



European Heart Network response to “Towards a possible European school fruit scheme – Consultation document for impact assessment”

February 2008

Executive Summary

- School fruit and vegetable programmes are effective at increasing both intake of, and positive knowledge and attitudes to fruit and vegetable consumption tracking into adulthood.
- 4% of all disease burden in developed countries is caused by low fruit and vegetable consumption; just under 30% of coronary heart disease (CHD) and almost 20% of stroke in developed countries is due to fruit and vegetable consumption levels below 600g per day. If every person in the EU(25) consumed 600g of fruit and vegetables per day, more than 135 000 deaths/year from CHD and stroke could be prevented.
- Total cost of CHD amounts to €49 billion and cost of stroke to over €38 billion per year. The cost of the proportion of these diseases attributed to insufficient intake of fruit and vegetable can be estimated at €22.3 billion per year. If only a fraction of this, say 5%, could be saved due to the school fruit scheme, then an annual saving would amount to €1.115 billion. With an investment of €100 million a year the cost-effectiveness ratio would be 11:1.

EHN's analysis of the options (see attached matrix) shows that option 4 best meets the need of increasing fruit and vegetable consumption in children and adolescents and thus addressing the burden of obesity and non-communicable diseases. Ideally option 4 should be supplemented with option 2.

An EU financed school fruit scheme can:

- Increase consumption of fruit and vegetables
- Address major health burdens and inequalities in the EU
- Stimulate growth and employment
- Support healthy ageing
- Contribute to the EU environmental policy
- Bring EU closer to its citizens

Introduction

The European Heart Network (EHN) is a Brussels-based alliance of heart foundations and other concerned non-governmental organisations throughout Europe. EHN has members in 26 countries throughout Europe.

EHN plays a leading role in the prevention and reduction of cardiovascular disease through advocacy, networking and education so that it is no longer a major cause of premature death and disability throughout Europe.

EHN welcomes the opportunity to respond to the consultation on a possible European school fruit scheme which we believe holds great promises for increasing the consumption of fruit and vegetables and consequently add important benefits to population health in Europe. There is good evidence that increasing fruit and vegetable consumption reduces the rate of cardiovascular diseases, some cancers and has links with reducing rates of obesity. These major causes of death and disability in the EU, account for up to 80% of health care costs in Member States and thus incurring a substantial burden to health and social costs in the EU Member States.¹

EHN believes that an EU school scheme would address the significant inequalities in cardiovascular health that are found in the European Union, particularly in cardiovascular diseases (see below) and prove the benefits of that the European Union can bring to all citizens.

Background

Fruit and vegetable intake

Despite international recommendations to eat at least 400g/day, populations in the majority of EU Member States are not reaching recommended levels of intake, and differences in consumption contribute to inequalities in health. Similar patterns are seen in children. In a recent survey of fruit and vegetable intake among European schoolchildren in 9 countries, none of the countries met national or international guidelines for fruit and vegetable intake (prochildren).² Food supply statistics suggest that fruit and vegetable consumption is at best stagnating and probably declining.

School schemes

Schools appear to be an ideal environment to focus interventions designed to increase fruit and vegetable intake and tackle Europe's major health burdens. School systems and food cultures may vary between countries, but throughout the EU, schools can provide a platform for combining healthy nutrition education and increased intake – i.e. learning about healthy foods in classroom and eating, tasting and experiencing healthy foods provided at schools. Schools can reach almost all children and adolescents during their first two decades of life, and are a critical part of the social environment that shape young peoples behaviours. It has also been suggested, that interventions targeting healthy nutrition need to occur early in childhood or adolescence in order to prevent or reverse the adverse health effects of overweight and poor eating habits. A number of studies have

¹ World Health Organization (2006) Gaining health: the European strategy for the prevention and control of noncommunicable diseases (NCD). Copenhagen: World Health Organization - Regional Office for Europe

² Yngve A, Wolf A, Poortvliet E, Elmadfa I, Brug J, Ehrenblad B, et al. Fruit and vegetable intake in a sample of 11-year-old children in 9 European countries: The Pro Children Cross-sectional Survey. *Ann Nutr Metab* 2005 Jul;49(4):236-45

shown that healthy diets in children and adolescents have been found to lead to increased fruit and vegetable intake in adulthood.^{3 4 5}

