

Childhood and Adolescent

Overweight and Obesity

Awareness Raising Campaign

Central Coast NSW

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ACKNOWLEDGEMENTS

AND PARTNERS

The Central Coast Health Promotion Unit, together with the Central Coast Public Health/Community Nutrition Team, wishes to thank our project partners for 2005-06:



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EXECUTIVE SUMMARY

Q4: Live Outside the Box (Q4) offers, on a large scale, practical strategies to deal with the problem of childhood obesity.

Q4 is a unique campaign initiated on the Central Coast that has been in action since 2004. It aims to:

1. Lift the profile of the serious problem of childhood overweight and obesity in the Central Coast community. Raising awareness in our local community about factors contributing to the problem helps to facilitate further action on the issue beyond the school setting.
2. Create supportive environments for parents to foster healthy behaviour changes in their children.

Q4 began in 2004 with 17,000 Central Coast primary school students taking part in the Q4 Passport. In 2005, primary schools again completed the Q4 Passport Activity, with 23,500 students from 54 schools taking part. Results indicated improvement in eating fruit, vegetables, physical activity and decreasing "extra food" intake and TV watching and computer use.

Central Coast primary schools focussed on food brought from home (ie. Lunchboxes) in 2006, with 20 schools conducting the Q4: Lunchbox Look. As part of the PDHPE key learning area in Term 1, classes categorised their lunches using the "Australian Guide to Healthy Eating". Parents/carers completed surveys on food brought from home, the influences of food choices and what would be useful resources for families. Primary school principals also completed a survey. This information has led to the creation of a set of resources for schools and parents (see Appendices 8, 9 & 10).

In 2005 and 2006 year 7 & 8 students from 16 Central Coast high schools have participated in the Q4 2-Week Challenge. Students (3500 in 2005, 3700 in 2006) took part in a fun two-week programme that rewarded them for eating fruit, vegetables and a healthy breakfast, increasing physical activity, and decreasing "extra" foods, TV watching and computer use.

Q4 has started the process of tackling childhood overweight/obesity on the Central Coast through:

- raising awareness of the main factors contributing to childhood overweight/obesity,
- prompting healthy behaviour changes in children and families,

- providing families with practical ideas and opportunities to improve healthy behaviours within their family unit, and
- providing reusable resources for schools to support education about healthy lifestyles.

INTRODUCTION

Obesity is a growing global problem and poses a major public health problem in Australia¹. There are serious health implications for obese children, including an increased risk of diabetes and cardiovascular disease². Recent Central Coast studies put the rate of overweight/obese young people at over 30%³.

Recent NSW data from the Schools Physical Activity & Nutrition Survey 2004 (SPANS) shows that our children are getting bigger because of a combination of too much food high in kilojoules with no nutritional value and not enough exercise to burn off those extra kilojoules.

The SPANS report also shows:

- Over 17% of boys and girls in NSW are overweight, with an additional 7.7% of boys and 6.1% of girls obese.
- Children as young as 15 years old are showing signs of diabetes, liver damage and heart disease – chronic diseases not usually seen until people are in their 40s.

¹ NHMRC. Acting on Australia's weight: Strategic plan for the prevention of overweight and obesity. 1997.

² Ebbeling, C.B., Pawlak, D.B. & Ludwig, D.S. Childhood obesity: public-health crisis, common sense cure. *The Lancet* 2002; 360: 473-82

³ Whatnall J, Leahy J "The Prevalence of Overweight and Obesity in Year 10 students on the Central Coast, NSW, 2003." Project Report. Nutrition Department, Central Coast Health, Northern Sydney Central Coast Health.

BACKGROUND

Following a local Forum at which relevant stakeholders identified areas where they could contribute to tackling the problem of overweight/obesity in children, The Central Coast Obesity Awareness Working Group was formed. The Group's goal was to investigate programs for local schools to impact on children's daily eating and exercise behaviours, and also reach and engage parents. Due to a lack of existing strategies, it was necessary to develop a new approach to target the problem.

Q4 was introduced to Central Coast primary schools in 2004. Q4 started out as a project aiming to increase awareness in the Central Coast community about how serious the problem was, and to generate community actions to address the problem locally. Central Coast schools were invited to involve students and their families in a fun program that encouraged and rewarded students for healthy eating and physical activity, and limiting sedentary behaviour.

Teachers received comprehensive resource packs. The campaign was also supported by an interactive website (www.healthpromotion.com.au), which included electronic copies of teacher resources and regular competition updates. Principals nominated a contact person to allow smooth implementation of the competition in their school.

Primary School Component

For two weeks during Term 1, 2004, primary students achieved points based on benchmarks set for eating fruit and vegetables and a healthy breakfast, increasing exercise, and decreasing "extra" foods and TV watching. Parents were involved by regularly signing their children's diary. The passport also included useful information for parents on the issue.

At the end of the two-week activity, certificates were awarded to all entrants, with Q4 prize draws for students in each year, and vouchers for sporting equipment for schools with the highest average point scores.

High School Component

In 2004 the high school competition involved students developing a concept for a TV commercial presenting obesity as something their peers could do something about. NBN television was a major partner in this competition by producing and airing the winning concept – "Tackling Obesity". In 2005, NBN offered to produce and air the second place entry, and "The Obesity Puzzle" was created.

MEDIA & PROJECT RECOGNITION

A crucial aspect of the campaign has been to maintain a media presence. Activities in schools start with an Official Launch and finish with an Awards Presentation, which are covered well in the local media. There has been regular coverage on local TV, local radio and in print media. As part of the high school competition in 2006, NBN Television produced and aired a six-part series on different components of the Q4 Challenge, featuring winners of the School Promotion Award (see High Schools 2006 – page 25).

Media coverage

Daily scans of all local and national media were conducted, and articles/news items related to the campaign were collected or described in a central log sheet by the project officer. The campaign received strong media coverage, with stories in local and state newspapers, radio interviews with local stations and stories in local television news bulletins.

See Appendix 1 for an example of one of the newspaper stories about Q4.

Website

The campaign is backed by an interactive website – www.healthpromotion.com.au. The site houses information about a selection of Health Promotion Unit projects, including Q4. The Q4 section has campaign updates, as well as information for teachers, parents and students. Information is collected from the website to monitor the number of unique individuals visiting the site during and after the competition.

