

*Munch and Move in Preschools.*  
*Summary report on implementation and evaluation*  
*Phase 1 (2008 – 2009).*



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*Munch and Move is a NSW Department of Health program designed for implementation across NSW. Phase 1 has involved collaboration between the Centre for Health Advancement, NSW Department of Health, Area Health Services, the Early Childhood Training and Resource Centre (ECTARC) and the Prevention Research Collaboration at Sydney University, with the support of the NSW Department of Community Services and the NSW Department of Education and Training.*

*The evaluation has been conducted by the Prevention Research Collaboration, who were engaged by the Centre for Health Advancement, NSW Department of Health. This evaluation was supported by the NSW Department of Education and Training. We especially appreciate the interest and enthusiasm of the preschools - staff and children - participating in the evaluation.*





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***This report provides an overview of the implementation and evaluation of the first phase of Munch and Move, which has been conducted with preschools across NSW.***

### **What is *Munch and Move*?**

*Munch and Move* is a healthy eating, physical activity and small screen recreation program, which is being implemented across early childhood services in NSW. It is a NSW Department of Health program. Phase 1 implementation focussed on preschools. The program aims to build capacity within the early childhood sector to encourage healthy eating, increase active play and decrease small screen recreation amongst children 3-5 years of age. The program strategies focus on increasing skills and confidence of staff working in the early childhood setting and influence service level policy and practice in relation to active play, lunch box contents and small screen time.

The program objectives were to:

- Increase fundamental movement skills among preschool children;
- Increase the proportion of fruits and vegetables, and decrease the proportion of extra foods in lunch boxes;
- Increase the number of policies and practices that support healthy eating and active play, and minimise small screen recreation;
- Increase the time allocated to structured and unstructured active play in preschools;
- Improve the confidence of preschool staff in delivering healthy eating and active play learning experiences; and to
- Improve the frequency and quality of communication from preschools to parents.

The implementation of *Munch and Move* in phase 1 involved three main components:

- Professional development for preschool staff, delivered by a training organisation;
- Resources for preschools; and
- Support for participating preschools from Area Health Services.

### **Who is involved in the program?**

Phase 1 has been conducted as a partnership between the NSW Department of Health, the Prevention Research Collaboration at Sydney University, the Early Childhood Training and Resource Centre (ECTARC), who were contracted to provide training, Area Health Services and participating preschools. One component of phase 1 involved an in-depth evaluation which was conducted with a sample of NSW Department of Education preschools.

## ***Munch and Move Workshops***

The *Munch and Move* workshops were delivered by ECTARC which has expertise in providing training for people working in the early childhood sector. Over the period July 2008 to August 2009, 52 workshops have been conducted with over 1,000 participants receiving training. Workshops have been held across NSW, covering both metropolitan and rural locations.

The *Munch and Move* workshop content focused on the 5 key *Munch and Move* messages:

- 1 Choose water as a drink;
- 2 Eater fewer snacks and choose healthier alternatives;
- 3 Eat more fruit and vegetables;
- 4 Get active for an hour or more every day; and
- 5 Turn off the television or computer and get active.

The *Munch and Move* workshop was structured around the resource manual and the 5 key *Munch and Move* messages. The manual provided detailed information in relation to each key message, and each workshop topic.

