

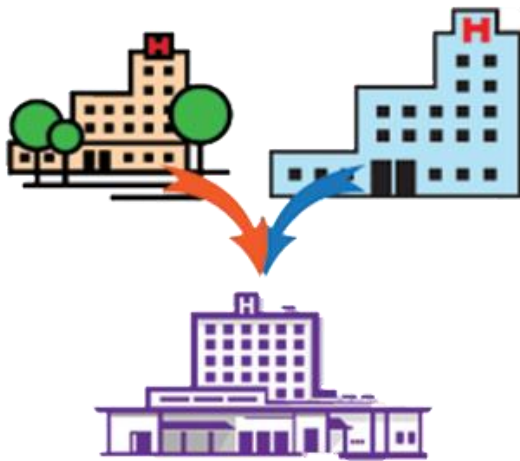
Organizational changes and risk of ischemic heart disease among employees in the Capital Region of Denmark

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What are **organizational changes**?

Mergers ↔ Downsizings ↔ New technology



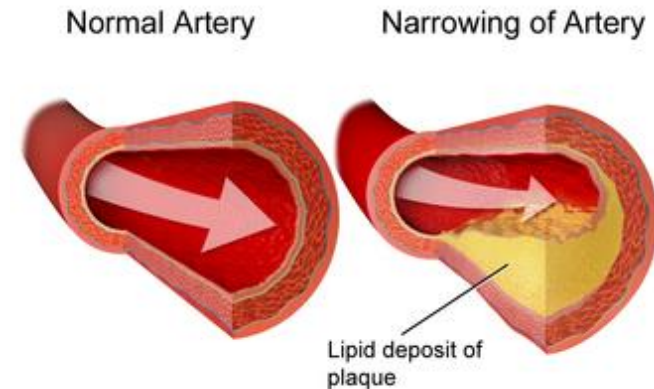
Impacts of organizational changes

- Literature focused on downsizing or major restructuring
 - Higher job insecurity
 - Higher demands
 - Lower control
 - Job strain and job insecurity mediated associations with
- Excess risk of medically certified sickness absence

de Jong et al., *Work & Stress*, 2016
Westgaard & Winkel, *Appl Ergon*, 2011
Kivimäki et al., *BMJ*, 2000

Ischemic heart disease

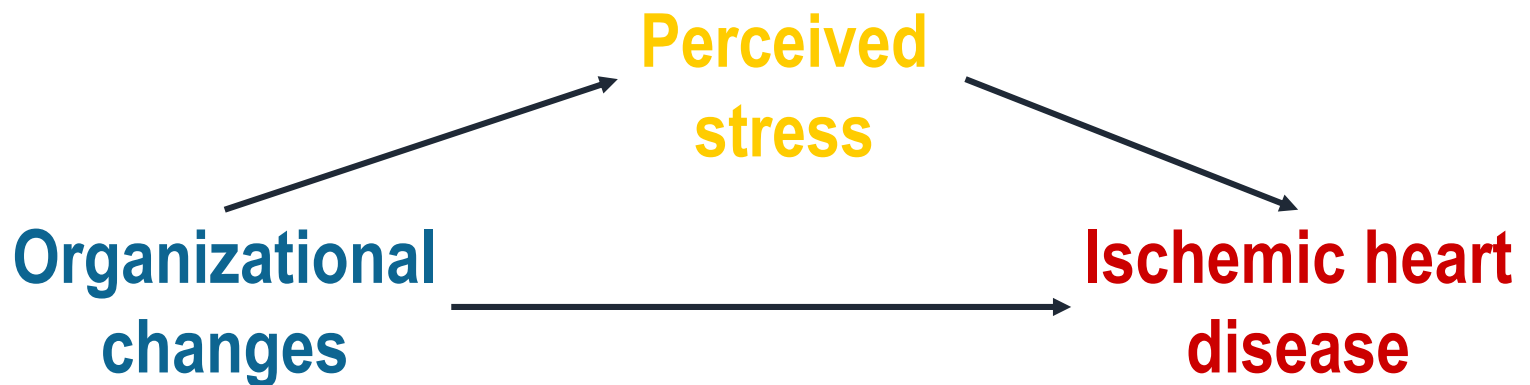
- Blockage of blood supply to heart
- Stressful episodes at work trigger heart attacks
- Major downsizing (>18% cut in staff) vs no downsizing:
- Doubled cardiovascular mortality 8 years after major downsizing
 - 5-fold higher risk during first 4 years!



