

CHAPTER 4

**Department of Health
Education Bureau
Leisure and Cultural Services Department**

Healthier lifestyle for primary school children

**Audit Commission
Hong Kong
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This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

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HEALTHIER LIFESTYLE FOR PRIMARY SCHOOL CHILDREN

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PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objective and scope.

Background

Healthy growth and development of children

1.2 Children represent the future, and ensuring their healthy growth and development is a prime concern of all societies. According to the World Health Organization (WHO), nutrition-related health problems in children have become increasingly significant causes of serious diseases.

1.3 While under-nutrition is a major problem in developing countries, the problem of overweight and obesity (Note 1 — collectively referred to as “obesity” and overweight/obese children referred to as “obese” children) has reached epidemic proportions in many developed countries. **Obesity not only poses a threat to public health, but also has substantial economic impact.** The WHO reported in 2000 that direct economic costs of obesity assessed in several developed countries were in the range of 2% to 7% of their total health care costs.

1.4 According to the Department of Health (DH), the severity of the problem of obesity in Hong Kong has not yet reached that in developed countries (such as the United States). However, the DH has found that the prevalence of obesity among local primary and secondary school students is on the rise, and the problem is more serious in primary school students than in secondary school students.

Childhood obesity

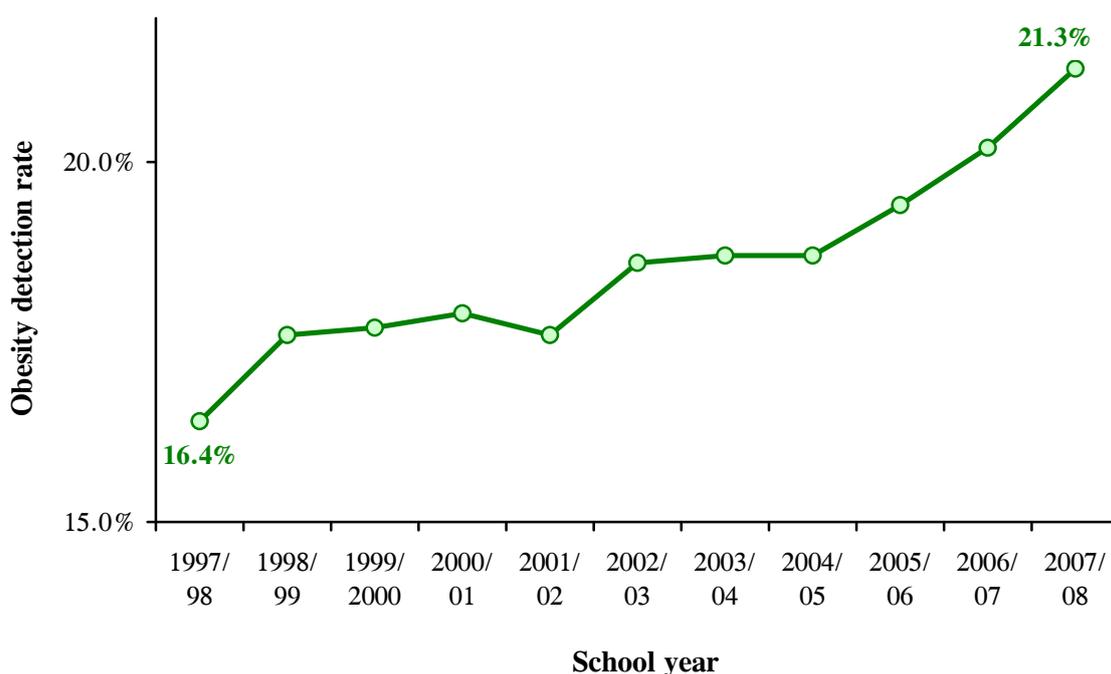
1.5 According to the DH, obesity results from an imbalance between energy intake and energy used. When energy intake exceeds energy used for a considerable period of

Note 1: *Overweight refers to an abnormally high body weight which may come from bone, lean muscle, fat tissue and water, whereas obesity is a condition in which the body stores an excessive amount of fat to such an extent that health may be adversely affected.*

time, obesity is likely to develop. The DH has recorded a rising trend of obesity (Note 2) among primary school students in Hong Kong, from **16.4%** in 1997/98 (school year — Note 3) to **21.3%** in 2007/08 (see Figure 1). An obesity detection rate of 21.3% in 2007/08 means that in that school year, **one in five primary school students was obese**.

Figure 1

Rising trend of obesity among primary school students



Source: DH records

Note 2: In line with the WHO recommended practices, the DH defines childhood obesity as body weight greater than 120% the median weight for children of the same gender and same height. For example, if the median weight for boys of 153 cm tall is 42 kg, a boy of 153 cm tall weighing greater than 50.4 kg (i.e. $42 \text{ kg} \times 120\%$) is defined as overweight. The DH has compiled a Weight-for-Height Reference Chart for Hong Kong children (see Appendix A). Body mass index commonly used for measuring adult obesity could not be directly used in children.

Note 3: Unless otherwise specified, all years mentioned hereinafter refer to school years which commence on the first day of September.

1.6 The DH has also found that childhood obesity poses a growing threat to public health and creates significant socioeconomic burden to society. Childhood obesity is associated with elevated risk factors for cardiovascular diseases (such as raised blood pressure and insulin resistance) and early development of diabetes. It can also lead to obstructive sleep apnoea and orthopaedic complications. There is a tendency for obese children to remain obese in adulthood. The DH has identified that **healthy eating** and **regular physical activity** are two lifestyle measures that can help prevent childhood obesity.

Healthy eating initiative by the DH

1.7 In the 2005 Policy Address, the Administration stated that it would promote healthy eating habit among school children (**healthy eating initiative**) to protect the public from lifestyle diseases. In January 2006, the DH briefed the Legislative Council (LegCo) Panel on Health Services (Panel) on the following salient points of the healthy eating initiative:

- (a) **in Hong Kong, obesity topped the list of public health issues.** A Population Health Survey jointly conducted by the DH and a local university revealed that about 40% of the population was overweight/obese. The Student Health Service (SHS) of the DH recorded a rising trend of obesity among primary school students (see para. 1.5). As in other parts of the world, the phenomenon was the combined effect of sedentary lifestyle and unhealthy diet rich in animal fats and proteins, refined carbohydrates and sugars, and lacking in fruits and vegetables;
- (b) while promoting healthy eating habit at the community level should continue as part of the health education efforts, **focused efforts should be placed on primary school children as cultivation of such habit was more effective if it was to start when one was young.** Children adopting a healthy eating habit were more likely to sustain it through adulthood;
- (c) to contain the problems of childhood obesity, the Administration needed to intensify and deepen efforts on various fronts, namely:
 - (i) raising the awareness of the importance of healthy eating among students, teachers, parents and the public;
 - (ii) improving the knowledge, attitude and practice towards healthy eating among primary school students; and
 - (iii) creating a school and wider environment that supported healthy eating;

- (d) to take forward the healthy eating initiative, a **partnership approach** based on strong inter-sectoral collaboration involving government departments, school staff, students, parents, food suppliers, professional bodies and academia would be adopted; and
- (e) schools could potentially play a stronger role in shaping dietary patterns of children and adolescents. They were places where knowledge was imparted, values nurtured and practices reinforced. **With children spending a lot of their time in schools, and some of them having lunch there, schools were an ideal setting to promote healthy eating habits.**

1.8 In December 2005, the DH set up a Steering Committee (Note 4) to direct a campaign on healthy eating in schools (known as the “EatSmart@school.hk” Campaign — **Campaign**). Since 2006/07, the DH has launched the Campaign in all primary schools. The key objectives of the Campaign are to raise public awareness and concern about healthy eating among children, and to create an environment that is conducive to healthy eating in schools and the community. **The DH considered that promoting healthy eating among primary school students could help combat childhood obesity and reduce children’s risks of developing non-communicable diseases.**

1.9 According to the DH, the Campaign was developed with reference to WHO’s “Global Strategy on Diet, Physical Activity and Health” (WHO Health Strategy), local and overseas experience, and the result of a school questionnaire survey conducted in early 2006 on the nutritional environments among primary schools. The Campaign covered five strategic directions, namely “alliance building”, “publicity and advocacy”, “education and empowerment”, “environmental modification” and “research and evaluation”. Key deliverables included:

- (a) the issue of the **DH Guidelines on healthy eating** to primary school administrators to define food requirements and enhance nutritional quality of school lunches and snacks. Training and support in the form of manuals, briefings and workshops were organised for lunch suppliers;

Note 4: *The Steering Committee comprises representatives from the DH, the Education Bureau, the Food and Environmental Hygiene Department, the Radio Television Hong Kong and various educational and professional bodies. The Steering Committee has formulated a comprehensive strategy to take forward the campaign on healthy eating in schools.*

- (b) the implementation of the “**School NutriAgent Project**” (SNAP) in primary schools to enable teachers and parents to foster healthy eating habit among students. Similar empowerment activities were organised for schools not joining SNAP, school-based uniform groups and non-governmental organisations (NGOs) in the community;
- (c) the organisation of various publicity and advocacy activities (Note 5) to promote a healthy eating culture in schools; and
- (d) the setting up of a thematic website for the Campaign for disseminating information on healthy eating to schools.

1.10 In January 2008, the DH conducted an evaluation study of the Campaign (DH study — Note 6). The DH study demonstrated that the Campaign had increased the awareness of students, parents and schools of the importance of healthy eating and had facilitated the creation of an environment conducive to healthy eating in schools. In February 2009, the DH informed the LegCo Panel that, in order to bring about a greater and more lasting effect on the eating habit of children, the DH saw the need to strengthen healthy eating promotion for children from birth to 12 years of age by making use of the lifecourse approach (Note 7). The DH would continue monitoring the changes of school children’s eating habit and the trend of childhood obesity rate.

Student health and physical activity programmes

1.11 The Administration fully recognises the importance of increasing children’s physical activity levels in schools. Various school-based health and physical activity programmes have been implemented. Salient ones include the following:

- (a) since 1995/96, the SHS of the DH has provided free physical examination, health education and counselling services for school students;

Note 5: *These included production of educational materials, broadcasting of television and radio promotional clips, conduct of visits and briefings to schools and other stakeholders (e.g. parent-teacher associations, lunch suppliers and District Councils), organisation of seminars and press conferences, and launching of various school-based activities.*

Note 6: *The DH study covered 51 primary schools and involved the issue of questionnaires to over 11,000 Primary 4 and 5 students and their parents.*

Note 7: *The DH indicated that it would implement measures, such as strengthening its support to parents on infant feeding practices and working with the pre-primary educational sector, to build a learning environment more conducive to healthy lifestyle development.*

- (b) the Education Bureau (EDB) has included the teaching of healthy eating in the school curriculum and has all along been helping school children develop their physical competence. For example, knowledge and positive attitudes towards healthy eating are taught in the General Studies curriculum for primary schools, and schools are advised to allocate 5% to 8% of total curriculum time in a year for physical education (PE); and
- (c) since 2001, the Leisure and Cultural Services Department (LCSD) has organised the **School Sports Programme (SSP)** in collaboration with the EDB to provide training in sports and relevant information for children and youngsters studying at primary, secondary and special schools.

Audit review

1.12 In view of the rising trend of the childhood obesity rate, the Audit Commission (Audit) has recently conducted a review to examine the various school-based programmes for fostering a healthier lifestyle for **primary school** children. The review covered the following areas:

- (a) school compliance with Guidelines on healthy eating (PART 2);
- (b) implementing a healthy eating school project (PART 3);
- (c) Student Health Service (PART 4);
- (d) promotion of physical activity among school children (PART 5); and
- (e) implementation of other supportive measures (PART 6).

