

# Addressing medical absenteeism among pre-vocational secondary students: effectiveness of a public health intervention.



**EUSUHM, Estonia-Tallinn**

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**Dutch intervention 'Medical Advice for  
Sick-reported Students',  
abbreviated as MASS**

**In Dutch: 'Medische Advisering van de  
Ziekgemelde Leerling',  
abbreviated as M@ZL**



# This presentation

- School absenteeism and health inequalities
- Description of the MASS intervention
- Effect study:
  - Objective
  - Methods
  - Results
  - Discussion and conclusions
- European perspective?
- Any questions?



# School absenteeism and health inequalities

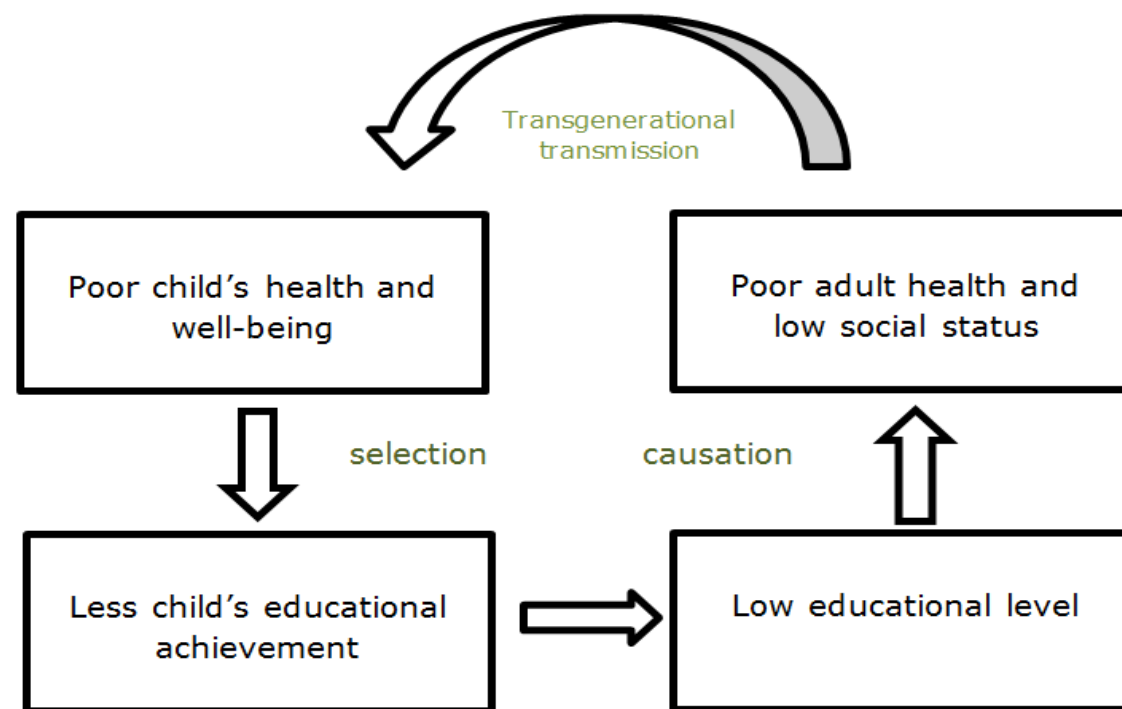
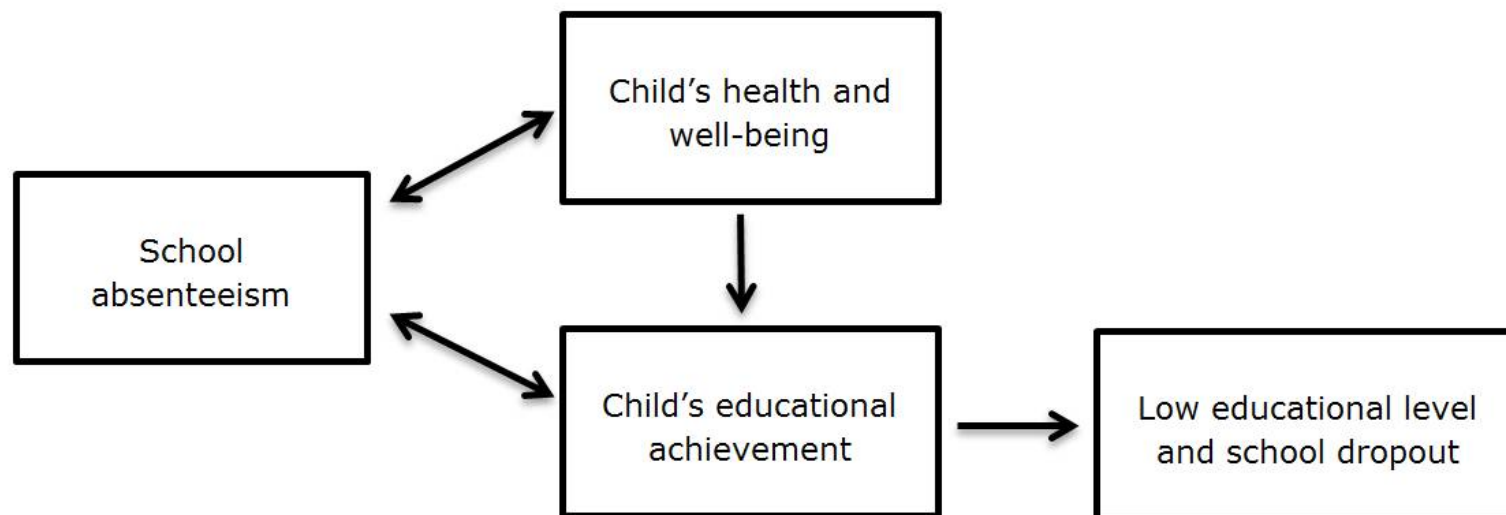


