deals'	22	13
Participation in NSW SCA Award Program	15	9
Special deals on healthier food products	15	9
Assistance from health professionals	12	7
More storage/equipment space available	10	6
Training courses	8	5

**more than one factor could be selected by each canteen manager*

Healthier Product Promotions

Forty-three per cent (32) of canteen managers reported their school canteen had conducted healthier product promotions in the last 12 months. Significantly more primary school canteens had promoted healthier products than secondary school canteens (57% vs 31%, $\chi^2 = 5.23$, $p=0.02$). There was no statistically significant difference between the number of metropolitan and rural school canteen managers that reported their school had conducted healthier product promotions in the last 12 months.

Of the canteen managers who reported promoting healthier products, 28 listed the types of products they promoted. These are shown in Table 13. To simplify data analysis the products listed were put into categories. Only one food from each category per school was counted, resulting in a total of 85 products that were promoted by these canteen managers. Products from categories only promoted by one canteen manager were grouped together as 'Other'. Fruit was the most commonly promoted product, followed by salad, milk, fruit juice and dairy products.

Most of the canteen managers that reported promoting healthier products conducted promotions at least once per month (63%). Some conducted promotions weekly or more frequently (27%).

Table 13: Products promoted by school canteens in the last term

Product	% Canteens promoting this product category n=28	Number of canteens promoting this product category
Fruit	53	15
Salad	25	7
Milk	21	6
Fruit juice	18	5
Dairy products	18	5
Chicken	14	4
Sandwiches	14	4
Vegetables	14	4
Burgers	11	3
Flavoured milks	11	3
Pizza	11	3
Sushi	11	3
Wraps	11	3
Popcorn	11	2
Rice dishes	11	2
Rolls	11	2
Water	11	2
Hot dogs	11	2
Other	36	10

Posting notices in the newsletter, price specials, daily/weekly specials and special theme days/weeks were the four most commonly listed methods of promotion by these canteen managers (Table 14).

Table 14: Methods used by schools to promote healthier products

Promotion Method	%	n
Newsletter	72	23
Price special	41	13
Daily / weekly special	41	13
Special theme day / week	38	12
Taste test	32	10
SRC informing students	22	7
Canteen signage/posters	13	4
Teachers/classroom flyers	6	2
Parents clubs/P&C	3	1
Word of mouth	3	1
Competition	3	1

**more than one method could be selected by each canteen manager*

Introduction of Healthier Products

Overall, 77% (57) of canteen managers reported the school canteen had introduced healthier products in the last 12 months. This breaks down to 80% of primary school canteens and 74% of secondary school canteens, however the difference was not significant. There was also no significant difference when the responses from metropolitan and rural canteen managers were compared (72% vs 86%). Fifty-one per

cent (28) of these canteen managers reported that four or more healthier products had been introduced. The number of healthier products introduced ranged from 1 to 9.

Table 15 shows the types of healthier products that canteen managers reported introducing. The four most listed products were: fruit, reduced fat pies, fruit juice and reduced fat chicken products.

Again the products were categorised and only one food from each category per school was counted. Not all of the school canteen managers listed the same number of products. Canteen managers were asked to include brand names, however, without the access to specific product nutrient information and the serving size it was not possible to determine if all the products listed would actually be considered healthier alternatives (ie meet the 'Occasional Food Criteria'). Some canteen managers identified that they had introduced low fat versions of products. A few products (3) were removed from the analysis as there was enough information provided to determine they would definitely not meet the Criteria. Products that were only listed by one canteen manager were grouped together as 'other'. In total 210 items were listed by 55 canteen managers. The number of healthier items listed ranged from 1 to 9.

Table 15: Healthier products introduced by school canteens during the last 12 months

Product	% Canteens that introduced this product category n=55	Number of canteens that introduced this product category
Fruit	47	26
Reduced fat pies	31	17
Fruit juice	27	15
Reduced fat chicken products	24	13
Flavoured milks	18	10
Pastas	18	10
Salads	18	10
Wraps	18	10
Reduced fat burgers (chicken, fish, beef)	16	9
Reduced fat sausage rolls	16	9
Savoury snacks alternatives (rice chips/crackers, savoury biscuits)	15	8
Popcorn	13	7
Reduced fat ice cream	11	6
Reduced fat pizza	9	5
Filled bread rolls	9	5
Dairy products	9	5
Reduced fat muffins	7	4
Sandwiches	7	4
Health bars	5	3
Reduced fat hot dogs	5	3
Hot bread rolls (chicken and corn, cheese and bacon)	5	3
Reduced fat oven baked potato products	5	3
Rice dishes	5	3
Favoured mineral waters	4	2
Jelly	4	2
Reduced fat meat patties	4	2
Vegetables	4	2
Water	4	2
Others	4	12

