

Predicting future changes in work ability of individuals receiving a disability benefit

Longitudinal analysis of self-reported and registration data

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Conflict of interest

- None to declare



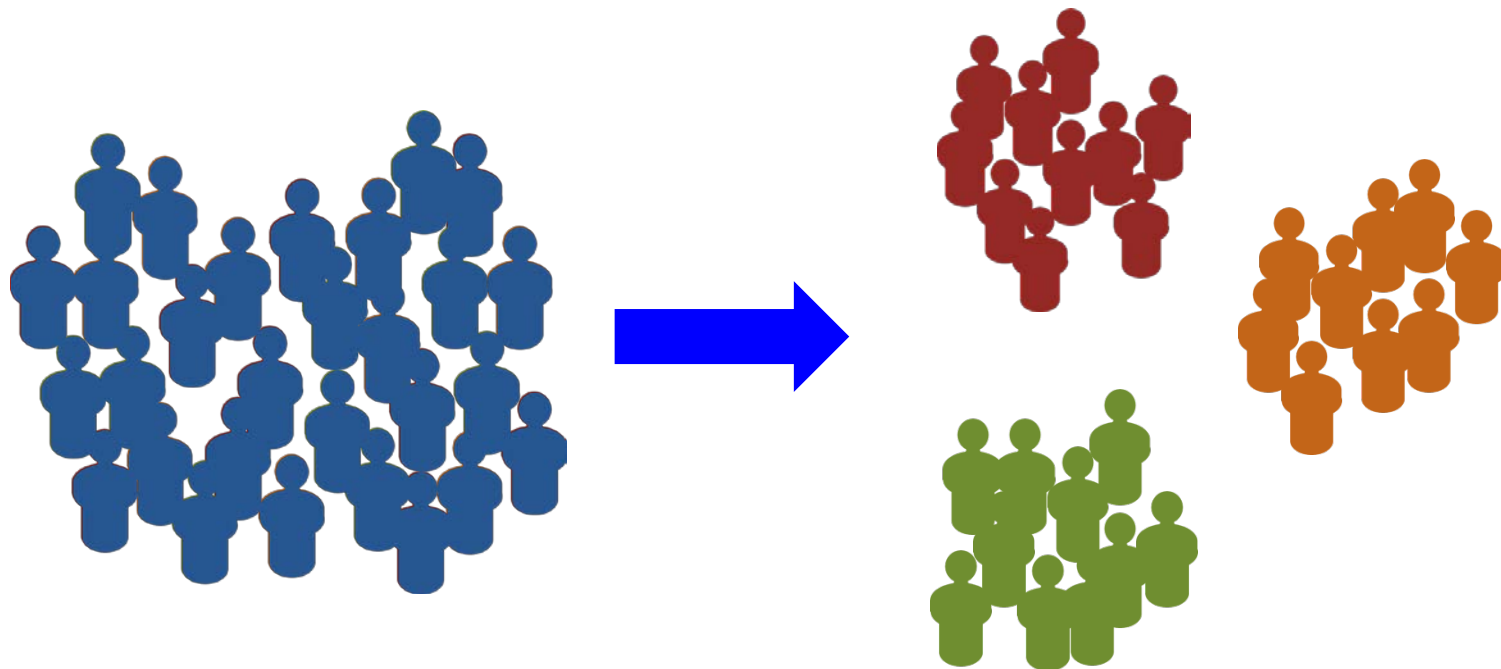
Background

- Long-term work disability is bad for an individual's health
- Claimants' health may improve or deteriorate
- Accurate prognosis of future changes in work disability is important, but requires complex predictions