Vahtera et al., *BMJ*, 2004
Möller et al., *J Epidemiol Community Health*, 2005
Kivimäki & Steptoe, *Nature Reviews Cardiology*, 2017

Aims

- Prospective associations between **different types of organizational changes** and **IHD** among employees in the Capital Region of Denmark
 - Assess high perceived **stress** as hypothesized **mediator**



How did we examine this?



Study population

14 842 employees without prior IHD



1284 work units



13 institutions

50 % exposed to any changes

49 IHD events

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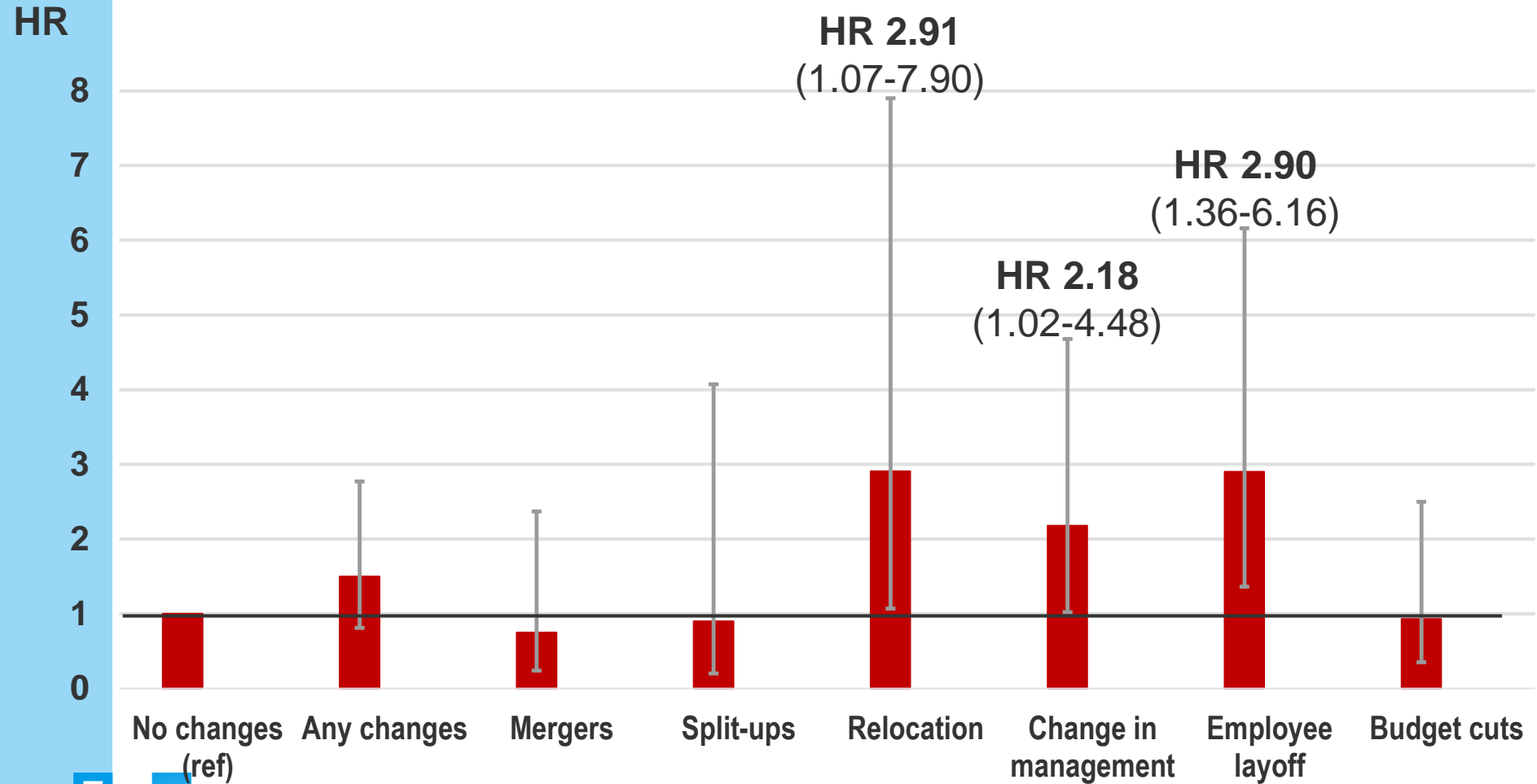
IHD



What did we find?