A review of school fruit and vegetable programmes worldwide published by the London School of Hygiene and Tropical Medicine in December 2007 suggests that school-based schemes are effective at increasing both intake of, and positive knowledge and attitudes to fruit and vegetable consumption. Of the 35 studies included, 65% of studies in both younger and older age groups showed statistically significant increases in fruit and vegetable intake at follow, with none decreasing intake. 25 studies had follow up periods greater than 1 year and this review provides evidence that both large (national) and smaller (local) scale fruit and vegetable schemes can have long term impacts on consumption. One study showed that free school fruit and vegetable schemes can also help to reduce inequalities in diet in different social groups. Effective school programmes have used a range of supply and educational approaches, and been organised in ways which vary nationally depending on differences in the food supply chain and education system.⁶

Cardiovascular diseases

Burden⁷

Cardiovascular disease (CVD) is the number one cause of death among women and men in Europe. It accounts for 42% of all deaths in the European Union causing over 2 million deaths every year.

The burden of CVD is unequally distributed among the EU Member States. Death rates from coronary heart disease (CHD) and stroke are higher in Central and Eastern Europe than in Northern, Southern and Western Europe. For example: in Bulgaria CVD causes 62% of all deaths in men whereas in France the figure is 26%; 71% of female deaths in Bulgaria are from CVD whereas in France, only 31% of female deaths are from CVD.

Trends are also different across the EU: where CVD mortality is falling in most Northern, Southern and Western European Countries they are not falling as fast in Central and Eastern European countries. For example, between 1995 and 2005, death rates from coronary heart disease (CHD) fell by 53% in men in Ireland where in Romania (1994-2004) death rates in men fell by only 18%. For stroke, death rates among women fell by 57% in Ireland but only by 21% in Romania (1994-2004).

Cardiovascular disease is estimated to cost the EU economy over €192 billion/year. In comparison, the 2008 annual budget of the European Union is €129.1 billion.

In 2006, health care cost amounted to just under €110 billion. Production losses due to cardiovascular disease mortality and morbidity cost the EU almost €41 billion,

³ Kelder SH, Perry CL, Klepp KI, Lytle LL. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *Am J Public Health* 1994 Jul;84(7):1121-6

⁴ Lien N, Lytle LA, Klepp KI. Stability in consumption of fruit, vegetables, and sugary foods in a cohort from age 14 to age 21. *Prev Med* 2001 Sep;33(3):217-26

⁵ Velde SJ, Twisk JW, Brug J. Tracking of fruit and vegetable consumption from adolescence into adulthood and its longitudinal association with overweight. *Br J Nutr* 2007 Aug;98(2):431-8

⁶ De Sa, J. and Lock, K (2007) School-based fruit and vegetable schemes: A review of the evidence. London. London School of Hygiene and Tropical Medicine

⁷ European Heart Network (2008) European cardiovascular disease statistics 2008. Brussels. European Heart Network; <http://www.ehnheart.org/content/sectionintro.asp?level0=1457>

representing 21% of total cost of those diseases, with around two thirds of this cost due to premature death (€26.9 billion) and one third due to illness (€13.9 billion) of people of working age. Cost of informal care by relatives and friends is another important non-health care bill. In 2006, the total cost of providing this care was just under €42 billion. The cost of informal care was just under €42 billion.

Of the total cost for CVD (€192 billion), cost of coronary heart disease (CHD) amounts to over €49 billion and cost of stroke to over €38 billion per year.

Fruit and vegetable consumption and cardiovascular diseases

The World Health Report 2002 estimates that around 4% of all disease burden in developed countries is caused by low fruit and vegetable consumption and that just under 30% of coronary heart disease and almost 20% of stroke in developed countries is due to fruit and vegetable consumption levels below 600g per day.⁸

If every person in the EU(25) consumed 600g of fruit and vegetables per day, which is what is the average intake in some EU countries, more than 135 000 deaths/year from CHD and stroke could be prevented.⁹

Options

Option 1: Status Quo

Europe is faced with an obesity epidemic, a crushing burden of cardiovascular diseases, and, indeed, of non-communicable diseases. A status quo option would do nothing to reduce this severe public health burden. Some Member States currently are operating school fruit and vegetable schemes. However existing Member State schemes are vulnerable to changing socio-political environments and short-term financing structures. A status quo option would not provide a strategic and financial framework to ensure expansion and improvement of existing schemes or encourage new schemes in Member States where schemes have not been implemented. Option 1 will effectively increase social and health inequalities among Member States.