1.13 To study the dietary and physical activity arrangements of primary schools and to solicit their views on the Government's school-based health promotion programmes, in late 2008 Audit visited six primary schools (randomly selected) and conducted a school questionnaire survey (audit survey). Audit distributed in early December 2008 questionnaires to 517 schools (Note 8). By the end of January 2009, 426 (82%) of them had responded to the audit survey.

Note 8: *The audit survey covered all mainstream government and aided primary schools as well as primary schools subsidised by the EDB under the Direct Subsidy Scheme.*

Overall audit observations and recommendation

1.14 The Administration was committed to making the prevention of childhood obesity a long-term objective. The DH, the EDB and the LCSD have taken steps in the right direction by developing the healthy eating initiative and promoting physical activity. To successfully prevent childhood obesity and create a healthier lifestyle for primary school students, sustained and collaborative efforts among government departments and stakeholders (including schools and parents) are necessary.

1.15 Joint efforts that involve multiple parties require a high degree of coordination and commitment, especially when each has different priorities. **Audit has recommended that the Director of Health, the Secretary for Education and the Director of Leisure and Cultural Services should coordinate their efforts and support each other closely with a view to creating a healthier lifestyle for primary school students in the long term.**

Overall response from the Administration

1.16 The **Director of Health** accepts the audit recommendations addressed to him. He has said that he will work more closely with the Secretary for Education, the Director of Leisure and Cultural Services and various other stakeholders to promote a healthier lifestyle among primary school students.

1.17 The **Secretary for Education** appreciates Audit's efforts in conducting this study and accepts the audit recommendations that aim to create a healthier lifestyle among primary school students. He has said that the EDB will continue to support the DH and the LCSD in promoting healthy eating and physical activity among primary school children.

1.18 The **Director of Leisure and Cultural Services** also agrees with the audit recommendations.

1.19 The **Secretary for Food and Health** welcomes the audit review which has provided useful observations and recommendations on the Administration's efforts in promoting healthy eating and physical activity. He has said that:

- (a) the Food and Health Bureau supports the DH work in implementing measures to foster a closer collaboration with relevant stakeholders in promoting a healthier lifestyle among primary school students;

- (b) in October 2008, the DH published a document “Promoting Health in Hong Kong: A Strategic Framework for Prevention and Control of Non-communicable Diseases”. The document sets out the vision, goal and strategic directions to prevention and control of non-communicable diseases in Hong Kong. A Steering Committee on Prevention and Control of Non-communicable Diseases, chaired by him, was subsequently formed to steer the direction of work on the prevention and control of non-communicable diseases and oversee the progress of implementation. A Working Group on Diet and Physical Activity has been set up to make recommendations on the development, implementation and evaluation of a plan of action for promoting healthy diet and physical activity in Hong Kong; and

- (c) the observations and recommendations of the audit review will be useful reference for the work of the aforesaid Steering Committee and Working Group.

Acknowledgement

1.20 Audit would like to acknowledge with gratitude the full cooperation of the staff of the DH, the EDB and the LCSD during the course of the audit review. Audit would also like to thank the school principals for their cooperation in completing the audit questionnaires and offering valuable suggestions/comments.

PART 2: SCHOOL COMPLIANCE WITH GUIDELINES ON HEALTHY EATING

2.1 This PART examines primary schools' compliance with the DH Guidelines on healthy eating issued under the EatSmart@school.hk Campaign (see para. 1.9(a)). It also examines the guidelines issued by the EDB on school meals to supplement the DH Guidelines.

Department of Health Guidelines on healthy eating

2.2 Since 2006, the DH has issued to primary schools the following guidance materials on healthy eating:

- (a) Guidelines on how schools should develop their healthy eating policy;
- (b) the “Nutritional Guidelines on School Lunch for Primary School Students” (**DH Lunch Guidelines**) and the “Nutritional Guidelines on Snacks for Primary School Students” (**DH Snack Guidelines**). The former aims to ensure that students are served with nutritionally balanced school lunch that promotes normal growth and development, while the latter assists tuck shop operators, parents and school administrators to provide suitable healthy snacks and drinks to the students. The DH Snack Guidelines also cover snacks and drinks available for sale at school vending machines; and
- (c) checklist for monitoring the nutritional quality of school lunch.

2.3 Compliance with the DH Guidelines is on a voluntary basis. To encourage schools to follow the Guidelines, the DH has employed various means including persuasion, partnership, promotion and education.

2.4 According to the DH, throughout its planning and implementation of the guidance materials, DH staff had communicated with stakeholders (such as principals and school operators) through correspondence, meetings, school visits and briefing sessions. From May 2006 to August 2008, the DH had conducted over 390 visits and briefing sessions for relevant stakeholders.

Education Bureau Guidelines on school meals

2.5 Upon the DH's request, the EDB has since early 2007 issued circulars and guidelines (EDB Guidelines) to schools asking them to observe the DH Guidelines on healthy eating. The EDB Guidelines on meal arrangements in schools contain the following provisions:

- (a) ***School policy on healthy eating.*** Schools are encouraged to formulate a school policy to promote healthy meals among students. They are advised to review the implementation of the policy regularly by making reference to the DH Guidelines and monitor the provision of healthy meals on an ongoing basis so that lunch suppliers can take improvement measures promptly;
- (b) ***Supply of students' lunches.*** Schools must only contract with lunch suppliers who are licensed food factories and approved by the Food and Environmental Hygiene Department (FEHD) to supply lunch boxes (Note 9); and
- (c) ***Snacks for sale at school tuck shops or school vending machines.*** Schools are requested to pay due regard to the nutritional value of the snacks for sale by making reference to the DH guiding principles of choosing healthy snacks and guidelines.

School compliance with various Guidelines

2.6 Audit examined the extent to which primary schools had complied with the DH and EDB Guidelines by school visits and through the audit survey (see para. 1.13 and Note 10). The following aspects were examined:

- (a) formulation of school policy on healthy eating (paras. 2.7 and 2.8);
- (b) compliance with the DH Lunch Guidelines (paras. 2.9 to 2.16);
- (c) monitoring of nutritional quality of school lunch (paras. 2.17 to 2.20);

Note 9: *Under section 31 of the Food Business Regulation (Cap. 132X), any person who intends to prepare or manufacture food for sale off the premises is required to obtain a food factory licence from the FEHD. Food factory licensees who wish to supply lunch boxes have to obtain endorsement from the FEHD and to comply with additional licensing conditions governing the storage of meals, vehicles used for delivery, meal boxes and records.*

Note 10: *In the examination of the nutritional standards of school lunches and snacks, Audit had consulted the dieticians of the DH for professional advice.*

- (d) compliance with the DH Snack Guidelines (paras. 2.21 to 2.32);
- (e) challenges encountered by the DH (paras. 2.33 to 2.36); and
- (f) compliance with the EDB Guidelines on licensing of lunch suppliers (paras. 2.37 to 2.39).

Audit observations and recommendations

Formulation of school policy on healthy eating

2.7 In the audit survey, schools were asked whether they had formulated and documented their school policies on healthy eating. Of 423 schools which had responded to this question:

- (a) 119 (28%) schools indicated that they had formulated and documented their school healthy eating policies;
- (b) 171 (40%) indicated that they had school healthy eating policies, but the policies were not documented; and
- (c) 133 (32%) had not formulated any policy.

2.8 The audit survey revealed that more than half of the schools could not produce documented school policies on healthy eating. **The DH needs to step up its efforts to encourage, in collaboration with the EDB, schools to formulate and document their policies on healthy eating.**

Compliance with DH Lunch Guidelines

2.9 The DH Lunch Guidelines consist of two integral parts — guidelines on food quantity and guidelines on food quality.

2.10 ***DH Lunch Guidelines on food quantity.*** According to the DH Lunch Guidelines, daily school lunch should provide grains (such as rice or pasta), vegetables and meat in the ratio of “3:2:1” by volume. Furthermore, there should be at least 1 serving of vegetables daily (e.g. 85 grams of cooked leafy vegetables or 80 grams of cooked mushrooms), and ½ serving of fruit daily (e.g. 65 grams of orange or 34 grams of banana) or 2½ serving of fruit weekly.

2.11 In the six schools visited, Audit examined for a number of days the lunches provided by the schools' lunch suppliers to find out the extent of compliance with the DH Lunch Guidelines on food quantity. Audit found that the extent of compliance varied among the schools, but none of them could fully comply with the Guidelines (see Table 1).

Table 1
Compliance with DH Lunch Guidelines on food quantity

Requirements on food quantity	School					
	A	B	C	D	E	F
"3:2:1" ratio for grains: vegetables: meat	×	×	×	×	×	×
At least 1 serving of vegetables	✓	✓	×	✓	×	×
At least ½ serving of fruit daily or 2½ serving of fruit weekly	✓	✓	×	×	×	×

Legends: ✓ school complied with the requirement
 × school did not comply with the requirement

Source: School visits and Audit analysis

2.12 Photographs 1 to 4 show examples of lunches (based on Audit's school visits) that did not meet the "3:2:1" ratio requirement.

Photographs 1 to 4

Lunches that did not meet the “3:2:1” ratio requirement

1.



Too much meat and the ratio was almost 1:1:1

2.



Little rice and vegetables

3.



Too much meat and little vegetables

4.



Too little vegetables

Source: Photographs taken by Audit

2.13 ***DH Lunch Guidelines on food quality.*** According to the DH Lunch Guidelines on food quality, schools should:

- (a) not serve lunch containing “**limited food items**” (e.g. stir-fried rice/noodles and chicken wings) for more than two school days per week; and
- (b) not serve lunch containing “**strongly discouraged food items**” (e.g. French-fries and deep-fried pork chop).

See Appendix B for more examples.

2.14 Based on the lunch menus for October 2008 provided by 15 schools (6 schools visited by Audit and 9 others randomly selected from those which had responded to the audit survey), Audit examined the schools' compliance with the DH Lunch Guidelines on food quality. Audit found that only one school could fully meet the food quality requirements mentioned in paragraph 2.13. For the other 14 schools, Audit found that all of them had served lunches containing "limited food items" for more than 2 school days per week. The frequency of non-compliance with the DH Lunch Guidelines varied from once to four times in the month of October 2008. Moreover, 13 of these schools had served lunches containing "strongly discouraged food items". Details are shown in Table 2.

Table 2
Non-compliance with DH Lunch Guidelines on food quality
(October 2008)

Frequency of non-compliance (Number of weeks)	Lunch containing "limited food items" served for more than 2 school days per week (Number of schools)	Lunch containing "strongly discouraged food items" (Number of schools)
1	4	4
2	2	8
3	4	1
4	4	—
Total	14 (Note)	13

Source: School visits and audit survey

Note: In one of the weeks, four schools had served lunches containing "limited food items" for all five school days.

2.15 Photographs 5 to 8 show examples of lunches containing "limited food items" served by schools.

Photographs 5 to 8

Lunches containing “limited food items”

5.



Stir-fried noodles

6.



Baked noodles with sauce

7.



Chicken thigh with skin

8.



Cuttlefish balls and bun with ham

Source: Photographs taken by Audit

2.16 **Audit considers that the DH and the EDB need to step up their efforts to promote compliance with the DH Lunch Guidelines. In particular, schools should be reminded to restrict the frequent provision of lunches containing “limited food items” and/or “strongly discouraged food items”.**

Monitoring of nutritional quality of school lunch

2.17 The DH has suggested schools to use the checklist (see para. 2.2(c)) to monitor the nutritional quality of lunches delivered by lunch suppliers. The suggested monitoring procedures include the following steps:

- (a) selecting five school days (preferably consecutive) a month for assessing the lunches;

- (b) observing the contents of the lunches on each of the five days in (a) above;
- (c) assessing whether the lunches supplied have met the requirements of the DH Lunch Guidelines (e.g. the “3:2:1” ratio and no provision of “strongly discouraged food items”);
- (d) documenting the results in (c) above for providing feedback to lunch suppliers; and
- (e) discussing with lunch suppliers about the nutritional quality of the lunches supplied.