Since it's humble commencement in January 2004 the website has grown enormously in popularity. In it's first couple of years the site attracted a couple of hundred unique visitors per month growing up to 400 hundred during peak periods of Q4 activity. Over time the site has

- picked up prestigious links from other sites including the Healthy Kids portal, Dietitians Association of Australia, and the Australian Health Promoting Schools Association
- increased in prominence in Google searches
- become a popular site for schools to refer students to for health information
- continued to offer new and useful materials for schools, children and families

Unique visitors per month topped the 1000 mark for the first time in August 2006.

Incidental feedback

There has been a great deal of unsolicited feedback from schools and other areas throughout the campaign, as well as informal feedback from parents, students and the wider school community.

Numerous requests from areas outside the Central Coast for information on Q4 led to the production of a CD presentation of the project. To date sixteen have been distributed. The CD gives an overview of the project up to November 2005.

Project Recognition

- Q4 was presented at the 2004 ACHPER Conference
- The project was selected as a poster presentation at the 2006 International Congress on Obesity in Sydney in September (see Appendix 2 for an A4 version of the poster).
- Q4 was the winner of the Healthier Community category in the 2004 Central Coast Health Quality and Innovation Awards.
- Q4 was awarded the Bronze Award for Community Building the NSW Premier's Public Sector Awards in 2006.

Q4 in PRIMARY SCHOOLS 2005

Formal evaluation of the 2004 campaign indicated Q4 achieved its aim of raising awareness (see 2003-04 Report). There were also indications that Q4 had impacted on students' eating and activity behaviours. An enhanced Q4 was offered to primary schools in 2005 with a more detailed evaluation to specifically look at behaviour change in students during the competition.

Objectives and strategies for January – June 2005

What are we going to achieve?	How do we know we are making a difference?
<p>1. Raise the profile of childhood obesity in the Central Coast community by:</p> <ul style="list-style-type: none"> • Coordinate the <i>Q4: Live Outside the Box</i> Passport Activity in Central Coast Primary schools in Term 1, 2005. • Maintaining profile of the campaign in the local media. 	<p>By recording:</p> <ul style="list-style-type: none"> • The level of coverage of the <i>Q4: Live Outside the Box</i> Campaign in the local media. • The number of primary schools participating in the Passport Activity. • The number and type of additional activities generated from the <i>Q4: Live Outside the Box Campaign</i>. • The results of data collection - investigating if there is a change in eating and activity behaviours of students.

Activity structure

For two weeks during Term 1, 2005, primary students achieved points based on benchmarks set for eating fruit and vegetables and a healthy breakfast, increasing exercise, and decreasing "extra" foods and TV watching/computer use. Parents were involved by regularly signing their children's diary. The passport also included useful information for parents on these issues.

At the end of the two-week activity, certificates were awarded to all entrants, with Q4 prize draws for students in each year, and vouchers for sporting equipment for schools with the highest average point scores.

1. Number of schools participating in activity

Of the 79 Primary Schools on the Central Coast:

- 67% entered the activity (n=57). This includes Government, Catholic and Independent schools.
- 82% participated in Q4 (n= 65) over the past 2 years from 2004 to 2005.
- 20 new schools participated in 2005. 12 more schools than 2004 (n= 45).
- 47% of schools participated in both 2004 and 2005 (n= 37).

2. Number of students participating in activity

- In 2005, Approximately 19,800 students were entered into the Q4 passport activity, representing 75% of all primary school students on the Central Coast. Most schools entered all years (Kindergarten to Year 6).
- 34 schools gave final scores. The average student return rate was 63%.
This ranged from 34% to 100%. (*7387/11667: Passports returned / Passports distributed*).
- The average student point score was 154. This is Gold certificate level in the Q4 competition. (141–210 points). Average student scores from schools ranged from 84 points (silver = 71–140 pts), to 173 points (Gold = 141 – 210pts).

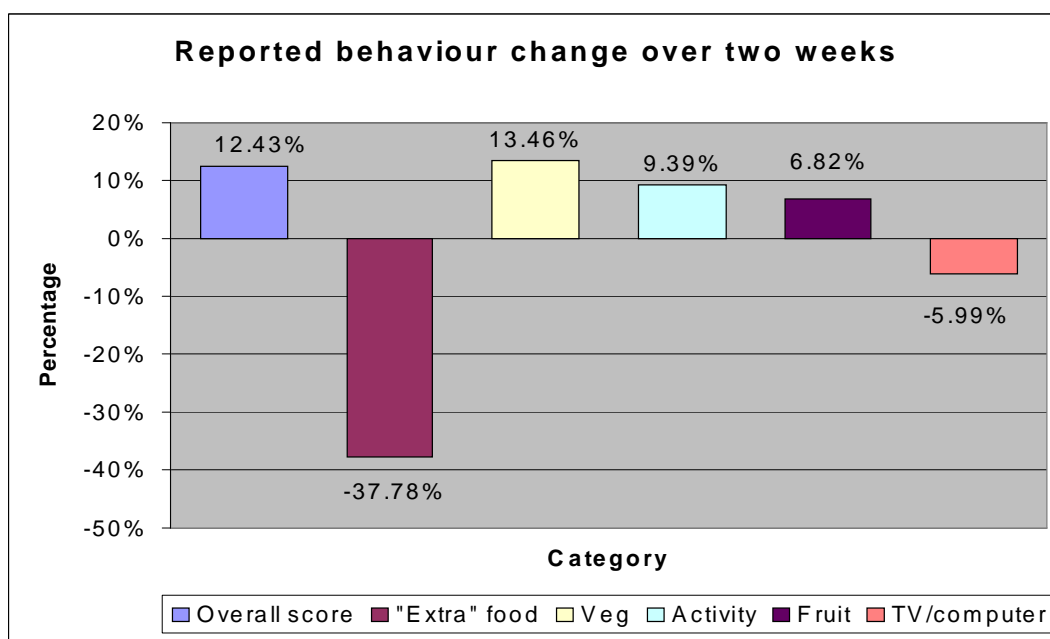
3. Behaviour change in students

Analysis involved observation of whether or not student's total score and score for each category improved from before Q4 commenced to the 2nd week of the activity.

The majority of the student sample (59%) improved their scores between pre Q4 and week 2.

Results indicate that the Q4 passport activity significantly improved healthy activities in all categories (fruit & veg, "extra" food consumption, TV watching/computer use, physical activity) of students during the two-week activity (see Figure 1 below).