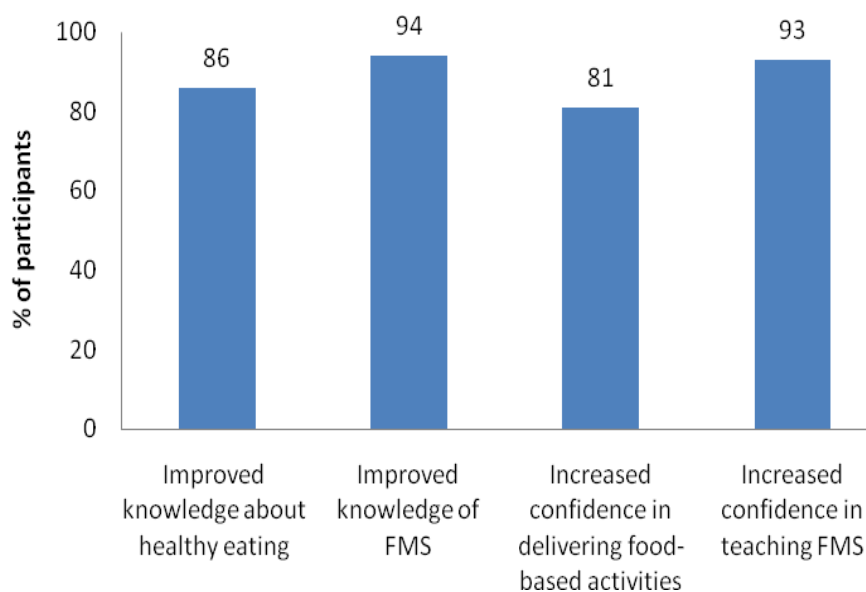
The workshop emphasised the ease with which the *Munch and Move* activities could be integrated into the preschool setting, and promoted the value of the manual as a “living and breathing” guide for use within the preschool. The workshop topics comprised:

- Why *Munch and Move*?;
- Integrating *Munch and Move* into preschool setting;
- The importance of role modelling;
- Facts and figures for each key message;
- “Let’s Get Practical” session – practical activities from the manual for each key message; and
- Making *Munch and Move* happen, including Area Health Service support.

Participants’ feedback about the workshops has been extremely positive. The vast majority of participants reported that after having attended a workshop, their knowledge of healthy eating and the role of fundamental movement skills (FMS), as part of children’s physical activity and active play, had improved; similarly their confidence in delivering food-based activities and teaching FMS within the preschool setting had improved (Figure 1).



**Figure 1** Participants' responses to *Munch and Move* Workshop



Participants' comments about the *Munch and Move* workshops suggest they found them to be high quality, interesting and very relevant to their work with preschool-aged children.

Area Health Services have supported the implementation of *Munch and Move* in local preschools using a wide range of approaches, including site visits, demonstration activities, self-assessment checklists, equipment and other resources, and additional workshops focussed on preschool policy.

#### **How did we evaluate *Munch and Move*?**

An in-depth evaluation was conducted with 29 NSW Department of Education and Training preschools from Sydney, Western Sydney and South Western Sydney regions. The aim of the evaluation was to determine whether the implementation of *Munch and Move* had an effect on the movement skills and lunchbox contents of the children who attended preschools taking part in the evaluation. Information was collected through assessing children's fundamental movement skills and their lunchbox contents, as well as teacher interviews, staff surveys and parent surveys.

For the evaluation, the 29 preschools were divided into two groups: the intervention group received *Munch and Move* training, resources and support visits from June. The control group did not receive any training or information regarding *Munch and Move* until after the evaluation had finished. Data were first collected in June 2008, with follow-up data collected in November 2008.

## Results

### *Children's fundamental movement skills*

*Munch and Move* encouraged the development of children's fundamental movement skills (FMS). These skills are important as they are used in many different sports and games in which people might want to participate throughout life. The evaluation assessed 8 FMS: four locomotor skills (run, gallop, hop and horizontal jump) and four object control skills (striking a stationary ball, catch, kick and overhand throw). The *Munch and Move* manual included developmentally appropriate, fun, games-based activities to support fundamental movement skill development within the preschool setting.

