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## **Factors associated with work disability in employed cancer survivors at 24-month sick leave\***

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# Background

## *Figures*

- Europe (2008): incidence of cancer in the adult population
  - Men: 1.700.526
  - Women: 1.508.356
- Netherlands (2011): increase of incidence up to 100.577
- Growing number of cancer survivors in working population
- Netherlands (2011): > 40.000
- Average 64% able to return to work (RTW) within 18 months sick leave



# Background

## *Cancer survivors and work ability*

- Cancer survivors are at risk of work disability, due to the disease, side-effects, physical and cognitive impairments
- Positive effect of RTW on health and well-being
  - Social connections
  - Support self esteem
  - Help to overcome negative side-effects
  - Positive financial consequences



# Background

## *Level of work disability*

- Assessment by Dutch Social Security Agency (SSA)
- Related to wage loss and abilities
- Four categories:
  - <35%
  - 35-80%
  - 80-100%
  - Benefit Act fully & durable work disability
- 2013: over 4200 cancer survivors applied for a disability benefit



# Background

## *Assessment*

- The assessment of functional abilities in cancer survivors is complex

Medical factors	Non-medical factors
Disease	Legislation
Treatment	Environment
Side-effects	Workers' perception

- Identification of factors associated with work disability in cancer survivors on 24 months of sick leave may help to offer adequate support in a RTW trajectory



# Aim

To identify prognostic factors of work disability in cancer survivors who are at 24 months sick leave

Identification of prognostic factors of work disability may enhance vocational rehabilitation of cancer survivors



# Methods

## *Design*

### National prospective cohort study

- First day of sick leave → (T0)
- Baseline measurement → 24 months sick leave (T1)
- One year follow-up → 36 months sick leave (T2)
- Two years follow-up → 48 months sick leave (T3)



# Methods

## *Study population*

- Selection at head office Dutch Social Security Agency (SSA)
- Cancer survivors who applied for a disability benefit approaching 24 month sick leave
  
- Period of inclusion: July 2011- February 2012
  - Employed sick-listed cancer survivors
  - Age 16-64
  - Not receiving chemo- and/or radiotherapy
  - Not self-employed or working in a sheltered workplace
  - First application with diagnosis of cancer, confirmation of diagnosis within first 6 months of sick leave



# Methods

## *Recruitment*

- Approaching 24 months after start of sick leave
  - 13,023 applications received at SSA
  - 1307 diagnosis cancer
- 995 baseline questionnaires (T1) sent
  - 528 responded
  - 136 excluded on exclusion criteria
  - 392 included
  - 41 level of disability unknown

In total: 351 valid cases



# Methods

## *Variables*

- Dependent variable
  - Level of work disability at 24 months of sick-leave; dichotomized by wage-loss ( $< 80\%$  vs.  $\geq 80\%$ )
  
- Independent variables
  - Socio-demographics (e.g., gender, education, marital status)
  - Health characteristics (e.g., perceived health, treatment)
  - Job characteristics (e.g., shift work, physical work load)
  - Validated questionnaires (e.g., SIP, EORTC-QLQ-C30, FACIT-F, CES-D, WAI)



# Methods

## *Analysis*

- Univariate analysis (Chi-square) for each item
- Entered in a logistic regression model if  $p < 0.2$  using:
  - backward step model for socio-demographics, health determinants, and work-related determinants separately
- Final model: hierarchical model using (in consecutive order)
  - Socio-demographics
  - Health determinants
  - Work-related determinants



# Results

## *Univariate results*

- Characteristics: 36% men; mean age (men/women) 51 yrs.
- Negatively associated (level of work disability  $\geq 80\%$ )
  - Age > 52 years
  - Higher education
  - Extensive disease
  - High physical work demands
- Positively associated (level of work disability < 80%)
  - Non Dutch nationality
  - Work status (working)
  - Positive work ability expectations
  - Low reported fatigue score (FACIT-F)
  - High score on WAI (> 4)
  - High global health score (EORTC-QLQ-C30)



# Results

## *Multivariate results*

- Negatively associated (level of work disability  $\geq 80\%$ )
  - Education secondary school (OR 4.80; CI 1.72-13.42);  
Education vocational/upper sec. school (OR 2.78; CI 1.16-6.69)
  - Hormone therapy (OR 2.20; CI 1.08-4.47)
  - Metastatic disease (OR 4.51; CI 1.65-12.34)
  - SIP - high level physical complaints (OR 2.62; CI 1.34-5.14)
  
- Positively associated (level of work disability  $< 80\%$ )
  - Non-Dutch nationality (OR 0.15; CI 0.02-0.95)
  - WAI - high score current work ability (OR 0.09; CI 0.04-0.19)



# Discussion

## *Strengths and limitations*

- Strengths
  - Primary outcome not self-reported
  - Entire Dutch working population – fixed contract
- Limitations
  - Cross sectional design
  - Possible inter-doctor variations
  - Dutch legislation impedes generalisation



# Discussion

## *Practical implications*

- Related to education consider
  - Vocational training
  - Courses
- Related to disease consider
  - Long-term impact of hormone therapy
  - Presence of metastatic disease
- In monitoring workers on sustained sick leave
  - Consider use of SIP scores (physical limitations)
  - Consider use of WAI scores (work ability)



# Thank you for your attention!

## Questions?



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