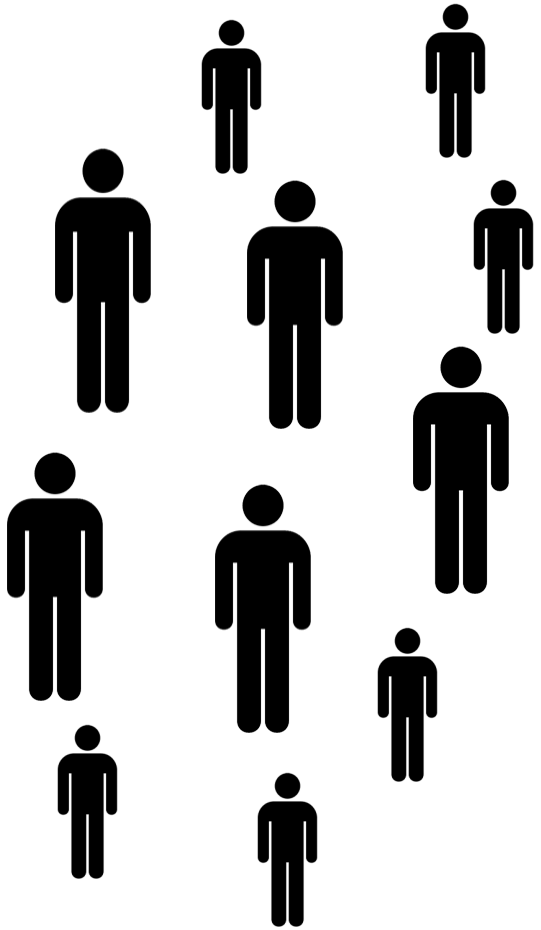
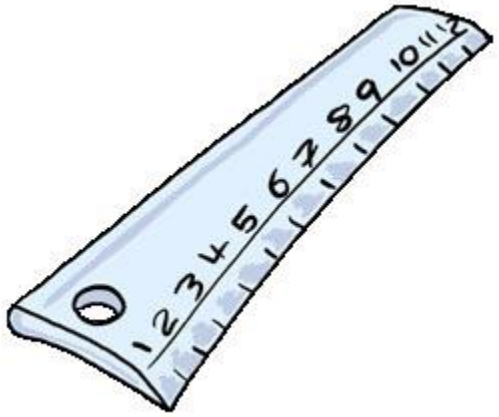
Farmakoepidemiologiske prognosestudier blandt cancerpatienter

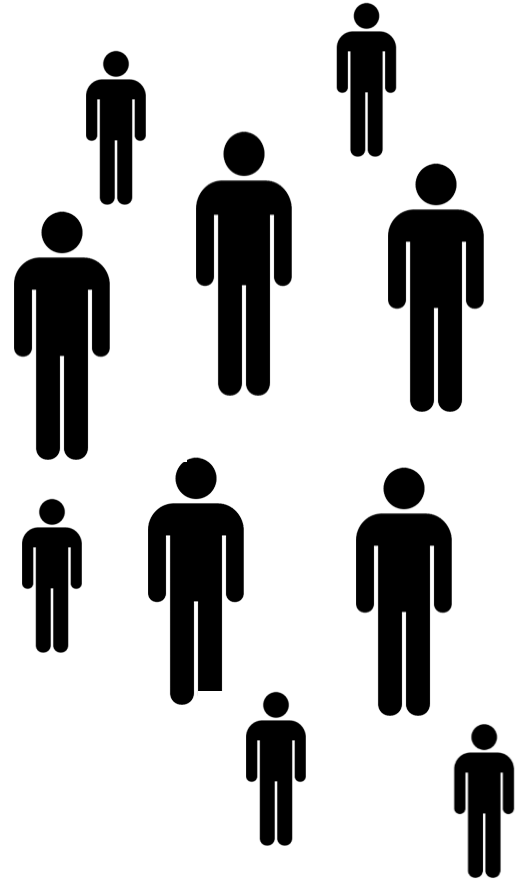
Hvordan man gør og hvordan man (bestemt) ikke gør

Klaus Kaae Andersen, Kræftens Bekæmpelse Forskning, 16/11 2017

Difference?







Comparison of survival times,
conditional on drug exposure
and other measured covariates

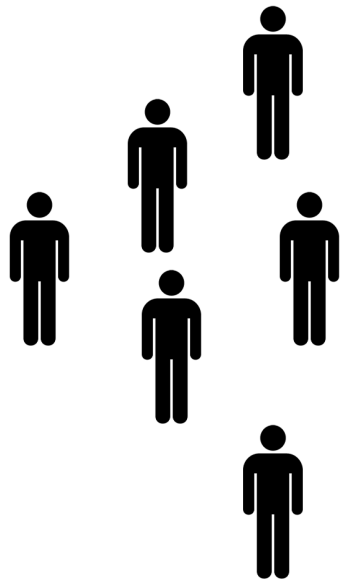
Exposed
(to drug A)

Could be more than two comparison groups

Unexposed
(or exposed to drug B)