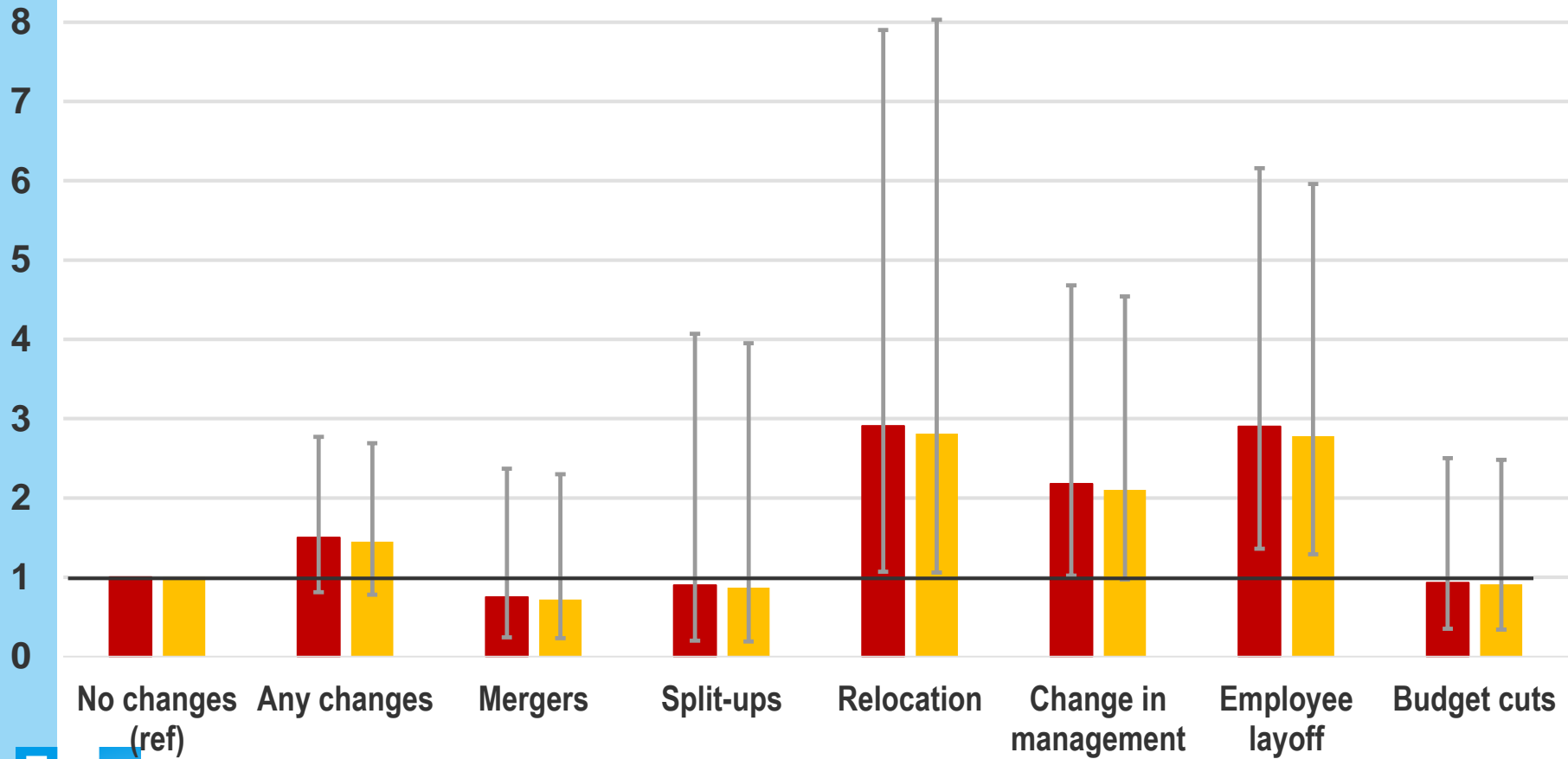


Specific changes associated with higher risk of IHD



Perceived stress was not an important mediator

HR



REGION

Multilevel mixed-effects survival model (Weibull).
Work-unit and institution levels as intercepts in the random part.
Adjusted for age, sex, socio-occupational factors, and other change types in the fixed part.

Limitations

- No information on how changes were implemented
- Effects only observed in 2014 – few IHD events (n=49)
- Perceived stress assessed with 1 item

Strengths

- Work-unit approach increases sensitivity and specificity for organizational changes
- Employees worked in same work unit during changes
- Data retrieved from independent sources

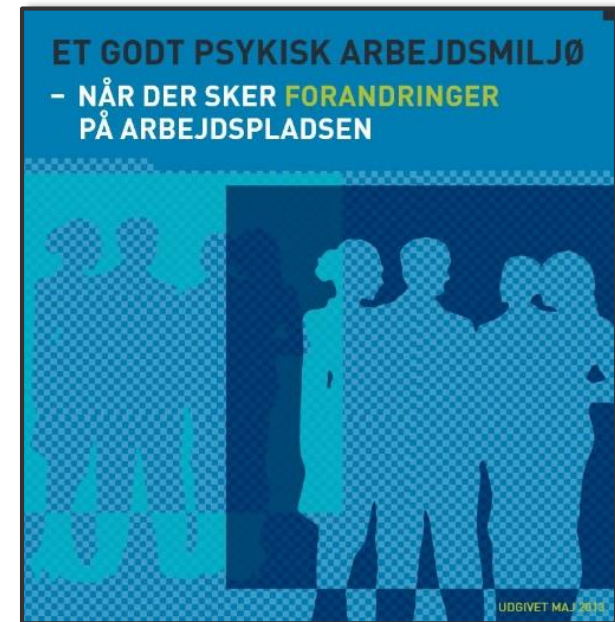


Conclusions

