RETURN TO WORK AMONG PROSTATE CANCER SURVIVORS: A SCOPING REVIEW

Master Thesis Defense

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PLAN OF THE PRESENTATION

- **Background**
- Methods
- Results
- Discussion
- Conclusion

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CONTEXT

- Most common cancer in men (Europe)
- ~1.5 million cases / year (worldwide)
- ↑ Expected to reach 2.9 million cases annually by 2040
- ~ 75% of patients diagnosed with disease confined to the prostate → 5-year survival rate approaches 100%

→ Increasing number of survivors

WHY PROSTATE CANCER?

- ~28% of survivors are under 64 years old
- ~80% return to work within 1 year

BUT:

- ~30% cannot resume previous tasks

→ Return to work remains complex

WHY RETURN TO WORK MATTERS

Key indicator of recovery

- Linked to:
  - Quality of life
  - Financial stability
  - Social identity
- Cancer survivors:
  - Lower employment rates
  - Higher unemployment risk

RESEARCH GAP

Many studies on cancer survivors

BUT:

- Limited and heterogeneous evidence for prostate cancer
- No clear synthesis of barriers and facilitators

OBJECTIVES

This scoping review aims to:

- Identifiy barriers and facilitators
- Summarize evidence
- Identify research gaps

DEFINITION OF RETURN TO WORK

Any paid employment after diagnosis

Includes:

- Same or different job
- Reduced working hours
- Task modification

~60-80% of cancer survivors in general RTW within 1 year

→ ≥80% considered high

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STUDY DESIGN

- Scoping review
- Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines
- Two-step approach:
  - Broad cancer search
  - Prostate cancer-specific selection

SEARCH STRATEGY AND STUDY SELECTION

Search strategy

- Systematically searched 3 databases:
  - Medline
  - Web of Science
  - Cochrane Library
- Search until May 16, 2025

Study selection

- Screening:
  - Title/abstract for all cancer types
  - Full text for prostate cancer only
- 2 independent reviewers

ELIGIBILITY

Inclusion

- Working-age survivors employed at time of diagnosis
- About RTW + determinants
- Quantitative, qualitative, mixed methods

Exclusion

- Palliative care
- Work ability only
- Editorials, case reports and opinion articles

DATA SYNTHESIS

- Narrative synthesis
- Barriers and facilitators grouped into:
  - individual factors
  - disease/treatment-related factors
  - occupational factors
  - policy/system-related factors
- No quality appraisal

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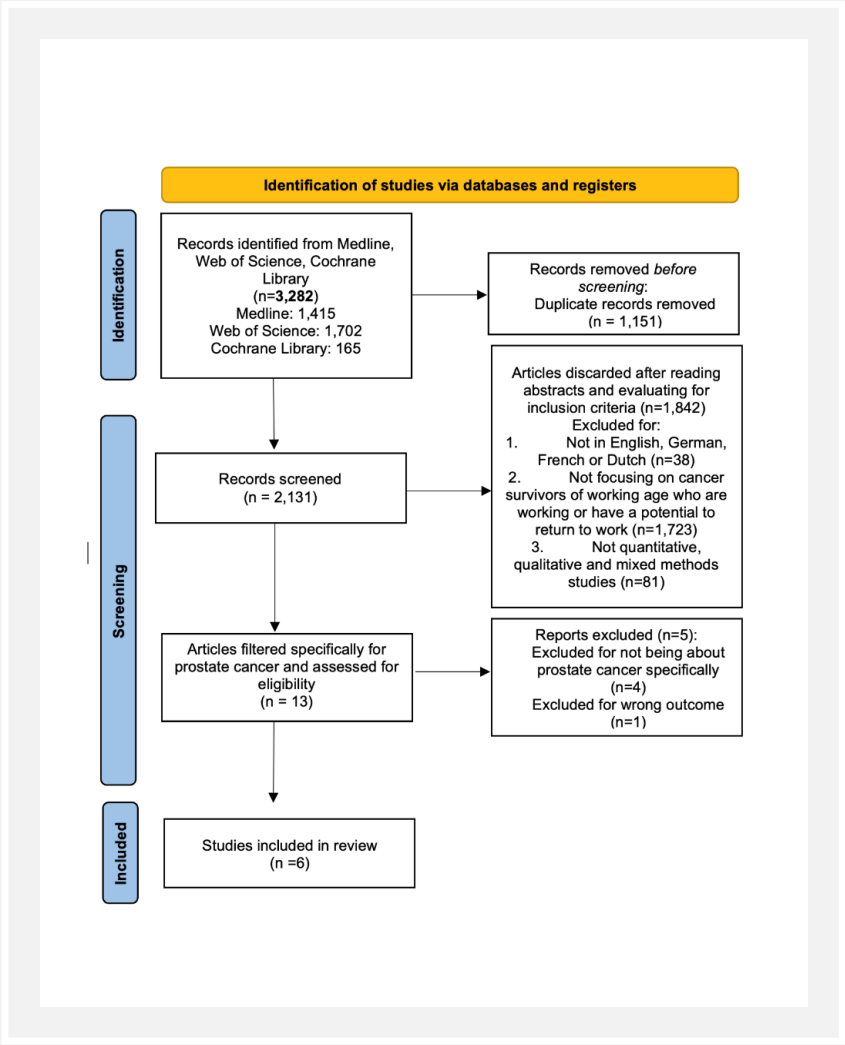
INCLUDED STUDIES