10 issues to be discussed

1. Make sure you have enough statistical power
2. Make an analysis plan
3. Do not condition on the future
4. Define a relevant comparison group
5. Make a clear exposure definition
6. Define the risk set
7. Consider which time scale to use
8. Make sure to address confounding (and effect modification)
9. Select your model and evaluate your model fit
10. Make your research reproducible

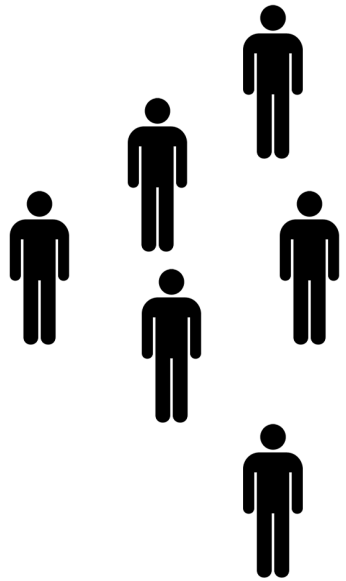


Cancer diagnosis

Follow-up for relapse,
cause-specific mortality, etc

Time

1. Make sure you have enough statistical power
2. Make an analysis plan (and submit it to www.clinicaltrials.gov)



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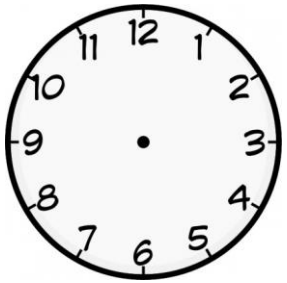
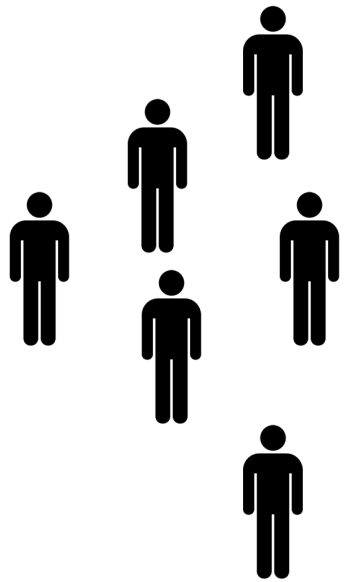


3. Do not condition on the future

Consider baseline characteristics
Consider which variables that changes in time (and split up the time)

Treatment



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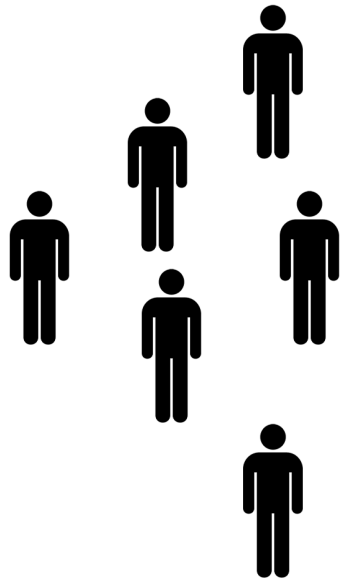
4. Define a relevant comparison group (consider sampling on a set of covariates and use sampling with replacement)
5. Make a clear exposure definition (beware of the truncation of registries, new user designs is sometimes a good idea)



