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Effectiveness of Graded Return to Work after Multimodal Rehabilitation in Patients with Mental Disorders

A Propensity Score Analysis

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1

Background

➔ Graded Return to Work (GRTW)

- original task of the Health Insurance in the context of sickness absence management

- since 2004 German Pension Insurance (GPI): also responsible for the post-rehabilitation process

- support of RTW after multimodal (inpatient or outpatient) rehabilitation (MR)

- increasing numbers and expenses:
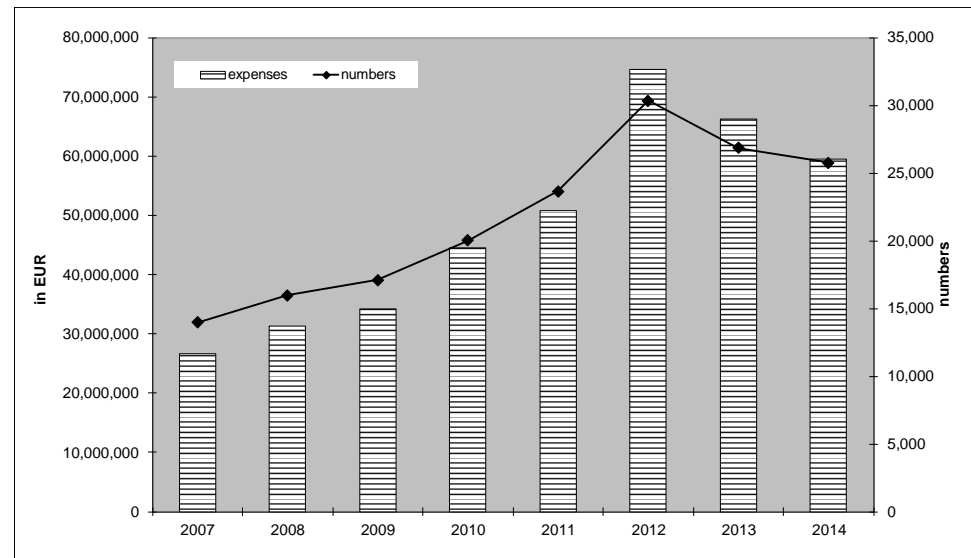
Evidence of GRTW

➜ **Effectiveness for patients with mental disorders: conflicting evidence**

– positive effect on full RTW for somatic disorders couldn´t be confirmed for mental disorders (Hogelund et al 2012)

– only a small effect on full recovery in a Swedish study, but the effect was higher with a longer period of full sick leave (>60 days pre GRTW, Andrén 2014)

– contrary: negative effect of increasing the work demands (exposure-based RTW) in a RCT in the Netherlands (Noordik et al. 2013)

➜ **Former studies in Germany**

– retrospective cohort study with propensity score matching: 91% (GRTW) vs. 78% (controls, Bürger and Streibelt 2011)

– analysis of administrative data with propensity score matching: significant decrease of the probability of a disability pension by about 40% after GRTW (Bethge 2016)

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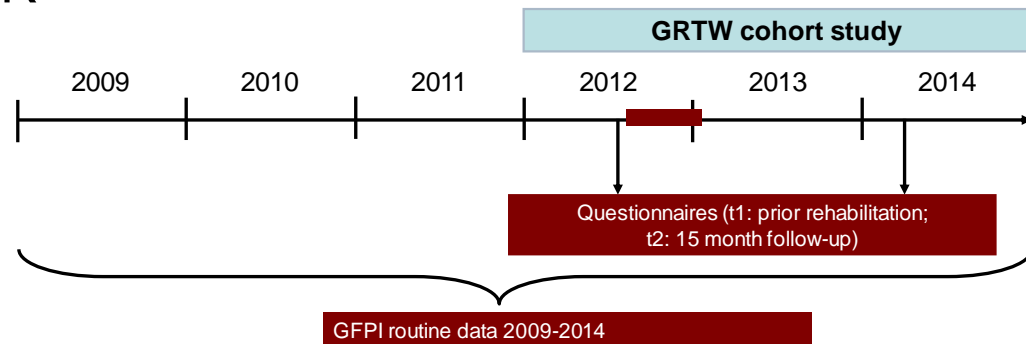Bund