Canteen managers were also asked to rate the response from students to each product. For the purpose of analysis, the responses the canteen managers reported were divided

into three categories: positive, ambivalent and negative. The majority of canteen managers (72%) reported a positive response, 18% reported a negative response and 10% reported an ambivalent response to the healthier products they introduced.

Canteen Managers were then asked where they got information about healthier products suitable for the school canteen. The four most reported sources of information were:

- Distributors (77%)
- *NSW School Canteen Association Buyers Guide* (60%)
- Magazines, eg *Canteen News* (38%)
- Supermarket (10%)

Removal of Foods from Sale

Canteen managers were asked if they had stopped selling any foods in the canteen on a daily basis during the last 12 months. Overall, 56% (41) of canteen managers reported that products had been removed from sale in the school canteen in the last 12 months. Significantly more primary school canteen managers had removed products compared to secondary school canteen managers (71% vs 41%, $\chi^2 = 6.9$, $p=0.009$). There was no statistically significant difference between the responses of metropolitan and rural canteen managers to this question.

Of the products that were removed from sale 87% were no longer sold at all, 6% were sold weekly and 7% were sold occasionally (no more than twice per term).

Eighty per cent of the products that were removed from sale were removed for health reasons i.e. the school was moving towards a healthy food policy, the product was unhealthy, or a healthier alternative was available. Other reasons included: lack of demand; allergy concerns; the product was not needed; the canteen no longer had the equipment necessary to serve the product and the product was no longer available.

Of the products removed from sale for health reasons, savoury pastries (pies and sausage rolls), chips/savoury snacks (potato chips or savoury biscuits), confectionary (lollies, chocolate bars) and soft drinks/flavoured mineral waters were the four most removed products (Table 16).

Table 16: Number and type of products removed for health reasons

Product	Number of products removed for health reasons
Savoury pastries	23
Chips/savoury snacks	13
Confectionary	11
Soft drink/mineral waters	10
Cakes/sweet pastries	9
Hot dog/pizza/burger	6
Ice cream	5
Hash brown	4
Chicken	3
Nut products	2
Full fat mayonnaise	1
Total	87

Biggest Selling Food/Drink Items

Canteen managers were asked to list the four biggest selling food and drink items sold by the canteen over both summer and winter, in the before school, recess and lunchtime periods. The products canteen managers listed were divided into categories. Tables 17-19 show the four biggest selling food/drink product categories for each opening time according to the number of canteen managers who listed products in a that category. Five items have been included where there was not a clear difference between the fourth and fifth product category. Not all canteen managers listed four responses for each opening time. That is, some listed more and some listed less than four products. The responses given by primary and secondary school canteen managers are considered separately.

Before School

Foods

Only 13 primary school canteen managers reported the canteen was open before school. Of these, only nine listed responses for this question. The foods listed for summer and winter were similar and included hash browns, chips/savoury snacks, cakes/muffins/sweet pastries, cold rolls, hot rolls, burgers, fresh fruit, toast/raisin toast and dairy products.

Due to the small number of primary school canteen managers that gave a response to this question Table 17 shows only the four biggest selling food items listed by secondary school canteen managers. These were similar for summer and winter, however, in winter more hot foods were sold.

Drinks

Again, only a few primary school canteen managers (12) listed the four biggest selling drinks before school. There was little difference between the biggest selling drinks listed by both primary and secondary school canteen managers for summer and winter, except in winter more hot chocolate was sold (included in flavoured milk). For secondary schools soft drinks featured in the biggest selling drinks. This was not the case for primary schools.

Table 17: Four biggest items before school

Foods		Drinks	
Primary Schools			
Summer	Winter	Summer	Winter
		n=12	n=13
		Flavoured milk Fruit juice Milk Water	Flavoured milk Fruit juice Milk Mineral water
Secondary Schools			
Summer	Winter	Summer	Winter
n=27	n=27	n=29	n=29
Muffins Cakes/donuts/ pastries Hot rolls Chips/savoury snacks	Muffins Hot rolls Toasted sandwiches Cakes/donuts/pastries Pizza	Fruit Juice Water Flavoured milks Soft drinks	Flavoured milks Fruit juice Milk Soft drink

* Mineral water is unflavoured mineral water.

