

Frukt og grønnsaker i skolen
Beregning av samfunnsøkonomisk lønnsomhet

Fruit and vegetables in school
Analysis of socio-economic cost-effectiveness

Summary

This socioeconomic analysis incorporates the results of a Danish study showing, an increase in average life expectancy of 1.5 years if average fruit and vegetable intake is increased from 250 to 500 grams per person per day. These results are used to approximate the socio-economic cost-effectiveness of implementing a free fruit and vegetable program in Norwegian elementary schools. The estimated cost of a national free fruit and vegetable program is 350 MIL. NOK or 580 NOK/pupil/school year.

The question that we have attempted to answer in this report is: what proportion of pupils on a permanent basis need to increase their intake of fruit and vegetables from 250 to 500 grams, for a school fruit and vegetable to be cost-effective in terms of socio-economic costs and benefits. The results of this analysis show that, using a value of 1,2 MIL. NOK (this is the same value used when estimating the value of preventing traffic deaths) for each saved year of life and a 4 % discount rate, only 0,3 percent children need to increase their intake of fruit and vegetables from 250 – 500 gram.

The linear relationship assumed between fruit and vegetable intake and the effect on increase average life expectancy in the Danish study, suggests that a free fruit and vegetable scheme is cost-effective if 3 percent of pupils increase their permanent intake by just 25 grams per day.

The value of a saved year of life applied in this model is associated with uncertainty. A simple sensitivity analysis suggests using a lower value for saved year of life, i.e. 350.000 NOK, as used in health sector calculation of treatment cost. Using this lower value in the calculation shows that a free school fruit and vegetable program is cost-effective, if 1 % of pupils permanently increase their fruit and vegetable intake from 250 to 500 grams daily, or if 10 percent of pupils increase their intake by 25 grams.