- Specific **change types** may be associated with a subsequent **higher risk** of **ischemic heart disease:**
 - **Relocation**
 - **Change in management**
 - **Employee layoff(s) in the work unit**
- **Perceived stress** did not appear to be an important mediator (at least in this study)

Considerations

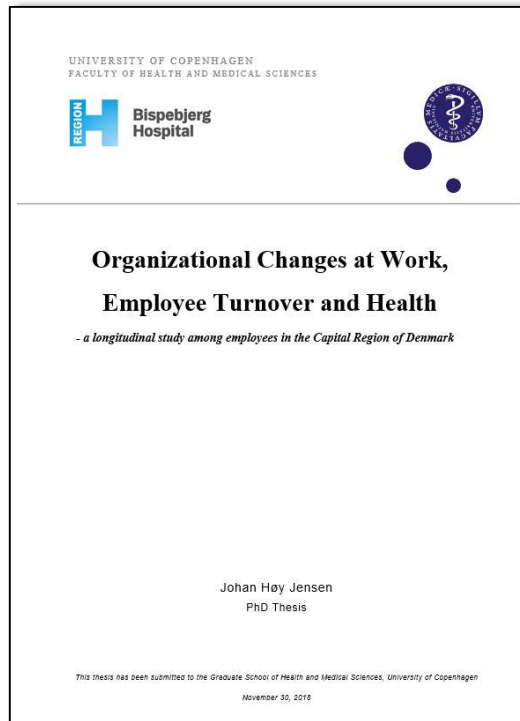
- **Decision makers** should consider **adverse health effects** of organizational changes
- *Arbejdstilsynet*: 22 points regarding the psychosocial work environment
 - Communication about the changes
 - Involving the employees
 - Support and skill development



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Thanks for your attention!

**Public PhD defense scheduled
February 15, 2019!**



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