These monitoring procedures, together with the checklist, were posted by the DH on the “EatSmart@school.hk” website for schools’ easy reference and application.

2.18 In the audit survey, schools were asked whether they had used the checklist to monitor the nutritional quality of school lunches. Of 380 schools which had responded to this question:

- 83 (22%) had used the checklist to monitor the nutritional quality of school lunches and had kept record of the results.
- 90 (24%) stated that they had used the checklist, but they had not kept any record.
- 140 (37%) stated that they had not used the checklist, but had monitored the nutritional quality of school lunches according to their own methodologies (e.g. asking parents to eat and comment on the lunches).
- 67 (17%) did not monitor the nutritional quality of school lunches.

2.19 In the audit survey, schools were asked for their opinions on the checklist. Of 350 schools responding to this question, 198 (57%) indicated that they had encountered difficulties in using the checklist. Their major difficulties were as follows:

- Teachers did not have the professional knowledge, and were not provided with adequate training, to monitor the nutritional quality of school lunches.
- The monitoring procedures were too complicated.
- Schools did not have the time to monitor.

2.20 Helping the schools to overcome their difficulties in monitoring the nutritional quality of school lunches would enhance compliance with the requirements of the DH Lunch Guidelines. **Audit considers that the DH needs to look into the schools' difficulties and provide them with necessary support (e.g. training and advice). In this connection, Audit considers that school visits by the DH may help better understand the schools' problems and assess whether their methodologies of monitoring are effective. Besides, the DH, in conjunction with the EDB, should encourage schools to document their lunch monitoring work to facilitate review.**

Compliance with DH Snack Guidelines

2.21 Based on the nutritional value of snacks (including food and beverages) and their effects on human health, the DH Snack Guidelines have classified snacks into three groups:

- (a) ***Green Light Snacks (i.e. snacks to choose more).*** These snacks are rich in nutrients (e.g. dietary fibre, minerals and vitamins) while low in fat, added sugar and salt. **They are encouraged for sale in the smallest package size at school tuck shops;**
- (b) ***Yellow Light Snacks (i.e. snacks to choose in moderation).*** These snacks have nutritional value but at the same time contain moderate amounts of fat, added sugar or salt. **They should not be abundantly supplied to, or conveniently accessible by, school children. School children are recommended not to consume this kind of snacks for more than two times a week; and**
- (c) ***Red Light Snacks (i.e. snacks to choose less).*** These snacks are low in nutritional value or high in fat, added sugar and salt. **They are strongly discouraged for sale in a school setting, and should not be brought to schools or be made available for sale at school tuck shops.**

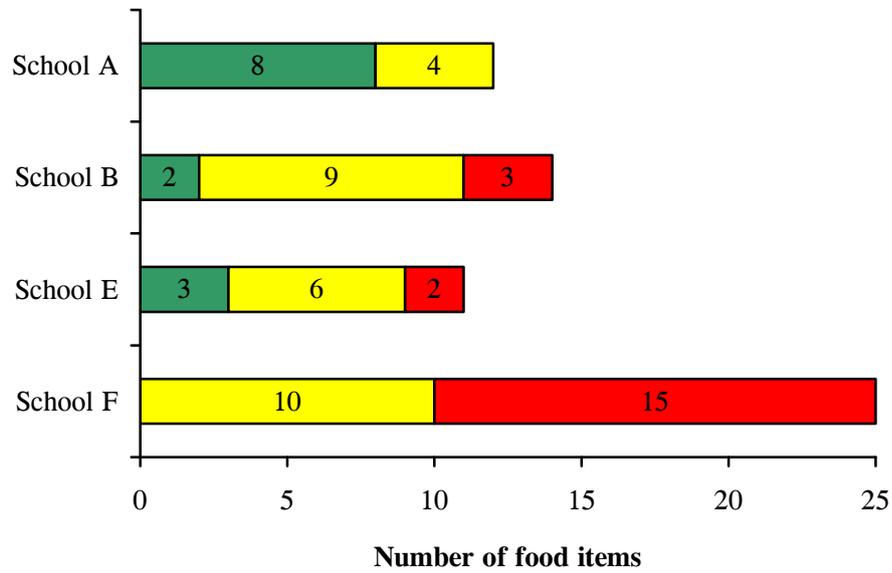
Examples of Green, Yellow and Red Light Snacks are shown at Appendix C.

2.22 ***Snacks available for sale at school tuck shops.*** Audit examined the snacks available for sale at the tuck shops of four of the schools visited (the other two schools visited, namely School C and School D, did not have tuck shops). Figure 2 shows the results of the audit examination.

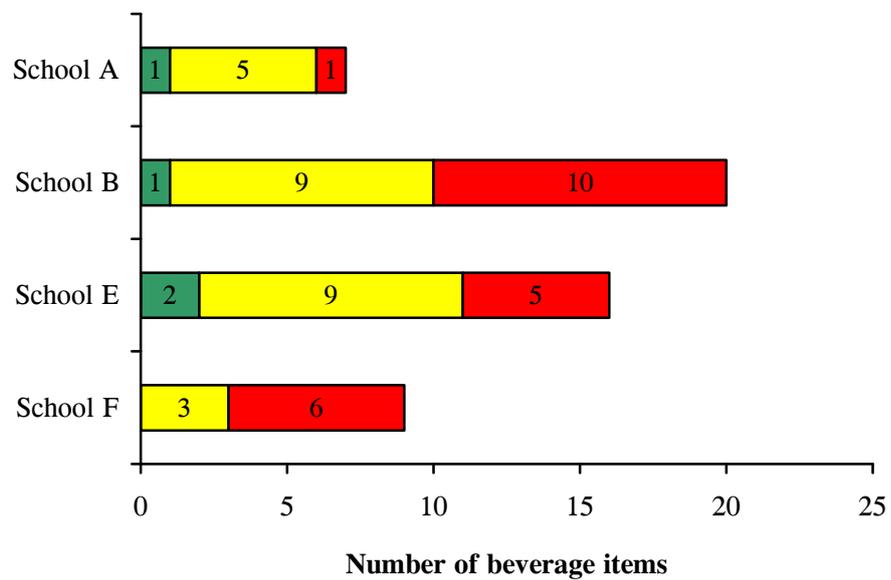
Figure 2

Snacks available for sale at school tuck shops

(A) Snacks: Food items



(B) Snacks: Beverage items



- Legend:
- Green Light Snacks
 - Yellow Light Snacks
 - Red Light Snacks

Source: School visits and Audit analysis

2.23 Figure 2 shows that:

- (a) with the exception of School A, only a small number of Green Light food items were available for sale in Schools B and E, while none was available in School F;
- (b) in School F, 60% and 67% respectively of all food and beverage items available for sale were Red Light Snacks; and
- (c) in School B, 50% of all beverage items available for sale were Red Light Snacks.

2.24 Photographs 9 to 11 show examples of some Red Light Snacks available for sale in the schools visited.

Photographs 9 to 11

Red Light Snacks available for sale in schools

9.



Deep-fried food

10.



Crisps

11.



Sweetened drinks

Source: Photographs taken by Audit

2.25 ***Students' preferred food.*** In a DH survey conducted in early 2006 (see para. 1.9), students were asked to indicate their preferred food. About 50% of the students responding preferred unhealthy food (such as ice-cream and hotdogs).

2.26 To ascertain the extent to which the students had changed their eating preferences since the issue of the DH Snack Guidelines in 2006, the audit survey collected information on the three best-selling snacks at school tuck shops in October 2008. Based on the information provided by 15 schools (randomly selected from those which had responded to the audit survey), the result was as follows:

Table 3

Three best-selling snacks at school tuck shops

Snack	Number of items	Percentage
Green Light Snacks	—	—
Yellow Light Snacks	25	56%
Red Light Snacks	20	44%
Total	45	100%

Source: Audit survey

2.27 As shown in Table 3, none of the best-selling snacks were Green Light Snacks, while 56% and 44% of the best-selling snacks were Yellow and Red Light Snacks respectively. In other words, students still preferred unhealthy food.

2.28 Photographs 12 to 14 show examples of the three best-selling snacks of the 15 schools, all of which were Red Light Snacks.

Photographs 12 to 14

Best-selling snacks at schools

12.



Sweets (with high content of added sugar)

13.



Fried fish balls

14.



Dried fish fillet (with added salt and sugar)

Source: Photographs taken by Audit

2.29 *Snacks available for sale at school vending machines.* Audit found that:

- (a) in the two schools visited (Note 11), a limited number of Green Light Snacks were available for sale at the school vending machines, and most of the snacks available for sale were Red Light Snacks; and
- (b) of the snacks sold at the vending machines of 30 schools examined (randomly selected from those which had responded to the audit survey), only 1% of the three best-selling snacks were Green Light Snacks, while 46% and 53% were Yellow Light Snacks and Red Light Snacks respectively.

2.30 *Snack promotions at schools.* According to the DH Snack Guidelines, school administrators and tuck shop operators should not allow promotional activities of Yellow Light Snacks and Red Light Snacks in schools, including those organised by food companies and displaying of snack brand names at prominent locations (e.g. school vending machines).

2.31 In two of the six schools visited, Audit noted that there were cases where promotional activities of Yellow/Red Light Snacks were allowed. Details are shown below.

Promotional activities of Yellow/Red Light Snacks in schools

Display of snack brand name on school vending machine

On the vending machine of School A, the brand name of a Red Light Snack was displayed.

Promotion of privileged card

In 2008/09, a cake company promoted its privileged card in School E. Some 900 students applied for the card and were entitled to a discount for buying chiffon and cream cakes. According to the DH Snack Guidelines, chiffon and cream cakes are Yellow and Red Light Snacks respectively.

Source: Schools' records

Note 11: *Of the six schools visited, only two had vending machines. One school operated both food and beverage vending machines and another operated a beverage vending machine only.*

2.32 **Audit considers that the DH, in conjunction with the EDB, needs to step up its efforts in promoting schools' compliance with the DH Snack Guidelines, and remind schools to provide more Green Light Snacks in place of Red Light Snacks at their tuck shops and/or vending machines.**

Challenges encountered by the DH

2.33 In February 2009, the DH informed Audit that:

- (a) the DH encountered the following challenges in its implementation of the Guidelines on healthy eating:
 - (i) some schools might not be ready for or committed to working collaboratively with parents and lunch suppliers in ensuring healthy school meal arrangements;
 - (ii) some schools might be reluctant to allocate manpower to oversee the related work;
 - (iii) practices adopted by some schools in selection of lunch suppliers might not be conducive to healthy eating promotion;
 - (iv) some parents and children were not adequately prepared for healthier meals; and
 - (v) schools and lunch suppliers sometimes cited parents' objection to and children's rejection of healthier food as barriers to more positive change in the diet; and
- (b) regarding monitoring of lunch quality, some perceived barriers among schools included heavy workload, specific dietary expertise required, and practical difficulty of engaging a steady group of staff and parents with basic training in using the checklist to undertake the monitoring procedures on a regular basis (the audit survey had similar findings — see para. 2.19).

2.34 Audit appreciates the challenges encountered by the DH in its implementation of the Guidelines on healthy eating. **Given that the Guidelines are instrumental in nurturing a healthy eating environment in schools, more efforts are needed to help schools implement the Guidelines.**

2.35 Audit recognises that the DH alone might not have adequate resources to monitor schools' compliance with the DH Guidelines on healthy eating. **In this connection, the DH may wish to consider enlisting help from the EDB which has a well-established communication network with schools.** For example, the EDB's regional education offices can advise and support schools with problems in implementing the Guidelines on healthy eating.

