Pain, facts and money

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Content

1. ***Some preliminary terminology***
2. What we know about the burden of chronic pain
3. Something to think about

Burden of Chronic pain

- Economic Burden to the health care sector
- Economic Burden to society (= incl. indirect costs related to absenteeism & presenteeism)
- Health burden to patients (QoL, ADL)

“cost of illness”

- Incidence based:

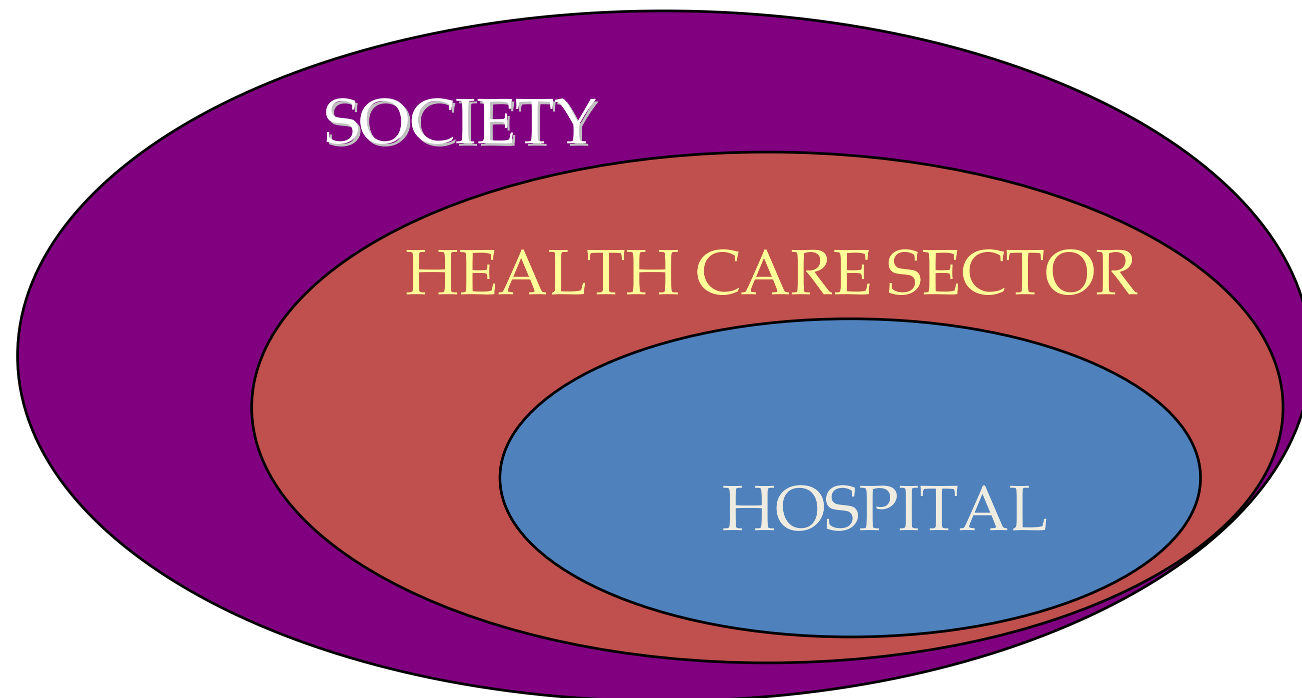
  → cost of a disease as from diagnosis until resolution of the problem or death

- **Prevalence based:**

  →cost per year for an average patient or for all patients together

Interpretation of cost

1. Cost to treat the disease or cost of care in patients with the disease?
2. Possible Study Perspectives



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1. Medical cost is > 4 fold compared to matched controls