Recess

Foods

There was very little seasonal variation in the types of foods listed by primary school canteen managers at recess, except hot jaffles/melt replaced cold rolls/sandwiches in winter.

For secondary schools, pies, sausage rolls and pizza feature heavily, although in summer cold rolls were listed as the biggest selling food item.

Drinks

The types of drinks listed were similar to those sold before school. There was little seasonal variation. Again soft drinks feature for secondary schools but not primary schools.

Table 18: Four biggest selling items at recess

Foods		Drinks	
Primary Schools			
Summer n=32	Winter n=32	Summer n=33	Winter n=33
Chips/savoury snacks Cakes/pastries/muffins Hot chicken products Cold rolls/sandwiches	Chips/savoury snacks Cakes/pastries/muffins Cheese melts/jaffles Hot chicken products	Fruit juice Flavoured milk Water Milk	Fruit juice Flavoured milk Water Milk
Secondary Schools			
Summer n=38	Winter n=38	Summer n=38	Winter n=38
Cold rolls Pizza Burgers Sausage rolls	Sausage rolls Pies Pizza Hot rolls Burgers	Fruit juice Soft drinks Water Flavoured mil	Fruit juice Flavoured milk Soft drink Milk

Lunch

Food

Again there is little difference between the foods listed by canteen managers in summer and winter for primary and secondary schools, except that in winter hot foods are more popular.

Drinks

The biggest selling drink items sold at lunch were similar to those sold at recess.

Table 19: Four biggest selling items at lunch

Foods		Drinks	
Primary Schools			
Summer n=33	Winter n=33	Summer	Winter
Hot chicken products ¹ Pizza Cold rolls/sandwiches Burgers ²	Hot chicken products Pies Pasta Pizza	Fruit juice Flavoured milk* Water Milk	Flavoured milk ⁵ Fruit juice Milk Water
Secondary Schools			
Summer n=38	Winter n=37	Summer n=38	Winter n=37
Cold rolls ³ Burgers Sausage rolls Pies	Burgers Pies Sausage rolls Hot rolls ⁴	Fruit juice Soft drinks Water Flavoured mil	Fruit juice Flavoured milk Soft drink Milk

¹ Hot chicken products include chicken fingers/tenders/pieces/nuggets etc.

² Burgers include chicken/beef/fish etc

³ Cold rolls and sandwiches include cheese/salad/meat products etc

⁴ Hot rolls include bacon & cheese/ corn and chicken/cheese/chicken and gravy/beef and gravy etc

⁵ Flavoured milk includes hot chocolate

Breakfast

Canteen managers were asked if the canteen was open for breakfast. Overall 35% (26) reported that the canteen was open. This breaks down to 11% (4) of primary school canteens and 56% (22) of secondary school canteens. This difference was statistically significant ($\chi^2 = 14.46$, $p = 0.0001$), however there was no significant difference between metropolitan and rural canteens.

The types of foods listed by the school canteen managers who reported they provided breakfast are included in Table 20. Those foods listed by only one or two school canteen managers were not included in the table. Twenty-five canteen managers listed a response for this question. The three most listed products were fruit juice, sweet pastries and biscuits (cake, donuts, croissants, muffins and cookies) and flavoured milk/hot chocolate.

Table 20: Foods/drinks sold for breakfast

Product	% of Schools that serve breakfast by selling this product	Number of schools selling this category of product
Fruit juice	60	15
Sweet pastries/biscuits	56	14
Flavoured milk/hot chocolate	56	14
Breakfast bar/cereal	40	10
Fruit	40	10
Hot rolls	40	10
Milk	36	9
Toast/raisin toast	32	8
Coffee/tea	28	7
Yoghurt	28	7
Toasted sandwiches	24	6
Hash browns	16	4
Noodles	12	3
Pizza	12	3
Water	12	3
Chips	8	2
Custard	8	2
Soft drinks	8	2
Other	16	4
Total		133

Only three canteen managers, overall, reported the school ran a specific breakfast program. In two cases it was run by after school care and in one case by the Red Cross.