6 studies:

- 4 quantitative
- 1 systematic review
- 1 scoping review



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STUDY CHARACTERISTICS

Original studies, all from Germany

- 1 population-based study
  - 207 men
  - 20-59 years old
- 3 rehabilitation cohort studies
  - Sample size ranging from 519 to 711 men
  - 18-64 years old

Reviews

- Systematic
  - 47 articles: USA (n=14); Norway (n=13); Denmark (n=7); UK (n=5); Finland (n=5); Iceland (n=4); Sweden (n=4); Australia (n=1); New Zealand (n=1); Canada (n=1); Germany (n=1)
- Scoping
  - 19 articles: Germany (n=4); Australia (n=1); Denmark (n=1); Ireland (n=2); Norway (n=5); Sweden (n=1); UK (n=2); USA (n=3)

RETURN-TO-WORK RATES

- ~70–87% (1 year)
- ↓ to ~62% (stricter criteria)

Long-term:

- ~73% at 3 years
- <27% in some cohorts (5–7 years)

NB: RTW definitions vary !

BARRIERS

Individual:

- Increasing age
- Socioeconomic position
- Poorer perceived work ability
- Coping styles

Disease/treatment:

- Disease severity (advanced tumor stage, high-risk prostate cancer)
- Treatment type (chemotherapy vs other treatment modalities)
- Treatment-related side effects (fatigue, lower physical functioning during rehabilitation, urinary incontinence)

Occupational:

- Physical workload
- Low flexibility in job tasks
- Weaker workplace support

Policy/system-related:

- Retirement
- Disability pension

FACILITATORS

Individual:

- Younger age
- Higher SES
- Financial strain

Disease/treatment-related:

- Lower tumor stage
- Surgery

Occupational:

- Flexible work
- Employer support
- Sick leave

Policy/system-related:

- None mentioned

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KEY MESSAGE

Return to work is influenced by multiple domains:

- Individual
- Disease/treatment
- Occupational
- Policy/system

→ Not solely determined by clinical recovery!

INDIVIDUAL FACTORS INTERPRETATION

- Age reflects life-course dynamics
  - Proximity to retirement
  - Comorbidities
- Socioeconomic position:
  - Shapes job type and flexibility
  - Influences financial necessity

→ Creates unequal return-to-work trajectories

INDIVIDUAL FACTORS INTERPRETATION (2)

- RTW strongly linked to:
  - Self-perceived workability
  - Expectations about future employment
- Coping styles influence long-term outcomes
- RTW as life reorientation
  - Early retirement or reduced work hours not due to limitations

→ RTW = psychological adjustment, not only physical recovery

INDIVIDUAL FACTORS INTERPRETATION (3)

- Breast cancer:
  - Partner support → lower RTW
- Prostate cancer:
  - Provider role → encourages RTW

→ Social norms influence work decisions

DISEASE AND TREATMENT RELATED FACTORS INTERPRETATION

- Advanced disease → poorer outcomes
- Treatment influences RTW through:
  - Recovery
  - Persistent symptoms
- Long term work depends more on functional limitations than treatment type

