

# Health sciences research in Finland 2003–2005: A Comparison between the special government transfer (EVO) points and levels of evidence

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# Introduction

- Finland is divided into **five university hospital districts** for delivery of special health care services
- The state funding for health sciences research is currently based on special government transfer points (**EVO points**)
- The EVO points are **based on Impact Factors (IF)** of the journals in which the research reports have been published

IF value	EVO points
$if < 1.0$	1
$if = 1.0 - < 4.0$	2
$if \geq 4.0$	3



## Aim of the study was to assess

- **the amounts of publications and EVO points** in different research fields in the years 2003-2005 (N=10.100)
- **the levels of evidence** of the publications
- **the correlation between the amounts of EVO points and levels of evidence** of the publications



## Methods

- **amounts of publications and EVO points**
- Research fields of publications were defined using **PubMed Journal Subject Terms**
- Publications and EVO points were allocated to each research field of the journal in question
- For example a publication in *Journal of Neurology, Neurosurgery, and Psychiatry* (2005 IF 3.100) gives one publication and two EVO points for the fields of *neurology*, *neurosurgery* and *psychiatry*
- Consequently, the amounts of publications and EVO points are calculatory



# Methods

## - levels of evidence of publications

A–C levels of evidence were determined using MeSH terms and publication types (PubMed)

**A** - systematic reviews of randomized controlled trials

**B** - randomized controlled trials

**C** - controlled trials, cohort studies, case-control studies, comparative study, longitudinal studies, follow-up studies and prospective studies

Not included

**D** – case series; poor quality cohort and case-control studies; retrospective studies etc.



# Methods

## - levels of evidence of publications

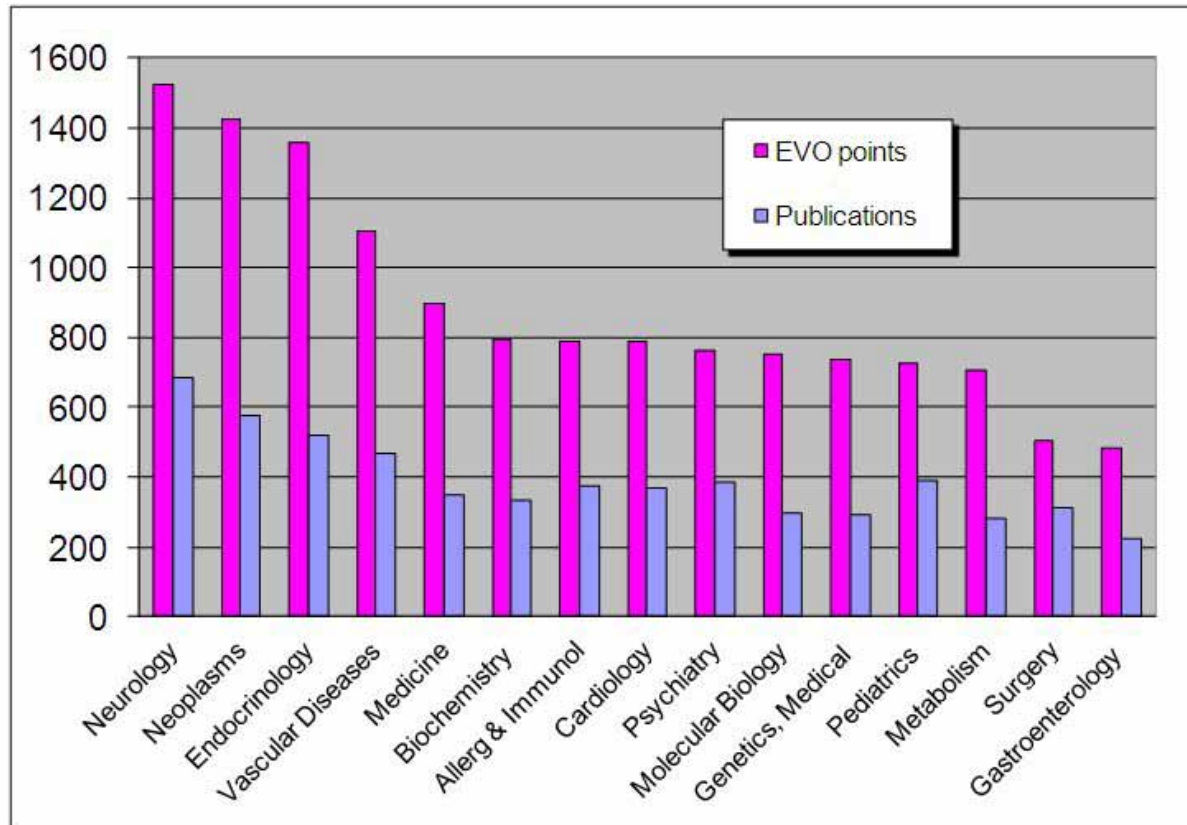
Three search phrases were formed

- A *"Randomized Controlled Trial"[pt] OR "Randomized Controlled Trials as Topic"[mesh]) AND systematic[sb]*
- B *("Randomized Controlled Trial"[pt] OR "Randomized Controlled Trials as Topic"[mesh]) NOT systematic[sb]*
- C *("Controlled Clinical Trial "[pt] OR "Controlled Clinical Trials as Topic"[mesh] OR "Cohort Studies"[mesh] OR "Case-Control Studies"[mesh:noexp] OR Comparative Study[pt]) NOT ("Randomized Controlled Trial"[pt] OR "Randomized Controlled Trials as Topic"[mesh])*