Vending Machines

None of the primary school canteen managers reported that their school had vending machines. However, almost half (46%, 18) of the secondary school canteen managers surveyed did. Thirteen of these managers reported that the vending machines could be accessed any time of the day including before school and five reported that the vending machines could only be accessed during breaks.

Most of the vending machines were under contract (13), three were not and two canteen managers were unsure of the contract status of their school's vending machines. Most canteen managers did not know how long the contract was for.

Seven canteen managers reported that vending machines had been removed from their school in the last 12 months. All of these school canteen managers were from secondary schools.

The types of products sold in vending machines are listed in Table 21.

Table 21: Products sold in vending machines

Product	Number of vending machines stocking this product n=18	% of vending machines stocking this product
*Regular soft drinks	15	83
Diet soft drinks	13	72
Bottled water	10	56
*Confectionary	8	44
*Sports Drinks	7	39
*Flavoured Mineral water	5	28
Plain mineral water	4	22
Fruit Juice	4	22
Plain or Flavoured milks	3	17
*Chips/savoury snacks	3	17
Sandwiches/rolls	1	6
Yoghurts	1	6
Rice Crackers	1	6
Muesli/health bars	1	6

* *Likely to be an occasional food*

All but one of the vending machines contained at least one product that is likely to be considered an 'Occasional Food' (marked with an asterisk in the table) under the NSW Healthy School Canteen Strategy.

Discussion

While other canteen surveys have been completed at an Area Health Service level (Aiken & Pearson 1996, Innes et al 1993 and May 1996), the Canteen Manager Survey is one of the largest studies of its kind completed to date in NSW. It is also the only study of its kind to use a random rather than convenience sample that was representative of NSW Schools.

The response rate of 86% was good for this type of written survey and a relatively complete data set was obtained. Unfortunately the sample size was not large enough for more detailed analysis between more than one variable to be completed.

Staffing arrangements and profits

The results suggest that there are some significant differences between the staffing arrangements and profits of secondary and primary school canteens. Secondary school canteens had more paid staff members (contractors/lessee, paid managers and/or other paid staff) and student help than primary school canteens but primary school canteens had more adult volunteers working in the canteen. Secondary schools were also significantly more likely to return a profit greater than \$10,000 in the previous 12 months than primary school canteens. Secondary school canteen managers appear to be less aware of the details of profits compared to their primary school counterparts. This may be because the canteen accounts are managed by those other than the canteen manager in secondary schools.

There were also some statistically significant differences between metropolitan and rural canteens relating to staffing arrangements but no differences in profits. In rural areas fewer canteens had contractors/lessees working in the canteen but more volunteers than metropolitan canteens.

Regardless of the current staffing arrangements the majority (60%) of canteen managers reported they did not have enough volunteers on their busiest day, suggesting that adequate staffing levels and the retention and recruitment of volunteers are issues for all school canteens.

Role of the school canteen

One of the objectives of the NSW Healthy School Canteen Strategy is to educate the school community regarding childhood obesity and the role of the school canteen. Of particular interest is the number of canteen managers that believe providing and promoting healthy food and supporting classroom nutrition education are important roles of the school canteen.

Overall, 93% of canteen managers reported that the role of the school canteen included providing and promoting healthy food and/or supporting classroom nutrition education. Further, 37% of school canteen managers listed providing and promoting healthy food or supporting classroom nutrition education as the most important role of the school canteen. The trend was for more primary than secondary canteen managers to rank these roles as among the most important roles of the school canteen.

Interestingly, making a profit for school needs generally ranked behind the roles mentioned above for primary school canteen managers and to a lesser degree for secondary school canteen managers.

These results suggest that, while there is still scope for further change, a large number of canteen managers already believe that it is important for the school canteen to provide and promote healthy foods. However, fewer canteen managers selected supporting classroom nutrition education as a role of the school canteen. Therefore, curriculum support materials may be needed to link classroom nutrition education with school canteen activities.

School Canteen Committee, School Canteen Policy and decisions about food

Case studies have demonstrated that some of the steps towards successfully introducing healthier choices to a school canteen include; 1) establishing a school canteen committee that is representative of the school community; and 2) introducing a school canteen policy that includes details of the types of products that can be sold, canteen operations and management practices, as well as, food safety and hygiene. It is also recommended that decisions regarding the types of foods sold should be made in consultation with the school community. These steps tie in with another objective of the Strategy, which is to engage all sectors of the school community in the change process.