2.36 At the LegCo Panel meeting in January 2006 (see para. 1.7), the Food and Health Bureau indicated that the Administration would consider implementing **mandatory measures** to contain the problem of childhood obesity if all else (including the healthy eating initiative — see paras. 1.7 to 1.10) failed. **Given that the Administration was committed to making the prevention of childhood obesity a long-term objective, Audit considers that the DH needs to keep under review the primary schools' compliance with the Guidelines on healthy eating (e.g. through school surveys), and the need to implement mandatory measures.**

Compliance with EDB Guidelines on lunch suppliers

2.37 According to the EDB Guidelines, schools' lunch suppliers must possess a food factory licence issued by the FEHD with an endorsement to supply lunch boxes (see para. 2.5(b)). Schools should request the lunch suppliers to produce their licence documents for inspection.

2.38 Based on returns from schools in the audit survey, Audit found that there were 41 suppliers which had provided the schools with lunches. Audit randomly selected 10 lunch suppliers and checked their particulars against the FEHD's lists of licensed food factories with endorsement to supply lunch boxes. Of the 10 lunch suppliers checked, Audit found irregularities on 2 suppliers, as detailed below.

Lunch suppliers who were not licensed to supply lunch boxes to schools

In January 2009, Audit could not find the names of two schools' lunch suppliers on the FEHD's lists of licensed food factories with endorsement to supply lunch boxes. Audit therefore asked the schools to provide a copy of their lunch suppliers' food factory licences. In the event:

- a school could only provide a General Restaurant Licence (Note) of its lunch supplier; and
- another school provided a food factory licence of its lunch supplier, but the licence only had an endorsement for the preparation and sale of sushi and sashimi.

Audit comments

It appears that the two lunch suppliers were not licensed to supply lunch boxes to schools.

Source: Schools' records

Note: A General Restaurant Licence is issued by the FEHD for any food business which involves the sale of meals or unbottled non-alcoholic drinks for consumption on the premises.

2.39 **The EDB, in consultation with the FEHD, needs to ascertain whether the two lunch suppliers in question had been operating without a proper licence, and take appropriate remedial action if warranted. Furthermore, schools should be reminded to carry out checking in accordance with the EDB Guidelines to ensure that their lunch suppliers are licensed food factories with the FEHD's endorsement to supply lunch boxes.**

Audit recommendations

2.40 **Audit has recommended that the Director of Health should, in collaboration with the Secretary for Education:**

Formulation of school policy on healthy eating

- (a) **step up the DH/EDB efforts to encourage schools to formulate and document their policies on healthy eating;**

Compliance with DH Lunch and Snack Guidelines

- (b) step up efforts to promote schools' compliance with the DH Lunch and Snack Guidelines;
- (c) remind schools to restrict the frequent provision of lunches containing "limited food items" and/or "strongly discouraged food items", and to provide more Green Light Snacks in place of Red Light Snacks at their tuck shops and/or vending machines;

Monitoring of nutritional quality of school lunch

- (d) look into the schools' difficulties in monitoring the nutritional quality of lunches, and provide necessary support and assistance (including school visits where applicable) to them;
- (e) encourage schools to document their monitoring work to facilitate review;

Challenges encountered by the DH

- (f) consider enlisting help from the EDB in advising and supporting schools with problems in implementing the Guidelines on healthy eating; and
- (g) keep under review the need for implementing mandatory measures to contain the problem of childhood obesity.

2.41 Audit has also *recommended* that the Secretary for Education should:

Compliance with EDB Guidelines on lunch suppliers

- (a) ascertain whether the two lunch suppliers mentioned in paragraph 2.39 had been operating without a proper licence, and take appropriate remedial action if warranted; and
- (b) remind schools to carry out checking in accordance with the EDB Guidelines to ensure that lunch suppliers are licensed food factories with the endorsement to supply lunch boxes.

Response from the Administration

2.42 The **Director of Health** accepts the audit recommendations. He has elaborated that he will collaborate with the Secretary for Education to encourage, motivate, empower and support primary schools in formulating school policies on healthy eating, adopting the DH Lunch and Snack Guidelines and monitoring the nutritional quality of food supplied in the schools.

2.43 The **Secretary for Education** agrees with the audit recommendations.

2.44 The **Director of Food and Environmental Hygiene** has said that the FEHD will investigate the two lunch suppliers in question and take enforcement action if there is sufficient evidence of breach of the licensing conditions.

PART 3: IMPLEMENTING A HEALTHY EATING SCHOOL PROJECT

3.1 This PART examines the implementation of SNAP in schools under the “EatSmart@school.hk” Campaign.

Implementation of the “School NutriAgent Project”

3.2 The DH has implemented SNAP since 2006/07 (see para. 1.9(b)). SNAP involves a training programme and an activity programme. It aims at empowering teachers and parents, through DH training and support, with the confidence and self-efficacy in nurturing a healthy eating environment in schools and thereby a healthy eating habit among the students. All primary schools are invited to join SNAP **on a voluntary basis**. A school that has joined SNAP in a particular school year is referred to as a “**SNAP school**”.

3.3 SNAP operates on a school year cycle basis. Before the beginning of each school year, all schools are invited to join SNAP (Note 12). Each school joining SNAP is expected to complete the following training and activity programmes:

- (a) **Training programme.** Each school should deploy at least two teachers, parents or other school staff to attend training courses organised by the DH on nutrition knowledge and monitoring of the school eating environment. The purposes of attending such training courses are:
 - (i) to equip the schools with tools to monitor the nutritional value of school meals and snacks;
 - (ii) to enable the schools to communicate and negotiate with the lunch suppliers and tuck shop operators on the nutritional value; and
 - (iii) to empower the schools to make healthier food choices for school children in accordance with the DH Lunch and Snack Guidelines (see para. 2.2(b)); and

Note 12: *Schools usually join/re-join SNAP at the beginning of a school year. They may however withdraw from SNAP at any time during the school year. Any schools that have previously joined SNAP can consider re-joining it in the following school year or any of the future years.*

- (b) **Activity programme.** The school should arrange in that school year at least two school activities that promote healthy eating (see Photographs 15 to 18) with at least one of the activities relating to the development/implementation of the school's healthy eating policy.

Photographs 15 to 18

Examples of school activities in promoting healthy eating

15.



Fruit day

16.



Learning to choose healthy food

17.



Healthy eating training workshop
for parents

18.



Healthy snack making competition

Source: DH website

3.4 According to the DH, SNAP is intended to provide more intensive support to primary schools which are committed to introducing positive changes in the school eating environment and would like to seek assistance and support from the DH. When schools apply for joining SNAP, the DH will request full support from the principals to promote healthy eating. This is because, without the principals' support and facilitation, structural improvement to the school eating environment cannot be achieved.

Audit observations and recommendations

Schools' participation in SNAP

3.5 In the audit survey, the SNAP schools were asked whether the scheme was useful in nurturing a healthy eating habit among the students. The majority of the schools, which had answered this question (174 of 207 schools, or 84%), considered that SNAP was useful/very useful. Table 4 shows that since the launching of SNAP, the number of SNAP schools was on the increase each year, but the overall participation rate remained low (33% in 2008/09 up to December 2008).

Table 4
Number of SNAP schools
(2006/07 to 2008/09)

School year	Number of primary schools (Note) (a)	Number of SNAP schools (b)	School participation rate (c) = (b)/(a) × 100%
2006/07	725	146	20%
2007/08	688	203	30%
2008/09 (up to 31 December 2008)	658	219	33%

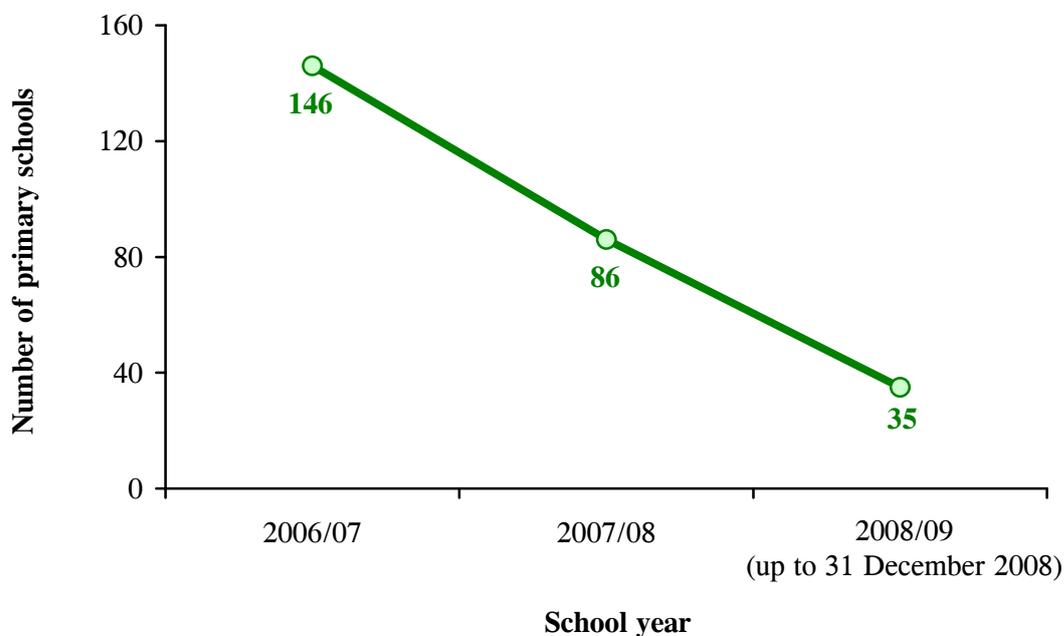
Source: *DH records and Audit analysis*

Note: *According to the DH records, primary schools include government, aided, Direct Subsidy Scheme, special and private primary schools.*

3.6 An audit analysis showed that over the three years 2006/07 to 2008/09, some 60% (394 of 658) of the primary schools had never participated in SNAP. Furthermore, the number of primary schools participating in SNAP for the first time was on the decrease (see Figure 3). In 2008/09, only 35 schools newly participated in SNAP.

Figure 3

**Primary schools participating in SNAP for the first time
(2006/07 to 2008/09)**



Source: DH records and Audit analysis

3.7 In the audit survey, the non-SNAP schools were asked about their reasons for not participating in the scheme. Common reasons include the following:

- The school had already arranged its own healthy eating activities/measures.
- Participation in SNAP would bring about a lot of extra work.
- There was a lack of manpower.
- Healthy eating activities were not welcomed in the school.
- Contents of SNAP had already been included in the school's teaching subjects.

Source: Audit survey

3.8 Owing to competing demands on the time of school teachers and staff, it is understandable that some schools might not have accorded a high priority to tackling the obesity problem. Nevertheless, in view of the rising trend of obesity among primary school students, continuous effort is needed to nurture a healthy eating environment in schools. **In the light of the information provided by the non-SNAP schools in the audit survey (see para. 3.7), Audit considers that the DH needs to work out, in consultation with the EDB, ways to engage these schools in SNAP as far as possible.**

Visits to SNAP schools

3.9 The DH has assigned doctors, nurses, dieticians and health promotion staff to support SNAP schools. Depending on the needs of individual schools, the support can include nutrition workshops, provision of a SNAP handbook, access to community-based/website resources, and regular contact with schools through telephone, electronic mails and newsletters. Where applicable, school visits are conducted to strengthen rapport and offer advice to schools in support of their work in healthy eating promotion.

3.10 According to the DH, visits to SNAP schools are not compulsory and would not be carried out where:

- (a) the SNAP schools could not be contacted; or
- (b) the schools declined the DH visits; or
- (c) the schools required little or minimal support from the DH, or had obtained support through other means (e.g. downloading resources from the “EatSmart@school.hk” website).

The DH had visited the majority of the 2007/08 SNAP schools (138 of 203 or 68%). However, 65 (32%) SNAP schools had not been visited.