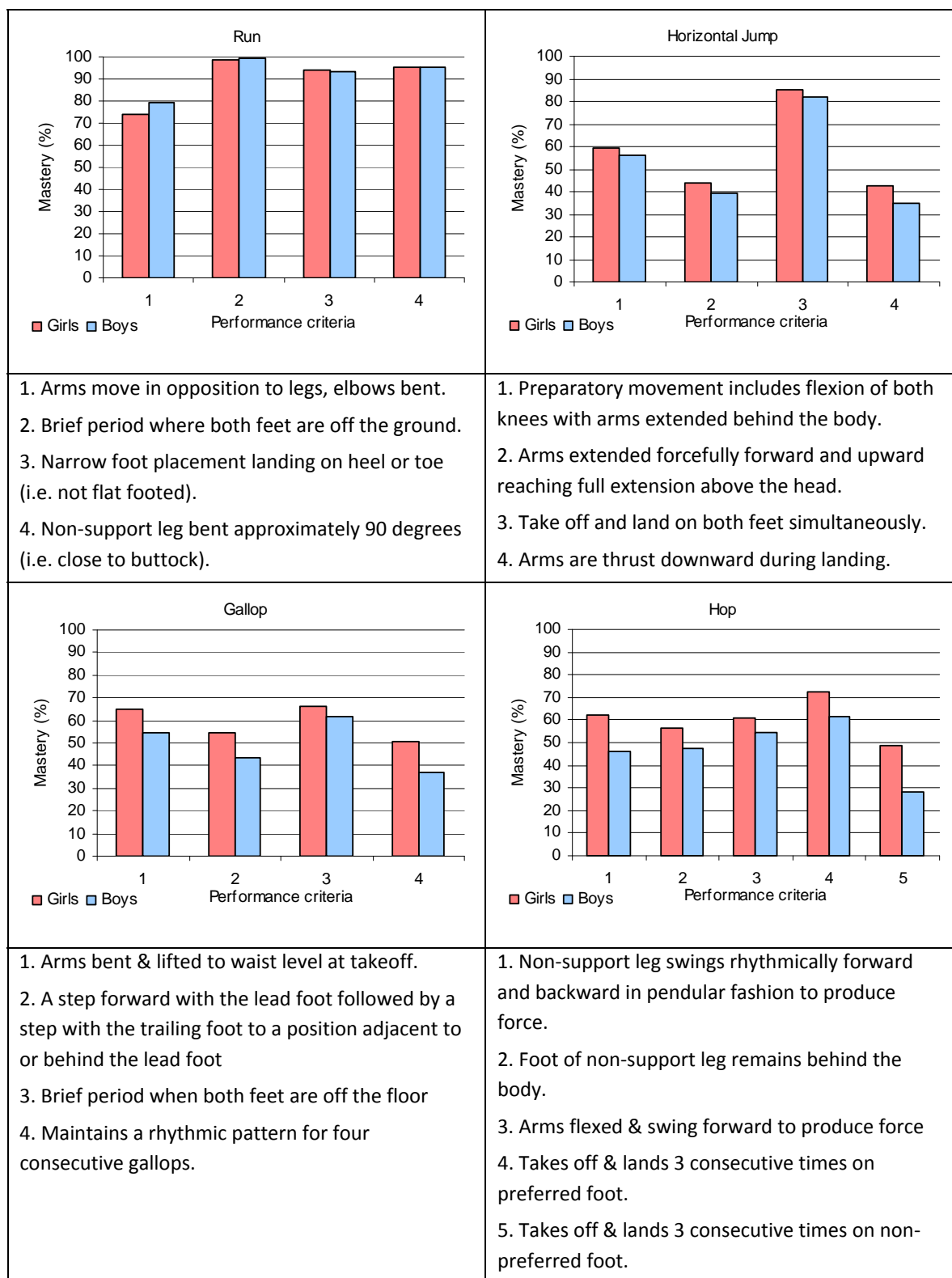
FMS develop from early childhood, but children do not normally achieve full mastery of these skills until they reach their adolescent years. Preschool-aged children are not expected to demonstrate full mastery of the fundamental movement skills but having opportunities to practise these skills, using a fun, games-based approach, can support skill development.

