

# Return to Work after Severe Traumatic Brain Injury is low in Denmark

## - A Nationwide follow-up Study

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### Aim

To determine return to work (RTW) and stability of labor market attachment (LMA) after severe traumatic brain injury (TBI).  
To compare long-term LMA with the general population.

### Results

Up to 52% attempted to RTW and up to 31% achieved stable LMA within 2 years postinjury. (Table 1)

The maximal LMA prevalence decreased from 33% to 30% between years 2 and 5, with a temporary increase between years 3 and 4. (Figure 1)

The strongest association between severe TBI and LMA was for LMA with unemployment benefits (OR 0.01 (95% CI: 0.00–0.03) for LMA at 1 and 2 years postinjury; OR for stable LMA 0.04 (95% CI: 0.01–0.12))

### Methods

#### Participants

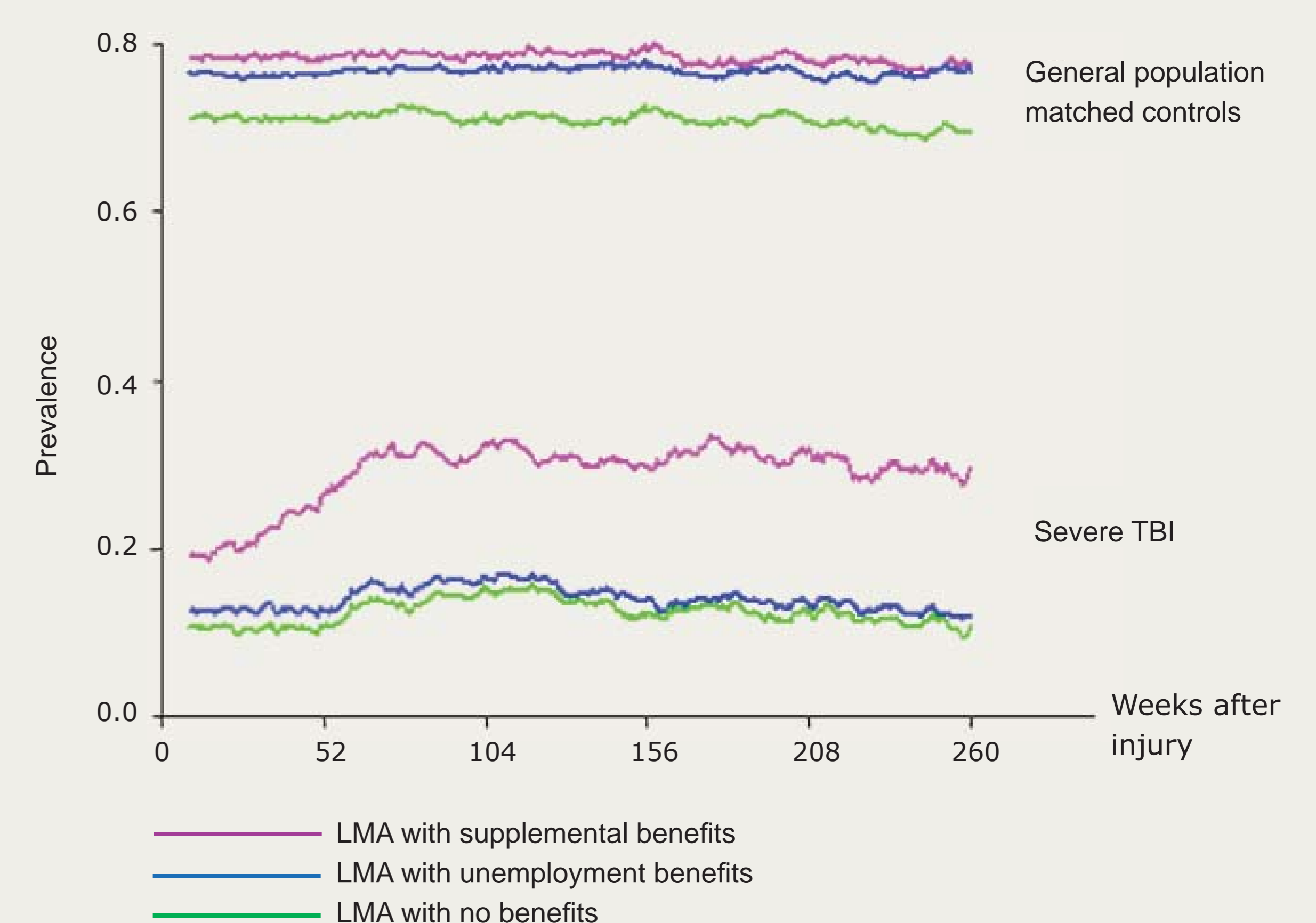
Patients with severe TBI between 2004 and 2012 who received highly specialized neurorehabilitation ( $\approx 84\%$  of all patients surviving severe TBI) ( $n=637$ )  
General population matched controls (Match criteria: age, sex, pre-injury employment status, educational level, residence) ( $n=2497$ ).

#### Measures

Data on RTW and LMA retrieved from a public assistance benefits register, and defined within three different perspectives. LMA perspectives were subdivided into RTW (First week with LMA) and Stable LMA (weeks with LMA  $\geq 75\%$  first year after RTW).

Comparison of TBI and controls with multivariable conditional logistic regression.

**Figure 1.** Weekly prevalence of labor market attachment in three perspectives of labor market attachment among people with severe TBI and in general population matched controls



**Table 1.** Cumulative incidence proportions of RTW and proportions with stable LMA 1 to 5 years after severe TBI

Time since injury	LMA with no benefits		LMA with unemployment benefits		LMA with supplemental benefits	
	RTW <sup>1</sup> (95% CI)	Stable LMA <sup>2</sup> (95% CI)	RTW (95% CI)	Stable LMA (95% CI)	RTW (95% CI)	Stable LMA (95% CI)
1 year	19.2 (16.2–22.3)	10.3 (7.9–13.0)	22.6 (19.4–25.9)	11.5 (9.0–14.4)	36.7 (33.1–40.4)	23.0 (19.6–26.6)
2 years	30.1 (26.6–33.7)	16.1 (13.0–19.6)	33.4 (29.7–37.1)	17.9 (14.6–21.5)	51.8 (47.9–55.7)	30.6 (26.6–34.8)
3 years	32.7 (29.0–36.4)	16.1 (12.9–19.9)	35.8 (32.0–39.6)	17.9 (14.5–21.8)	55.5 (51.5–59.3)	31.6 (27.3–36.2)
4 years	34.4 (30.6–38.2)	15.7 (12.2–19.8)	37.0 (33.2–40.9)	17.8 (14.1–22.1)	56.3 (52.3–60.2)	31.6 (27.0–36.6)
5 years	34.9 (31.1–38.7)	17.7 (13.6–22.5)	38.0 (34.1–41.9)	19.3 (15.1–24.2)	56.6 (52.5–60.4)	31.8 (26.6–37.4)

**Abbreviations:** LMA, Labor Market Attachment; RTW, Return to Work; CI, Confidence Interval

<sup>1</sup> Cumulated incidence proportion of patients with RTW

<sup>2</sup> Cumulated proportion of patients with > 75% weeks with LMA first year after RTW

**LMA with no benefits:** No benefit, State education grants, Leave

**LMA with unemployment benefits:** No-benefit, State education grants, Leave, Unemployment benefits

**LMA with supplemental benefits:** No benefit, State education grants, Leave, Supported employment, Activation, Rehabilitation benefits

### Conclusion

RTW and long-term LMA after severe TBI was low in Denmark compared with the general population and with other countries regardless of the definition of LMA.