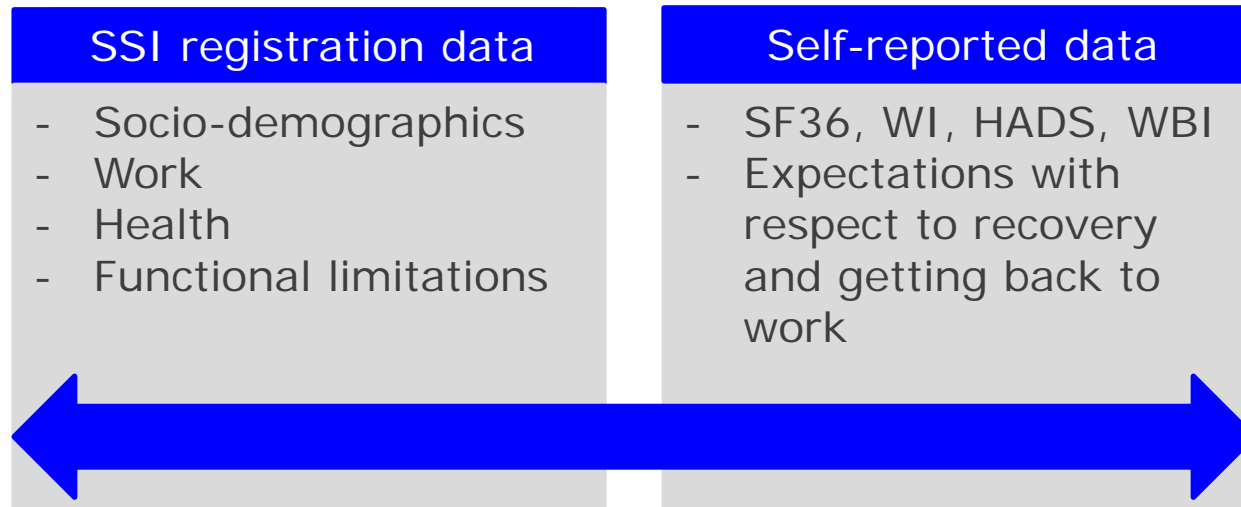
Aim of the study

Investigate whether sociodemographic, work disability, health and functional limitation factors can predict changes in work ability at one-year follow-up.



Study population

- Longitudinal cohort study
- 944 individuals
- Independent variables



Methods

- Dependent variable: self-reported change in work ability
- Multinomial regression model
- Three steps to build the model
- Performance measures: predictive values



Methods

- Most claimants do not experience an increase or decrease in WAS
- Weighted regression

$$\text{Minimize } \log(L) = \sum_{i=1}^n w_i \left[\sum_{j=1}^3 I_{ij} \log(p_{ij}) \right]$$

$$\text{with } w_i = \frac{1}{2}(WAS_{T1} - WAS_{T0}) + 1$$

$$\text{and } p_{ij} = \text{Prob}[Y_i = j | x_i] = \frac{\exp(x_i' \beta_j)}{1 + \sum_{k=2}^J \exp(x_i' \beta_k)}$$



Results: model that predicts improvement/deterioration of work ability

Variables	Improvement	Deterioration
WAS at baseline	0.59	2.21
Work status (working)	3.24	0.23
Wage loss ($\geq 80\%$)	0.51	-
IP – physical score	0.38	-
Working hour restrictions (≤ 4 hours per day)	-	1.74
WBI	0.94	1.08

* Odds ratio's of some of the variables that were significant at the 5% level.



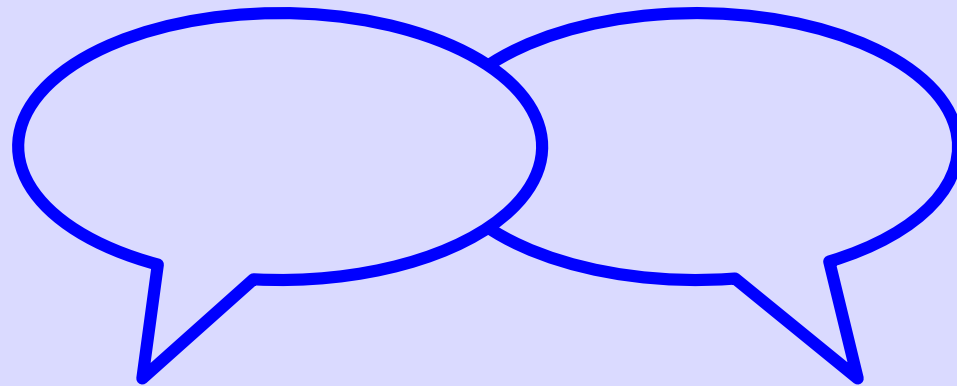
Conclusions

- Changes in work ability at one-year follow-up can be predicted by health- and work-related variables.
- Accurate predictions of future changes in work ability can help insurance physicians to improve their assessment of prognosis, which is important to offer suitable return-to-work interventions.



Future research





Questions?

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