To assess the children's FMS, the children were organised into small groups. Firstly the skill was demonstrated by a member of the *Munch and Move* team. Each child then had the opportunity to practise the skill before being asked to perform the skill (twice). Each skill was broken down into several components; each component of each skill was recorded.

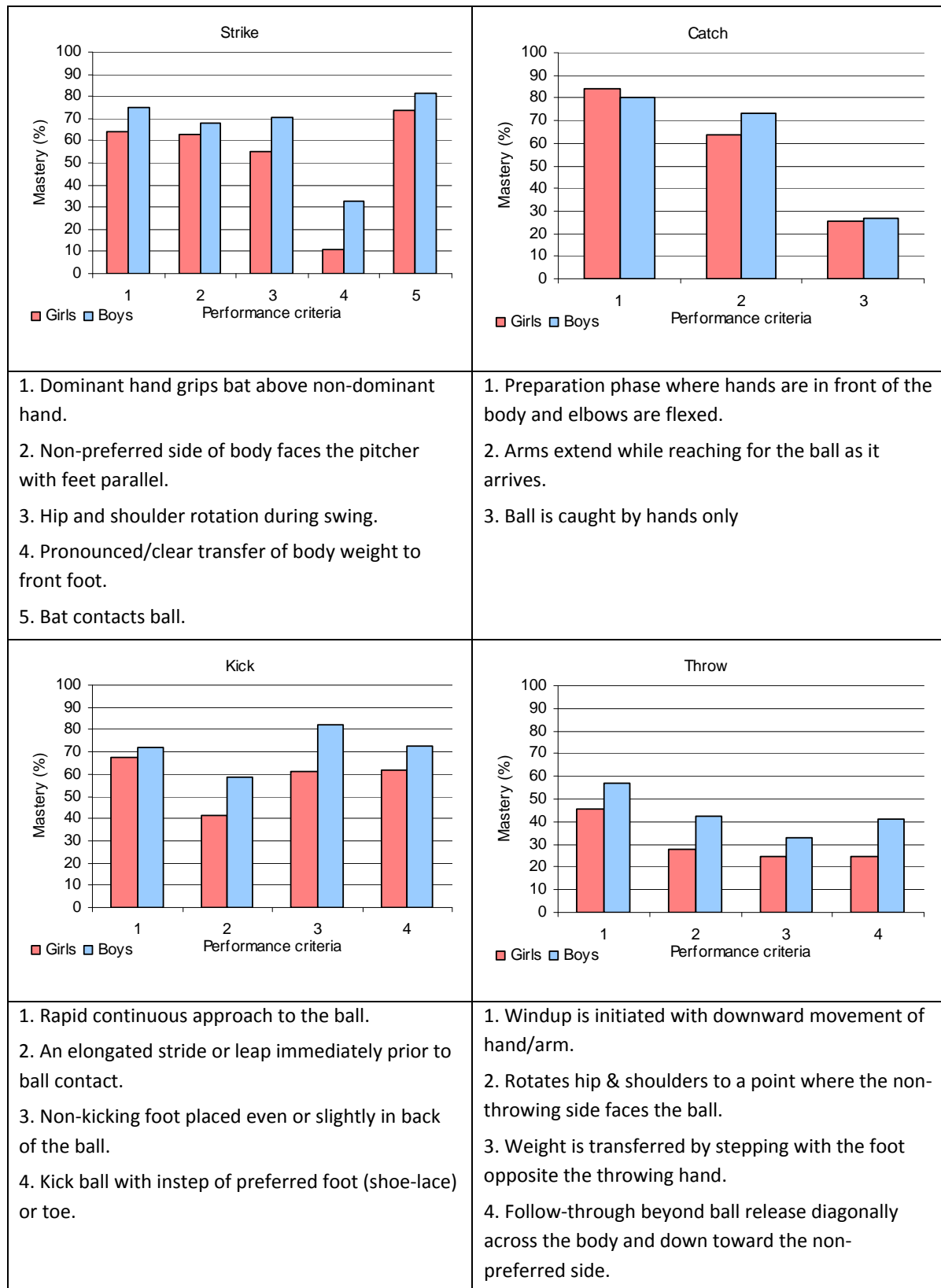
#### *Skill Performance criteria*

The proportion of children who demonstrated mastery of each performance criteria for locomotor and object control skills, by sex, are shown in Figures 2 and 3, respectively.