Option 2: Networking

Networking is insufficient as a stand alone option, but should ideally be combined with option 4. More targeted dissemination of "best practice" specifically on School Fruit Schemes would be important but would only lead to effective, sustainable school fruit schemes if additional funds dedicated to support their implementation are available. An EU School Fruit Network in support of a measure to increase availability of fruit and vegetables in school - option 4 - would guarantee success.

Option 3: Supporting Initiatives

Targeting promotion funds to increase fruit and vegetable consumption in children in schools is a welcome addition to the CMO. However, recognising that initiatives that include activities aimed at changing the eating habits of schoolchildren in addition to

⁸ World Health Organization (2002) The World Health Report 2002. Reducing Risks, Promoting Healthy Life. Geneva. World Health Organization

⁹ Lock, K and Pomerleau, J (2005). Fruit and vegetable policy in the European Union: its effect on the burden of cardiovascular disease. Brussels. European Heart Network

supplying the produce are valuable, EHN is concerned that the proposed promotion programme would not provide adequate incentive to expand existing programmes and implement new programmes. Experiences from School Fruit Schemes, i.e. Ireland, Holland and Denmark, show that the complexity of promotion funds and co-financing rules make optimal implementation difficult.

Option 4: Driving Initiatives

In the face of the public health threat of obesity and related non-communicable diseases, EHN believes that this option provides the optimal legal and financial framework for increasing the availability of and access to fresh, quality fruits and vegetables in schools across the EU. The school milk programme provides a tested system that works. Therefore, no entirely new mechanisms are required.

Questions

(1) Which is the option preferred?

The consultation document presents four options identified by the Inter-Service Group (ISG) for implementing an EU School Fruit Scheme. EHN believes that option 4 best meets the need of increasing fruit and vegetable consumption in children and adolescents. However, to ensure that School Fruit Schemes are effective "best practice" based on several Member States' experiences, ideally option 4 should be supplemented with option 2.

EHN supports option 4 because:

- it is the only option that would be effective in increasing availability and accessibility to fruits and vegetables in school environments; this is crucial in improving children's diets throughout the EU;
- faced with the current public health threat of obesity and associated chronic diseases, substantial investment is required; option 4 is a proportionate measure to counteract the health threats;
- it would encourage relatively poorer Member States to implement schemes that improve the quality of children's diets by providing a tested financing framework; thus it would address inequalities among Member States;
- it would provide incentives to establish new innovative food chains and source high quality, nutritious, local and seasonal products.

What in your experience are the necessary conditions for a successful initiative able to promote a sustainable increase in the consumption of fruit and vegetables by young people and to have a lasting influence on their behaviour?

- the scheme must be resilient to socio-political environments and short-term financing structures; a strategic and financial framework that is sustainable over time is necessary;
- an adequate budget is key to the success of the scheme; it has been estimated that a minimum of €100 million/year is needed to reach a substantial percentage;
- in addition to providing the produce, education about the benefits of eating fruits and vegetables should be part of the programmes;
- the scheme should encourage broad partnership between education, health and agriculture; it should also involve parents;
- rules and eligibility should be kept simple;

- to enhance the effectiveness of the school fruit scheme, snacks and sweet soft drinks should not be available in the schools and overall marketing of foods high in fat, salt and sugar to children should be restricted.

What are the main obstacles to a successful initiative?

With political and financial support, EHN considers that there are no obstacles that cannot be overcome through for instance the networking of Member States' initiatives (option 2) to assist optimal functioning.

What would be good criteria for evaluating the cost-effectiveness of an initiative?

EHN would like to emphasise that the potential health benefits from a sustainable increase in consumption of fruit and vegetable consumption in themselves are sufficient to justify the school fruit scheme.