Figure 1: Percentage change in primary school student's overall scores and each activity over 2 weeks of the Q4 Passport in 2005



4. Parent survey

130 people waiting to pick up school children two participating schools were approached to complete surveys. Ten declined to participate, and 120 completed the survey (response rate = 92%).

81% of respondents were the mother of the student/s, 10.7% were the father, 1.65% grandmothers. The number of children in the family ranged from 1 to 4. 88% were "very involved" in the competition with their children, while 26% were only "slightly involved". All respondents found it 'Easy' or "Very Easy" to understand what they needed to do, and 93% rated the overall program as "Excellent" or "Good". Parent's perception of student satisfaction and behaviour change is shown in Table 4.

Table 4. Results of Parent Survey on student satisfaction and behaviour change

	Students liked	Students disliked	Students behaviour that changed	Behaviour change maintained?
Limiting TV	29%	46%	50%	39%
Limiting computer	24%	38%	33%	27%
More active play	87%	4%	39%	54%
Eating more veg	55%	26%	36%	44%
Eating more fruit	43%	12%	30%	45%
Limit extra foods	30%	47%	44%	47%

Parents noticed improved behaviours in their children, mostly in TV watching (50%) and eating less “extra” foods (44%). However, active play was reported to be the activity children liked the most (87%), as well as the activity children maintained 2 months after the competition (54%). Children disliked limiting TV and extra foods the most.

Parents indicated areas where they believed their own knowledge had changed as a result of the competition (Table 5).

Table 5. Parent knowledge change

Knowledge about:	Parent knowledge that changed as a result of Q4
Limiting TV	30%
Eating more fruit	17%
Limiting computer use	22%
Eating more vegetables	19%
More active play	24%
Limiting extra foods	30%

69% of parents indicated Q4 had made an impact on their entire family. Comments included:

- Families leading healthier lifestyles
- Watching less TV and being more active
- Eating more fruit and vegetables
- Doing more together as a family

5. Teacher survey

59% of the surveys sent to the school contact person were returned (n = 32).

93% rated the competition as “successful” or “very successful” and easy to implement in their school and 94% of schools indicated they would participate next year. Teachers reported the proportion of students who completed the competition. This ranged from 25% to 100%. 81% of teachers reported 50% or more of students completing the competition.

The two main factors affecting students from completing the competition were busy curriculum (11%) and level of family support (50%).

Taking into account the passport evaluation, parent and teacher surveys, physical activity appeared to be the easiest activity for student’s to improve and maintain over the 2 weeks

(students liked physical activity the most). Limiting TV and computer time was the most difficult for students to improve and maintain over the 2 weeks (students disliked giving this up the most).

Teacher satisfaction

The contact person was asked how they promoted/supported the competition (Table 6).

Table 6. Promotion of Q4 in Central Coast primary schools.

	Promoted in	Activities to support
School newsletter	88%	50% (<i>Eg. extra items in newsletter</i>)
School assembly	91%	-
Classroom	91%	-
Classroom & homework	-	63% (<i>Eg. Use of activities from resource book</i>)
P&C meetings	19%	-
School noticeboard	13%	-
Sport	-	13% (<i>Eg. Linking sport time to Q4 points</i>)
Canteen	-	22% (<i>Eg. Promoting fruit packs, veg packs</i>)

Teachers were asked whether they had used each resource offered in the campaign, and were asked to rate their presentation, how easy they were to use, and their relevance to the subject (Table 7).

Table 7. Percentage of teachers surveyed who rated each resource item as "excellent" or "good"

Resource Item	Presentation	Ease of use	Relevance
Teacher resource	78%	81%	78%
Newsletter articles	94%	81%	84%
Homework activities	63%	63%	63%
Website	29%	30%	32%

Feedback from teachers

- Overall, feedback from teachers was positive.
- One teacher reported their school having implemented a fruit break during class.
- Of the schools who had participated in Q4 in 2004, some teachers reported more accurate recording by students in 2005 compared to 2004.

Follow up activities

39% of contact teachers indicated follow up activities to Q4 were planned such as:

- Combining the program into the school curriculum
- Linking into the school canteen
- Developing health related newsletter articles
- Only 9% said they would appreciate help from the Health Promotion Unit (HPU) in doing follow up activities.
- 74% were interested in doing other activities coordinated by the HPU.

6. Responses from non-participating schools

16 schools who had not participated in Q4 over the past 2 years were sent questionnaires. 11 responded (response rate 69%). Five Principals indicated they had not participated due to time constraints, and two others said more notice was needed. Three schools said they would definitely participate next year, with the remaining seven indicating they were not sure. In June 2005, non-participating schools were invited to receive resources and coordinate the competition at a time that suited them. Five schools took up this opportunity and conducted Q4 in Terms 3 or 4, 2005.

Future Directions

Evaluation of the Passport Activity indicated Q4 had achieved its aim of raising awareness about the issue. Teacher feedback indicated the school community was ready to focus on a more specific part of the problem – what was being brought to school in lunchboxes, in particular the large proportion of “sometimes” food. This was the focus of activities in primary schools in 2006 (see page 19).

In late 2005, the team was contacted by Community Health in Goulburn about the possibility of conducting the Q4 Passport Activity in local schools in Term 1 2006. The Central Coast Q4 Team provided support to Goulburn prior to and during their campaign. Over 650 people attended a pool party launch of Q4 in February, and the whole community got behind the campaign, with support to the tune of \$14000 and “countless hours from mums and dads cooking up a storm on the day of the launch” (Goulburn Q4 Coordinator). 1400 primary school children from 10 schools across the district completed their 2-week activity, and the feedback was again fantastic.

The success of Q4 in Goulburn demonstrates that the campaign is transferable to other areas.

Q4 in HIGH SCHOOLS 2005

Based on the success of Q4 in primary schools in 2004 and in consultation with high school PDHPE head teachers and some students, the primary school passport activity was modified for Year 7 & 8 students.

The Q4 2-Week Challenge was offered to high schools for the first time in 2005. 3,500 Year 7 & 8 students from 12 of the 29 Central Coast high schools participated.

The concept was similar to the primary school passport, in that benchmarks were set in each area. Additions to make it appeal to the target group included the introduction of a healthy brekkie component, and the development of "Challenge cards" attached to a Q4 lanyard.