**Figure 2** Proportion (%) of boys and girls who demonstrated mastery of each performance criteria for the locomotor skills, post-intervention



**Figure 3** Proportion (%) of boys and girls who demonstrated mastery of each performance criteria for the object control skills, post-intervention



The above figures show the components of each skill and how, in most cases, 4 year old children have mastered some but not all of the components, as you would expect. However, breaking each skill down into components provides a guide for how to teach and encourage development of movement skills.

#### *Overall improvement in FMS skill*

Following their participation in the *Munch and Move* workshop, teachers were encouraged to incorporate FMS into daily and weekly routines within their preschool setting. After attending a workshop, intervention preschools devoted more time to FMS than control preschools. Overall mastery scores for most FMS improved over time. After *Munch and Move*, girls from intervention preschools were more proficient in the object control skills than girls from control preschools and boys from intervention preschools were more proficient in locomotor skills than boys from control preschools.

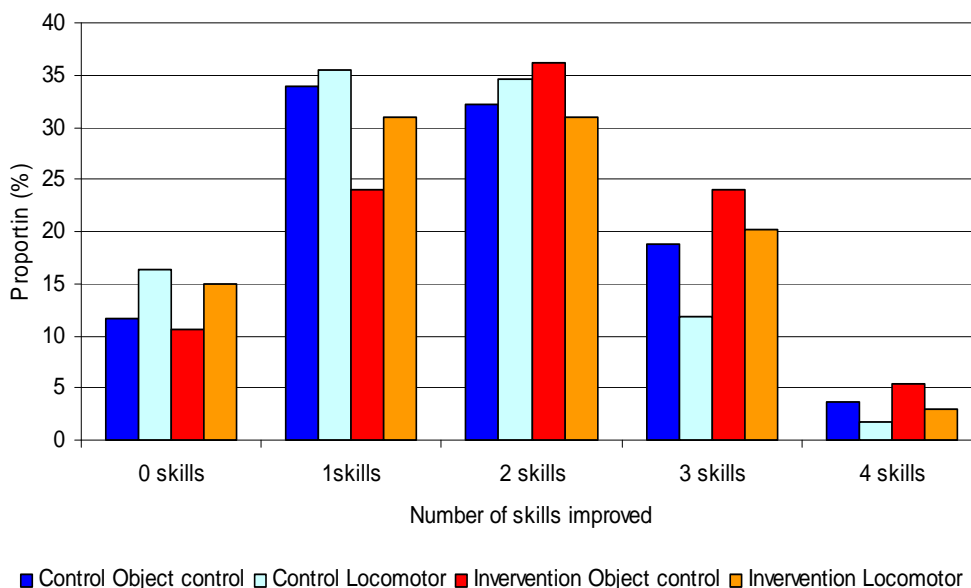
The proportion of children who demonstrated improvement in FMS at post-intervention is shown in Figure 4. Children in the intervention group showed greater improvement across a range of skills compared with children in the control group. The proportion of children who improved in two or more locomotor skills was 48.2% and 54.0%<sup>1</sup> for the control and intervention group, respectively. Similarly the proportion of children who improved in two or more object control skills was 54.5% and 65.4%<sup>2</sup> for the control and intervention group respectively.

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<sup>1</sup> P = 0.34 which means that this difference is not statistically significant.

<sup>2</sup> P = 0.06 which is not statistically significant, but is approaching significance.

