

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

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:

- Identify 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



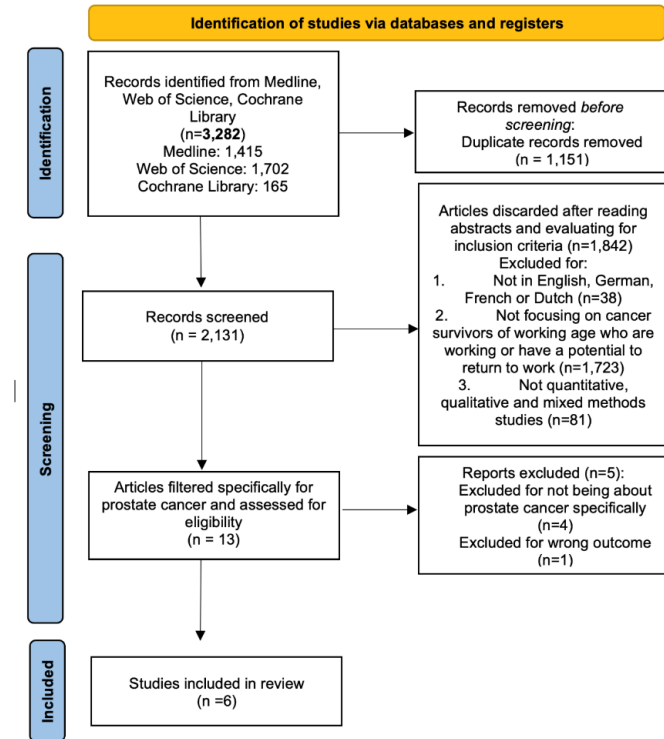
PLAN OF THE PRESENTATION

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INCLUDED STUDIES

6 studies:

- 4 quantitative
- 1 systematic review
- 1 scoping review



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?

SUPPLEMENTARY
SLIDE: TABLE I,
STUDY
CHARACTERISTICS

TABLE 1. CHARACTERISTICS OF THE INCLUDED STUDIES

<i>Authors, Year</i>	<i>Study Design</i>	<i>Country of origin/ of included studies</i>	<i>Definition of return to work</i>	<i>Sample Characteristics</i>
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

SUPPLEMENTARY
SLIDE: TABLE I,
STUDY
CHARACTERISTICS
(2)

TABLE 1. (CONTINUED)

<i>Authors, Year</i>	<i>Study design</i>	<i>Country of origin/ of included studies</i>	<i>Definition of return to work</i>	<i>Sample Characteristic</i>
<i>Ullrich et al. (2021)</i>	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 % \geq 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
<i>McLennan et al. (2019)</i>	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 \geq 1 comorbidity Education: 18 studies; 26% tertiary education; 35% secondary
<i>Yu Ko et al. (2020)</i>	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

SUPPLEMENTARY
SLIDE: TABLE 2,
FACILITATORS
AND BARRIERS

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

<i>Authors, Year</i>	<i>Barriers</i>	<i>Facilitators</i>
<i>Arndt et al. (2019)</i>	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
<i>Ullrich et al. (2017)</i>	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
<i>Ullrich et al. (2018)</i>	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
<i>Ullrich et al. (2021)</i>	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
<i>McLennan et al. (2019)</i>	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

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

TABLE 2. (CONTINUED)

<i>Authors, Year</i>	<i>Barriers</i>	<i>Facilitators</i>
<i>Yu Ko et al. (2020)</i>	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