

# The School Meal Project in Southern Norway investigated whether a free school meal every day for one year was associated with children's intake of healthy food during school, weight status and learning environment

<b>Submission date</b> 23/11/2018	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 03/12/2018	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 18/01/2023	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

There are no organized school meals in Norway and children bring packed lunches from home. Milk prescription programs exist in most schools (parent paid) and fruit prescription programs exist in some schools (also parent paid). Norway has "Guidelines for school meals", but since the parents are responsible for the quality of the food that the children bring for the school meal, socio economic differences in families are highly visible and guidelines exist mostly in theory and not in practice. No vending machines are allowed in schools. The prevalence of overweight (including obesity) among children in Norway is 16%. The area where this study took place had a higher prevalence of childhood overweight and was one of the reasons for starting the study. The prevention of childhood obesity through promoting healthy eating habits at school was therefore a main aim. The study also aimed at promoting a healthy meal pattern, increasing motivation for learning and promoting a healthy weight status.

### Who can participate?

All schoolchildren aged 10-12 from two selected schools in southern Norway were invited to participate together with one of their parents.

### What does the study involve?

One group is selected to receive a free healthy school meal every day for one full school year (August 2014- June 2015) - a cold meal prepared by a local cook and consisting of wholegrain bread, healthy spread like ham, cheese, liver paste, fish spread etc., milk and fruit/vegetables cut into small pieces. The children in the control group do what they usually do: eat their packed lunch from home. Dietary habits are assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015.

What are the possible benefits and risks of participating?

The possible benefits for the children in the intervention group (getting the free meal) are improved diet, and for society more knowledge about school children's dietary habits and preference and liking for different food items. There is no potential risk to the children participating in the study.

Where is the study run from?

The study is run from the University of Agder in Norway. Birkeland and Froland schools were the locations where the study took place.

When is the study starting and how long is it expected to run for?

May 2013 to December 2015

Who is funding the study?

The University of Agder is funding the study. A local cook, Kiwi Birkeland, Bakers Lillesand, Birkeland Medical Center, the Norwegian Womens Public Health Association, and Aust-Agder county council also supported the work in The School Meal Project.

Who is the main contact?

Prof. Frøydis N. Vik

## Contact information

### Type(s)

Scientific

### Contact name

Prof Frøydis Nordgård Vik

### ORCID ID

<https://orcid.org/0000-0001-7324-0070>

### Contact details

Postboks 422

Kristiansand

Norway

4604

## Additional identifiers

### Protocol serial number

N/A

## Study information

### Scientific Title

The School Meal Project in Southern Norway investigated whether a free school meal every day for one year was associated with children's intake of healthy food during school, weight status and learning environment

## **Acronym**

School Meal Project

## **Study objectives**

Rationale: The School Meal Project was developed based on the assumption that a healthy free school meal may influence children to eat a meal rich in healthy nutrients and thereby contribute to healthy eating habits – which in turn may contribute to prevention of childhood obesity.

Hypothesis: A free healthy school meal every day for one year improves meal pattern, dietary habits at school, learning environment, motivation for learning and weight status among children 10-12 years old.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Norwegian Centre for Research Data, 25/06/2014, ref: 38980

## **Study design**

Multicentre non-randomized intervention study with an intervention and a control group

## **Primary study design**

Interventional

## **Study type(s)**

Prevention

## **Health condition(s) or problem(s) studied**

Dietary status of schoolchildren and prevalence of childhood obesity

## **Interventions**

A convenience sample was chosen to make the study feasible resulting in a non-randomized design. In total, 164 children from two schools were included, 55 in the intervention group and 109 in the control group.,

Intervention: A cold healthy school meal prepared according to the Norwegian dietary guidelines was served every school day for one full school year (August 2014- June 2015) (wholegrain bread, healthy spread, milk, fruit/vegetables). A local cook administered the serving of the meals.

Control: The children ate packed lunch brought from home as they normally do in Norway.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Dietary habits at school, assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015

## **Key secondary outcome(s)**

1. Meal pattern, learning environment, motivation for learning, assessed using questionnaires answered by children and their parents in August 2014, January 2015, and June 2015

2. Weight status: height, weight and waist circumference of children measured in August 2014, January 2015, and June 2015

**Completion date**

10/12/2015

## Eligibility

**Key inclusion criteria**

1. 10-12 year-old children and their parents
2. Gender: boys and girls
3. All ethnic groups

**Participant type(s)**

All

**Healthy volunteers allowed**

No

**Age group**

Child

**Lower age limit**

10 years

**Upper age limit**

12 years

**Sex**

All

**Total final enrolment**

164

**Key exclusion criteria**

1. Children without written parental consent
2. Children who did not want to participate since the intervention was voluntary

**Date of first enrolment**

20/05/2014

**Date of final enrolment**

20/08/2014

## Locations

**Countries of recruitment**

Norway

**Study participating centre**  
**Birkeland Elementary School**  
Valtjønneveien 41  
Birkeland  
Norway  
4760

## **Sponsor information**

**Organisation**  
University of Agder

**ROR**  
<https://ror.org/03x297z98>

## **Funder(s)**

**Funder type**  
University/education

**Funder Name**  
University of Agder

**Funder Name**  
A local cook in Birkeland County, Trude Karlsen

**Funder Name**  
Kiwi Birkeland and Bakers Lillesand (local food stores providing food for the study)

**Funder Name**  
Birkeland Medical Center

**Funder Name**  
The Norwegian Womens Public Health Association

## Funder Name

Aust-Agder county council

# Results and Publications

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Prof. Frøydis N. Vik. Type of data: questionnaire data and height/weight /waist circum.data entered in a SPSS file. The data are available on reasonable request to other research colleagues who are interested in this area of research and will be kept on password-secured PC at the University of Agder for 10 years. Consent was obtained from the parents of the children since they were under the age of 16. ID numbers were used to match parent and child questionnaires. No names were visible on any questionnaire. A key with ID numbers and names existed at the start of the project, but is now deleted. Ethical clearance in Norway is very strict, and opt out is not an option for participants under the age of 16. Every child must therefore have a written consent from a parent/legal guardian in order to participate in the study. All the children in the intervention group were offered a free school meal regardless of whether they had a parental consent to fill in the questionnaire and be measured (H/W/WC) or not.

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/07/2017		Yes	No
<a href="#">Results article</a>	results	05/07/2019	08/07/2019	Yes	No
<a href="#">Results article</a>	results	07/09/2020	09/09/2020	Yes	No
<a href="#">Results article</a>		16/07/2019	18/01/2023	Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes