The challenges of quantitative evaluation of a multi-setting, multi-strategy community based childhood obesity prevention program: lessons learnt from the eat well be active Community Programs in South Australia

Annabelle M Wilson1*, Anthea M Magarey1, James Dollman2, Michelle Jones3, Nadia Mastersson3

*Corresponding Author
Address: Flinders University Department of Nutrition and Dietetics, GPO Box 2100, Adelaide 5001.
Phone +618 8204 4715
Fax: +618 8204 6406
Email: annabelle.wilson@flinders.edu.au

1Department of Nutrition and Dietetics, Flinders University of South Australia, GPO Box 2100, Adelaide 5001.
2School of Health Sciences, University of South Australia, City East Campus, GPO Box 2471, Adelaide 5001.
3 eat well be active Community Programs, Southern Primary Health, PO Box 437, Noarlunga Centre SA 5168.

Name and address of the institution where this work was performed:

eat well be active Community Programs, Southern Primary Health, PO Box 437, Noarlunga Centre SA 5168.

Key words: community-based obesity prevention, evaluation, childhood

Short Running Title: Evaluation of the ewba Community Programs
Abstract

Objective: To describe the rationale, development and implementation of the quantitative component of evaluation of a multi-setting, multi-strategy, community-based childhood obesity prevention project (the eat well be active (ewba) Community Programs) and the challenges associated with this process and some potential solutions.

Design: ewba has a quasi-experimental design with intervention and comparison communities. Baseline data were collected in 2006 and post-intervention measures will be taken from a non-matched cohort in 2009. School children aged 10-12 years were chosen as one litmus group for evaluation purposes.

Setting: Thirty-nine primary schools in two metropolitan and two rural communities in South Australia

Subjects: 1732 10-12 year-old school students completed a nutrition and/ or a physical activity questionnaire and 1637 had anthropometric measures taken; 983 parents, 286 teachers, 36 principals, 26 canteen and 13 out of school hours care workers completed program-specific questionnaires developed for each of these target groups

Results: The overall child response rate for the study was 49%. Sixty-five, 43, 90, 90 and 68% of parent, teachers, principals, canteen and out of school hours care workers respectively, completed and returned questionnaires. A number of practical, logistical and methodological challenges were experienced when undertaking this data collection.

Conclusions: Learnings from the process of quantitative baseline data collection for the ewba Community Programs can provide insights for other researchers planning similar studies with similar methods, particularly those evaluating multi-strategy programs across multiple settings.

Trial Registration: ACTRN12607000414415
Background

The prevalence of overweight and obesity in school-aged children is estimated to be ten per cent worldwide and increasing\(^1\). Obesity is recognized as a rapidly growing threat to the health of populations in an increasing number of countries around the world\(^2\), placing significant burden on healthcare systems. Prevention is recognized as the most realistic and cost effective strategy to deal with childhood obesity\(^3\).

While positive energy balance leads to the accumulation of excess weight, the aetiology of obesity is complex and dependent on more than just biology. For example, increased energy intake and/or decreased energy expenditure is commonly entwined with environmental factors, across multiple settings\(^4\).

There has been a call for community-based obesity interventions as a strategy for prevention of childhood obesity\(^2\). Community-based interventions recognize the depth of community understanding held by members and their knowledge of community resources and dynamics\(^5\). These provide the foundation when designing and delivering interventions, including choice of settings and strategies. Furthermore, individual behaviours are only sustained if they are carried out in an environment that supports healthy choices\(^5\). In the case of obesity, this means that individual behaviours associated with excess weight gain (including healthy eating and physical activity) must be addressed in the context of the environment and the societal and cultural factors relevant to the individual\(^6\).