In terms of criteria for evaluation the cost-effectiveness of the scheme, EHN could suggest analysing potential savings from a reduction in premature mortality and morbidity. The volume of research on the cost-effectiveness of public health programmes is relatively small, but what exists frequently show that investments yield substantial positive returns.¹⁰

As stated above, WHO estimates that just under 30% of coronary heart disease (CHD) and almost 20% of stroke in developed countries is due to fruit and vegetable consumption levels below 600g per day. As total cost of CHD amounts to €49 billion and cost of stroke to over €38 billion per year, the cost of the proportion of these diseases attributed to insufficient intake of fruit and vegetable can be estimated at €22.3 billion per year. If only a fraction of this, say 5%, could be saved due to the school fruit scheme, then an annual saving would amount to €1.115 billion. With an investment of €100 million a year the cost-effectiveness ratio would be 11:1.

¹⁰ Suhrcke et al (2005) The contribution of health to the economy in the European Union. The European Commission.

What could be the value added of an EU initiative?

Whilst the primary objective of an EU scheme is based on agriculture policy objectives, i.e. effectively promoting an increase in intake of fruit and vegetables, the scheme would also address other important EU objectives:

- ensuring health in all policies (Article 152 of the Treaty of the Union) by addressing major health burdens and inequalities in the EU. For example, cardiovascular diseases represent an extremely uneven burden for the EU Member States ranging from 62% of all deaths in men in Bulgaria to 26% in France;
- responding to the Lisbon agenda by
 - stimulating growth and employment since a healthier population will contribute to these objectives.¹⁰ For example, production losses due to cardiovascular disease mortality and morbidity cost the EU almost €41 billion in 2006, with around two thirds of this cost due to premature death (€26.9 billion) and one third due to illness (€13.9 billion) of people of working age. Cost of informal care by relatives and friends is another important non-health care bill which in 2006 amounted to just under €42 billion;
 - supporting healthy ageing; and
 - creating new markets and access to new markets.
- contributing to the EU environmental policy by reducing "food miles" and moving consumption patterns towards more plant based diets.
- bringing EU closer to its citizens providing tangible benefits that respond to people's everyday concerns about their children's health and wellbeing.

(2) How could it be improved?

Are there factors not taken into account or elements of uncertainty that could significantly influence the impact of the options under consideration? If so, what are they? What would be their influence?

EHN is not aware of factors or elements of uncertainty that could significantly influence the impact of the options under consideration. As stated above, EHN feels that a combination of options 4 and 2 represents a way forward which assists in limiting uncertainties.

Should the ISG seek to incorporate into its analysis an assessment of any specific impacts other than those envisaged in chapter 2?

EHN believes that the ISG has provided a highly relevant list of objectives. EHN believes that the impact of an EU scheme can act as a trigger or a focal point for other health-related activities involving local communities and growers. In other words, it may have a multiplier effect.

Do you have any examples of "best practice" that could improve the options?

EHN would suggest that “best practice” may be derived for the review of school fruit and vegetable programmes worldwide published by the London School of Hygiene and Tropical Medicine in December 2007.

What conditions (compulsory and/or optional should be introduced and/or developed for the ‘Supporting Initiatives’ and ‘Driving Initiatives’ options?

Products available for the scheme should be seasonal, locally grown and respect ‘nutrient profiles’ i.e. low in energy density.

Again, EHN would like to stress that the overall school environment must be in support of the school fruit scheme by ensuring that food products and beverages with high appeal to children (snacks and sweet soft drinks) are not available in the schools.

(3) Is there any other option that you would consider adequate to reach the stated objectives?

EHN has not carried out an analysis of options other than those identified by the ISG.

	Status Quo	Networking	Supporting Initiatives	Driving Initiatives
Long term increase of fruit and vegetables consumption among school children	(1)	(3)	(3)	(5)
Decrease in obesity of school children and health improvement	(1)	(3)	(3)	(4)
Increased fruit and vegetables consumption in poorer regions and by deprived persons	(1)	(3)	(3)	(5)
Appropriate level of initiative and administration; European value added	(2)	(3)	(4)	(5)
Appropriate disbursement of public funds (both national and EU)	(2)	(4)	(4)	(5)
Positive impact on the environment	(2)	(2)	(3)	(4)
Bringing Europe closer to its citizens	(2)	(4)	(4)	(5)

Grading: the option would have a (1) very negative impact (2) negative impact (3) neutral impact (4) positive impact (5) very positive impact;