

Course Summary

1. Recap
2. Take-home exam

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MF9130E – Introductory Course in Statistics

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Checklist: what should you have learned (something about)?

- 1 **Basic distributions, terms and notation**
- 2 How to present your data: **descriptive statistics**
- 3 Basic **univariable analysis** (no covariates)
 - ▶ t-tests, non-parametric tests, chi-squared tests
 - ▶ CIs for the mean of one or several populations, CIs for proportions
 - ▶ Risk difference, relative risk and odds ratio
 - ▶ Simple linear regression, correlation
 - ▶ Kaplan-Meier survival curves
- 4 Basic **multivariable analysis** (covariate adjusted)
 - ▶ Multiple linear regression, confounding, interactions
 - ▶ Logistic and Cox regression (only the very basics!)
- 5 **Reporting and assessing** results from statistical analysis

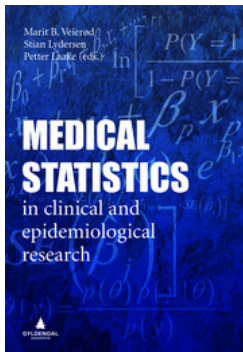
Publication of results – three relevant measures

- **The effect measure** (mean, median, proportion, regression coefficient, relative risk, odds ratio)
- The uncertainty of the effect measure (**Confidence intervals** or standard error)
- The significance of the effect measure (**p-value**)
 - ▶ Don't use $p = NS$ or $p \leq 0.05$ or $p > 0.05$
 - ▶ $p = 0.2613 \rightarrow p = 0.26$
 - ▶ $p = 0.0023 \rightarrow p < 0.01$ or $p = 0.002$
 - ▶ $p = 0.0000 \rightarrow p < 0.001$
- Journals typically have their **policies**

General reporting policies

- **EQUATOR Network** – a resource center for good reporting of health research studies
www.equator-network.org
- CONSORT Statement for **reporting of RCTs** (22 item checklist) and STROBE for reporting of **observational studies** in epidemiology (checklist depend on design) etc
- STROBE and CONSORT statements are **endorsed by a large number of biomedical journals**

A starting point for further reading: Veierød, Lydersen and Laake (eds)



- Marit B. Veierød, Stian Lydersen, Petter Laake (eds.)
Medical Statistics in Clinical and Epidemiological Research. Gyldendal Akademisk, 2012
- www.medicalstatistics.no

Advising service: a reminder

- The Department of Biostatistics, as part of the Oslo Centre for Biostatistics and Epidemiology (OCBE), offers consulting in **biostatistics, epidemiology and health economics**.
- **For everyone affiliated** to the Medical Faculty of UiO, or OUS any other hospital of Helse Sør-Øst
- **Three types of consulting is offered:**
Policlinic is the typical entry point.
 - ▶ joint collaborative long-term projects (type 1)
 - ▶ single project support (type 2)
 - ▶ drop-in/policlinic support (type 3)
- Read more and **apply for consulting through web form** at:
www.med.uio.no/imb/english/research/centres/ocbe/advising/

Take-home exam

- You get the exam **TOMORROW** at 15:00
- **Dataset and pdf file with exercises** can be found also on Canvas (“Exam” folder)
- When calculating by hand, **report your calculations, not only the result**
- When using a computer, use R (or other softwares such as STATA or SPSS) and clearly state what analysis you run
- Hand in a **short and consise** exam (pdf file) – paste in relevant figures/output (and not more!)
- Everyone must **hand in their own separate exam** – if you collaborate, write with whom on the first page. Do **not** hand in identical submissions!
- **Hand in on Inpera by Thursday May 23rd, 2024 at 15:00**