

# Predictors of functional improvement and future work status after the disability benefit claim: a prospective cohort study



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## Conflict of interest statement

This research project was funded by the Social Security Institute (SSI), the Netherlands. The funding institute had no role in the design, collection, analysis, and interpretation of data.



# Research team

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# Background

- in most OECD, disability rates increase
- 1-2% chance of RTW after the claim
- 6% of claims account for 75% of costs
- few studies on predictors *after* the claim

OECD 2009; SSI 2011; Henderson et al. 2005;



# Research question

Which factors predict functional improvement and future work status among persons claiming disability benefit after 2-years sick leave?



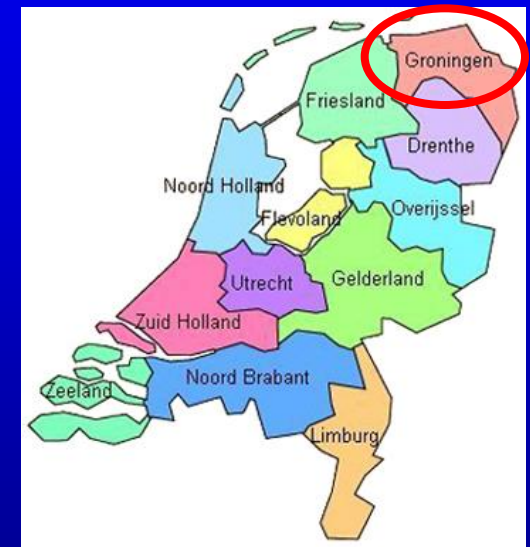
# Method

## Design:

- prospective cohort study with 1-year follow-up
- somatic & mental diagnoses included

## Recruitment & setting

- period: Oct 2008 – Apr 2011
- SSI Groningen, the Netherlands



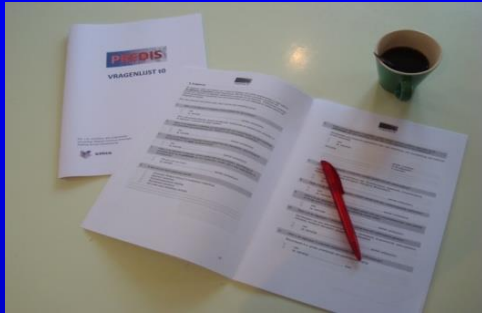
## Participants

- disability claimants (n=375, response rate: 24.3%)



# Independent variables

- demographics
- psychological distress K10
- general health GHQ-12
- alcohol use screen AUDIT
- health care use TiC-P
- coping UCL
- social support SSQT/SSQS
- ICD-10 diagnosis codes SSI
- loss of earning capacity SSI
- baseline work status SSI





# Dependent variables

- functional improvement      WHODAS 2.0
- future work status      SSI register



# WHODAS 2.0

- self-report questionnaire
- recall: past 30 days
- functioning in 7 life domains:
  1. Understanding and Communicating
  2. Getting around
  3. Self-care
  4. Getting along with people
  5. Household activities
  6. Work/school
  7. Participation
- answer options: none to extreme.



# Example

(domain Participation)

*‘How much of a problem did you have in joining in community activities, such as festivities, religious or other activities?’*



# Example

(domain Participation)

*‘How much of a problem did you have  
because of barriers or hindrances in  
the world around you?’*



# Statistical analysis

## Binomial logistic regression

- univariate to select predictors with  $p < 0.20$
- predictors with  $p < 0.20$  included in regression model
- multivariate to select predictors with  $p < 0.05$
- backward method



# Results



# Demographics (n=375)

		n (%)
<b>Gender (male)</b>		190 (51.0)
<b>Age</b>	in years, mean (SD)	49.72 (8.95)
	range	22-64
<b>Education</b>	low	66 (17.6)
	intermediate	255 (68.0)
	high	45 (12.0)
<b>Urbanization</b>	rural	122 (32.5)
	midsize urban	185 (49.3)
	urban	68 (18.1)



# How many improve after the claim?

WHODAS all domains *	32%
WHODAS domain <i>Participation</i>	46%

\* Excluding domain Work/school





# How many return to work after the claim?

Work status (n, %) at baseline (T0) and  
after 1-year follow-up (T1)

	no work T1	work T1	total
no work T0	304 (81.1)	34 (9.1)	338 (90.1)
work T0	12 (3.2)	25 (6.7)	37 (9.9)
total	316 (84.3)	59 (15.7)	375 (100)



# Univariable analyses of functional improvement

	improvement on total WHODAS	
independents with $p < 0.20$	odds ratio	95% CI
living with partner	1.6	0.86-2.03
general mental health (GHQ-12 sum score > 20)	3.0	1.69-5.50
psychological distress (K10 sum score > 24)	1.9	1.09-3.35
ICD-10 genito-urinal	3.0	1.02-9.07
ICD-10 anxiety	2.8	0.73-10.68
visit medical specialist	0.6	0.38-1.12
confronting coping	1.0	0.96-0.99
satisfaction social support	1.0	1.01-1.07



# Univariable analyses of having paid work at T1

	having paid work at T1	
independents with $p < 0.20$	OR	95% CI
male gender	1.6	0.84-3.02
age > 50	0.6	0.34-1.21
general mental health (GHQ-12 > 20)	0.5	0.24-1.20
ICD-10 musculoskeletal	1.7	0.90-3.20
ICD-10 respiratory	4.0	0.80-19.60
ICD-10 stress-related	2.1	0.71-6.40
visit psychologist/psychiatrist	0.5	0.20-1.30
visit medical specialist	0.3	0.15-0.64
visit rehabilitation professional	1.7	0.84-3.35
loss of earning capacity < 80%	6.2	2.74-14.08
having paid work at T0	18.6	8.59-40.40



# Multivariable analyses

	improvement on total WHODAS		having paid work at T1	
independent variables	OR	95% CI	OR	95% CI
general mental health (GHQ-12 sum score > 20)	2.9	1.54-5.34		
having paid work at T0			16.8	6.55-43.14
loss of earning capacity < 80%			4.6	1.87-11.42
visit medical specialist			0.4	0.19-0.87



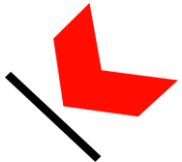
# Conclusions

- 46% improves, but only 9% returns to work
- 1 factor predicts functional improvement
  - positive: poor mental health (!)
- 3 factors predict having a job after 1 year
  - positive: having a job at baseline
  - positive: partial disability benefit
  - negative: visit medical specialist



# Implication for practice

Workers on sick leave should be optimally supported to return to work **before** the claim, since chances of return to work **after** the claim are small.



For more details, read:

Cornelius LR, van der Klink JJJ, de Boer MR, Groothoff JW, Brouwer S. Predictors of functional improvement and future work status after the disability benefit claim: a prospective cohort study. J Occup Rehabil. 2014 Feb 12.

For the full thesis, go to:

<http://dissertations.ub.rug.nl/faculties/medicine/2013/l.r.cornelius/>

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**Thank you for your attention!**  
**Any questions?**