Results are expressed as **percentages for the number of the publications fulfilling the evidence levels A–C from the publications of the 15 most prominent research fields**

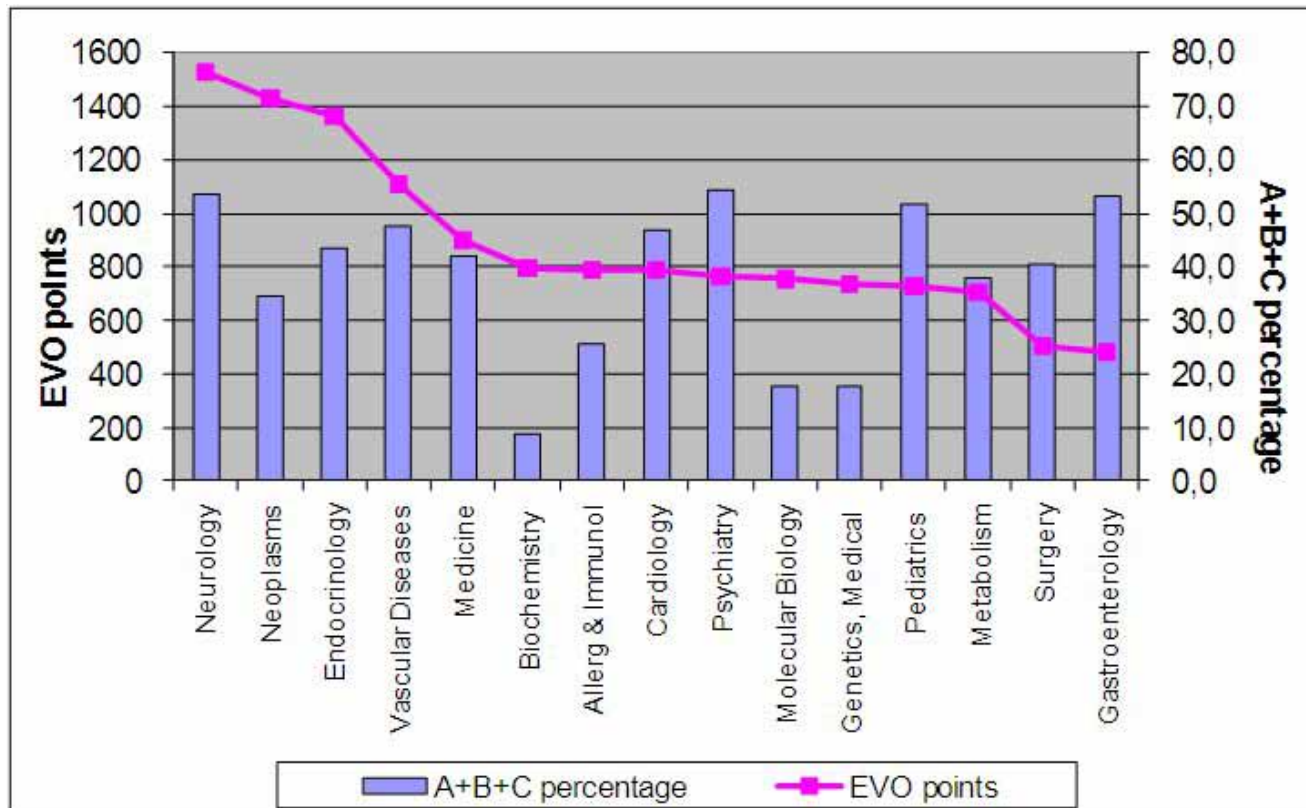


# Results



Amount of EVO points and publications in the 15 most prominent research fields in 2003–2005





Comparison of the amount of EVO points and levels of evidence in the 15 most prominent research fields

**Spearman's correlation coefficient 0,03214**





# Comparison of the results obtained using EVO point analysis and levels of evidence analysis

## Number of EVO points

1. **Neurology**
2. Neoplasms
3. Endocrinology
4. **Vascular Diseases**
5. Medicine
6. Biochemistry
7. Allergy & Immunology
8. **Cardiology**
9. Psychiatry
10. Molecular Biology
11. Genetics, Medical
12. Pediatrics
13. Metabolism
14. Surgery
15. Gastroenterology

## Levels of evidence (A–C)

1. Psychiatry
2. **Neurology**
3. Gastroenterology
4. Pediatrics
5. **Vascular Diseases**
6. **Cardiology**
7. Endocrinology
8. Medicine
9. Surgery
10. Metabolism
11. Neoplasms
12. Allergy & Immunology
13. Molecular Biology
14. Genetics, Medical
15. Biochemistry



# Discussion

- ✓ The highest amounts of EVO points were produced by large research fields with high publication activity
- ✓ The order of research fields differs greatly when assessed using EVO points analysis and levels of evidence analysis

## Methodological aspects

- ✓ Defining the research fields of publications using Journal Subject Terms is not without problems
- ✓ A part of health sciences research (e.g. nursing journals) falls out from the analysis of EVO points based on IF
- ✓ Laboratory research and animal studies are not included in the grading of evidence levels
- ✓ IF based analysis favors big research fields and popular research areas
- ✓ All clinical specialties are treated equally in the levels of evidence analysis



# Conclusions

- ✓ Neither IF or the evidence level based analysis system is as such appropriate for assessing the research productivity
- ✓ The human resources and economic investments used to achieve the research outcomes should be considered when evaluating research productivity



*Thanks for your  
attention and interest!*

*Helena\**

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