Objectives and strategies for January – June 2005

What are we going to achieve?	How do we know we are making a difference?
<p>2. Raise the profile of childhood obesity in the Central Coast community by:</p> <ul style="list-style-type: none"> • Coordinate the <i>Q4: Live Outside the Box</i> 2-week Challenge for Central Coast year 7 & 8 students in Term 2, 2005. • Maintaining profile of the campaign in the local media. 	<p>By recording:</p> <ul style="list-style-type: none"> • The level of coverage of the <i>Q4: Live Outside the Box</i> Campaign in the local media. • The number of secondary schools and students participating in the 2-week challenge. • The number and type of additional activities generated from the <i>Q4: Live Outside the Box</i> Campaign. • The results of data collection - investigating if there is a change in eating and activity behaviours of students.

Preparing and engaging schools

The process of preparing and engaging schools for this new part of the Q4 project involved:

- Consultation with PDHPE head teachers (at a Head Teacher Meeting) to adapt the Passport Activity for high schools
- Cards trialed with classes of year 7 & 8 students at one high school

- Letters sent to Principals and PDHPE Head Teachers in Term 4, 2004 (to indicate interest) and again in Term 1 2005 (for final entries)

Challenge cards, teacher resources, prize packs & certificates were delivered to schools in Week 9 of Term 1, ready for the competition launch in Week 2, Term 2. Schools had a three-week window to do the 2-week activity.

Activity structure

Participating year 7 & 8 students recorded the following over 2 weeks on Challenge Cards:

- Television and computer use
- Physical activity
- Fruit and vegetable consumption
- "Extra" or "sometimes" food consumption
- Whether they ate breakfast

Parents/carers were involved by signing the student's challenge cards each week.

Teachers were asked to assist students by:

- Introducing the Challenge to students using Content Area 1 in the Teacher Resource
- Handing out the Challenge Cards
- Using the optional additional lesson plans to enhance students knowledge
- Reminding students to fill in their cards each day
- Collecting the cards after 2 weeks
- Providing a tally of students' points to the nominated School Contact Person
- Presenting certificates to students

Prizes

For students:

- Points were designed to encourage and reward students for healthy activities.
- All participating students received a certificate for participating in the two-week activity
- Students in each year at each school who completed the 2-week Challenge went into a draw to win a prize pack
- Prize packs were allocated based on the number of students in each year (7 & 8). Prize packs were delivered to participating schools in Week 9, Term 1. Prize Packs contained Q4 back sacks, water bottles, stickers, pencil cases, and mini sports balls.

For schools:

- *Points were designed to encourage whole school participation* – the participation rate of each school (that is, the proportion of students who **completed** the whole two-week activity and handed in their completed cards) was used to adjust the score for each school.
- To be eligible for a school prize, schools needed to submit their score to the Health Promotion Unit by Week 6. The Health Promotion Unit announced the three winning schools in Week 7, Term 2.
- Schools with the highest average student scores received vouchers for sporting equipment.

The School Contact Person

Each school nominated a School Contact person for the duration of the competition. This person was responsible for liaising between the Health Promotion Unit and the school as well as organising the smooth running of the competition in the school. They also received an incentive prize.

Q4 Lesson Materials

Q4 2-Week Challenge lesson materials were developed in consultation with PDHPE teachers, and included six content areas:

1. Understanding the LOTB Challenge
2. Australian Nutrition Guides & Extras
3. Reading Food Labels
4. Fruit, Veg and Breakfast
5. Reviewing my active vs sedentary behaviour
6. Pedometers (if available)

Content Area 1 was considered essential to successful participation in the Challenge. All others were to be used at the discretion of the teacher. The intention was not to make this a comprehensive nutrition and physical activity unit. The teaching package attempted to provide something new to enhance what was already available, and to make the 2-Week Challenge experience more meaningful for students.

Key results

1. Number of schools participating in the activity

Of the 29 Secondary Schools on the Central Coast, 48% (n=14) participated in the Q4 2-Week Challenge

2. Number of students participating in the activity

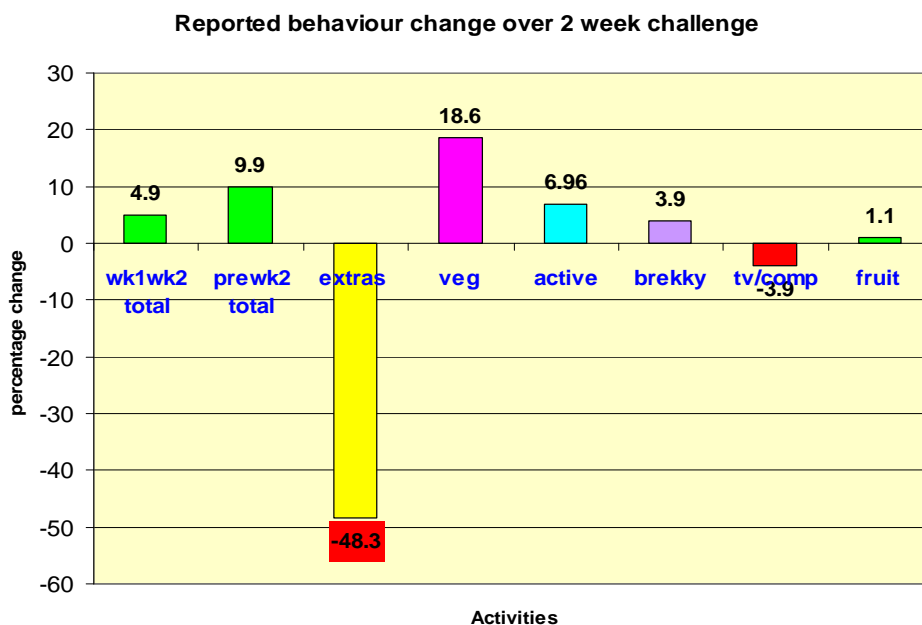
Approximately 3400 year 7 & 8 students entered the Q4 2-Week Challenge

3. Student behaviour change

The analysis of 632 challenge cards observed whether student's total scores, and scores for each activity, improved from before Q4 commenced to the end of the challenge.

- The majority of the student sample improved their scores over the 2 weeks (69%), but there was a significant difference between schools, ranging from 59% to 81% (*p value 0.007*).
- Results indicate that Q4 had a significant impact in improving the healthy activities of participating students during the 2-week challenge. These activities, in order of improvement, were: limiting extra foods, eating more vegies, being more active, eating breakfast, limiting TV and computers and eating more fruit
- Gender, age, day of the week and whether students ate breakfast were not significant predictors of whether students' scores improved over the 2-week challenge.