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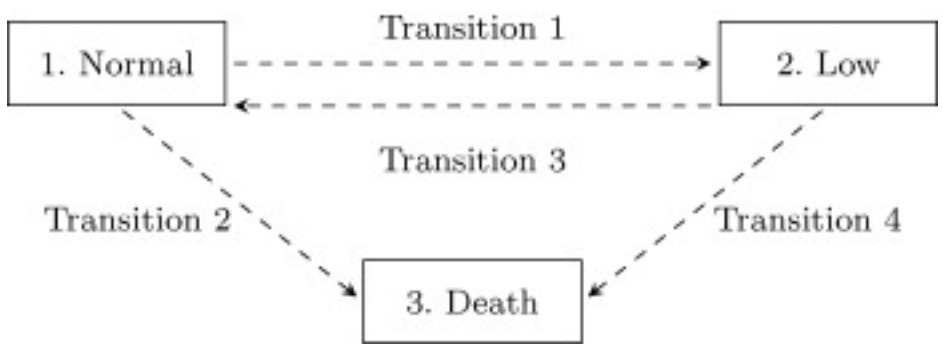
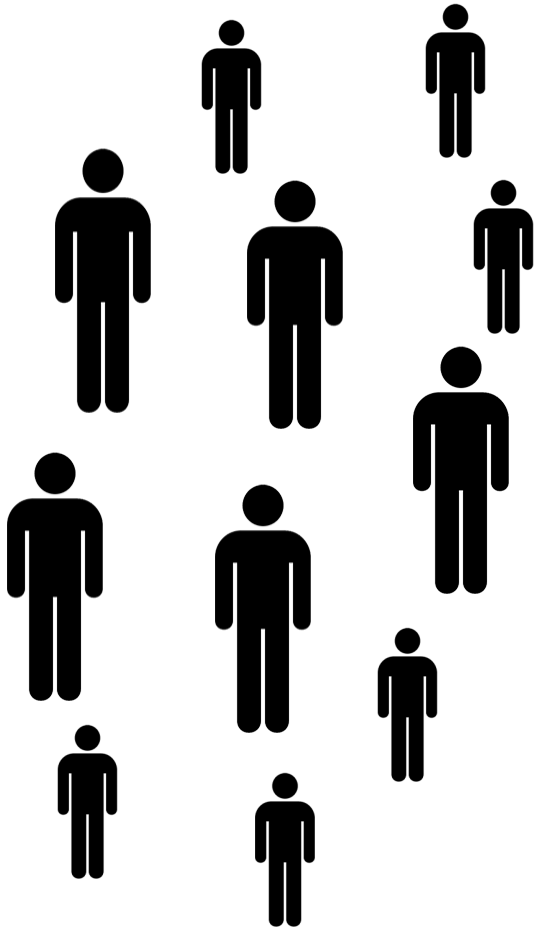
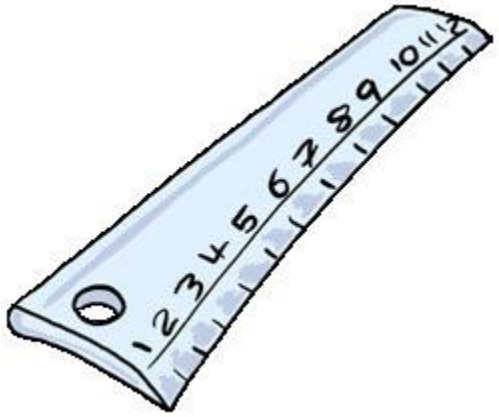
6. Define the risk set
7. Consider which time scale to use



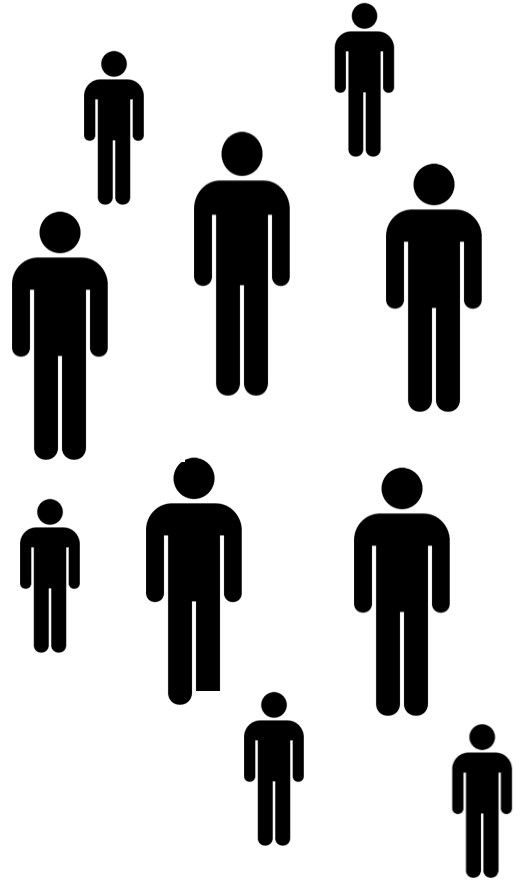
8. Make sure to address confounding (and effect modification)



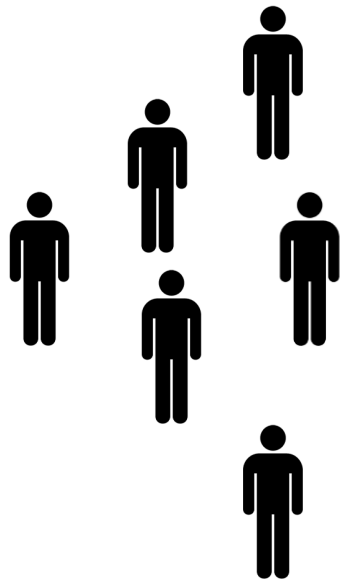
Exposed (to drug A)



Use propensity scores (in model or by weights), but keep it simpel, and perhaps dynamic



Unexposed (or exposed to drug B)



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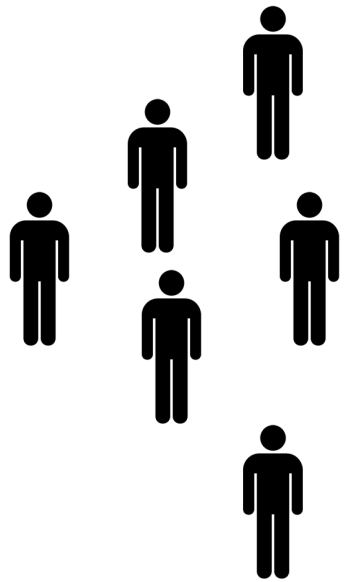
9. Select your model and evaluate your model fit
   (the Cox model is not always the most suitable model to use)



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10. Make your research reproducible (and make your code public)