Aim and Methods

Aim

➔ effectiveness of GRTW on longer-term occupational participation in persons with common mental disorders

Methods

➔ Data from the GRTW cohort study:

– Persons with chronic diseases and a referral to MR

– Questionnaires: before admission to MR (t1) and 15 months after discharge (t2)

– Routine data (employment, income, sick leave) 3 years before and 2 years after MR

			GRTW cohort study		
2009	2010	2011	2012	2013	2014

Questionnaires (t1: prior rehabilitation; t2: 15 month follow-up)

GFPI routine data 2009-2014

4

Balancing strategy

➔ Matched pair strategy using propensity score

- based on 27 variables (5 sociodemographic, 3 on the work history, 7 self-ratings regarding the current work situation, 5 self-ratings of the future work situation and 7 measuring self-rated health or work ability)

➔ Data: participants with mental disorders and

- with GRTW after MR vs.

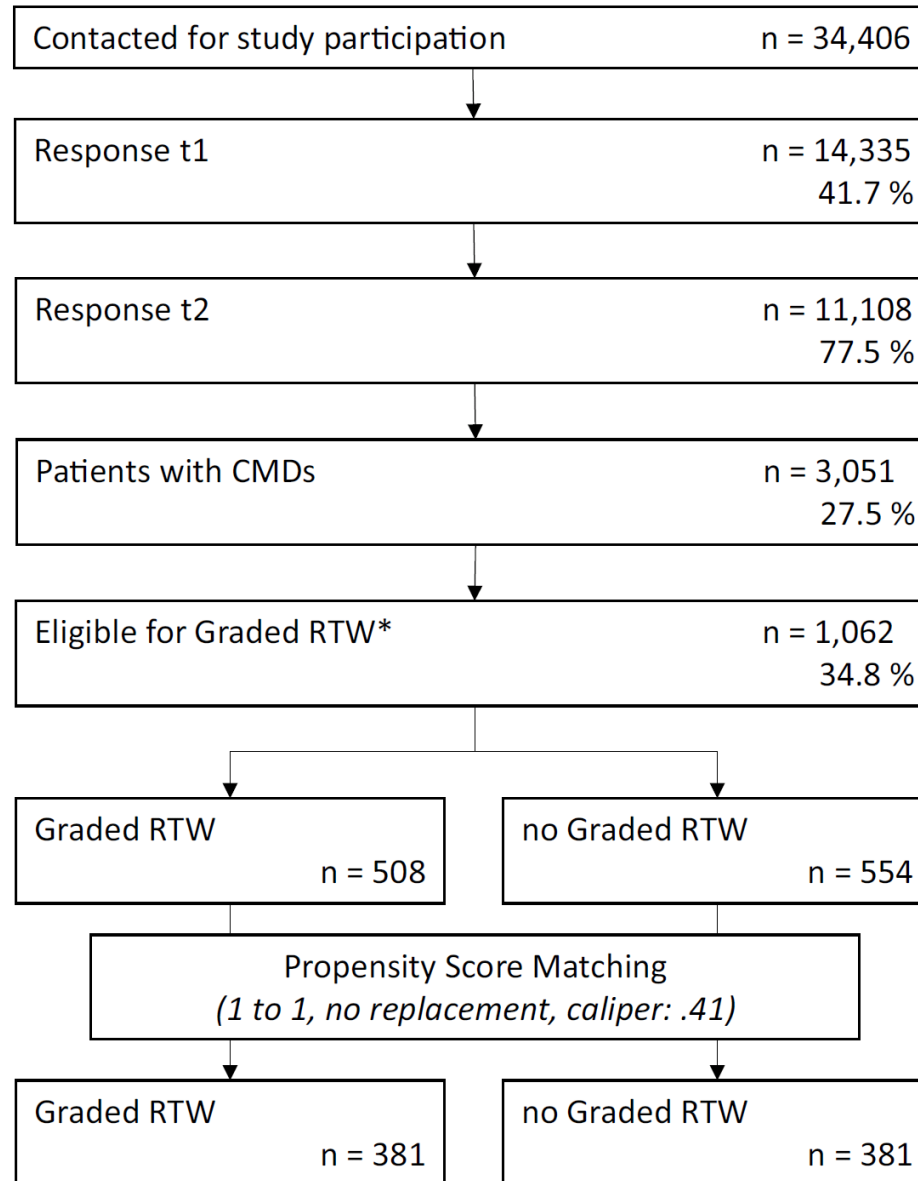- fulfilling the formal requirements but without GRTW after MR