**Figure 4:** Proportion (%) of boys and girls who demonstrated improvement in none, one, two, three or all four FMS skills by type of FMS and intervention group (control, intervention)



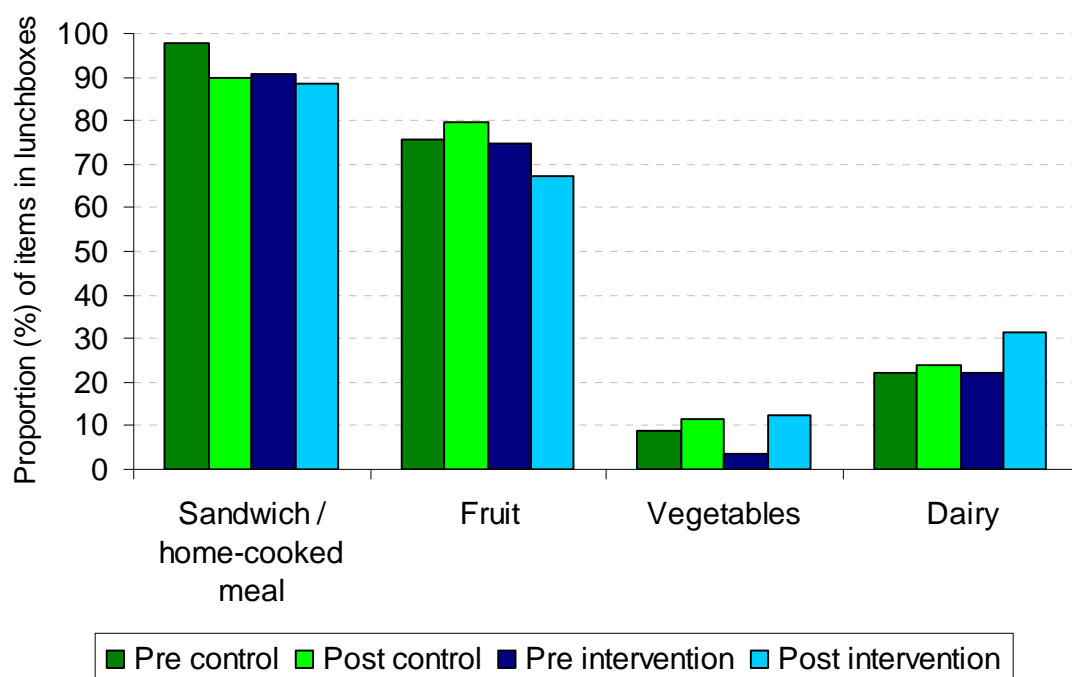
### ***Lunchboxes and food-based activities***

*Munch and Move* encouraged preschools to promote healthy lunchboxes, particularly by limiting the amount of ‘extra’ foods and drinks, by having food rules or guidelines, through consistent implementation of these rules and by encouraging children’s interests in healthy food through innovative and fun food-based activities.

As part of the evaluation, the *Munch and Move* team listed the contents of children’s lunchboxes both before and following the program. The results below only describe the lunchboxes of children who attended full-day preschools.

The majority of lunchboxes contained a sandwich or home cooked meal. Most also contained some fruit, however only a small number contained any vegetables. Figure 5 shows the proportion of lunchboxes with sandwiches or home cooked food items, fruit, vegetables and dairy.