3.11 **As school visits enable the DH staff to observe the schools’ eating environment and to provide interactive support on matters relating to healthy eating in the schools, it would be desirable for the DH to arrange visits, as far as possible, to SNAP schools which have so far not been visited.** For schools which have initially declined DH visits, a DH staff informed Audit of her experience that they would become more receptive after repeated contact and persuasion that such visits would help them resolve their problems.

The SNAP Appreciation System

3.12 The DH has developed a **SNAP Appreciation System** to motivate and give recognition to primary schools which have committed to participating in SNAP.

3.13 The DH uses a marking scheme to assess the performance of the SNAP schools. The marking scheme takes into account factors such as the number, nature, scale and duration of the healthy eating activities organised by a SNAP school. For example, higher scores will be awarded to schools implementing the DH Guidelines on healthy eating, while lower scores will be granted for one-off promotional activities which alone cannot bring sustainable improvements to the schools' eating environments. A school achieving high scores under the marking scheme will be awarded prizes (a gold/silver/bronze plaque) and given a letter of commendation.

3.14 Of the six schools visited by Audit, three were SNAP schools. Audit noted that they had been awarded gold prizes in 2007/08 although there were instances when these schools had not fully complied with the DH Guidelines on healthy eating. An example is shown below.

DH Guidelines on healthy eating not followed

A SNAP school visited by Audit won prizes in 2006/07 and 2007/08 for organising 12 and 10 healthy eating activities respectively. Audit however noted that the school had included "strongly discouraged food items" in its lunch menus and Red Light Snacks for sale at its tuck shop.

Source: School records

3.15 Audit considers that the DH should, in collaboration with the EDB, enhance SNAP schools' understanding of the operation of the SNAP Appreciation System, and encourage them to follow the DH Guidelines on healthy eating as far as possible.

Audit recommendations

3.16 **Audit has recommended that the Director of Health should:**

- (a) **in consultation with the Secretary for Education, devise measures to engage more schools in SNAP;**

- (b) **arrange, as far as possible, visits to SNAP schools that have not been visited; and**
- (c) **consider, in collaboration with the Secretary for Education, enhancing SNAP schools’ understanding of the operation of the SNAP Appreciation System and encourage them to follow the DH Guidelines on healthy eating as far as possible.**

Response from the Administration

3.17 The **Director of Health** and the **Secretary for Education** accept the audit recommendations.

Experience sharing on the “EatSmart@school.hk” website

3.18 Since 2006/07, the DH has developed a website for the “EatSmart@school.hk” Campaign (see para. 1.9(d)). The website is a useful tool for disseminating healthy eating information to both SNAP and non-SNAP schools. The DH has made efforts to improve the content of the website by inviting schools to provide photographs and messages relating to healthy eating events. Moreover, to facilitate experience sharing, the DH provides on the website the contact details of schools (names and telephone numbers) which have volunteered to contribute ideas and information on healthy eating, including the following:

- setting up healthy eating policy
- implementing healthy eating policy
- implementing the DH Lunch Guidelines
- implementing surveillance on lunch
- implementing the DH Snack Guidelines
- implementing surveillance on snacks
- utilising the tool “How to Choose Lunch Supplier”

Audit observations and recommendation

3.19 To arouse interest, Audit considers that the DH needs to consider enriching the experience-sharing materials posted on the website by including, for example, the following:

- (a) successful stories (with photographs, if appropriate) of promoting healthy eating in schools; and
- (b) articles to be contributed by teachers/parents/school children, etc. on benefits gained after changes in students' eating habits or adopting a healthier lifestyle.

Audit recommendation

3.20 **Audit has recommended that the Director of Health should, in collaboration with the Secretary for Education, make efforts to enrich the experience-sharing materials posted on the “EatSmart@school.hk” website.**

Response from the Administration

3.21 The **Director of Health** and the **Secretary for Education** accept the audit recommendation.

PART 4: STUDENT HEALTH SERVICE

4.1 This PART examines the services provided by the SHS of the DH in respect of body weight management.

Services provided by the Student Health Service

4.2 The goal of the SHS is to promote and maintain the health of primary and secondary school students so as to enable them to develop their full potential for health and gain the maximum benefit from the education system. The SHS provides two categories of free health services for students:

- (a) ***Centre-based service.*** The service is available to both primary and secondary school students. It is provided by 12 Student Health Service Centres (SHSCs) and 3 Special Assessment Centres (SACs) which are spread over the territory. The SHSCs mainly provide annual health assessment for students (see Appendix D for SHSC services provided) whereas the SACs mainly provide further care of student health problems upon referral from the SHSCs; and
- (b) ***School-based service.*** The service is available to secondary school students only. The SHS will visit schools (which have enrolled for the service) to provide psychosocial education and guidance for their students, including basic life skills training (e.g. dealing with stress and personal values) and talks on topical issues relating to adolescents (e.g. healthy eating and sex education).

4.3 Primary and secondary school students may enrol, on a voluntary basis, for health assessment either through their schools or at the SHSCs directly (Note 13). For primary school students, health assessment relating to body weight management comprises:

Note 13: *At the beginning of a school year, the SHS distributes pamphlets through schools to students inviting them to attend health assessment.*

- (a) measuring the weight and height of students (see Photographs 19 and 20); and

Photographs 19 and 20

Measuring the weight and height of students at SHSC

19.



20.



Source: DH records

- (b) providing advice to students on diet and exercise. Depending on the students' health assessment results, SHSCs may, if necessary, refer the students to dietitians at the SACs for advice, or to specialists at clinics/hospitals of the Hospital Authority for medical treatment (Note 14).

4.4 In 2007/08, 317,368 (82.5%) of a total of 384,837 primary school students in the territory had attended health assessment. Of these 317,368 students:

- (a) 67,612 (21.3%) students were found to be obese (see para. 1.5); and
- (b) 3,999 (1.3%) students were found to have wasting problems which, according to the DH, were due commonly to picky and/or slow eating habits.

Note 14: *Instead of having obesity problems, a student may be found to have wasting problems (i.e. when weight is less than 80% of the median weight-for-height — see Appendix A) at the SHSC. A doctor at the SHSC will determine the underlying causes for wasting and refer the student to a dietician/specialist as appropriate.*

Audit observations and recommendations

Provision of information on obesity to primary schools

4.5 The SHS maintains a database containing health information collected from individual students (primary and secondary schools) who have attended health assessment at the SHSCs. Such health information includes:

- (a) students' health problems (e.g. students' obesity problems); and
- (b) students' lifestyle characteristics (e.g. their dietary and exercise habits).

On request, the SHS provides schools with a health profile of their students for monitoring obesity problems.

4.6 Over the period 2005/06 to 2008/09 (up to February 2009), the SHS provided one private primary school with a health profile (including obesity information) of their students. Other than this school, the SHS had not received any similar primary school requests over the period. The audit survey however revealed that most schools considered that the obesity information collected by the SHS was useful, as detailed below:

- In the audit survey, schools were asked whether they had made enquiries with the SHS on students' obesity information since 2005/06 and whether the obesity information kept at the SHS (e.g. individual schools' obesity detection rates) would be useful to the schools in tackling the obesity problem.
- Of 425 schools responding, none indicated that they had made any enquiries on obesity information, and 337 (79%) stated that they were not aware of the availability of such a service.
- Of 421 schools responding, 322 (76%) considered that the information about their schools' obesity detection rates and the ranking of individual schools' obesity detection rates (Note) would help them understand their students' obesity situation, and plan for improvement measures/follow-up actions.
- Some schools considered that the obesity information to be disclosed should also include the identity of individual students who were obese and their extent of obesity.

Note: In respect of school ranking by obesity detection rates, the majority (67%) of the schools considered that the disclosure of their schools' rankings would suffice.

4.7 As the students' obesity information collected by the SHS is very useful to individual schools (e.g. for planning school-based obesity prevention programmes), the SHS may wish to inform schools of the availability of such information which can be provided to them if required. The SHS may also wish to critically consider the desirability of disseminating students' obesity information to schools on a regular basis.

Provision of health assessment service to primary school students

4.8 As mentioned in paragraphs 1.5 and 4.4, in 2007/08, the territory-wide obesity detection rate for primary school students was 21.3% and the territory-wide student attendance rate for health assessment at the SHSCs was 82.5%. Audit however noted from the DH records that in 2007/08, of all 741 primary schools (Note 15), 356 (48%) had student attendance rates for health assessment below the territory-wide average of 82.5%. Of these 356 primary schools, 50 had attendance rates of less than 50% (see Table 5). With the low attendance, obesity problems in some students who had not attended the health assessment might remain undetected.

Table 5

**Student attendance rates for health assessment of less than 50%
(2007/08)**

Student attendance rate	Number of schools
0% to < 10%	9
10% to < 20%	5
20% to < 30%	8
30% to < 40%	12
40% to < 50%	16
Total	50

Source: DH records

Note 15: For SHS purpose, the DH used a methodology different from that used by the EDB to calculate the numbers of primary schools. As a result, in 2007/08, there were 741 primary schools in the DH records, but only 688 in the EDB records.

4.9 In order to provide timely assistance to obese school children, Audit considers that the DH needs to collaborate with the EDB and primary schools on encouraging students to attend health assessment. In particular, the DH needs to identify and approach those primary schools with low student attendance rates for health assessment with a view to offering them assistance.

Provision of health talks and exercise classes

4.10 **Provision of health talks.** The SHSCs organise regular health talks relating to balanced diet and body weight control for parents, students and teachers. The talks cover the relationship between health and weight, and the ways for obese students to improve their weights. The talks are usually publicised through display of posters at schools and the SHSCs, and announcements on the website “youth.gov.hk” (Note 16). **In 2007/08, only 6 of 12 SHSCs (2 on Hong Kong Island, 1 in Kowloon and 3 in the New Territories) had organised health talks.**

4.11 **Provision of exercise classes.** Since July 2008, the SHSCs have also organised exercise classes for overweight students. **Audit examination revealed that during July 2008 to January 2009, exercise classes were only organised in 4 of the 12 SHSCs (3 in Kowloon and 1 in the New Territories).** No class was organised on Hong Kong Island.

4.12 Audit considers that the DH needs to conduct health talks and exercise classes at different SHSCs to make them more readily accessible to students, parents and teachers.

Audit recommendations

4.13 **Audit has recommended that the Director of Health should:**

Provision of information on obesity to primary schools

- (a) **inform schools of the availability of students’ obesity information which can be provided to them on request;**
- (b) **critically consider the desirability of disseminating students’ obesity information to schools on a regular basis;**

Note 16: “Youth.gov.hk” is a one-stop government portal that provides online services for young people aged between 15 and 24. The website aims to help young people establish close contact with mainstream society and live a healthy and happy life.

Provision of health assessment service to primary school students

- (c) **collaborate with the Secretary for Education and primary schools on encouraging students to attend health assessment;**
- (d) **identify and approach those primary schools with low student attendance rates for health assessment with a view to offering them assistance; and**

Provision of health talks and exercise classes

- (e) **conduct health talks and exercise classes at different SHSCs to make them more readily accessible to students, parents and teachers.**

Response from the Administration

4.14 The **Director of Health** and the **Secretary for Education** accept the audit recommendations.

PART 5: PROMOTION OF PHYSICAL ACTIVITY AMONG PRIMARY SCHOOL CHILDREN

5.1 This PART examines the Government’s measures for promoting physical activity among primary school children.

Importance of physical activity to children

5.2 According to the WHO, besides healthy diets, adequate physical activity is a major factor in the promotion and maintenance of good health throughout the entire life course. Physical activity is a key determinant of energy expenditure and thus is fundamental to energy balance and weight control. Moreover, it reduces health risks such as coronary disease and diabetes. The WHO recommended that individuals should engage in adequate levels of physical activity throughout their lives.