Despite the recognition that multi-setting, multi-strategy community-based action should be the foundation of obesity prevention efforts\(^7\), there are few published examples of such interventions\(^5\). The majority of childhood obesity prevention interventions are based in single settings, predominantly schools\(^8\). Therefore, there is a clear need to develop an evidence base of effective community-based obesity prevention interventions. Historically insufficient priority has been placed on appropriate evaluation designs or insufficient funding provided to allow rigorous evaluation\(^9\). Further evaluation of community-based interventions is hindered by the complexity of communities\(^9\), the inability to reproduce controlled environments often used in medical based research and the lack of setting-specific tools appropriate to specific target groups that measure the outcome, process and impact of interventions.
The eat well be active (ewba) Community Programs in South Australia (SA) are community-based childhood obesity prevention interventions which address environmental and individual barriers to behaviour change through a portfolio of strategies in a range of settings (Figure 1). The Programs are funded by SA Health (government) for five years in response to the rising levels of childhood overweight and obesity and the need to obtain evidence of the effectiveness of community-based obesity prevention. The Programs aim to promote healthy weight in children and young people aged 0-18 years, and their families, through increasing healthy eating and physical activity behaviours. The ewba Community Programs have a rigorous evaluation framework that will contribute to the evidence regarding best practice for community-based childhood obesity prevention programs. This framework includes quantitative and qualitative evaluation of process, impact and outcome elements and has a large scope across multiple population groups. The framework was designed to reflect the ewba interventions that were developed from a combination of best available evidence and extensive community consultation.

This paper focuses on the rationale, development and implementation of the baseline data collection in schools, a major component of the quantitative evaluation of the ewba Community Programs. It identifies a number of challenges experienced during this process and suggests some solutions.

**Methods**

**Rationale**

*Structure of the ewba Evaluation Academic Team*

The ewba Evaluation Academic Team has two internal members; the ewba Evaluation Coordinator (responsible for coordinating and compiling data collection and evaluation processes) and the ewba Manager who oversees this process; and three external academics who advise the team in nutrition, physical activity, childhood obesity and community development. Additional research staff (for example a PhD Candidate) are also members of this team. The internal members of the Evaluation Academic Team work closely with the Project Coordinators who implement the project; however these Project Coordinators are not part of the Evaluation Team.
Selection of intervention and comparison sites

The intervention including the metropolitan suburb of Morphett Vale in southern Adelaide and the Rural City of Murray Bridge were selected by SA Health and the community health services implementing the projects, in consultation with community stakeholders, based on their high levels of disadvantage and the presence of existing infrastructure and experience necessary to support the Programs\textsuperscript{(10)}. Two comparison communities (metropolitan suburbs of the Sea and Vines Department of Education and Children’s Services (DECS) district and the Port Pirie Regional Council Area) were selected to match the sociodemographic profiles of the intervention sites as closely as possible, including: number and age distribution of children, socioeconomic status (SES) as measured by the Index of Relative Social Disadvantage (IRSD), educational levels, occupational and income distributions, family sizes, ethnic mix and rural-urban mix\textsuperscript{(10)}. The IRSD provides an indication of socio-economic disadvantage by ranking different geographic areas of Australia according to a 'score' that is created for the area based on characteristics of people, families and dwellings within that area\textsuperscript{(11)}.

Selection of samples for evaluation

Middle and upper primary school children in school years five to seven (10-12 year olds) were chosen as one litmus group for evaluation because (a) there is a significant dose of ewba intervention delivered through the school setting, (b) middle and upper primary school children are cognitively able to complete simple written questionnaires and self-report dietary\textsuperscript{(12)} and physical activity habits\textsuperscript{(13)} and (c) the primary school curriculum is reasonably able to accommodate the time required for data collection. School students, their parents, school principals, teachers, canteen and out of school hours care (OSHC) managers at intervention and comparison schools were invited to participate in the evaluation.

Selection of anthropometric outcomes for measurement

Outcomes were chosen in consultation with the ewba Evaluation Team. Height and weight were measured and body mass index (BMI) calculated. Waist circumference was taken as a surrogate measure of central abdominal adiposity based on the following rationale. First, waist circumference is an indirect measure of central adiposity which is strongly correlated with risk for cardiovascular disease in adults\textsuperscript{(14)} and an adverse lipid
profile and hyperinsulinaemia in children\textsuperscript{(15)}. Second, children’s waist circumference correlates well with CT scan as a measure of subcutaneous abdominal adipose tissue ($r = 0.93$), and fairly well with intra-abdominal adipose tissue ($r = 0.84$)\textsuperscript{(16)}. Third, waist circumference is easy to measure with simple, low-cost equipment, has low observer error, offers good reliability, validity and low measurement error\textsuperscript{(17)} and has been used as a measure of child central adiposity in similar obesity prevention projects in Australia\textsuperscript{(18)}.