Figure 2: Visualisation of the causation and selection process, and the transgenerational transmission of a low socioeconomic (health) status in a life-time perspective. Source: Adapted from Allensworth (2010) [80] and Murray et al. (2006) [91].



# School absenteeism and health inequalities



Visualisation of the correlation between school absenteeism, young people's development and low educational level and school dropout.

# School absenteeism and health inequalities



The interdependence between school absenteeism and students' health is definitely reflected in medical absenteeism.

In the Netherlands, a public health intervention has been developed to address medical absenteeism in pre-vocational secondary education.

# The MASS intervention

Provides

- a clear *framework*
- in which *schools*,
- in collaboration with *youth health care physicians*,
- are able to *reach* students and their parents,
- *discuss* aspects of the student's medical absence, and
- design and monitor a management *plan*

Aims to optimize students' health and maximize students' participation in school activities.



# Basic principles

## ***Step 1 School's policy:***

- Inclusion in school policy
- Communication about the new policy in case of absenteeism because of medical reasons.

## ***Step 2 Referral to the youth health care physician (YHCP):***

- Identification of students with extensive medical absence by using the MASS-criteria.
- Referral to the YHCP for student and parents.

MASS-criteria: four times reported sick in 12 school weeks or more than six consecutive days.





# Basic principles

## ***Step 3 Consultation of student and parents with the YHCP:***

- Analysis of underlying diseases and/or problems to account for the absence.
- Designing a management plan, including agreements on cure, care and school attendance.

## ***Step 4 Monitoring the management plan:***

- Monitoring the execution of the management plan.



# The objective of the study

To investigate the effectiveness of MASS on students' medical absenteeism



# Methods; study design and population

A quasi-experimental design with an intervention group and a control group has been used.

7 intervention schools (MASS) and 7 control schools ('care-as-usual'):

- Characteristics: urbanisation, fields of education, school size.
- Retrospective recruiting of the data of the controls

Resulting in an intervention group of 493 students and 445 control students



# Methods; data collection and outcome measurements

The level of medical absence was measured at three points in time:

- For the intervention group, the first time ( $T_0$ ) was when the student was invited to the YHCP.
- For the control group, the first time ( $T_0$ ) was on December 1 or February 1. After 12 school weeks ( $T_1$ ) and 12 months ( $T_2$ ) the measurement was repeated.

The level of a student's medical absence was measured as:

- the number of absence periods and
- the number of absence days by reporting sick during the 12 school weeks prior to the three measurement points.



# Methods; statistical analysis

- To determine differences in socio-demographic variables between the intervention group and the control group:
  - Pearson's chi-squared tests (for categorical variables)
  - Student's t-test (for continuous variables)
- To study differences in the development of the level of a student's medical absence over time:
  - multilevel analysis



# Results:

# characteristics

Table 2: The selected demographic characteristics and the initial values of medical absenteeism of the intervention and control groups.

	Intervention group (493)	Control group (445)	Statistical values
Gender, % male	44.2*	35.7	$\chi^2=7.01^{**}$ , df=1
Age in years, mean (SD)	14.54 (1.32)	14.32 (1.28)	t=2.49*
Absence rate in periods per 12 school weeks, mean (SD)	3.91 (1.62)**	4.50 (1.16)	t=-6.20**
Absence rate in days per 12 school weeks, mean (SD)	8.40 (5.39)*	9.92 (5.39)	t=-4.27**
Number of days per period	2.29 (1.53)	2.39 (1.67)	t=-0.95

\*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ .



# Results:

## number of absence periods

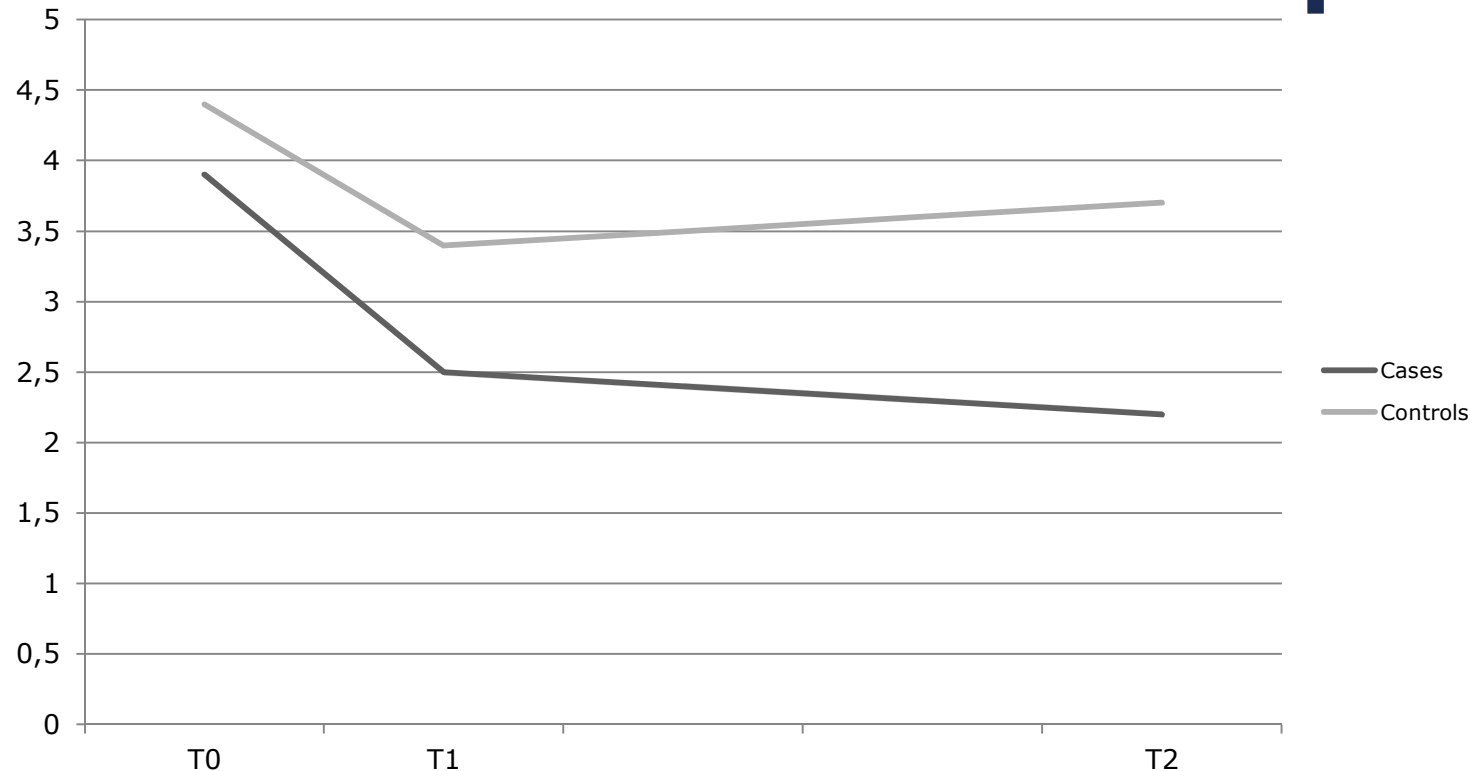


Figure 1: The progress of the absenteeism in number of periods.