5.3 In its 2005 report on “Tackling Obesity: Its Causes, the Plight and Preventive Actions”, the DH stated that:

- (a) in Hong Kong, sedentary lifestyle was prevalent among the local population. In a study conducted in 2001, children in Hong Kong were found to have exercised less than those in other developed countries;
- (b) in another study of 2003, only 33% of children chose to exercise at leisure time; and
- (c) there was strong evidence that school-based PE was effective in increasing levels of physical activity and improving physical fitness among students.

Physical education and activity at schools

5.4 The EDB oversees the implementation of the education programmes including development of school curricula and assurance of school education quality. In 2002, the EDB issued the “Physical Education Key Learning Area Curriculum Guide (Primary 1 to Secondary 3)”. The Curriculum Guide sets out the following guiding principles:

- (a) ***Aim.*** The aims of PE curriculum are to help students:
 - (i) develop motor skills and acquire knowledge through physical activities;
 - (ii) cultivate positive values and attitudes for the development of an active and healthy lifestyle; and

- (iii) acquire good health, physical fitness and body coordination through an active lifestyle; and
- (b) **PE lesson time.** PE is an essential learning experience for all students. Schools are advised to allocate 5% to 8% of the total curriculum time in both primary and secondary schools for PE class.

5.5 The EDB has also provided support to schools for developing sports activities through the following means:

- (a) provision of grants for acquiring sports equipment and hiring of services to promote co-curricular sports activities;
- (b) collaboration with other government departments and organisations to arrange for priority use of public sports facilities by schools free of charge or at concessionary rates; and
- (c) organising with NGOs large-scale sports development programmes, such as the “School Physical Fitness Award Schemes”, “School Dance Festival”, “Jump Rope for Heart” and inter-school sports competitions.

Audit observations and recommendations

PE lesson time

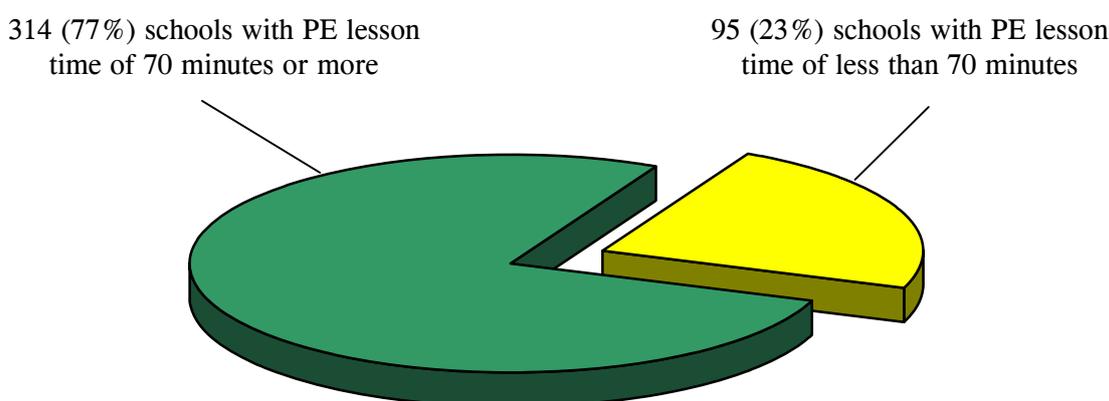
5.6 According to the EDB’s Curriculum Guide prepared by the Curriculum Development Council (CDC — Note 17), schools are advised to allocate at least 5% (which is about 70 minutes per week — Note 18) lesson time for PE class. Through the audit survey, Audit obtained information from schools about their weekly PE lesson time for the school year 2008/09. Audit analysis revealed that for most schools, the weekly PE lesson time for Primary 1 to 6 students was similar. For illustration purpose, the survey results for Primary 4 students are shown in Figure 4. **It can be seen that 95 (23%) of**

Note 17: *The CDC is an advisory body appointed by the Chief Executive of the Hong Kong Special Administrative Region to give advice to the Government on matters relating to curriculum development for the local school system.*

Note 18: *Based on the recommended 792-hour lesson time in a school year (as provided by the CDC for schools’ reference in whole-school curriculum planning) and assuming 35 weeks in a school year, 5% lesson time is about 70 minutes per week (i.e. $792 \times 60 \text{ minutes} \div 35 \text{ weeks} \times 5\%$). However, for some schools with actual total lesson time different from 792 hours, the PE lesson time may not be 70 minutes per week.*

409 schools responding allocated less than 70 minutes of lesson time for PE. Their PE lesson time ranged from 40 to 65 minutes. For the remaining 314 (77%) schools responding, their allocated PE lesson time ranged from 70 to 120 minutes.

Figure 4
Survey results on PE lesson time of Primary 4 students
(2008/09)



Source: *Audit survey*

5.7 Audit understands that some schools may allocate less lesson time to PE due to competing priorities. In its 2005 report, the DH stated that increasing physical activity of school children could be done in a variety of ways. These included increasing the intensity level of physical activity of students during PE lessons and organising more extra-curricular activities. In early 2009, the EDB informed Audit that:

- (a) apart from time, the frequency, intensity and type of activities were equally important in promoting a physically active lifestyle among students;
- (b) the learning of PE was not confined to formal PE lessons. Students were encouraged to participate in physical activities in sports-related extra-curricular activities; and
- (c) almost all primary schools offered a great variety of sports-related extra-curricular activities for their students in various forms. They included large-scale sports programmes presented by the LCSD, the EDB and sports associations, and other activities organised by individual schools (such as fitness

days and round-the-campus runs). In 2007/08, the number of participants in these large-scale programmes amounted to 1.13 million.

Extra-curricular activities

5.8 As regards sports-related extra-curricular activities organised by individual schools in 2007/08, Audit obtained information from primary schools through the audit survey. The responses showed that:

- (a) 418 (98%) of 426 schools responding had participated in inter-school sports meetings;
- (b) 364 (85%) primary schools held a sport day event; and
- (c) 58 (14%) primary schools organised a swimming gala event.

5.9 These extra-curricular activities have provided additional opportunities for students to maintain their physical fitness. However, Audit understands from the EDB that extra-curricular activities should be complementary to, rather than replacing, PE lessons as there are more specific learning aims in the delivery of the PE curriculum through structured lessons. It is therefore equally important to encourage schools to maintain their momentum in organising sports-related extra-curricular activities as well as to allocate sufficient PE lesson time as recommended in the Curriculum Guide.

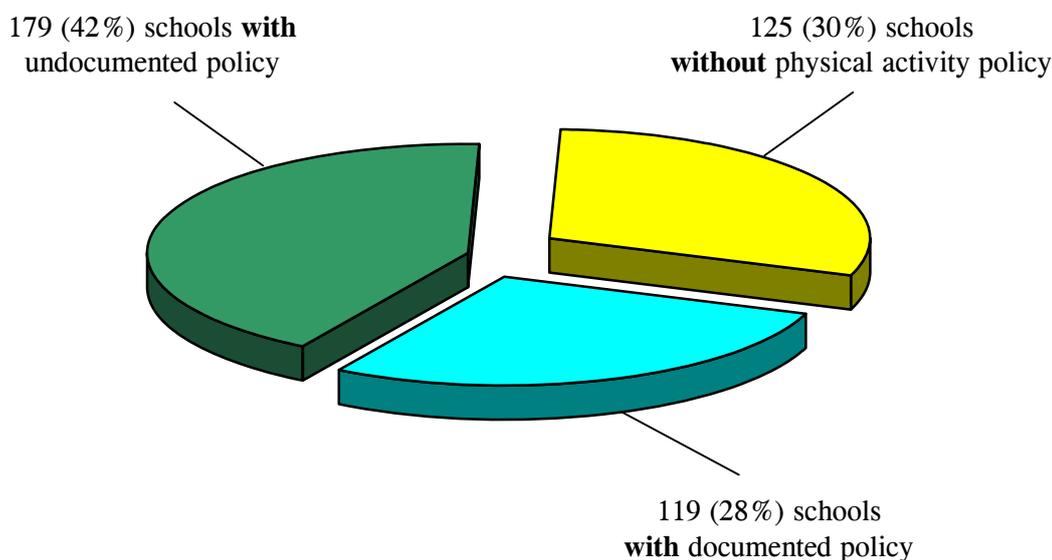
School policy on physical activity

5.10 In the DH Guidelines for developing school policy on healthy eating (see para. 2.2(a)), schools are advised to consider developing policy on physical activity alongside that on healthy eating. The DH Guidelines further advise that the school policy encompassing clearly-defined aim, action and basic principles, should be documented and communicated to relevant stakeholders (including teachers, parents and students).

5.11 In the audit survey, schools were asked whether they had developed school policy on physical activity. The responses showed that 30% of the primary schools had not yet developed any policy on physical activity. Figure 5 shows the survey results.

Figure 5

Survey results on physical activity policy of primary schools
(30 November 2008)



Source: Audit survey

5.12 The fact that 30% of the surveyed schools had not developed any policy on physical activity indicates that more promotional effort is needed in this regard. There is merit in identifying the reasons for not developing a school policy on physical activity with a view to taking specific measures to help them. For those primary schools with policies developed but not documented (42%), there is a need to remind them to document and disseminate their policies to stakeholders.

5.13 In February 2009, the EDB informed Audit that a policy on physical activity might also take the form of a detailed curriculum plan on PE, and schools could be encouraged to develop such a plan. In the plan, students' participation in sports activities would be one of the essential components. Furthermore, it would be desirable to involve parents in implementing the plan, as their support could contribute to enhancing the physical activity of the students.

Audit recommendations

5.14 **Audit has recommended that the Secretary for Education should:**

PE lesson time

- (a) **encourage primary schools to allocate sufficient PE lesson time as recommended in the Curriculum Guide;**
- (b) **provide professional advice to schools on how to make effective use of the lesson time to enhance student learning, and share the relevant good practices;**

Extra-curricular activities

- (c) **encourage primary schools to organise more sports-related extra-curricular activities for their students;**

School policy on physical activity

- (d) **in collaboration with the Director of Health, encourage primary schools to develop school policy/curriculum plan on physical activity; and**
- (e) **remind schools to document the school policy/curriculum plan and disseminate it to stakeholders.**

Response from the Administration

5.15 **The Secretary for Education agrees with the audit recommendations.**

School Sports Programme

5.16 In 2001, the LCSD introduced an SSP with the objective of encouraging students to participate in sports activities during their leisure time. The SSP is jointly organised by the LCSD, the EDB, national sports associations and two local universities. The SSP activities are organised in line with the daily schedule of schools so that students can participate in the activities in the school environment during their leisure time. The SSP includes seven subsidiary programmes for primary school children, as follows:

- (a) ***Sports Award Scheme.*** The scheme consists of two subsidiary programmes, namely the “sportACT Award Scheme” and the “sportFIT Award Scheme”. The “sportACT Award Scheme” aims at encouraging students to participate in sports activities regularly with support from schools and to develop sports as a life-long habit. Under the Scheme, students are required to record their sports activities. Certificates will be awarded to students in recognition of their attainment of goals. The “sportFIT Award Scheme” provides further recognition to students who meet the award requirements of both the “sportACT Award Scheme” and the School Physical Fitness Award Scheme of the EDB;
- (b) ***Sport Education Programme.*** This programme aims to provide students with updated information on sports. It includes activities such as sport demonstration, guided tours of sports venues and sport exhibitions;
- (c) ***Easy Sport Programme.*** This programme aims to enhance primary school students’ interest and confidence in sports by helping them to master the basic skills and techniques;
- (d) ***Outreach Coaching Programme.*** This programme aims to sustain students’ interest in various sports and to enhance their skills. Coaches assigned by national sports associations would conduct training in schools and assist them to set up school teams for various sports;
- (e) ***Joint Schools Sports Training Programme.*** This programme aims to provide training opportunities for students with good potential in sports. They receive high-level training by veteran coaches of national sports associations; and
- (f) ***Badges Award Scheme.*** This scheme aims to boost students’ interest in sports training. It provides a progressive testing to assess the students’ skills in their selected sports such as basketball and table tennis. Upon attaining a certain level, a participant will be awarded a badge and a certificate.