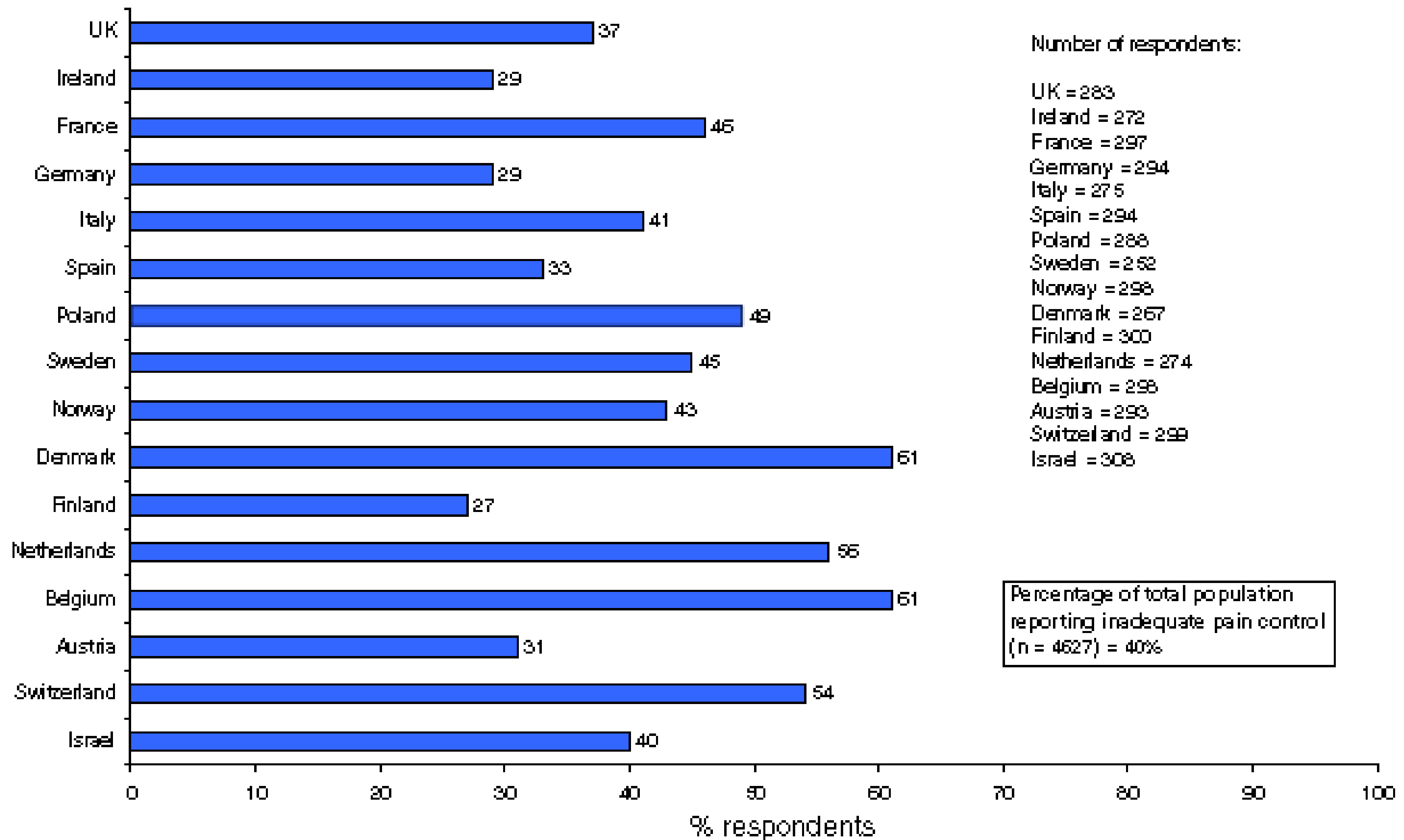
Type of Cost	Chronic Opioid Users, Mean (SD), $ (n = 49,425)	Nonusers, Mean (SD), $ (n = 49,425)	p^a
Ambulatory	9358 (21,436)	2223 (6981)	<.001
Emergency	339 (1185)	87 (409)	<.001
Inpatient	7231 (27,350)	980 (8776)	<.001
Other medical	1165 (7777)	275 (1832)	<.001
Total medical	18,092 (40,961)	3565 (12,406)	<.001
Pharmacy	4956 (7175)	1410 (3145)	<.001
Total healthcare[b]	23,049 (42,798)	4975 (13,185)	<.001

Leider et al, US, 2011

Management of chronic pain

- Drugs
  - NSAIDS, analgesics, opioids, muscle relaxants, antidepressants, anti-epileptics, …
  - Different routes of administration
- Physiotherapy (massage, electrotherapy, manual therapy, exercise programs, …)
- Psychotherapy, CBT
- Interventions (denervation, neurostimulation, neuromodulation,…)
- Surgery (spinal fusion, …)
- ….