The Graph below shows the percentage changes in each activity over 2 weeks



4. Student Consultation

As this was the first year for the 2-Week Challenge in high schools, student consultations were arranged at four different high schools. Year 7 and year 8 students were consulted separately in groups of 10. Students were asked questions about recall of the 2-Week Challenge, their level of participation, the aspects they liked and disliked and what they would change to improve the 2-Week Challenge.

Students reported that they liked:

- Prizes: wanted more!
- Physical activity: tried different activities, displaced TV/computer time

Students reported that they disliked:

- Giving up TV and lollies

Students suggested the following improvements to the activity:

- Suggestions of what to do to get more points – what to do/eat instead of TV/junk
- Pink lanyards!
- Bigger cards, more room to write
- Space for comments
- Stronger fixing (cards fell apart)

4. Teacher evaluation

A three-page survey was sent to Q4 Contact Teachers to assess ease of implementation and success of the activity in their school, their perception of participation rates and possible reasons for these, promotion of the activity, resources, feedback they received from other teachers, students and parents, and any suggested changes.

11/12 Contact Teachers responded to the survey, with most indicating the Challenge was easy to implement and was a success in their school (particularly amongst Year 7 students). Factors affecting completion rates included lack of opportunity to monitor students, timing clashed with other activities in the school, and a lack of engagement of other staff giving the challenge a low profile in the school. Teachers suggested it would be more successful in schools if steps were taken for the Challenge achieve a higher profile.

Future directions

Due to the success of the program in 2005, schools were advised in late 2005 that the 2-Week Challenge would be offered to all schools to involve 7 & 8 students again in 2006.

Q4 in PRIMARY AND PRESCHOOLS 2006

Twenty local primary schools chose to take on the next primary school Q4 initiative during 2006, the Q4: Lunchbox Activity.

Much work has been done with Central Coast school canteens to encourage the sale of healthy foods. The Central Coast had been previously recognised as having the highest proportion of healthy canteens within the state.

More recently, all school canteens have been encouraged to adopt the *Fresh Tastes @ School* NSW Healthy School Canteen Strategy. However, work was still needed to address what food was being brought to school from home.

Objectives and strategies for January – June 2006

What are we going to achieve?	How do we know we are making a difference?
<p>Develop a primary school “Healthy Lunchbox” strategy to improve the types of food/drink children take to school by:</p> <ul style="list-style-type: none"> • Conducting surveys with primary school principals and parents to gather baseline data and suggestions for resources • Develop resources for parents in consultation with P&Cs/school representatives • Develop supporting resources for schools to promote healthy lunchboxes ie. “Green Days”, prizes • Work with school canteens to ensure campaign complements the healthy school canteen strategy 	<ul style="list-style-type: none"> • Ideas collected on resources parents/schools would like. Baseline data collected. • Level of input from P&C/school representatives. Type and number of resources developed. • Type of school resources developed • Level of interest and support from school canteens

Activity structure

As part of the PDHPE key learning area in Term 1, classes at the participating primary schools looked at their food brought from home to learn about the core food groups based on the "Australian Guide to Healthy Eating". Students categorised the food they had brought from home using a "Lunchbox Look", which was collated by the class teacher onto a Classroom Tally Sheet (see Appendix 8).

Parents/carers at these schools were also invited to fill in a survey on food brought from home, the influences of food choices and what would be useful resources for families.

A similar Lunch Box Activity has also been conducted this year in Central Coast Pre-schools where food is brought from home. The project involved surveying Directors of preschools and parents of preschool children. A Lunchbox Look audit recorded the food brought from home to preschool, and compared this to the minimum recommendations for children at preschool based on the "Australian Guide to Healthy Eating".

Key results - Please see Appendix 7 for full report.

1. Central Coast Primary Schools

Based on results of the Lunchbox Look Activity in 20 participating Central Coast Primary Schools, the average school lunchbox contained:

A sandwich (varied contents)

A serve of fruit

- The average serve of fruit and 100% fruit juice combined was 1.19 serves. Of this, fruit serves contributed 0.9 (however, this ranged from 0.45 to 1.08 serves) and 100% fruit juice contributed 0.29 of a serve.
- Schools that had an allocated fruit break had a higher average serve of fruit than schools that do not have a fruit break (not including fruit juice serves).

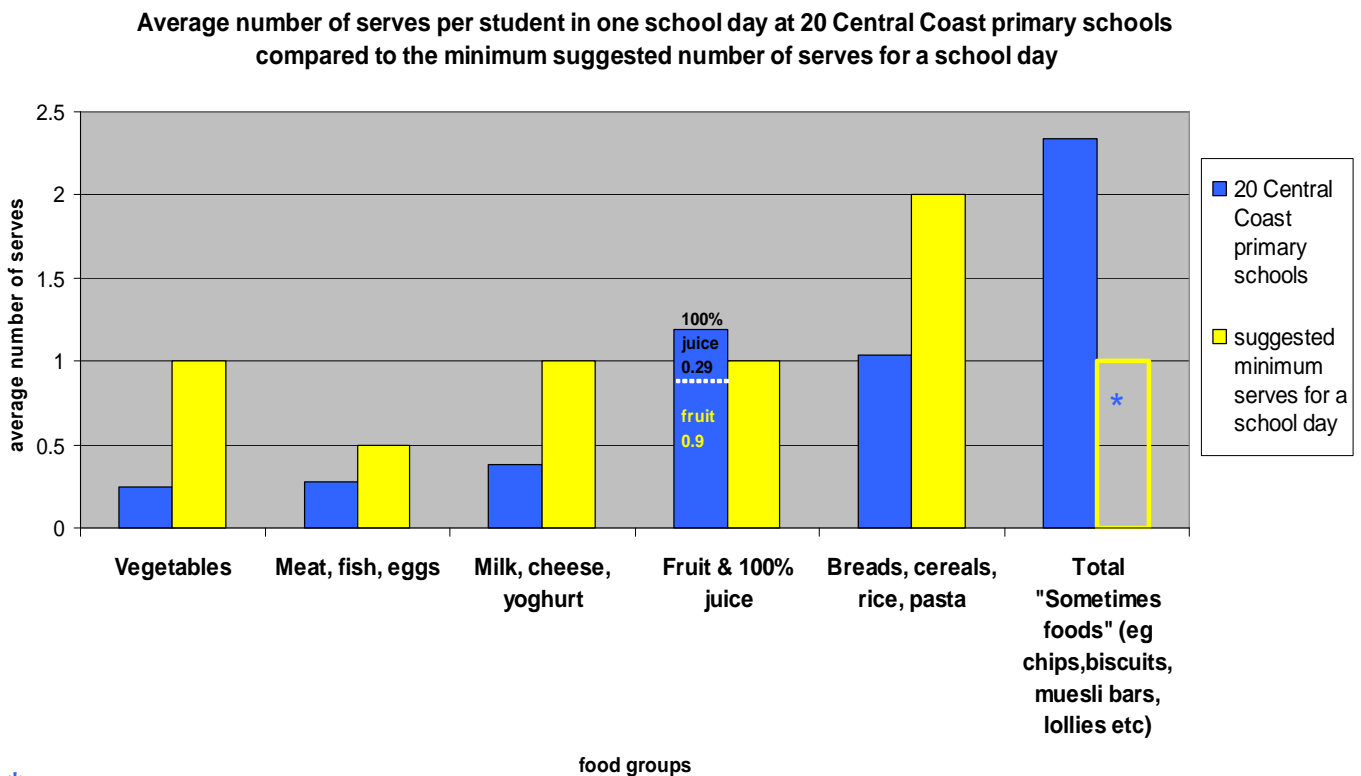
Only ¼ of a serve of vegies, only ¼ of a serve of meats/products and about only 1/3 of a serve of dairy products.