Overall, 70% of canteen managers reported their school had a school canteen committee and 41% of these managers reported the canteen committee had members from four or more different school community groups. Primary schools and rural canteen managers were more likely to report their school had a canteen committee than secondary and metropolitan canteen managers.

The most listed canteen committee members were parents, principals, paid canteen managers and P&C representatives. There is possibly scope for more students to be represented as only 10% of the school canteen managers reported that students were members of the school canteen committee.

With regard to canteen policies, 74% of canteen managers reported their school had a school canteen policy. Again there was a trend for more primary compared to secondary schools and more rural compared to metropolitan schools to have policies but the differences were not significant.

While a large proportion of canteens policies contained information regarding food safety/hygiene and the types of food that could be sold, relatively few schools that had vending machines had a policy regarding what foods/drinks could be sold in the vending machines. These results are quite promising although there is still potential for improvement.

The most listed decision makers with regard to the types of foods that should be sold in the school canteen were canteen managers, the canteen committee and the principal. Again there is scope for students to be more involved in the decision making process through the Student Representative Council (SRC) or other student bodies.

Factors that have helped/stopped the provision of healthier food choices in school canteens

A further objective of the Strategy is to provide support and advice to school canteens in their implementation of the Strategy. Therefore, a number of the questions in this survey asked about the types of factors that had helped or stopped school canteens from introducing healthier food choices.

Encouragingly, the majority of canteen managers (66%) reported that no factors had stopped the school canteen from providing healthier food choices. These canteen managers suggested that their school canteen was already selling plenty of healthy foods, however based on the types of foods the canteen managers reported were the biggest selling items this does not necessarily mean these canteens would meet the requirements of the NSW Healthy School Canteen Strategy. The rest of the canteen managers selected profit and staffing issues, lack of demand, competition from local shops, wastage/spoilage of fresh foods, and difficulty accessing healthy products as the major factors that had stopped the school from providing healthier food choices in the canteen.

Most (81%) canteen managers reported that at least one factor had helped school canteens to provide healthier food choices. The most listed factors were membership of the NSW School Canteen Association, support from teaching staff/parents, easy access to healthier food choices and knowledge of the childhood obesity problem. However, there is scope in the future for more factors directly related to the NSW Healthy School Canteen Strategy to be identified by canteen managers as helping them to provide healthier food choices.

One of the roles of the NSW School Canteen Association is to provide advice about healthier product choices. Overall, 69% of the participating canteen managers reported the school was a member of the Association. The trend was for more primary schools to be members than secondary schools but this difference was not significantly different. However significantly more rural school canteen managers reported their school was a member compared to metropolitan schools. These results are comparable with the actual membership statistics kept by the NSWSCA. Encouragingly, membership of the NSW School Canteen Association was one of the most listed factors that had helped canteen managers to provide healthier food choices.

Healthier food promotions and the introduction of healthier food choices

Promoting the sale of nutrient dense foods in school canteens is another objective of the Strategy. Less than half (43%) of the school canteen managers surveyed reported the school canteen had promoted healthier products in the last 12 months. Significantly more primary schools than canteens had promoted healthier products than secondary school canteens.

Despite this, the majority of school canteen managers (77%) reported the school canteen had introduced healthier products in the last 12 months. The majority (72%) of canteen managers also reported that the response to these products was positive. While fruit and fruit juice were some of the items most introduced by canteen managers, many of the other healthier products canteen managers reported introducing were reduced fat alternatives to popular canteen foods such as pies, sausage rolls, burgers and hot chicken products.

Removal of foods from sale and the type of foods currently sold

To comply with the NSW Healthy School Canteen Strategy, schools need to limit the sale of 'Occasional Foods' (foods low in nutritional value and high in saturated fat, energy, added sugars and/or salt) to no more than twice per term. Just over half (56%) of the school canteen managers surveyed reported that products had been removed from sale in the school canteen in the last 12 months. Many of the products removed from sale are likely to be considered 'Occasional Foods' under the Strategy - for example: packet chips; confectionary; and sugar filled soft drinks. Again significantly more primary school canteen managers reported removing products from sale than secondary school canteen managers.

Encouragingly, most of the products that were removed, were removed for health reasons (moving towards a healthy food policy, the food was unhealthy, or a healthier alternative was available). This may reflect that many of the canteen managers had begun to make changes after the announcement of the NSW Healthy School Canteen Strategy. However, there is still scope for more school canteens especially secondary school canteens to remove more products from sale in response to the Strategy.