Role of side effects

- Key barriers
  - Fatigue
  - Reduced physical functioning
  - Urinary incontinence
- Impact beyond physical
  - Confidence
  - Workplace interactions

OCCUPATIONAL FACTORS INTERPRETATION

- Physically demanding job → delayed RTW
- Flexible work → easier reintegration
- Access to sick leave improves outcomes

→ Work environment is a major determinant

IMPORTANT NUANCE

- Some facilitators reflect pressure:
  - Self-employment
  - Financial constraints
  - Symptom non-disclosure in competitive environment
  - Gender norms

→ Earlier RTW does not equal better recovery

STRENGTH AND LIMITATIONS

Strengths

- Updated synthesis of recent evidence
- Focus on RTW-specific factors
- Systematic and reproducible search
- PRISMA guidelines
- Two independent reviewers

Limitations

- Scoping review: broad overview, less details
- No quality assessment
- No grey literature
- Evidence concentrated in German rehabilitation cohorts
- Heterogeneous RTW definitions and different follow-up durations
- Small number of studies

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CONCLUSION

- Barriers and facilitators:
  - Multidimensional (individual, disease- and treatment -related, occupational, policy/system related)
- Evidence:
  - High short-term RTW
  - Uncertain long-term participation
- Gaps:
  - Limited and context-specific evidence
  - Need for more diverse studies

→ Implication: need for coordinated support and better integration in care

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QUESTIONS?

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SUPPLEMENTARY SLIDE: TABLE 1, STUDY CHARACTERISTICS

TABLE 1. CHARACTERISTICS OF THE INCLUDED STUDIES

Authors, Year	*Study Design*	*Country of origin/ of included studies*	*Definition of return to work*	*Sample Characteristics*
Arndt et al. (2019)	Cross-sectional study	Germany	Time to return to paid employment (former or new job) following diagnosis; analyzed using time-to-event methods.	For Prostate cancer only: **Mean age**: 54.4 years old **Work sector**: 20.3% manual workers; 63.8% white collar workers; 10.1% self-employed **Stage of cancer:** 58.9% I/II; 41.1% III/IV **Mean time since diagnosis**: 8.0 years **Treatments**: 84.5% open surgery; 11.1% chemotherapy; 44.4% radiotherapy; 25.1% hormone therapy; 59.9% rehabilitation **Employment status at diagnosis**: 100% employed
Ullrich et al. (2017)	Cohort study	Germany	Employment status at 12 months follow-up after rehabilitation; additional analysis using stricter "successful work reintegration" criteria.	**Mean age**: 56.8 years old (66.3% < 60 and 33.7% > 60) **Work sector**: 35.1% blue collar; 49% white collar; 15.8% self-employed or public servant **Stage of cancer**: 11.5% stage I; 67.7% stage II; 20.5% stage III **Time since diagnosis**: 87.8% 0-3 months and 12.2% 4 months or more **Treatments**: Radical prostatectomy (open 51.8%; laparoscopic 12.8% and robot assisted (Da Vinci) 35.5%) **Employment status at diagnosis**: 100% employed; 95.8% working full time
Ullrich et al. (2018)	Cohort study	Germany	Employment status at 12 months follow-up after rehabilitation; additional analysis using stricter "successful work reintegration" criteria.	**Mean age**: 57 years old (66.3% < 60 and 33.7% > 60) **Work sector**: 35.1% blue collar; 50.1% white collar; 14.8% self-employed or public servant **Stage of cancer**: 11.5% stage I; 67.6% stage II; 20.8% stage III **Mean time since diagnosis**: 2.8 months **Treatments**: Radical prostatectomy (open 51.9%; laparoscopic 13.4% and robot assisted (Da Vinci) 34.7%) **Employment status at diagnosis**: 100% employed; 95.9% working full time

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SUPPLEMENTARY SLIDE: TABLE 1, STUDY CHARACTERISTICS (2)

TABLE 1. (CONTINUED)