\textit{Development of tools for quantitative ewba evaluation}

The key messages and objectives of \textit{ewba} (Figure 1) informed the selection of the nutrition and physical activity outcomes to be measured. These outcomes included behaviours and also attitudes, knowledge and environments which influence these behaviours. It was acknowledged that traditional methods of dietary and physical activity assessment (for example diet diaries and accelerometers) do not provide insight into attitudes, knowledge and environments but such information is invaluable to understanding the obesity epidemic.

Due to the lack of tools in the published literature that addressed both the breadth of enquiry of \textit{ewba} (Figure 1) and the specific project goals, more contemporary evaluation questions and methods that encompassed these factors were specifically developed through consultation and review. Several unpublished questionnaires not yet tested for validity or reliability from similar interstate projects helped inform the content of these questionnaires. Self-report questionnaires were chosen based on cost and time effectiveness, lower respondent burden and the age range of the sample (10-12 years) being appropriate for self-reporting of dietary and physical activity behaviours\textsuperscript{(12, 13)}.

The seven questionnaires (Table 1) measure the obesogenicity of one or more of the home, school and community environments. This enables triangulation of data to test for agreement between reports (e.g. student and parent report). Four types of environments were investigated in all settings – political, physical, financial and socio-cultural\textsuperscript{(19)}.

All seven questionnaires were piloted with small convenience samples of the relevant groups, in areas external to the \textit{ewba} sites, prior to their use. The child nutrition questionnaire has been shown to be valid and reliable\textsuperscript{(20)} and can be accessed from
http://www.ijbnpa.org/content/5/1/5. The child physical activity, teacher and parent questionnaires are currently being assessed for validity and reliability

**Implementation**

**Selecting and contacting schools**

The process and timelines for contacting schools regarding participation in the *ewba* intervention and collection of baseline data are outlined in Figure 2. All government, catholic and independent primary schools in the intervention sites were invited to participate in the *ewba* intervention and evaluation. Those in comparison sites were invited to participate in the evaluation only. Schools in the intervention sites were offered the portfolio of *ewba* strategies that promoted healthy eating and physical activity and individually chose which strategies they each implemented throughout the intervention period. As a benefit of participation in data collection, both intervention and comparison schools were provided with aggregate information from all participating schools on students’ nutrition, physical activity and standardized BMI, and summarized policy and practice patterns.

**Staff training**

A team of 14 staff were recruited and trained to collect the baseline data (Figure 2). All staff attended a one-day training session run by the *ewba* Evaluation Academic Team. This included training in body image sensitivity(21), measurement of weight, height and waist circumference, and description and practical run-through of the student questionnaires.

Staff were also trained to use three other resources including a standard preamble to introduce the data collection process and to provide instruction on completion of the student questionnaires, a poster depicting serve sizes of fruit and vegetables to assist students with portion size estimation in the nutrition questionnaire, and a series of visual aids to assist students distinguish between organized and non-organized activities in the physical activity questionnaire.

**Obtaining parental consent and child assent**

All year five, six and seven students in participating schools were invited to participate in data collection and consent forms were sent to participating schools to distribute to parents (Figure 2). Sample size calculations indicated that a response rate
of 60% would enable a 20% change in prevalence of a range of nutrition and physical activity behaviours to be detected with 80% power and alpha 0.05. Students returned consent forms with parental consent and child assent to their teachers and these were collected on the day of data collection. Students could consent to and participate in questionnaires but not anthropometric measures and vice versa, and they could withdraw from participation at any time. Verbal parental consent was accepted over the telephone on the day of measurement, provided the completed consent form was returned to ewba at a later date. Due to a low return rate of consent forms in the first 11 schools measured in School Term 3, all students returning a consent form (regardless of their consent to the measures) in the subsequent 28 schools measured in School Term 4 were offered a small gift (a hacky sack), provided the school gave permission.

**Baseline data collection**

The process of baseline data collection is outlined in Figure 3.

**Questionnaires**

Prior to distribution of the questionnaires, the Measurement Team Leader read out the standard preamble to the whole student group. To avoid any systematic bias resulting from good student concentration during completion of the first survey and poorer concentration during completion of the second, the order in which the questionnaires were administered was varied between classes. Consequently, this effect (if present) was distributed across the two surveys. Students completed the questionnaires independently with the exception of two more complex questions in each questionnaire. These were led by the team leader with the whole student group, as piloting identified that students required extra assistance with these questions\(^{(20)}\). Staff referred to posters depicting fruit and vegetable serve sizes, and organized and non-organized activities, when necessary.

