

# Cost of low back pain: results from a register study in Sweden

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# Objectives

- The objective of this study was to estimate the societal costs of low back pain with/without radiant leg pain (LBP).

# Methods

- Data

- Patient level data were extracted from Swedish national and regional registers.
- Patients living in a Western region of Sweden (Västra Götaland) were included in the study sample if they had a registered LBP related cause for a healthcare visit or incident of sick-leave/early retirement in 2008-2011. In addition to LBP, also patients with radiating leg pain were included.

- Analytical approach

- Direct healthcare costs (outpatient and inpatient care, pharmaceuticals) and indirect costs (productivity costs due to sick leave/early retirement) were summarised over time periods called LBP episodes.
- An LBP episode started with a LBP related healthcare contact or work absence and ended when six months had elapsed without a LBP related healthcare contact or work absence.

# Results – Patient characteristics

Variable	Value	95% confidence interval
Number of patients	134,309	
Number of episodes	167,460	
Age at episode start	51.5	51.4 – 51.6
Females (%)	58.7%	58.4 – 58.9
Episode length (days)	51.3	50.1 – 52.0
<b>Education level</b>		
0-9 years	38.8%	38.5 – 39.0
10-13 years, high school	42.2%	42.0 – 42.5
13+ years, undergraduate	18.6%	18.4 – 18.8
Postgraduate	0.4%	0.4 – 0.5
<b>Country of birth</b>		
Nordic countries	81.3%	81.1 – 81.5
Other Europe	8.1%	8.0 – 8.3
Outside of Europe	10.6%	10.4 – 10.7

# Results – Cost per patient

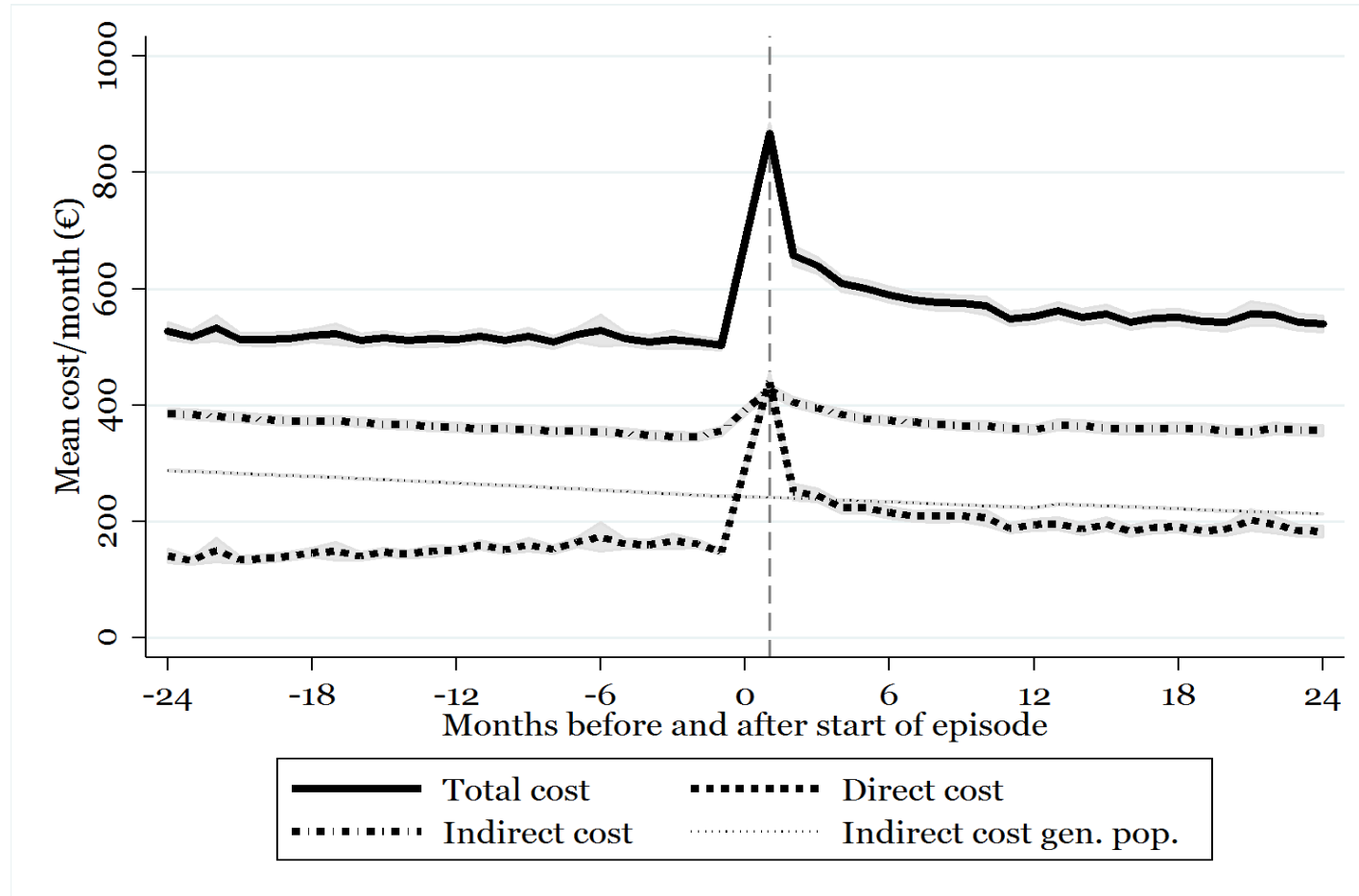
The mean total cost per LBP episode was estimated at €2,761. Of total cost, 67% was related to indirect costs (sick leave and early retirement).

The largest healthcare cost category was visits to physician, accounting for 10% of total costs. The smallest cost category was other outpatient visits, other than to physician and physiotherapist, accounting for 1% of the total costs.

There was a sharp increase in total cost at the first month after LBP episode starts and a marked decrease from the second month after episode start (Figure 1). Total cost levelled off at a higher level during the two years after episode start compared with the two years before episode start.

Indirect costs decreased during the years leading up to episode start, which corresponded to decreased indirect costs in the total Swedish population. This indicates that changes in the social security system and/or structural changes in the Swedish economy have affected the use of sick leave benefits.

Figure 1:  
Cost trajectory before and after the start of first LBP episode



# Results – Societal cost of LBP in Sweden

Total economic burden of LBP in Sweden in all episodes started in 2011 estimated at €739 million, or €78 per capita (Table 1)

Non-surgical inpatient care (€13 per capita) accounted for almost half of the direct costs, followed by medical visits (€10 per capita).

Spine surgery (€8 per capita) corresponded to 10% of the total economic burden.

Table 1:  
Mean  
national cost  
(million €)  
of LBP  
episodes  
that started  
in 2011 in  
Sweden

Category	Million EUR (€ million)	Per capita (€)
Pharmaceuticals	11	1
LBP surgery	72	8
Non-surgical related inpatient care	126	13
Medical visits	95	10
Physical therapy	25	3
Direct costs	258	27
Work absence - sick leave	330	35
Work absence - early retirement	151	16
Indirect costs	481	51
<b>Total costs</b>	<b>739</b>	<b>78</b>



# Conclusion

LBP has an apparent impact on the overall resource use and work loss.

The results indicate that there is a high short term cost increase at the beginning of an LBP episode.

Costs decrease in the long term after the LBP symptoms have come to clinical attention, but the cost levels are not entirely restored to pre-episode levels.

# Disclosures

- The study was financed with an unrestricted grant from Medtronic.