**Figure 5** Proportion (%) of food items by category in children’s lunchboxes



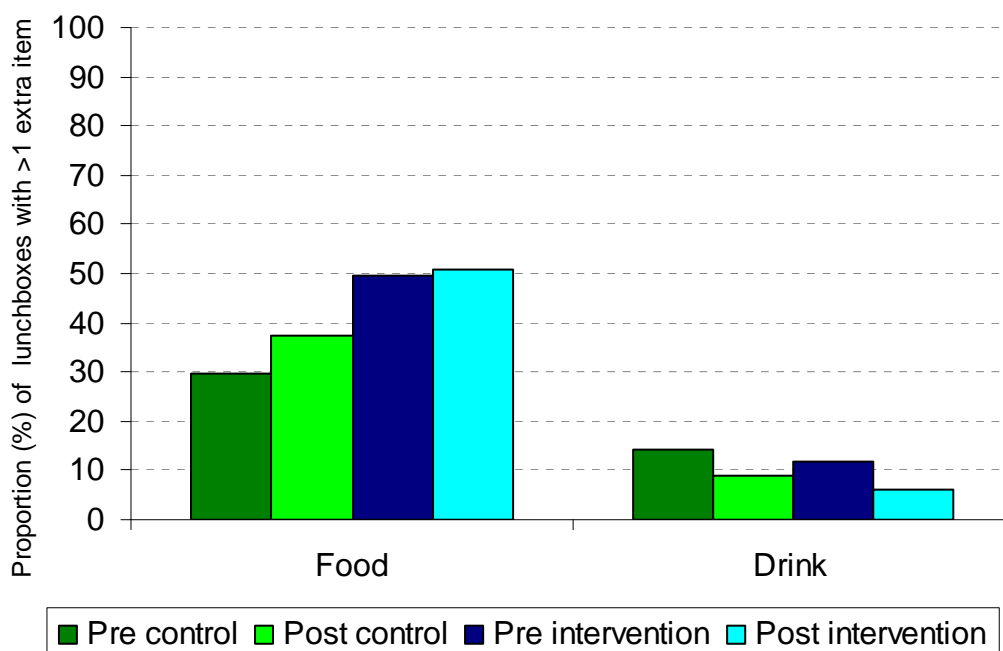
*Extra foods and drinks*

Extra foods were present in almost all lunch boxes and the majority contained more than one serve of extra food and/or drink items. Extra foods and drinks are those which dietary guidelines recommend should only be eaten occasionally (not every day), as they are higher in fat and/or sugar, energy or salt and contain very few nutrients. The category ‘extra foods’ covers muesli bars, sweet biscuits, chips, confectionary, cakes, muffins and pastries and high fat savoury snacks. ‘Extra’ drinks covers soft drinks, fruit juice and fruit juice drinks.

Pre-intervention 60% of lunchboxes contained more than one serve of ‘extra’ food and/or drink. The majority (92%) of lunchboxes contained sandwiches or home-cooked food and 76% contained either fruit/vegetables. The mean serve size of fruit was 0.8 serves. Following the intervention, the proportion of lunchboxes with > 1 serve of extra food or drink was similar to pre-intervention levels in both control and intervention groups (76% and 83%, respectively). Sandwiches and/or home cooked food remained the main food item in children’s lunchboxes (about 89% for both groups). The proportion of lunchboxes with fruit increased slightly in the control group and decreased slightly in the intervention groups’ lunchboxes (control group 79%; intervention group 67%). There was some increase in the proportion of lunchboxes with vegetables in both groups.

Figure 6 shows the proportion of control and intervention group lunchboxes containing > 1 serve of extra food and extra drink at pre and post-intervention.

**Figure 6** Proportion (%) of lunchboxes containing > 1 serve of extra food or drink



#### Overall composition of lunchboxes

Lunchboxes were also classified as *balanced, overloaded with extras or unbalanced*. Balanced lunchboxes contained a sandwich or home cooked meal, fruit or vegetables and no more than 1 serve of extra food or drink. Lunchboxes were classified as ‘overloaded with extras’ if they contained more than one extra food or drink item, in addition to contents typical of a balanced lunchbox. If a lunchbox contained  $\leq 1$  balanced lunchbox item (sandwich, home-cooked food, fruit and/or vegetables) and more than one extra, or there was no lunchbox, it was classified as unbalanced.