**Anthropometric measurements**

The decision to take anthropometric measurements from children was carefully considered by the ewba Management Committee and Evaluation Team. In addition, informal consultation conducted with local stakeholder groups indicated majority support for the measurements to be taken whilst keeping in mind body image concerns.
A station for anthropometric measurements was set up with a set of scales (Tanita, Model HD332, China), stadiometer (Wedderburn, Model PE087, Australia and Germany) and tape measure for waist measurements (Lufkin, Model W606PM). In the larger schools and when there was sufficient measurement staff, two stations were set up. If a separate room was not provided for anthropometric measures, the equipment was set up behind a screen in the same room as questionnaires were administered. In this case, students were out of view of other students when measured, but could still be in view of the observing teacher. One male and one female staff member were present to take measurements. Particular steps were taken to minimize body image concerns, based on the work of Gibbs et al\(^\text{(21)}\) (Table 2).

Students’ names were called out and they were withdrawn temporarily from completing the questionnaires. Height, weight and waist circumference were measured without shoes using the protocols recommended by the International Society for the Advancement of Kinanthropometry\(^\text{(22)}\). Waist circumference was measured at the level of the visible narrowing of the waist and at end-tidal expiration\(^\text{(10)}\). All measurements were taken twice; a third was taken if the difference between the two measurements was too great (height: >5mm; waist: if the difference exceeded two percent of the lower of the 2 scores, weight: if there was a one percent (or greater) difference between the first and second readings)\(^\text{(22)}\). The mean of two and median of three measures were taken as the final score. All measurements were recorded on a standard record sheet. Inter-tester technical error of measurement (TEM) and inter-tester TEM were calculated for five of the measurers and shown to be well within acceptable ISAK standards\(^\text{(10, 22)}\).

**Distribution of other questionnaires**

**Parent**

On the consent form for child measurements, parents were asked to indicate if they were happy to complete a parent survey and if so to provide their home address. Questionnaires were sent by *ewba* home to parents who returned them directly to *ewba* via reply paid envelopes. Parents who returned a completed questionnaire went into the draw to win one of twenty A$25 shopping vouchers.

**School**

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9
Teacher, principal, OSHC and canteen manager questionnaires were sent to the schools prior to data collection (Figure 2). Ideally, the completed questionnaires were collected on the measurement day (Figure 3) and if they had not been completed, extra copies were provided with a request to return to ewba as soon as possible. The five schools with the highest return rate of teacher and student questionnaires were offered an A$100 voucher for sports equipment, a water cooler or fruit and vegetables.

**Data entry and analysis**

As cost prohibited all data to be entered twice and checked for agreement (double data entry), a random sample of ten percent of child nutrition, physical activity, teacher and parent questionnaires were checked by the ewba team. The scoring system used to assess validity and reliability of the child nutrition questionnaire\(^{(20)}\) was used to analyze the data from this questionnaire, and a similar scoring system was developed for the physical activity questionnaire. Target scores were developed for the nutrition\(^{(20)}\) and physical activity questionnaires and these were used to report meaningful frequency data at baseline. Frequency data on responses from parent, teacher, principal, canteen and OSHC questionnaires were also reported. SPSS version 12.0.1 was used to analyze data.

**Ethics approvals**

Ethics approval was granted from the SA Health Human Research, the Department of Education and Children’s Services and the South Australian Aboriginal Health Research Ethics Committees.

**Results**

**Consent and response rates**

Of the 44 primary schools in intervention and comparison sites, 39 agreed to participate (89% acceptance rate)\(^{(10)}\). The five schools that declined to participate were in comparison sites.

Table 3 shows response, consent and completion rates for the student questionnaires and anthropometry; and parent, teacher, principal, OSHC and canteen questionnaires. For students, consent rate is different from completion rate due to
absences on the day of survey. The number of students returning a consent form where either the student or parent did not assent/consent to either questionnaires and/or measurement was 262. One hundred and ten students who had consented were absent on the day of survey. Twenty three parents provided verbal consent on the day of survey. Table 4 shows the difference in overall response, consent and completion rates in the schools that received a gift for return of surveys (28 schools) compared with those who did not (11 schools). Response rates were significantly higher in schools receiving the gift (p<0.001), and so were consent and completion rates (p<0.05). One school chose not to take up the option of the gift.