➔ Formal requirements of GRTW after MR

- active employment

- still on sick leave after discharge of MR

- a perspective of full work ability in the next six months

Outcome criteria

➔ Questionnaire (t2 = ~12 months after GRTW)

- Employment status at 12-month follow-up
- Time of sick leave in weeks in the 12-month follow-up after rehab

➔ Routine data (~24 months after GRTW)
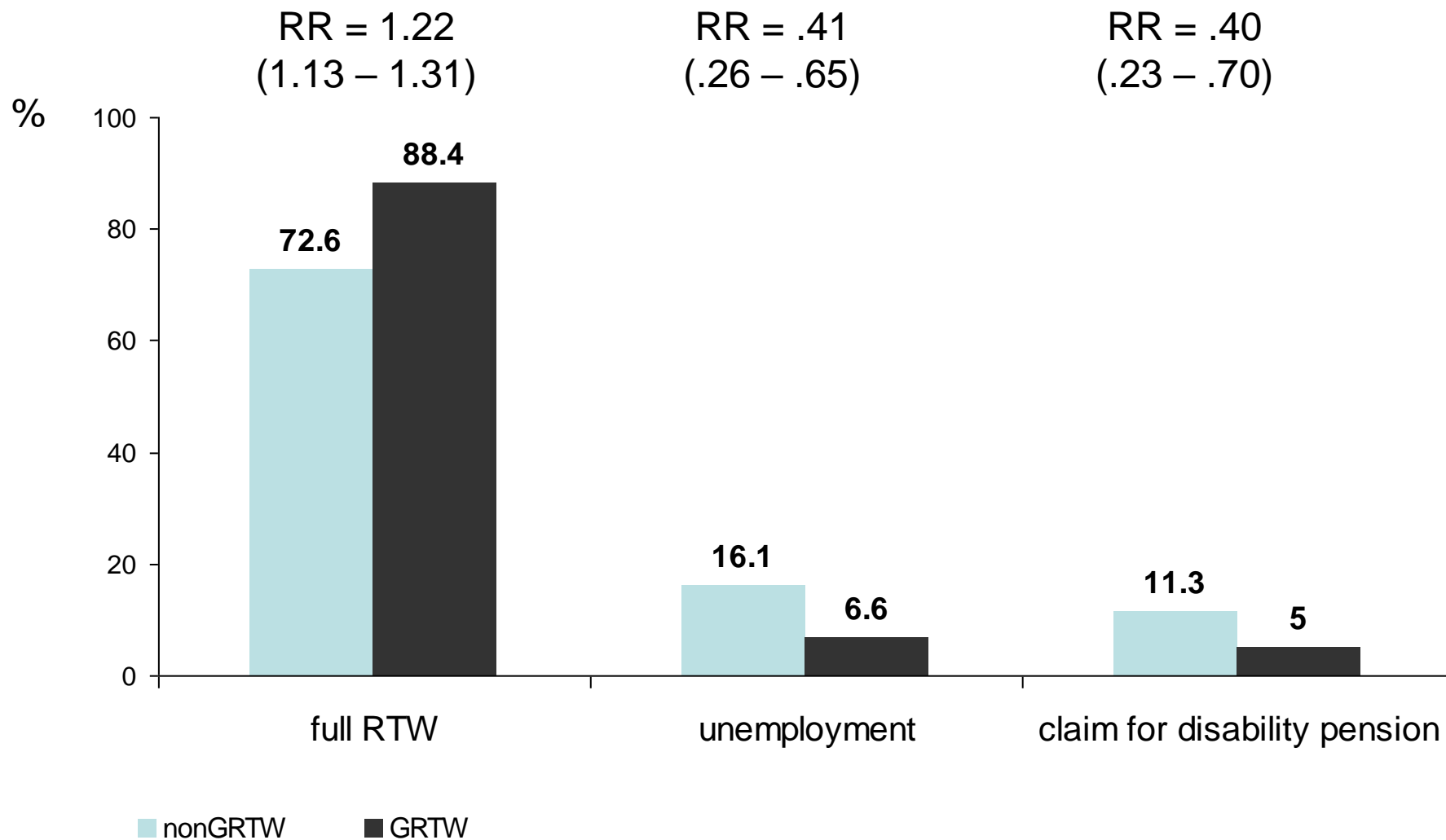
- Days in employment
- Ø annual income (€)

