Summary

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MF9130E - **Introductory Course in Statistics**

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 and test for proportions
   - ▸ Risk difference, relative risk and odds ratio
   - ▸ Univariable linear regression, correlation
   - ▸ Kaplan-Meier survival curves
4. Basic **multivariable analysis** (covariate adjusted)
   - ▸ Multivariable 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)
- It's significance (**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)
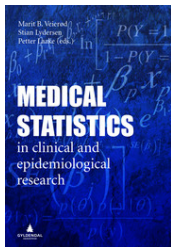
- Marit B. Veierød, Stian Lydersen, Petter Laake (eds.) **Medical Statistics in Clinical and Epidemiological Research**. Gyldendal Akademisk, 2012
- www.medicalstatistics.no

Consulting service

- 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 log-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

- **The exam will be available from the exam management system Inspera.**
- **Dataset and accompanying paper** can also be found on Canvas.
- When calculating by hand, **report your calculations, not only the result**
- When using a computer, use only one of the following statistical softwares: SPSS, STATA, or R. Clearly state which analysis steps you used.
- Hand in a **short and consise** exam – 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 Inspera! Time for the exam: 4 weeks.**