Data entry

Ten percent of the child nutrition, child physical activity and teacher questionnaires were checked for data entry errors (173, 173 and 29 questionnaires respectively). The error rates (expressed as number of items with an error per total number of items in one questionnaire) were found to be 0.3%, 0.5% and 0.17% respectively. Twelve percent of parent questionnaires were checked (121 questionnaires). The error rate was found to be 0.69% with three questions regarding higher errors than any others. Exclusion of these three questions reduced the error value to 0.48%. These three questions were checked in all 983 questionnaires. The entire anthropometry data file was checked for errors and amended accordingly. Eleven students were excluded due to incomplete or missing data.

Discussion

This paper describes the rationale, development and implementation of the quantitative baseline data collection in schools which is one component of the evaluation of the ewba Community Programs. It focuses on the questionnaires and anthropometric measures taken in 10 to 12 year old school students. This discussion will demonstrate the numerous logistical, practical and methodological challenges met during the data collection process, and will also consider solutions to these challenges, which provide learnings for other researchers involved in evaluation of similar programs. To avoid
biasing the results of the ewba evaluation, such adaptations will not be introduced in this study at post-intervention data collection.

There were large variations between schools in terms of daily timetable, class structure and school dynamics, and it was necessary to ensure that data collection slotted into the schools' schedules as seamlessly as possible. Similar projects should obtain school schedules as early as possible and ensure their data collection process is flexible enough to fit in with differing school schedules.

Similarly, to ensure maximum return of consent rates and hence sample size, consent forms were not collected by ewba until the day of survey. Hence decisions that were based on the number of children consenting could not be made until the day of survey. For example, if consents were low, it was less disruptive to combine students from multiple classes with consent in a separate space to complete questionnaires, while when consents were high, it was more practical to visit each class separately and students without consent were kept busy with another task. It is important that researchers in similar studies allow enough time and flexibility in their schedule to allow such options.

Data collection was performed late in school term three and early in term four (September to November) 2006. Term four is recognized as a busy time for schools and this could have had an impact on their response to data collection. If possible researchers should avoid data collection in term four, particularly towards the end. However, the short period over which data were collected was ideal as it limited any seasonal changes in nutrition and physical activity behaviours that were independent of the program.

The ability of teachers to control student behaviour varied and in some cases ewba staff were required to assist with behaviour management, making it more difficult to complete other tasks. Some students had very low literacy levels and often required a staff member to guide them through the questionnaires. This was resource intensive and left fewer staff to assist the remainder of the class with queries. In the early stages of data collection, it became apparent that students in year five generally required more assistance to complete questionnaires than those in years six or seven. Consequently, larger teams (four to five people) were allocated to attend classes with year five
students. It is important that researchers in similar studies assess whether behavior management and literacy problems are likely to be an issue and if so, provide sufficient staff members to handle such situations effectively.

Designation of a suitable space for data collection by the school often proved problematic. In particular, anthropometric measures had to be taken in an area that was not secluded, but private enough for children to feel comfortable and not vulnerable. It is important that schools receive clear guidelines about the types of spaces that are and are not appropriate for such measurements. In case a suitable space is not available, the research team needs to be prepared with a back-up, such as a screen that can be used as a privacy shield.

It is important to allow sufficient time between recruitment of measurement staff and schools and the commencement of measures (Figure 2). In terms of measurement staff, sufficient time ensures detailed training around the questionnaires, in particular how to respond to specific student queries, ensuring consistent responses across team members. However, an in-depth understanding of the types of questions asked by students only develops over time by undertaking the data collection process. This highlights the importance of extensively piloting questionnaires where possible. In the case of time between recruitment of schools and measures, in some cases, there was only six to eight weeks between the first letter schools received from ewba and data collection (Figure 2). This may explain why the target completion rate of 60 percent was not reached. If possible similar studies should allow more time between first contacting schools and data collection. This would allow greater flexibility with dates and times, provide opportunity for project staff to visit schools and identify suitable spaces for data collection, allow reminders/ extra consent forms to be sent home and more time to collect information from schools including number of teachers, students and classes. Consent forms could also be collected prior to data collection, with additional consenters allowed on the day. However, such methods would require extra visits to the school which would be more resource and time intensive.