- There is only a small amount of food from the milk, meat and vegetable groups being brought to school.

2.3 serves of “sometimes foods”.

- This is too much as these foods generally have high levels of fat/sugar/salt, kilojoules and have low levels of the nutrients that students need to concentrate, learn and play at school.
- The most common were chips (1/2 a serve per student) and sweet biscuits (0.4 serve per student) which are high in fat, sugar &/or salt.
- “Sometimes foods” (primarily pre-packaged processed foods like chips, biscuits and cereal bars) represented 42% of the total amount of food brought from home. This equates to over half (51%) the kilojoule content of the average lunchbox.
- Students had already eaten the maximum daily suggested serves of “sometimes foods” before they got home from school.

The graph below shows the average serve of each food category per student at the participating schools, compared with the minimum suggested number of serves of each food group for a school day (adapted from the “Australian Guide to Healthy Eating”).



* No suggested minimum serves for "sometimes food" for a school day

Parent Survey Results

Parents reported the most common influences on foods packed were in order of importance:

1. What my child likes – 82%
 2. Nutritional value/health – 62%
 3. What stays fresh/edible - 58%
 4. What I have available – 40%
- Other factors included cost and the time it takes to pack lunches.
 - The higher proportion of “sometimes foods” brought from home may be influenced by some of the above factors.
 - Also, perception of what is a “healthy snack” is becoming more difficult as there are more pre-packaged snacks that are heavily marketed towards parents as “healthy” and suitable for school lunchboxes.
 - The majority of parents surveyed would find resources useful.

2. Central Coast Preschools

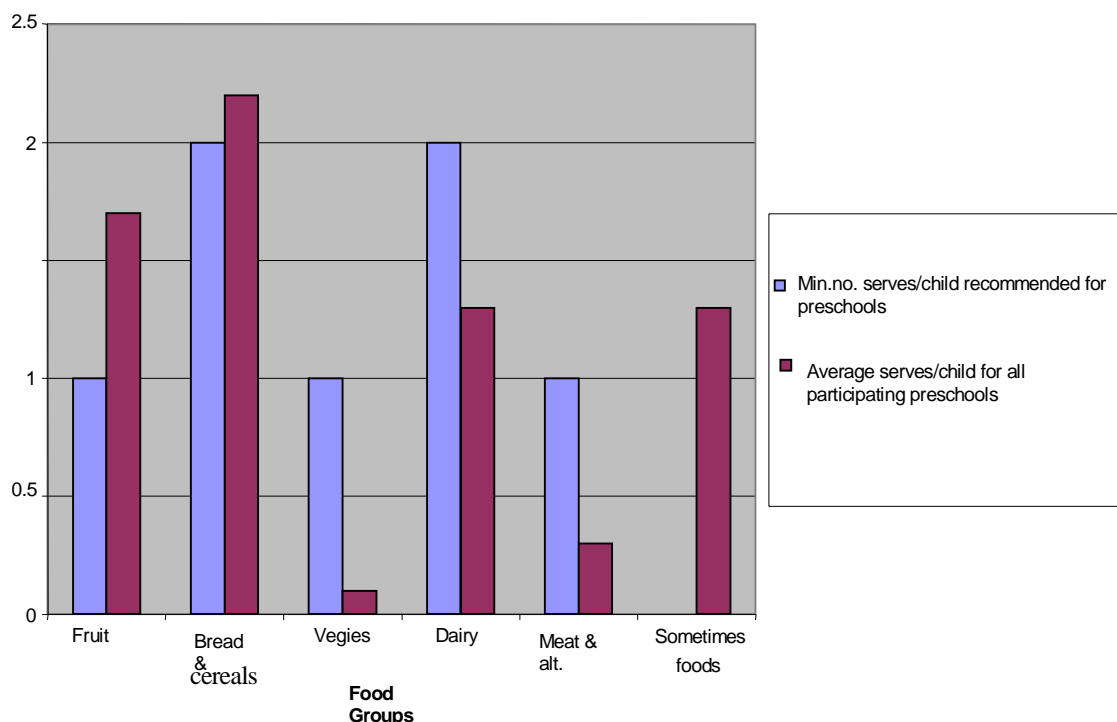
Based on results of the Lunchbox Look in 15 participating Central Coast Preschools, the average preschool lunchbox contains (see Graph 1 below):

- **A sandwich (varied contents) plus a bread or cereal based snack.** Including these meets the minimum recommendation for the bread and cereal food group.
- **More than one child sized serve of fruit.** This meets the recommended minimum serve of fruit.
- **Less than half the minimum recommended serves of vegetables and meat and meat alternatives.**
- **Just over half the minimum recommended serves of dairy foods.**
- **More than one serve of “sometimes foods”.** These foods generally have too much fat/sugar/salt, kilojoules and have too few of the nutrients that children need to concentrate, learn and play at preschool.
- **The most common “sometimes” foods were savoury biscuits, and sweet biscuits and cakes,** and then muesli bars and sweetened drinks, which are high in sugar/fat and kilojoules, and promote dental decay.