A number of the products (eg pasta, pies, sausage rolls, burgers, hot chicken products, pizza, cakes/pastries/muffins) listed in the four biggest selling food items for the various opening times are products that may potentially be 'Occasional Foods' (depending on their sugar, fat and salt content) under the Strategy. The same is true for soft drinks, which were listed as one of the biggest selling drinks for secondary schools (sugar filled soft drinks are 'Occasional Foods' while diet soft drinks can be sold under the Strategy). Therefore there is scope for healthier alternatives to feature as some of the biggest selling products in the future.

The biggest selling foods at recess for secondary school were of interest, as it appears that students are purchasing larger food items rather than snack foods at this time. It is not possible to know from this study whether the same students are then purchasing these larger items again at lunch. The reasons for this trend may warrant further investigation.

Further investigation may also be warranted to establish a more accurate picture of the types of products sold before school and/or at breakfast. The biggest selling foods before school were different to those foods listed by canteen managers as being sold for breakfast. This is despite the fact that most of the school canteen managers who listed the foods they sold for breakfast also listed foods when answering the question about the biggest selling foods before school. Canteens that are open for breakfast may sell typical breakfast foods at the same time as other foods that are more popular with the students.

All of the canteen managers that reported their school had vending machines were from secondary schools, suggesting that nearly half (46%) of the participating secondary schools had vending machines. All but one of the vending machines contained at least one product that would be an 'Occasional' food under the NSW Healthy School Canteen Strategy.

Limitations of the study

The main limitations of the study were the small sample size, which has already been discussed and the reliance on canteen manager recall for the questions that asked canteen managers to list products, particularly for the question regarding the four biggest selling food and drinks. This question had not been tested for reliability or validity and is it possible that canteen managers may list different products if they were asked the question again, particularly if the question was asked at a different time of year. For this reason the results for this question should be seen as a snapshot of canteen managers impressions at that time and not necessarily a true record of what was actually sold in the school canteens.

Similar limitations apply to the foods listed as being introduced or removed from sale by the participating canteen managers. Direct recording of student purchasing behaviour and the volume of different types of foods sold in canteens would be the best way to improve the accuracy of this information.

Conclusions

The results of this study suggest that while some school canteens have already made progress towards having a healthy school canteen there is the potential for further change, particularly in secondary schools.

Despite the limitations relating to sample size and the reliability of the information regarding specific products the Canteen Manger Survey does provide a good snap shot of what was happening in school canteens across NSW at the time the Survey was completed. Further, it provides some insight into canteen managers' perception of the factors that help or prevent canteens from offering healthier food choices.

The Survey has also allowed many of the questions developed by other studies to be piloted on a larger scale and has identified a number of questions which may be useful to include in future surveys used to evaluate the NSW Healthy School Canteen Strategy.

It is recommended that any future studies of this nature include a larger sample size. Further information about the type and quantity of products sold would be best obtained by directly observing canteen stocks including product nutritional information and recording sales information or observing purchasing behaviour.

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Appendix 1: Survey instrument

This survey is a component of the NSW Schools Physical Activity & Nutrition Survey 2004 (SPANS 2004); a joint initiative of NSW Health and the Education Sectors.

School Canteen Manager / Supervisor Survey

The NSW Department of Health and the Education Sectors (Department of Education and Training, Catholic Education Commission, Association of Independent Schools) are very interested in students' nutritional health and well-being. This survey will help us to get a picture of what is happening in school canteens across NSW and to better understand the factors that are helping or preventing canteens from offering more healthy choices.

It should be completed by the canteen manager /supervisor. If there is no designated canteen manager/supervisor it should be completed by a member of the Canteen Committee. It will take about 15 minutes to complete as there are lots of check boxes and not so much writing to do.

While we ask you to provide your name and contact details (in case we need to check any of your responses with you), we will not be identifying individual schools in any way when presenting results.

Copy of the canteen menus

Please provide a copy of your school canteen menu/s (or price list).

Include both Summer and Winter menus if these are different in your school.

If you have one menu for the whole year, please write this on the top of the menu.

Collection of survey and menus

A member of the survey team will visit you in the canteen to collect your completed questionnaire and canteen menus on _____

If you will not be present on that day or the canteen is closed on that day, please leave the completed survey and canteen menus at the school office ready for collection.