The consent rates of students in this study were similar to those in other studies. For example, 46% of ten-year olds in intervention and control schools consented to baseline measures in the Energize project\(^{(23)}\). Forty four percent of primary school
children in control sites and 58% in intervention sites consented to measures in the Be Active Eat Well intervention\(^{(18)}\).

The body image protocol, standard preamble and use of the small gift for students returning consent forms all worked well during the baseline quantitative measures for *ewba*. These may also be beneficial strategies for similar studies. No specific issues around body image were raised, suggesting that the body image protocol was successful in this regard. The standard preamble was an effective introduction to the measuring team and questionnaires; no questions were consistently asked by students that indicated a lack of understanding of a certain question or instruction that should have been covered in the standard preamble. The use of the small gift for students returning consent forms (regardless of their consent to the measures) resulted in a significantly higher response, consent and completion rate.

**Conclusion**

This paper describes the rationale, development and implementation of one of the baseline quantitative data collection process as part of evaluation of a multi-setting, multi-strategy, community based childhood obesity prevention program. It demonstrates the complexity of developing a quantitative evaluation process in schools for a multi-strategy and multi-setting project, discusses some of the challenges associated with the data collection process and poses some solutions that may be considered by other similar projects. The experience of baseline data collection for the *eat well be active* Community Programs has provided a clearer understanding of the processes and potential difficulties involved with planning and implementing this type of evaluation.

Similar programs can use (a) the quantitative evaluation of the *ewba* Community Programs as an example of one part of a rigorous evaluation for a community-based intervention to inform their own quantitative data collection and (b) the challenges and potential solutions reported in this paper as a form of practical advice to assist with planning and implementing quantitative evaluation of similar, multi-setting, multi-strategy programs.
<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Completed by whom</th>
<th>Number of items</th>
<th>Key measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>Students in schools years 5-7 (age 10-12 years)</td>
<td>12</td>
<td>• Child behaviours, attitudes and knowledge associated with healthy eating (HE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Obesogenicity of home, school &amp; community environments*</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Students in schools years 5-7 (age 10-12 years)</td>
<td>16</td>
<td>• Child behaviours, attitudes and knowledge associated with physical activity (PA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Obesogenicity of home, school &amp; community environments*</td>
</tr>
<tr>
<td>Parent</td>
<td>Parents of students in school years 5-7</td>
<td>27</td>
<td>• Demographics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Obesogenicity of home environments*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Parental knowledge &amp; attitudes towards HE &amp; PA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Child PA &amp; HE behaviours</td>
</tr>
<tr>
<td>Teacher</td>
<td>Primary school teachers</td>
<td>15</td>
<td>• Teaching practices around HE &amp; PA &amp; inclusion in school curriculum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Training/ experience in HE &amp; PA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Teacher knowledge &amp; attitudes towards HE &amp; PA</td>
</tr>
<tr>
<td>Principal</td>
<td>Principals</td>
<td>27</td>
<td>• School HE &amp; PA environments*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Links with parents/ other</td>
</tr>
</tbody>
</table>
organizations around HE & PA

Canteen†  Canteen Manager  16  • Canteen operational details

• Factors affecting food sold
• Food sold by canteen, including healthier products

Out of School Hours Care† (OSHC)  OSHC Manager  20  • OSHC HE & PA environments*

• OSHC Manager knowledge and attitudes towards HE & PA

*Physical, political, socio-cultural and financial environments (18)
†Not all schools have these facilities
Table 2: Body Image Protocol used in the eat well be active Community Programs\textsuperscript{(20)}

Elements of the \textit{ewba} Body Image Protocol

- Parent consent and child assent required for child participation
- Information accompanying consent form explained the population approach of \textit{ewba} and thus focus was on group not individual results – hence individual results not released
- Measurement staff trained in body image sensitivity by an external expert to ensure consistency of language and reduce transfer of negative messages about weight
- Police criminal record check for all measurement staff
- Measurements conducted out of view of other students and results screened from participants to reduce opportunities for comparison
- Children asked only to remove shoes and any heavy weight jumpers/ jackets
- Waist measurements taken over the child’s shirt
- Participants able to choose whether measurements taken by a male or female staff member
- School teacher to be present at all times during data collection and measurements
Table 3: Rates of return for the student, principal, Out of School Hours Care (OSHC), canteen, parent and teacher questionnaires and student participation in the anthropometric measurements for baseline data collection of the ewba Community Programs