Schools interested in joining the SSP have to prepare activity plans and submit applications to the LCSD.

Audit observations and recommendation

School awareness of the SSP

5.17 In the audit survey, Audit sought information about the school awareness of the seven subsidiary programmes of the SSP available for primary school children. The responses showed that:

- (a) 421 (99%) of the schools responding had knowledge of the SSP subsidiary programmes; and
- (b) 5 (1%) were unaware of any of the SSP subsidiary programmes.

Participation in the SSP

5.18 The audit survey also sought information from the 421 schools (see para. 5.17(a)) about their level of participation in the SSP in 2007/08. Based on the 411 responses received:

- (a) 320 (78%) primary schools had participated in one or more of the SSP subsidiary programmes; and
- (b) 91 (22%) primary schools had not participated in any of the SSP subsidiary programmes.

5.19 Regarding the reasons for schools not participating in the SSP, the LCSD informed Audit that it had carried out a survey in 2006. According to the survey, the main reasons were as follows:

- (a) some schools had already employed their own instructors or deployed staff to conduct sports training for their students (53%);
- (b) the sports training programmes of the SSP could not match with some school schedules (51%);
- (c) there were insufficient sports facilities in some school premises (40%);
- (d) some students could not afford the programme cost (36%); and
- (e) funding for some schools was insufficient (31%).

5.20 In the light of the above findings, the LCSD had implemented the following measures:

- (a) increasing the frequency of school visits and further promoting the SSP, such as setting up promotional booth in their School Sport/Open Days;
- (b) enhancing the promotion of Sports Award Scheme in schools, encouraging students to participate in sports activities regularly by giving more talks/seminars and recognising their involvement/achievement by awards;

- (c) encouraging schools to use the LCSD's sports facilities under the Free Use Scheme (Note 19); and
- (d) providing more channels for dissemination of sports information and events to schools through the LCSD website and newsletters as well as simplifying the SSP enrolment procedures so as to enhance the enrolment rate.

The LCSD also said that with the implementation of the above measures, the participation rate of schools in the SSP had increased from 70% in the financial year 2005-06 to 85% in 2008-09.

Audit recommendation

5.21 **Audit has recommended that the Director of Leisure and Cultural Services, with the support of the EDB where necessary, should continue the effort to further enhance schools' participation in the SSP.**

Response from the Administration

5.22 The **Director of Leisure and Cultural Services** agrees with the audit recommendation. He has said that the LCSD will continue its promotion strategies to further boost the participation rate of schools in the SSP to 90% in the financial year 2009-10.

5.23 The **Secretary for Education** also agrees with the audit recommendation.

Note 19: *Some recreation and sports facilities of the LCSD are available free of charge to eligible organisations such as schools and subvented NGOs.*

PART 6: IMPLEMENTATION OF OTHER SUPPORTIVE MEASURES

6.1 This PART examines the implementation of other measures that support the Government in managing the childhood obesity problem.

Community resources

6.2 Apart from government departments, there are a number of NGOs which are active in promoting healthy eating in Hong Kong. Collaboration with these NGOs can help create a healthy eating environment for children. The following are some examples of the community-based projects:

- (a) ***Seminars and promotional activities on nutrition and health.*** Since 2001, the Centre for Health Education and Health Promotion, Faculty of Medicine of The Chinese University of Hong Kong has initiated a “Hong Kong Healthy Schools Award Scheme” to promote health via a school setting. Other organisations (such as the United Christian Nethersole Community Health Service and St. James’ Settlement Community Nutrition Services and Education Centre) have organised health talks and health promotion campaigns for schools;
- (b) ***Funding support.*** The Hong Kong College of Cardiology has established a fund especially for SNAP schools to finance their healthy eating events. Besides funding support, it has also held a “Jump Rope for Heart” programme for school children for a number of years; and
- (c) ***Other community-based healthy-eating programmes.*** The DH has adapted the SNAP programme for implementation at the community level. It works with NGOs that are committed to healthy eating promotion for children and youth under a Healthy Eating Ambassadors’ Training programme. The DH provides training to the NGO staff and volunteers while the NGOs contribute in terms of organisation, recruitment of ambassadors, venue arrangement and conducting activities in support of healthy eating after training. The Hong Kong Scout Association and Girl Guides Association of Hong Kong have also collaborated with the DH to develop a Healthy Eating Ambassadors Programme for their junior members.

Audit observations and recommendation

6.3 The DH fully recognises the contribution that can be made by NGOs to fostering healthy eating habits among school children. In the SNAP handbook and on the “EatSmart@school.hk” website, the DH has included contact information of NGOs that may provide health education resource support for schools. Through the audit survey,

Audit obtained information on the schools' participation in health promoting activities provided by the NGOs listed in the SNAP handbook.

6.4 The survey results showed that only 171 (40%) of 423 schools responding had participated in the health promoting activities of the NGOs from 1 September 2006 to 30 November 2008. The fact that 252 (60%) schools had not made use of any of the resource support provided by the NGOs indicated that these valuable community resources had not been fully tapped. There is a need to further promote the health education resource support provided by the NGOs.

Audit recommendation

6.5 **Audit has recommended that the Director of Health should, in collaboration with the Secretary for Education, encourage schools to consider using the health promotion services of the NGOs.**

Response from the Administration

6.6 The **Director of Health** and the **Secretary for Education** accept the audit recommendation.

Monitoring and evaluation

6.7 According to the WHO Health Strategy (see para. 1.9), it is suggested that governments should:

- (a) develop and implement strategies that promote individual and community health through healthy diet and physical activity; and
- (b) strengthen structures for monitoring and evaluating the implementation of the strategies. For this purpose, there is a need to define:
 - (i) goals and objectives;
 - (ii) a realistic timetable for their achievement; and
 - (iii) measurable process and output indicators that will permit accurate monitoring.

6.8 To assist governments in monitoring the progress of their activities in the area of promoting healthy diet and physical activity, the WHO in 2008 published a document “A Framework to Monitor and Evaluate Implementation: Global Strategy on Diet, Physical Activity and Health” (WHO Monitoring Framework). According to the WHO Monitoring Framework, three types of indicators are proposed (see Table 6).

Table 6
Types of indicators

Type of indicator	Purpose
Process indicators	They are used to measure progress in the processes of change, i.e. to investigate how something has been done, rather than what has happened as a result.
Output indicators	They are used to measure the outputs or products that come about as the result of processes.
Outcome indicators	They are used to measure the ultimate outcomes of an action. These might be short-term outcomes (such as increased knowledge) and intermediate outcomes (such as a change in behaviour).

Source: WHO Monitoring Framework

6.9 The WHO Monitoring Framework further states that the three types of indicators should be classified into two sets, as follows:

- (a) **Core indicators.** They include the most critical items and should be regarded as a minimum set to be achieved if resource and capacity permit. “Total school hours allocated to physical activity at primary and secondary level” is an example of the recommended core output indicators and “population-based percentage of obese children” is an example of the core outcome indicators (see Appendix E for details); and
- (b) **Expanded indicators.** They include indicators that allow a more comprehensive and informative system for monitoring and evaluation. “Percentage of schools offering meals consistent with dietary guidelines” is an example of expanded output indicators.

Audit observations and recommendations

Performance information

6.10 As mentioned in paragraphs 1.8 to 1.11, the DH, EDB and LCSD have been implementing a number of school-based programmes for promoting healthy eating and physical activity at schools for a number of years. For measuring the progress in implementing these programmes, the bureau/departments had published the following performance information in their Controlling Officer's Reports (CORs) or on their websites:

- (a) the LCSD published in its COR the number of programmes organised under the SSP and the extent of achievement of its two performance targets, i.e. one relating to percentage of schools and the other relating to the number of students participating in the SSP;
- (b) the DH published in its COR the number of primary school students participating in its SHS, but there was no specific target/indicator for its healthy eating Campaign. Instead, the DH published information on attendance at all of its health education activities and the extent of achievement of an overall target on training of health promoters, both including the contribution under the healthy eating Campaign; and
- (c) the EDB published on its website survey results on physical fitness status of Hong Kong school pupils (including their body height, weight, muscular strength and endurance).

6.11 ***Need for providing easy public access to performance information.*** In addition to the information published in its COR, the DH had compiled process/output statistics on the achievement of its healthy eating Campaign (such as school participation rate — see Appendix F for details) and obesity rate among primary school students. From time to time, the DH released some of the key statistics when reporting on the progress of the Campaign to relevant stakeholders (such as schools, District Councils and the LegCo Panel). Similarly, the EDB had also provided information based on the DH's statistics on "percentage of students within the acceptable weight range" to facilitate schools' self-evaluation under the School Development and Accountability Framework. To enhance transparency and public accountability, there is a need for providing easy public access to these compiled performance statistics (such as publishing them in the CORs and/or on websites).

6.12 ***Need for developing more performance indicators.*** A comparison of the performance indicators currently compiled by the DH and the EDB (for both their CORs, websites and internal use) with those recommended by the WHO shows that there is scope for developing more indicators to monitor the progress of the Government's effort in promoting healthy living (see para. 6.9).

6.13 *Need for developing performance targets.* At the LegCo Panel meeting of January 2006 (see para. 1.7), a question was raised whether the Administration had set any targets for measuring the effectiveness of its new initiative on promoting healthy eating among school children, such as the percentage of obesity among primary and secondary school students. In its reply, the Administration indicated that the extent to which the proportion of obese school children could be reduced would depend not only on the success of the new initiative which targeted the school environment, but also on other factors such as eating habit at home and the overall eating culture in the community. Audit understands the complexity of setting performance targets in this respect but recent developments both overseas and in Hong Kong, as shown below, indicated that the setting of such targets could be explored:

- (a) in 2007, the United Kingdom Government set a long-term target to reduce the proportion of overweight/obese children to the 2000 level by 2020;
- (b) the WHO Monitoring Framework of 2008 recommended the use of “population-based percentage of obese children” as one of the core outcome indicators for monitoring progress in promoting healthy diet and physical activity (see para. 6.9(a)); and
- (c) according to a “Step-by-step Guide to Performance Measurement” issued by the Efficiency Unit of the Chief Secretary for Administration’s Office in 2000, the Government’s intention is to set targets wherever possible as targets improve clarity of expectation, motivate performance and improve accountability. The Efficiency Unit’s guide “Measuring Performance” of July 2008 has further advised that results important for the overall management of a programme should be reported even though there is no direct control over them. Such outcome indicators can be seen as giving an account on performance rather than being used to hold a particular department to account for the outcome.

Research and evaluation

6.14 According to the WHO Health Strategy, it is suggested that besides monitoring, governments should invest in research and evaluation with a view to developing better informed strategies. To enhance understanding of the obesity problem of children and the underlying factors, and to evaluate the effectiveness of intervention measures, the DH carried out 13 research projects from 2006 to 2008. These projects included qualitative and quantitative research on knowledge, attitude and practices of students and parents, and opinion surveys on SNAP and the development of the DH Guidelines on healthy eating.

6.15 While these local research projects have provided useful information for the DH, there is also a need to keep in view developments and practices overseas. For example, the WHO’s international food policy research of 2007 found that important changes had

occurred in the global regulatory environment concerning food marketing to children. Many consumer, health and teacher groups around the world had called for greater restrictions on marketing high-calorie and nutrient-poor food in schools. As a result, a number of new regulatory schemes (some statutory and some involving self-regulation by the food industry) had been developed. The array of overseas practices could offer Hong Kong policy options for reference.