Sample

Contacted for study participation	n = 34,406

Response t1	n = 14,335
	41.7 %

Response t2	n = 11,108
	77.5 %

Patients with CMDs	n = 3,051
	27.5 %

Eligible for Graded RTW*	n = 1,062
	34.8 %

Graded RTW	no Graded RTW
n = 508	n = 554

Propensity Score Matching
(1 to 1, no replacement, caliper: .41)

Graded RTW	no Graded RTW
n = 381	n = 381

Sample after Matching

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	CG (n=381)	IG (n=381)
Age (years)	47.8±7.9	47.8±7.6
Female (%)	78.0	78.2
Diagnosis: depression (%)		
Affective disorders (ICD 10: F30–F39)	65.4	64.8
Neurotic and somatoform disorders (F40–F48)	27.0	29.1
Other mental disorders	7.6	6.0
Education (%)		
Low level	47.0	48.0
Vocational school	34.1	33.6
University	18.9	18.4
Income (%)		
<1000 €	7.4	7.9
1000 € to <3000 €	69.6	66.7
≥3000 €	23.1	25.5
Time of sick leave in the year prior to rehabilitation (weeks)	21.8±14.0	22.0±13.6
Physical role function (SF-36, 0–100)	19.7±29.4	20.4±29.8
Emotional role function (SF-36, 0–100)	7.5±19.0	9.3±21.1
PHQ-D (0–12)	8.4±2.8	8.4±2.8
Work ability compared to physical and mental requirements (1–5)	2.1±0.7	2.2±0.7
Intention to take early retirement (%)	21.3	17.3
Subjective prognosis of RTW (%)		
Sure	27.3	28.4
Unsure	54.3	56.4
No	18.4	15.2

IG intervention group (graded return to work), *CG* control group

Effects on RTW (12 months)

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Effects on long term occupational participation

	nonGRTW	GRTW	diff.	p	SMD
Duration of sick leave 12months (weeks)	13.4 (11.6 – 15.4)	7.1 (5.6 – 8.3)	-6.3 (-8.6 – -4.0)	<.001	.41
Days in employment, 24months	220 (205 – 235)	292 (281 – 304)	73 (54 – 92)	<.001	.53
Ø annual income 24months (€)	22,109 (20,240 – 23,979)	30,009 (28,199 – 31,820)	7,900 (5,302 – 10,499)	<.001	.42

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Sensitivity analysis – who has a benefit?

Subjective RTW prognosis as a moderator of GRTW effects

RTW prognosis	sick leave 12months (wks)	days in employment 24months	∅ annual income 24months (€)
positive	-1.5	**38***	3,543
unsure	**-6.9***	**78***	**8,410***
negative	**-11.7***	**103***	**10,435***

Conclusions

➔ analysis clearly shows the long term effectiveness of Graded RTW following MR for persons with mental disorders

➔ analysis of routine data refers to a positive cost benefit of this strategy for the GPI as well as the society (return on investment: < 1 year)

➔ effects only demonstrable for patients with higher nonRTW risk

– confirmation of earlier studies in Germany,

➔ possible explanation for conflicting evidence in international studies

– target group

– need for GRTW assigned by multiprofessional team

Thanks! If interested:

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