Most lunchboxes were not classified as balanced either before or following the intervention: 40% of lunchboxes in the control group and 29% of intervention group lunchboxes were balanced following the intervention. Another 35% of lunchboxes were overloaded with extras. There were 24% of control and 36% of intervention lunchboxes which were unbalanced and/or overloaded with extras.

Overall, the contents of children’s lunchboxes were very similar following the intervention to before, showing that so far *Munch and Move* had not influenced lunchbox contents. Some preschools may



have found it difficult to introduce new food rules halfway through the year, and so did not fully implement this part of the program.

The majority of preschools conducted food-based activities at least once a term with school gardens, cooking classes and taste-testing being the most popular activities. Almost all preschools reported having rules regarding foods and drinks brought in from home however only a few preschools reported a comprehensive set of food rules. Orientation days or kits are the most popular method to communicate food rules to parents. Further, fundraising which involves the sale of food items such as chocolate drives and sausage sizzles is conducted in many preschools.

### ***Staff views***

The staff surveys identified the attitudes, knowledge and confidence of preschool staff regarding physical activity, nutrition and small screen recreation issues. The surveys were completed by a range of preschool staff on both data collection occasions.

#### *Physical Activity*

- All staff agreed that active play is an important part of the physical and social development of preschool aged children.
- The majority of staff agreed that teachers need to act as role models for being active.
- Teachers indicated they have a high level of confidence in their ability to teach fundamental movement skills.
- Most preschool teachers reported having at least one active play session each day.

#### *Lunchboxes*

- The majority of teachers had positive attitudes to healthy eating and felt that extra foods or drinks should not be sent to preschool.
- The teachers who attended the *Munch and Move* training were more likely to agree that it is the role of teachers to teach about healthy eating.
- Teachers from intervention preschools reported becoming more confident in talking to parents about lunchbox contents.
- Teachers from intervention preschools reported conducting more food-based activities each term than teachers from control preschools.
- A large number of staff in both intervention and control preschools indicated that they considered it acceptable to sell chocolates or sweets for fundraising purposes.

### *Small screen recreation*

- The majority of teachers were able to report the correct small screen recreation guidelines for preschool aged children.
- The teachers who attended the *Munch and Move* training became more confident in talking to parents about their child's television viewing.

### **Parents' comments**

The parent surveys were designed to explore the types and nature of communication between the preschool and parents. They were completed by parents at both data collection points.

- The vast majority of parents were aware of food rules at their child's preschool.
- Most parents could only specify a minimal list of foods or drinks that were not allowed.
- The majority of parents received health information and read this frequently, however this was not often about healthy eating or physical activity.
- Many parents reported having frequent discussions with teachers, although these were very rarely about physical activity or healthy eating.
- Parents from preschools which implemented *Munch and Move* were aware of a range of '*Munch and Move*' related activities occurring in their preschool including both healthy eating and physical activity.

### **Did *Munch and Move* make a difference?**

The program was very well-received by the preschools. Participating preschool staff rated the program very highly and reported changes in preschool routines and practices. *Munch and Move* appeared to successfully improve fundamental movement skills amongst the preschool aged children. However, the program was not sufficient to achieve changes in children's lunchbox contents. There was a very short time frame for the intervention preschools in this study to implement the program, and further time or more specific and intense guidance may be required. Preschools implementing specific lunchbox policies as part of a full year's *Munch and Move* program may see more positive results. Broader efforts to promote awareness of healthier lunchbox foods may also be required to achieve changes.

## The future

- Early childhood and health sectors should promote opportunities for professional development on fundamental movement skills for early childhood staff.
- Early childhood services can support children's development of movement skills by incorporating activities into weekly routines.
- More attention needs to be focused on improving the nutritional quality of children's lunchboxes. Preschools, parents and health agencies all have a role to play in communicating about healthier food choices.
- Based on the results, further rollout of the *Munch and Move* program to other parts of the NSW early childhood sector is warranted.