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# Results:

# number of absence days

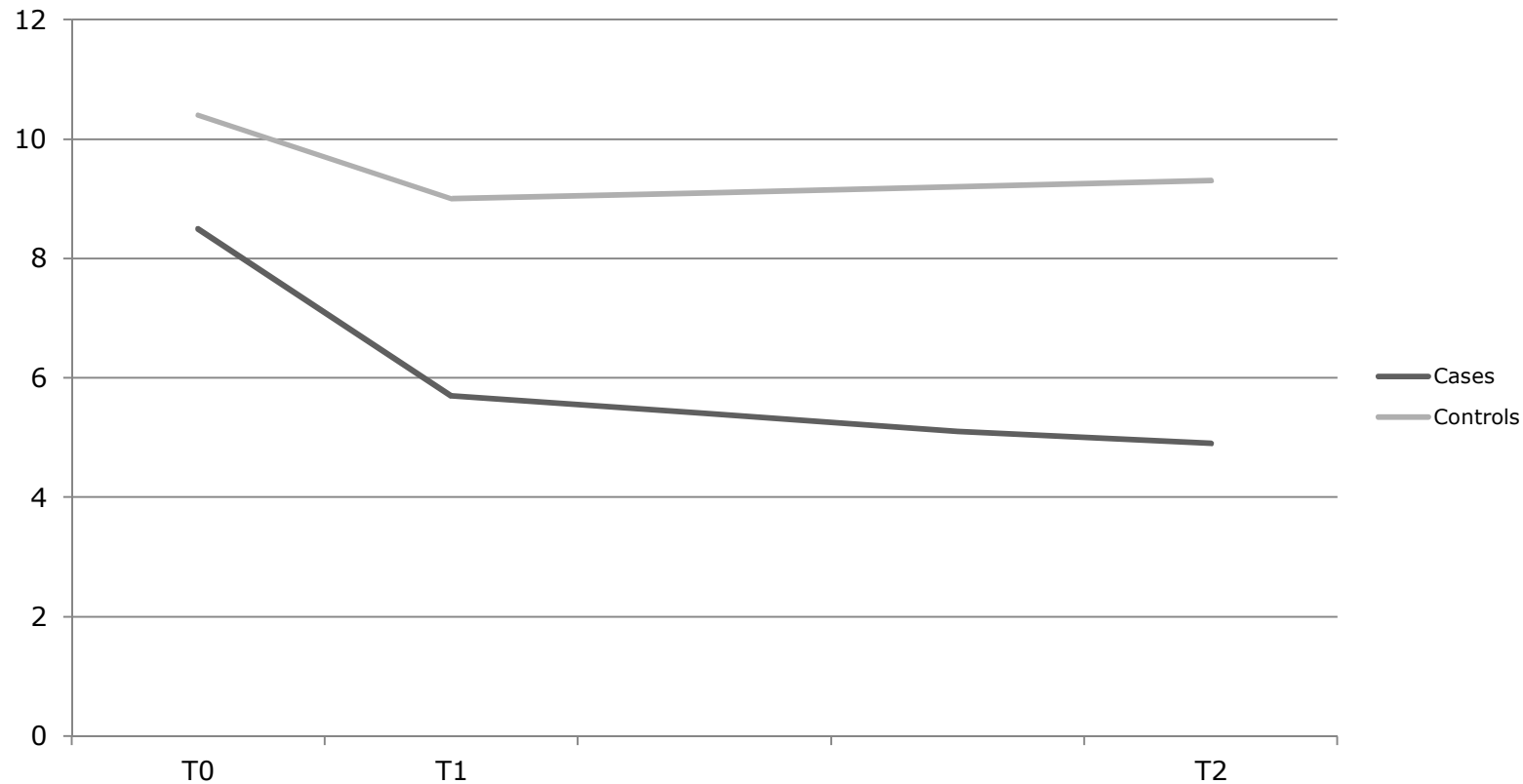


Figure 2: The progress of the absenteeism in number of days.