Audit recommendations

6.16 **Audit has recommended that the Director of Health should:**

- (a) **in consultation with the Secretary for Education, develop more performance indicators for measuring the efficiency and effectiveness of the Government's initiatives in promoting healthy diet and physical activities among primary school children, such as those recommended by the WHO;**
- (b) **together with the Secretary for Education, consider publishing in the CORs and/or on the websites performance statistics regularly compiled but not so published;**
- (c) **draw on overseas experience for developing appropriate performance targets to monitor progress made in tackling the childhood obesity problem; and**
- (d) **keep in view overseas developments and practices when carrying out research projects for promoting healthy eating and physical activity.**

Response from the Administration

6.17 The **Director of Health** accepts the audit recommendations.

6.18 The **Secretary for Education** has said that the EDB will share the information with the DH so that relevant performance statistics can be articulated by the DH in a proper context and a holistic manner.

Appendix A
(Note 2 to para. 1.5 and
Note 14 to para. 4.3(b) refer)

Weight-for-Height Reference Charts for Hong Kong children

Height (cm)	Weight for height (Boys)		Weight for height (Girls)	
	Median (kg)	Median × 120% (kg)	Median (kg)	Median × 120% (kg)
91	12.9	15.5	12.9	15.5
93	13.4	16.1	13.4	16.0
95	13.9	16.6	13.8	16.6
97	14.3	17.2	14.2	17.1
99	14.8	17.8	14.7	17.6
101	15.4	18.4	15.2	18.2
103	15.9	19.1	15.6	18.8
105	16.4	19.7	16.1	19.4
107	17.0	20.4	16.7	20.0
109	17.6	21.2	17.2	20.7
111	18.3	21.9	17.8	21.4
113	19.0	22.8	18.4	22.1
115	19.7	23.6	19.1	22.9
117	20.4	24.5	19.8	23.8
119	21.2	25.5	20.6	24.7
121	22.1	26.5	21.4	25.7
123	22.9	27.5	22.3	26.7
125	23.9	28.6	23.2	27.9
127	24.8	29.8	24.2	29.1
129	25.9	31.0	25.3	30.4
131	26.9	32.3	26.5	31.7
133	28.1	33.7	27.7	33.2
135	29.2	35.1	29.0	34.8
137	30.5	36.6	30.3	36.4
139	31.8	38.1	31.8	38.1
141	33.1	39.7	33.3	39.9
143	34.5	41.3	34.8	41.8
145	35.9	43.1	36.5	43.7
147	37.4	44.8	38.1	45.7
149	38.9	46.6	39.8	47.8
151	40.4	48.5	41.6	49.9
153	42.0	50.4	43.3	52.0
155	43.6	52.3	45.1	54.1
157	45.2	54.3	46.9	56.2
159	46.9	56.2	48.6	58.3
161	48.5	58.2	50.3	60.4
163	50.2	60.2	51.9	62.3
165	51.9	62.2	53.5	64.2
167	53.5	64.2	—	—
169	55.1	66.1	—	—
171	56.7	68.0	—	—
173	58.2	69.8	—	—
175	59.6	71.6	—	—

Source: DH records

Guidelines issued by Department of Health on lunch quality

Category	Example
<i>“Limited food items”</i>	
(a) Grains and cereals with added fat, oil, sauce or gravy	Stir-fried rice/noodles, baked rice/noodles with sauce
(b) Fatty cut of meat and poultry with skin	Beef brisket, spare ribs, chicken wings, chicken thighs, other poultry with skin
(c) Full cream dairy products	Full cream milk, full cream cheese, full cream yogurt
(d) Processed or preserved meat, egg and vegetable products	Barbecued pork, bacon, ham, sausage, luncheon meat, textured vegetable protein, preserved mustard green, pickled cucumber
(e) Sauce or gravy with high salt or fat content (recommended not to be served, but, if served, only sparingly and separately from grains and cereals)	Sauce or gravy made of full cream dairy products or high salt seasonings (e.g. full cream cheese, evaporated milk, fermented soya bean curd, fermented broad bean paste, oyster sauce)
<i>“Strongly discouraged food items”</i>	
(a) Deep-fried food items	French-fries, deep-fried pork chops, deep-fried chicken wings or thighs, deep-fried dim sum (e.g. spring roll, dumpling with curry filling)
(b) Food items with added animal fat or saturated fat	Food items with added lard, chicken fat, butter, palm oil, coconut oil, coconut (e.g. curry with coconut milk, desserts with coconut products, cookies)
(c) Food items with added trans fat	Food items with added hydrogenated vegetable oil or margarine containing trans fat and shortening, and fried food and bakery products (e.g. pastries) in which the aforesaid oil and fat are used as ingredients or in the cooking process
(d) Desserts with added sugar or beverages	Ice-cream, cookies, cheese cakes, jellies, soft drinks
(e) Food items with very high salt content	Salted fish, salted egg

Source: DH records

Examples of Green, Yellow and Red Light Snacks

Food Group	Green Light Snacks	Yellow Light Snacks	Red Light Snacks
Food			
Grains	<ul style="list-style-type: none"> (a) White bread, whole wheat bread, including whole meal bread with added nuts and raisin bread (b) Unsweetened or low-sugar breakfast cereals and cereal bars (c) Hi-fibre or plain biscuits and crackers (d) Boiled corn or corn kernels (e) Unsweetened or low-sugar oat drinks 	<ul style="list-style-type: none"> (a) Refined breakfast cereals with added sugars or processed vegetable oil (e.g. cocoa bubbles, frosted cornflakes) (b) Plain sponge cake 	<ul style="list-style-type: none"> (a) Biscuits coated with chocolate or sandwich biscuits (b) Cream-filled buns, cakes (c) Chocolate muffins, pastry, cookies (d) Instant noodles (e) French fries, deep-fried sweet potatoes (f) Crisps and chips
Vegetables	<ul style="list-style-type: none"> (a) Fresh vegetables (e.g. cucumbers, carrots, cherry tomatoes) (b) Green salad (with minimal amount of salad dressing added or substitute salad dressing with low-fat plain yogurt) 	<ul style="list-style-type: none"> (a) Pickled or preserved vegetables, salted seaweeds 	<ul style="list-style-type: none"> (a) Salad with whole fat salad dressing
Fruit	<ul style="list-style-type: none"> (a) Fresh fruit (b) Dried fruit without added sugar (e.g. apricots, prunes, raisins) (c) Baked dried fruit chips (e.g. apple chips) 	<ul style="list-style-type: none"> (a) Dried fruit with added sugar or canned fruit in syrup (even if served without syrup) (b) Sweetened fruit juice 	<ul style="list-style-type: none"> (a) Canned fruit in syrup (if served with syrup)

Appendix C
(Cont'd)
(para. 2.21 refers)

Food Group	Green Light Snacks	Yellow Light Snacks	Red Light Snacks
	(d) Fruit platter or salad (without salad dressing or with minimal amount of salad dressing) (e) Freshly blended fruit juice without sugar added, 100% natural fruit juice		
Meat, beans, nuts	(a) Canned tuna (for making sandwich) soaked in spring water without added salt, or lean fresh meat (e.g. beef, chicken breast, turkey slices) (b) Boiled egg (c) Bean curd dessert without added sugar (d) Unsweetened or low-sugar soya milk (e) Unsalted nuts or beans (e.g. almonds, peanuts, cashew nuts, peas)	(a) Chicken wings (b) Ham, bacon and sausages (c) Pan-fried or steamed dumplings (d) Minced fish “Siu Mai”, fish balls (e) Salted roasted nuts and beans (f) Bean curd dessert with added sugar (g) Sweetened soya milk	(a) All deep-fried food items (e.g. deep-fried chicken wings, fish fillets) (b) Beef or pork jerky
Dairy products	(a) Low-fat or skimmed milk (b) Low-fat yogurt or cheese (e.g. plain yogurt or fruit yogurt without added sugar, cheddar cheese)	(a) Whole fat milk, yogurt and cheese	(a) Ice cream, ice blocks

Appendix C
(Cont'd)
(para. 2.21 refers)

Food Group	Green Light Snacks	Yellow Light Snacks	Red Light Snacks
Food items high in oil, sugar and salt			(a) Sauces (e.g. curry sauce, black pepper sauce, soya sauce) (b) Confectionery (e.g. candies, chocolate)
Beverage			
Dairy products	Low-fat milk, skimmed milk	Low-fat chocolate milk, low-fat yogurt	—
Soya milk	Soya milk low in added sugar, oat drinks low in added sugar	Sweetened soya milk	—
Juice	100% natural fruit juice	Sweetened fruit juice (beverage with sugar not shown as the first two ingredients on the packing)	Cartoned beverages, coconut milk (beverage with sugar shown as the first two ingredients on the packing)
Herbal tea	—	Herbal tea low in added sugar	Sweetened herbal tea
Others	—	Yogurt drinks	Tea, coffee, milk tea, sports drinks, 3-in-1 instant drinks

Source: DH records

Services provided by Student Health Service Centres

The SHSCs provide the following types of services for students:

- (a) health assessment programme which comprises:
 - (i) history taking;
 - (ii) physical examination including pubertal staging;
 - (iii) body weight, height and blood pressure measurement;
 - (iv) screening test for vision, hearing and spinal curvature;
 - (v) immunisation status checking and administration of vaccine;
 - (vi) psychosocial health assessment;
 - (vii) laboratory tests; and
 - (viii) medical treatment;
- (b) individual health counselling and group health education;
- (c) referral to specialists for students found to have health problems;
- (d) follow-up of cases of students with specific health problems; and
- (e) provision of Child Health Record.

Source: DH records

Examples of performance indicators recommended by World Health Organization

Process and output indicators

Core indicators

- Existence of curriculum standards for health education with focus on diet and physical activity
- Total number of health education sessions focusing on healthy diet and physical activity per year within national curriculum
- Total school hours allocated to physical activity at primary and secondary level
- Percentage of schools monitoring height and weight of children
- Existence of national school food policy
- Existence of national school policy on physical activity and/or PE

Expanded indicators

- Percentage of schools with a school food policy
- Percentage of schools offering meals consistent with dietary guidelines
- Percentage of schools offering healthy food options
- Percentage of schools restricting the availability of high fat, salt, sugar products and vending machines
- Percentage of schools offering fruit and vegetable programmes
- Percentage of schools with published physical activity school policy
- Percentage of schools using community recreation facilities

Outcome indicators

Core indicators

- Population-based percentage of obese children
- Percentage of students who are aware of the health benefits of healthy diet and physical activity

Expanded indicator

- Percentage of students walking to school

Source: WHO website

Examples of process/output statistics for Campaign activities

Activity	2006/07	2007/08
Number (percentage) of primary schools participated in at least one activity of the EatSmart@school.hk Campaign	445 (67%)	482 (77%)
Number of hits received by the EatSmart@school.hk website	15.3 million	17.4 million
<i>SNAP</i>		
<ul style="list-style-type: none"> • Number of schools participated in nutrition training workshops 	146	203
<ul style="list-style-type: none"> • Number of schools applied for funds under the School Healthy Eating Promotion Fund of the Hong Kong College of Cardiology 	38	79
<i>Mass media interviews</i>		
<ul style="list-style-type: none"> • Television 	18	8
<ul style="list-style-type: none"> • Radio 	18	13
Briefing sessions for stakeholders such as dietary professionals, principals' associations and lunch suppliers	39	24
<i>Visits conducted</i>		
<ul style="list-style-type: none"> • Schools 	245	65
<ul style="list-style-type: none"> • Organisations that run schools 	0	24

Source: DH records

Acronyms and abbreviations

Audit	Audit Commission
CDC	Curriculum Development Council
COR	Controlling Officer's Report
DH	Department of Health
EDB	Education Bureau
FEHD	Food and Environmental Hygiene Department
LCSD	Leisure and Cultural Services Department
LegCo	Legislative Council
NGO	Non-governmental organisation
PE	Physical education
SAC	Special Assessment Centre
SHS	Student Health Service
SHSC	Student Health Service Centre
SNAP	School NutriAgent Project
SSP	School Sports Programme
WHO	World Health Organization