Many thanks for your cooperation

Renee Andrews
Project Officer
NSW Healthy School Canteen Strategy
Phone 9246 5629

BACKGROUND ON YOUR SCHOOL

1. Name of your school is:

_____ (indicate primary/secondary/central school)

2. Type of school:

- Government
- Catholic
- Independent

3. Your school location is

- Metropolitan
- Rural

4. Approximate number of students enrolled: _____

Your name: _____

Best day/s to contact you:

Contact phone number: _____

CANTEEN OPERATION

5. Your canteen caters for: (tick one or more box)

- K –2
- 3-6
- 7-10
- 11 –12

6. Your canteen is open:

- Monday – Friday

or specify opening days

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday / Sunday

7. Opening times are:

- Before school
- Recess
- Lunch
- Other, please specify _____

8. How is your canteen usually staffed? (tick all that apply)

- Paid manager
- Paid assistant(s)
- Volunteers
- Student help
- Contractor / Lessee
- Other, please specify _____

9. How many volunteers do you usually get to help out each day? _____

10. How many volunteers do you need on your busiest day? _____

11. Do you have access to a computer to assist you in your role as canteen manager / supervisor?

- Yes – where?....
 - at school
 - at home
- No – go to question 13

12. What tasks (if any) do you use a computer for? (tick all that apply)

- | | |
|---|---|
| <input type="checkbox"/> menu development | <input type="checkbox"/> food ordering |
| <input type="checkbox"/> developing promotional material | <input type="checkbox"/> internet access |
| <input type="checkbox"/> management tasks (rosters, budget etc) | <input type="checkbox"/> printing materials |
| <input type="checkbox"/> other _____ | |
| <input type="checkbox"/> don't use a computer | |

13. What roles do you see the canteen has in your school? (you can tick more than one)

1. Providing a food service
2. Making a profit for the canteen
3. Making a profit for school needs
4. Supporting classroom nutrition education
5. Providing and promoting healthy food
6. Other (please specify) _____

14. Which of the roles listed above would you say are the 3 most important ones?

(use the numbers 1-6 to save you writing them out in full)

Most important role _____

Second most important role _____

Third most important role _____

15. Which one of the roles would you say is the least important? _____

16. Does your school have a School Canteen Committee?

Yes No – go to question 18

17. Which types of people are on your Canteen Committee

(tick all that apply)?

- Parents
- Principal
- Paid canteen manager
- P&C representative
- Student/s
- Contractor / Lessee
- Member of the School Executive
- Other, please specify _____

18. Do you have a school canteen policy?

Yes No – go to question 20

19. Does your policy include guidelines or criteria on the following aspects of the canteen operation? (tick those that apply)

- Foods / drinks that can be sold in vending machines
- Nutrition – types of foods that can and cannot be sold
- Food safety and hygiene
- Promotions
- Canteen Committee members and role
- Pricing policy
- Special activities

- Don't know

20. In the last school year did your school canteen...

- Make a profit?
- Break even financially? - go to question 22.
- Run at a loss? - go to question 22.
- Don't know – go to question 22

21. Please tick the net profit range that matches your school for last year

- less than \$1000 \$1,000 - \$5,000
 \$5,001 - \$10,000 \$10,001- \$15,000
 \$15,001 - \$20,000 \$20,001 - \$25,000
 \$25,001 - \$30,000 more than \$30,001
 not sure

22. Have any of the following things happened to your canteen in the past 12 months? (tick all that apply)

- public works on the canteen
 changed from a volunteer manager to a paid canteen manager
 changed from a paid manager to volunteer manager
 become a leased canteen
 received substantial financial assistance
 received a donation of equipment or services
 purchased major white goods / equipment

specify type _____

reason for purchase _____

- other, specify _____
 none of the above

CANTEEN MEMBERSHIPS**23. Is your school a member of the NSW School Canteen Association?**

- Yes No – go to question 27

24. How long have you been a member? _____ years**25. Has your school applied for a Healthy School Canteen Award through the NSW School Canteen Association?**

- Yes No – go to question. 27

26. If so, what level of Award is currently held?

- diamond gold silver bronze commended

FACTORS AFFECTING FOODS SOLD

27. In the last 12 months, who has decided which foods are to be stocked in your canteen? (you may choose more than one option)

- Canteen manager /supervisor
- School canteen committee
- Principal
- Canteen volunteers
- Parents
- P&C
- Contractor
- Students
- Other, please specify _____