“**Sometimes foods**” represented 19% of the total amount of food brought from home. This equates to 38% of the kilojoule content of the average lunchbox at preschool. Consumption of ‘sometimes foods’ by children while in care at Central Coast preschools is above the maximum acceptable number of serves for preschool.

Graph 1 shows the average serve of each food group per child for participating Central Coast preschools compared with the minimum recommended number of serves of each food group for preschool (adapted from the “Australian Guide to Healthy Eating”).

Graph 1: Comparison of the Recommended Minimum Serves of Each Food Group for Preschool with the Average Serves per Child of each Food Group for All Participating Preschools (n = 14).



Future directions

The following resources were developed and offered to all Central Coast Primary Schools in Term 3, 2006.

1. Fruit & Veg break resource (see Appendix 10).

Guides for schools on how to implement a fruit & veg break to help increase fruit & veg consumption at school.

36 (45%) primary schools requested and received this resource.

2. Q4 Star Chart (see Appendix 9).

The star chart is an interactive fridge magnet, which provides parents with a tool to encourage and reward their children for trying new foods, choosing healthy foods for their lunchbox and other healthy behaviours. Also, a tear-away section provides a wallet-sized guide on choosing better pre-packaged snack foods.

- Over 13,500 students from 44 (55%) primary schools have received this resource.
- A colour photocopied version of the Q4 Star Chart was delivered to 110,000 households via the local Sun Weekly newspaper along with editorial.
- This has also been distributed to some Central Coast preschools

3. **Go 4 Green Resource** (See Appendix 10)

This resource has been developed in close consultation with The Central Coast Canteen Network, to help school staff and canteen managers encourage students to bring or buy healthy foods for the school day. This concept comes from the *Fresh tastes @ school* healthy canteen policy in which 'green foods' are the healthy core foods in the 'Australian Guide to Healthy Eating', and should be a major part of the canteen menu. It also has an environmental aim to reduce the amount of packaging from pre-packaged snacks.

The resource includes newsletter items, lesson plans for teaching staff and a guide for canteen managers to market the **Go 4 Green** promotion.

- 40 (62%) Primary Schools with canteens have requested and received this resource.

4. **List of healthy lunch and snack ideas** to promote to families

This has been used with schools and preschools

5. **Resource pack for preschool staff**

To assist children and parents in making healthy choices

In preschools, Food and Nutrition Policies were reviewed and feedback provided.

Please contact the Public Health/Community Nutrition Team for a copy of the full report on the Q4 Lunchbox Activity in Central Coast Preschools.

Follow-up on the implementation of the above resources will continue into 2007.

Q4 in HIGH SCHOOLS 2006

Due to the success of the program in 2005, the Q4 2-Week Challenge was offered to all year 7 & 8 students again in 2006. There were two major differences:

1. Schools could choose anytime in Term 2 to run the 2-week activity.
2. Feedback in 2005 indicated the participation in Q4 would have been even better if the Challenge had a higher profile across the whole school. Strategies offered to help achieve this included allocating a member of the Q4 Team to *each* school to assist in the launch and promotion of the Challenge as a whole school event.

Schools could also opt to form a Q4 Challenge Working Group (including, for example, members of the SRC, relevant teachers, and parents) to design and implement the launch and promotion of Q4 activities. Q4 staff provided support at relevant points during the development of the school's program and were available to attend some meetings.

Objectives and strategies for January – June 2006

What are we going to achieve?	How do we know we are making a difference?
<p>3. Maintain the profile of Q4: Live Outside the Box in Central Coast Secondary schools by:</p> <ul style="list-style-type: none"> • Conducting the Q4 2-Week Challenge in Secondary Schools in Term 2, 2006 • Allocating a member of the Q4 Team to each school to help tailor their promotion of the 2-Week Challenge • Offering banners and Q4 merchandise to Secondary schools to help promote Q4 Friendly Events 	<ul style="list-style-type: none"> • Number of schools entering the 2-week Challenge • Strength / presence of the 2-Week Challenge measured by the number of students completing the challenge cards. • Interest from schools to obtain Q4 banner and merchandise for school events.

Activity structure

An addition to the 2-week Challenge was the NBN School Promotion Award where schools were invited to submit a Q4 Plan, detailing how they planned to promote the competition in their school using the Health Promoting Schools Framework to ensure a holistic approach. Schools were judged on how well their plan would achieve the aim of involving activities in the classroom, around the school and in the wider school community (see Appendix 11 for the Plan Criteria completed by schools).

Representatives from the Hyundai A League soccer team, the Central Coast Mariners, attended the launch at each school to speak to students and/or conduct skills clinics. Other activities at schools during the 2-Week Challenge included student vs teacher challenges, healthy breakfast programs, special lunchtime sport activities run by students, healthy food taste testing run by SRC's, and healthy cooking workshops for parents run by teachers and students.

The Q4 activities at each of the six winning schools were profiled by NBN TV in news segments – giving well deserved recognition to students, teachers and the wider school communities that were involved in helping students do their best in Q4. Two students from each of these schools were also chosen to train with the Central Coast Mariners and were in a local commercial with the Mariners, produced by NBN.

Each school received a prize pack. Schools/working groups decided how prizes were distributed. We recommended that this be based on participation. For example, all students who completed the 2 weeks were able to place their Challenge Cards into entry boxes situated in prominent positions at school (ie. near the canteen, front office) and winners were drawn from this. There were school prizes of vouchers for sporting equipment offered for the best participation rates.

Key results

1. Number of schools participating in the challenge

- Fourteen schools (48%) entered students from year 7, 8 or both
- Four new schools joined the challenge in 2006. Two schools who participated in 2005 did not participate in 2006.

4. Number of students participating in the challenge

Over 3600 students from year 7 & 8 entered the challenge.

5. Student behaviour change

The analysis of 654 passports (18% of participating students) observed whether students' total scores, and scores for each activity, improved from before Q4 commenced to the end of the challenge.