# Results:

## number of days per period

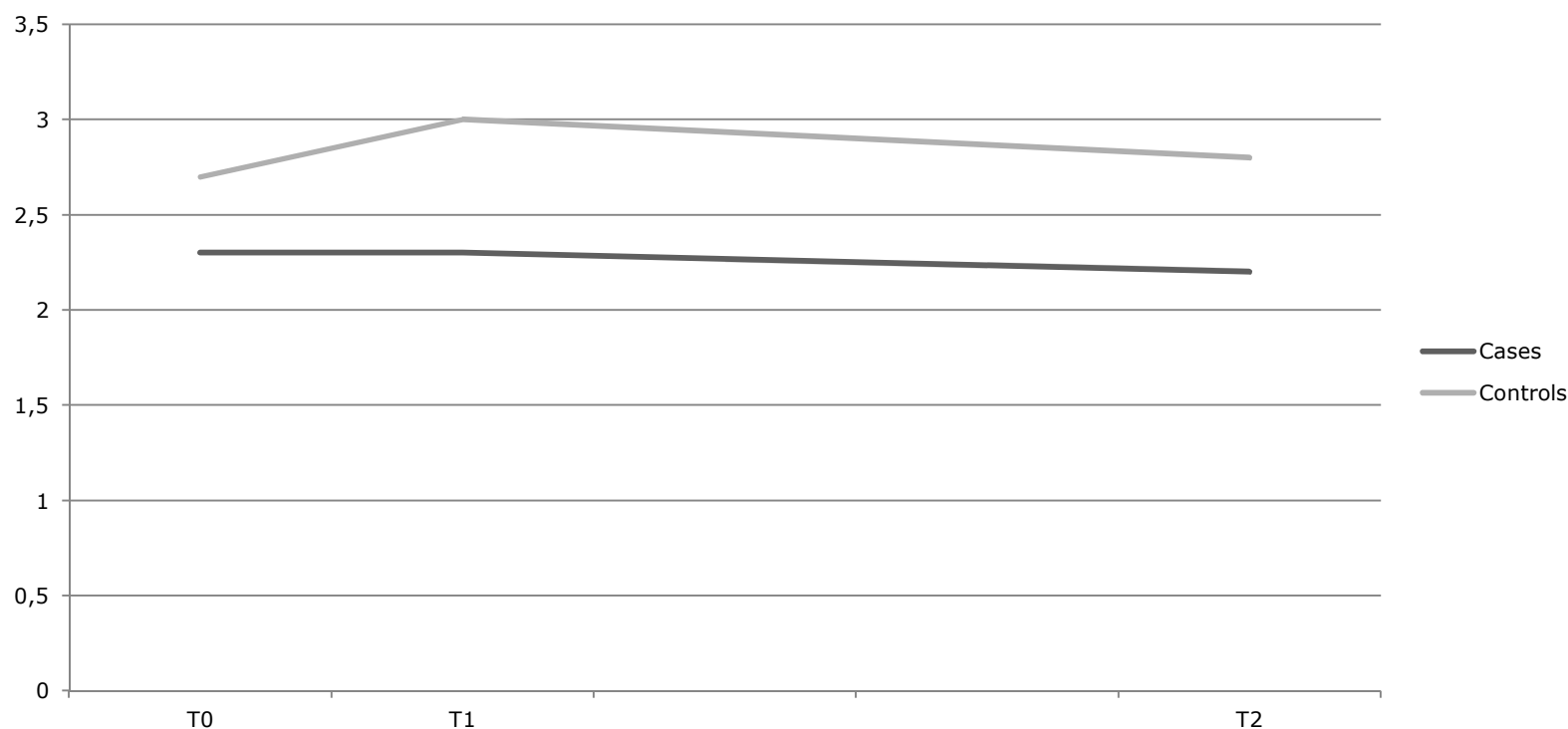


Figure 3: The progress of the absenteeism in number of days per period.



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# Discussion

- The study showed a decrease in the number of absence periods and days in the intervention group and the control group. The effects, however, were significantly stronger in the intervention group.
- Rapid decline after 12 school weeks:
  - Regression-to-the-mean?
  - Attention generated?
- The effect after 12 months:
  - Analysis of the underlying problems by the YHCP and arranging care and cure?
- With respect to the number of days per period, no significant effects were found.
  - A two days absence as a natural minimal period for one sick report?
  - In line with 'Sharp-at-work'-intervention.



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# Discussion

## Limitations:

- Differences between both groups
  - In gender and age. No gender and age effect was found on the absence rate in periods and total number of days
  - In the initial absence rate.
- This study provides no definite answers to the question which specific factor is responsible for this decrease.
  - a raised threshold for reporting sick in future?
  - attention paid by school?
  - the intervention of the YHCP, resulting in more personalized and adequate care or support



# European perspective?

## Generalizability at national level:

- in pre-vocational secondary educational level, however,
- to what extent can these results be generalized in other educational levels?

## And, to what extent can these results be generalized internationally?

- Both public health care and school systems differ substantially across countries.
- Sickness reports: must always be verified by an appropriately licensed medical professional in order to be accepted?
- Medical absence among students is a universal problem
- In general, medical absenteeism has a wide variety of causes, and personal attention to individual students is necessary to create an effect on medical absenteeism.



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# CONCLUSION

More than one

- 1) The MASS intervention seems to be more effective than “care-as-usual”.
- 2) The effectiveness is demonstrated primarily by a decrease in the number of periods reported sick.
- 3) MASS seems to be a promising tool in the public health setting for addressing medical absenteeism among students, and could potentially be an effective way of taking action against health inequalities.



# Are there any questions?