28. Have any factors stopped your school's canteen from providing more healthier food choices?

- No** – because...
 - already sell plenty of healthy choices
 - or other reason _____
- Yes**

If yes, please specify from list below (may tick more than one)

- need to make profit – selling healthier food is less profitable
- special deals from distributors for less healthy food
- can't get easy access to healthy food products
- lack of demand from students
- lack of support from parents
- lack of support from canteen staff
- lack of support from canteen committee
- competition from local shops that sell less healthy foods
- have tried – too much wastage
- lack of time to prepare – more labour intensive
- lack of volunteers
- healthy food is too expensive to buy in to the canteen
- poor shelf life of fresh food
- lack of storage space
- lack of suitable equipment – specify _____
- lack of preparation area
- lack of display space
- other, please specify _____

29. Have any of the following things helped your school's canteen to provide healthier food choices? (may tick more than one)

- Membership of the NSW School Canteen Association
 - Participation in the NSW School Canteen Association Award Program
 - Networking with other schools in the area (eg. network meetings)
 - Assistance from health professionals
 - Support from teaching staff
 - Requests from parents
 - Training courses
 - Easy access to healthier food choices
 - Knowledge of the childhood obesity problem
 - Special deals on healthier food products
 - More storage space available
 - Promotions of healthier food products or 'meal deals'
 - Suitable equipment now available
 - Other, please specify _____
-

None of the above

30. Has your canteen conducted any promotions of 'healthier' food products in the last year?

- yes no - go to question. 34

31. List the number of promotions held last term _____

32. List the products that were promoted

33. Tick the methods of promotion that you used

- taste test
- price special
- daily / weekly special
- special theme day / week
- newsletter
- SRC – informing students at assembly
- Other, please specify _____

FOODS SOLD

34. Has your canteen introduced any ‘healthier’ products during the last 12 months ? (eg. lower in fat, sugar and/or salt and/or higher in fibre; this would include those on the NSW SCA Registered Product list)

- Yes No

If yes

Name of product	Brand name (if applicable)	What has been the response from students?

35. Where do you get information about healthier products suitable for sale in school canteens?

- NSW School Canteen Association Buyers Guide
- Distributors
- Network meetings
- Supermarket
- Magazines
- Other – specify _____

- Don't get this type of information

36. Have you stopped selling any foods in the canteen on a daily basis during the last 12 months? (eg. stopped selling a food item altogether or now sell only once per week or once or twice per term)

Yes

No – go to question 38

If yes, please specify in the Table below

Food	Brand (if applicable)	Reason for the change	Food item is now: O= sold occasionally (no more than twice per term) W = sold weekly N= not sold at all
Example Regular meat pies	XXX Brand	New healthy canteen policy introduced	N

37. List any food items that have increased in popularity as a result of changes you listed above?

38. Please fill in the Table below recording the **four** biggest selling food items and the **three** biggest selling drink items sold by your school canteen last year.

Record for both Summer and Winter for the following times: Before school (if canteen is open), recess and lunch.

BEFORE SCHOOL (if applicable)		RECESS		LUNCH	
Summer	Winter	Summer	Winter	Summer	Winter
Four biggest selling foods	Four biggest selling foods	Four biggest selling foods	Four biggest selling foods	Four biggest selling foods	Four biggest selling foods
Three biggest selling drinks	Three biggest selling drinks	Three biggest selling drinks	Three biggest selling drinks	Three biggest selling drinks	Three biggest selling drinks

BREAKFAST

39. Is your canteen open for breakfast?

- Yes – go to question 41 No

- Any time of day but not before school
- Only during breaks (not during lesson time)
- Other _____

46. Is your vending machine/s under contract?

- Yes
- No – go to question 49

47. Who is the contract with? _____

48. How long is the contract for? _____ year/s Expiry date _____

49. Please fill in the following table ticking those items stocked in your vending machines

Drinks stocked	Tick if available ✓	Foods stocked	Tick if available ✓
Regular soft drinks		Confectionary	
Diet soft drinks		Yoghurts	
Sports drinks		Chips/ twisties	
Bottled water		Rice crackers	
Plain or flavoured milks		Sandwiches / rolls	
Fruit Juice		Muesli / health bars	
Plain mineral water		Other foods - specify	
Flavoured mineral water			
Other drinks, specify			

Any comments you would like to make:

Thank you for your assistance. Don't forget to attach your menu/s.