<table>
<thead>
<tr>
<th>Questionnaire/measurements</th>
<th>N Eligible</th>
<th>Response (%)†</th>
<th>Consent (%)‡</th>
<th>Completed§ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student nutrition</td>
<td>3647</td>
<td>2104 (57.7)</td>
<td>1842 (50.5)</td>
<td>1732 (47.5)</td>
</tr>
<tr>
<td>Student PA</td>
<td>3647</td>
<td>2104 (57.7)</td>
<td>1842 (50.5)</td>
<td>1732 (47.5)</td>
</tr>
<tr>
<td>Student anthropometric</td>
<td>3647</td>
<td>2009 (55.0)</td>
<td>1747 (47.9)</td>
<td>1626 (44.8)</td>
</tr>
<tr>
<td>Parent</td>
<td>1519</td>
<td>*</td>
<td>*</td>
<td>983 (65)</td>
</tr>
<tr>
<td>Teacher</td>
<td>667</td>
<td>*</td>
<td>*</td>
<td>286 (43)</td>
</tr>
<tr>
<td>Principal</td>
<td>40</td>
<td>*</td>
<td>*</td>
<td>36 (90)</td>
</tr>
<tr>
<td>OSHC</td>
<td>19</td>
<td>*</td>
<td>*</td>
<td>13 (68)</td>
</tr>
<tr>
<td>Canteen</td>
<td>29</td>
<td>*</td>
<td>*</td>
<td>26 (90)</td>
</tr>
</tbody>
</table>

*Not applicable: completion of questionnaire taken as consent – no extra consent form required

†Returned a consent form, regardless of whether consented to questionnaires and/ or anthropometric measures (could return a form and not consent)

‡Returned a consent form and consented to questionnaires and/ or anthropometric measures

§ Questionnaires were completed and/ or anthropometric measures were taken on the day of survey
Table 4: Completion, consent and response rates to surveys and anthropometric measures by students receiving a small gift for return of consent form compared with those not receiving a gift

<table>
<thead>
<tr>
<th></th>
<th>Schools with students receiving gift (%)</th>
<th>Schools with students not receiving gift (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion rate</td>
<td>48.6*</td>
<td>43.1</td>
</tr>
<tr>
<td>Consent rate</td>
<td>51.6*</td>
<td>46.3</td>
</tr>
<tr>
<td>Response rate</td>
<td>60.9**</td>
<td>51.5</td>
</tr>
</tbody>
</table>

*p<0.05

**p<0.001

Figures

Figure 1: Key messages, strategies and settings of the *eat well be active* Community Programs
**Figure 2: Process used for contacting schools about the *ewba* intervention and baseline data collection**

**Jan-Mar 2006:** DECS District Directors, Independent & Catholic Schools Associations contacted

**Apr-Jun 2006:** Oral presentation of proposed *ewba* data collection to principals of government schools

**July 2006:** *ewba* letter of information and invitation sent to 44 schools

**Aug-Sept 2006:** *ewba* Evaluation Coordinator contacted 44 schools by telephone

39 School Principals agreed

5 declined

Schools questioned about:
- number students in years 5-7
- number year 5-7 classes
- number teachers
- class times
- suitable space for data collection
- OSHC and/or canteen – yes or no

**Sept-Nov 2006:** Time and date for data collection booked

Package sent to school:
- ‘Thank you’ letter
- Consent forms
- Relevant questionnaires
- Distribution instructions

Train team for data collection

Phone school 3 days prior to data collection:
- Reminder: date & time of visit, returning student consent forms & other questionnaires
- Gauge idea of n student consents returned
- Confirm space to be used

Simultaneously:

Recruit team for data collection

Data collection in schools
**Figure 3: Process of ewba baseline data collection in schools**

Team (2-3 staff) arrived at school 30 minutes prior to start of measurement session

Provision of room/rooms for data collection [see options (a) and (b) below]

Set-up:
- posters
- anthropometric measuring equipment (behind screen if no separate room provided)

Option (a): Students with parental consent and child assent removed from classroom and taken to separate room

**OR**

Option (b): All students remain in classroom and only those with consent given questionnaire

Collect consent forms & read standard preamble

*Simultaneously:*

- Students complete questionnaire 1 - Students with consent removed for anthropometric measurements
- Students complete Questionnaire 2
- Students return to complete questionnaire

Collect questionnaires & thank students
References


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