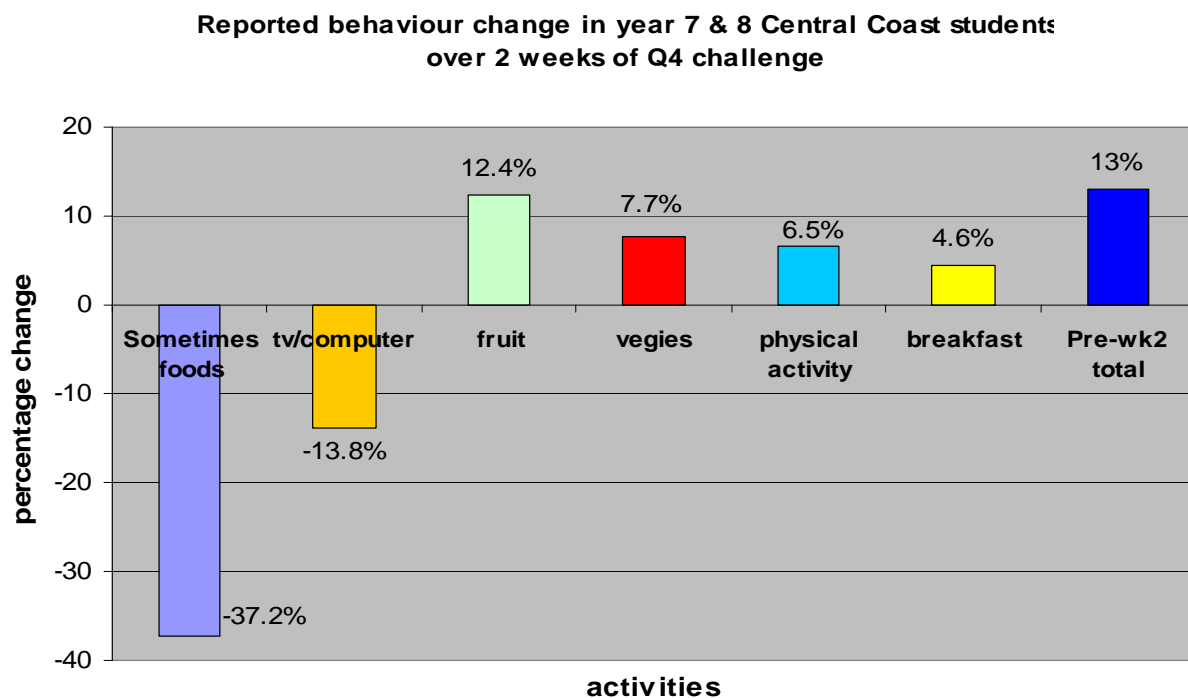
- The majority of the student sample improved their scores over the 2 weeks (59%). Of these, student's behaviour significantly improved overall by 13% (df 653, $p < 0.01$).
- Data from year 7 & 8 high-school student challenge cards showed that Q4 significantly improved scores for all activities during the 2-Week Challenge (see Table 1 & Graph 1).

Table 1: Mean difference of daily point score between baseline and week 2 (sample size n = 653)

Activity	Baseline score	Week 2 score	Possible range of scores
"Sometimes" Foods	1	1.4*	0 – 2
TV / Computers	1.6	1.8*	0 – 3
Fruit	2.4	2.7*	0 – 2
Vegetables	2.4	2.9*	0 – 4
Physical Activity	3	3.2*	0 – 4
Healthy breakfast	1.8	1.9*	0-2
Total	12.1	13.7*	0 - 15

* $p < 0.002$

Graph 1



- After adjusting for day of the week, year (yr 7 or yr 8), gender, family involvement and school, family involvement was the only significant predictor of whether students improved or not over the 2 week challenge. (Wald 4.09, p 0.04).

Family was highly correlated with year, with year 7 students more likely to have family involvement than year 8 students.

Teacher survey

- 86% of the surveys sent to the school contact person were returned (n = 12).

Teachers were asked and responded as follows:

Best part of Q4

- Mariner's visits (promotion/launch): 6/12
- Resources: 3/12

Other best parts were getting families involved, help from Q4 Team, seeing students motivated/ responding to program, flexibility to choose when to run Q4.

Improvements or changes

- Including older kids / rest of family (3)
- Ideas for increasing hand-in rates (2)
- Prizes: help in setting criteria for prizes, incentives for high achieving students (3)
- Online recording (done during school IT time) (1)

Student feedback

- Enjoyed the activity: 7/12
- Thought about lifestyles/asked questions: 6/12

Other student feedback: card hard to interpret at first/easy to lose, comments on the canteen, wanted special school activities to continue

Teacher feedback

- This was positive: 8
- Teachers liked the resources: 2

Parent feedback

- No feedback reported from parents – *"High school so parents not so involved"*

Future directions

As Central Coast High Schools have had 2 years of the 2 Week challenge, it is time to move on to other strategies (see Future directions for Q4 in 2007).

Participating schools have received a report on the challenge for this year. However, as a number of high schools have incorporated the Q4 2 week Challenge into their lesson plans, those schools will be offered some level of ongoing support and access to some prizes. A printable version of the challenge cards will also be made freely available on the health promotion website for schools use.

The Health Promoting High Schools Network and Canteen Network will continue to support healthy activities within the high school setting.

FUTURE DIRECTIONS FOR Q4

Q4 has evolved over the past four years, beginning with awareness raising to families of the contributing factors to childhood and adolescent overweight and obesity through the primary and high school settings. Q4 is now a well recognised brand on the Central Coast and beyond, which enables us to use Q4 with more specific actions to mobilise the Central Coast community.

Over the past 12 months, the Q4 focus in primary schools has been on healthy lunches. High schools have again been involved in the 2-Week Challenge with a whole of school approach and higher media profile. Results from both primary and high school Q4 activities have highlighted the important influence of family participation in motivating and maintaining healthy lifestyles for children and young people.

In 2007, it is time to extend Q4 on the Central Coast into other settings, further explore the social discourse surrounding the issue and provide another specific and achievable goal for the community (ie. increasing physical activity). There is also a need to start to address overweight and obesity in the adult population. Q4 in 2007 will target adults, children and young people through the family setting.

The Q4: Live Outside the Box Passport Activity in Primary Schools will also extend into the Northern Sydney sectors of NSCCH, with a staggered rollout of this activity in 2007. Central Coast Health Promotion staff will support the planning and implementation of this.

Q4 will continue to be supported by and link in with Schools on the Move, PDHPE Network, Health Promoting High Schools Network and School Canteens Network where appropriate.