Authors, Year	*Study design*	*Country of origin/ of included studies*	*Definition of return to work*	*Sample Characteristic*
Ullrich et al. (2021)	Cohort study	Germany	Employment status at 36 months follow-up after rehabilitation.	**Mean age**: 56.5 years old **Work sector**: 36.5% blue collar; 49.9% white collar; 13.6% self-employed or public servant **Stage of cancer**: 81.5% stage I and stage II; 18.5% stage III **Time since diagnosis**: 87.9 % 0-3 months and 12.1 % >= 4 months **Treatments**: Radical prostatectomy (open 51.4%; laparoscopic 16.2% and robot assisted (Da Vinci) 31.4%) **Employment status at diagnosis**: 100% employed; 95.9% working full time
McLennan et al. (2019)	Systematic review	USA (n=14); Norway (n=13); Denmark (n=7); UK (n=5); Finland (n=5); Iceland (n=4); Sweden (n=4); Australia (n=1); New Zealand (n=1); Canada (n=1); Germany (n=1)	No single definition, studies reporting employment outcomes such as return-to-work rates, sick leave, employment changes, or early retirement were included.	**Mean age**: 61 years old (among 15,807 men) **Comorbidities:** 12 studies; 60% had ≥1 comorbidity **Education**: 18 studies; 26% tertiary education; 35% secondary
Yu Ko et al. (2020)	Scoping review	Germany (n=4); Australia (n=1); Denmark (n=1); Ireland (n=2); Norway (n=5); Sweden (n=1); UK (n=2); USA (n=3)	No standardized definition, return to work generally referred to resuming paid employment, but operational definitions varied across included studies.	NA

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SUPPLEMENTARY SLIDE: TABLE 2, FACILITATORS AND BARRIERS

TABLE 2. REPORTED BARRIERS AND FACILITATORS INFLUENCING RETURN TO WORK AMONG PROSTATE CANCER SURVIVORS

Authors, Year	*Barriers*	*Facilitators*
Arndt et al. (2019)	**Individual**: Old age; lower education level; lower income **Disease/treatment**: Physical/cognitive limitations	**Individual**: Younger age at diagnosis **Disease/treatment**: Less advanced cancer stage **Occupational**: Non manual work/self employed
Ullrich et al. (2017)	**Policy/system**: Intention to apply for a disability pension in older survivors; lower employment prospects	**Individual**: More younger people go back to work, but older people tend to go back sooner with adjusted work percentage; better socioeconomic status
Ullrich et al. (2018)	**Individual**: Patient's self-perceived workability/ inability to retake former job **Disease/treatment**: Tumor stage III **Policy/system**: Sick leave ≥ 6 weeks ; intention to apply to a disability pension	NA
Ullrich et al. (2021)	**Individual**: Higher age; less healthy ambitious, more unambitious work pattern; lower or middle socioeconomic status **Disease/treatment**: Stage III cancer; lower physical functioning; higher levels of fatigue during rehabilitation **Policy/System**: Intent to apply to a disability pension	NA
McLennan et al. (2019)	**Individual**: Higher age (mentioned in 5 out of 47 studies); comorbidities; poor emotional functioning; lower education; lower socioeconomic status **Disease/treatment**: Surgery/radical prostatectomy; treatment side effects (fatigue, urinary incontinence); advanced cancer stage; chemotherapy; longer time from diagnosis **Occupational**: Physically demanding work; weak support/negative attitudes at work	**Individual**: Higher age (2 out of 47 studies); higher level of education **Disease/Treatment**: Hormone therapy; robot assisted radical prostatectomy; radiation therapy **Occupational**: Sedentary or light occupational roles; supportive/accommodating employer; receiving paid sick leave

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SUPPLEMENTARY SLIDE: TABLE 2, FACILITATORS AND BARRIERS (2)

TABLE 2. (CONTINUED)

Authors, Year	*Barriers*	*Facilitators*
Yu Ko et al. (2020)	**Individual**: Reshaping of priorities (wanting to work less to spend time with their families); older age (more prone to retire early); age related decline in work capacity; perceiving work as potentially detrimental to recovery **Disease/treatment**: Higher stages; urinary incontinence; iatrogenic physical disabilities **Occupational:** Physically demanding work **Policy/System**: Availability of earlier retirement benefits	**Individual**: Lower socioeconomic status went back to work earlier, but men that earned less than 2000 euros monthly came back later than those over 4000 **Occupational**: Workplace arrangements/role flexibility; Self-employment; employer support

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