Inadequate pain control



Breivik et al (2006)

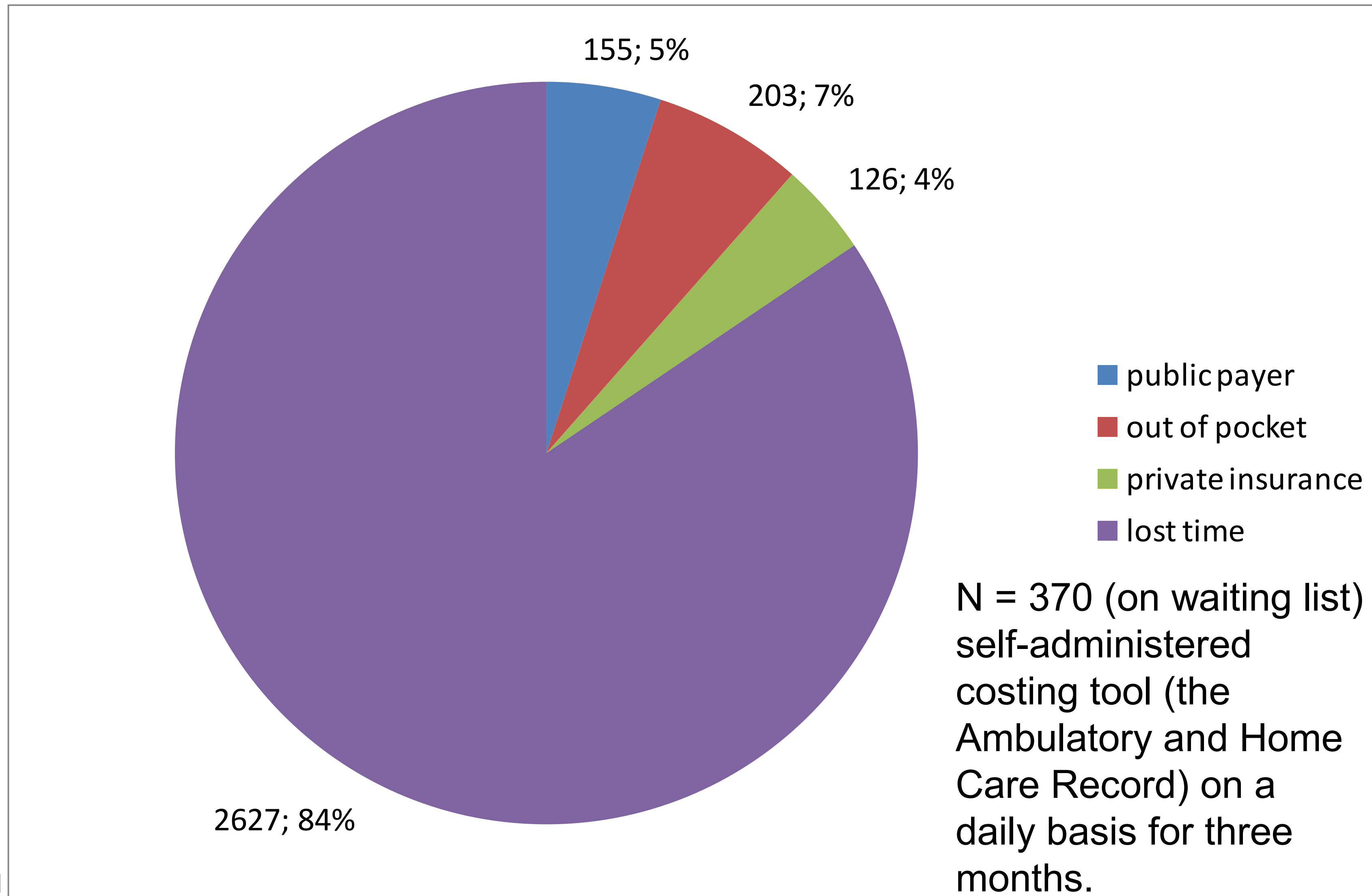
Non adherence → more expensive

Type of Cost	Adherent, Mean (SD), $ (n = 442)	Likely Nonadherent, Mean (SD), $ (n = 1658)	p[a]
Ambulatory	9237 (12,473)	9734 (14,334)	.472
Emergency	331 (976)	421 (1170)	.096
Inpatient	4855 (16,937)	6361 (20,831)	.115
Other medical	1573 (2879)	1957 (4326)	.027
Total medical	15,995 (25,680)	18,473 (29,226)	.081
Pharmacy	7165 (9673)	7960 (10,244)	.143
Total healthcare[b]	23,160 (28,251)	26,433 (32,077)	.036

Leider et al, US, 2011

2. Time related costs are much higher than direct medical costs

Guerriere et al, 2010 STOP PAIN Canada <u>Monthly</u> costs (Can$)

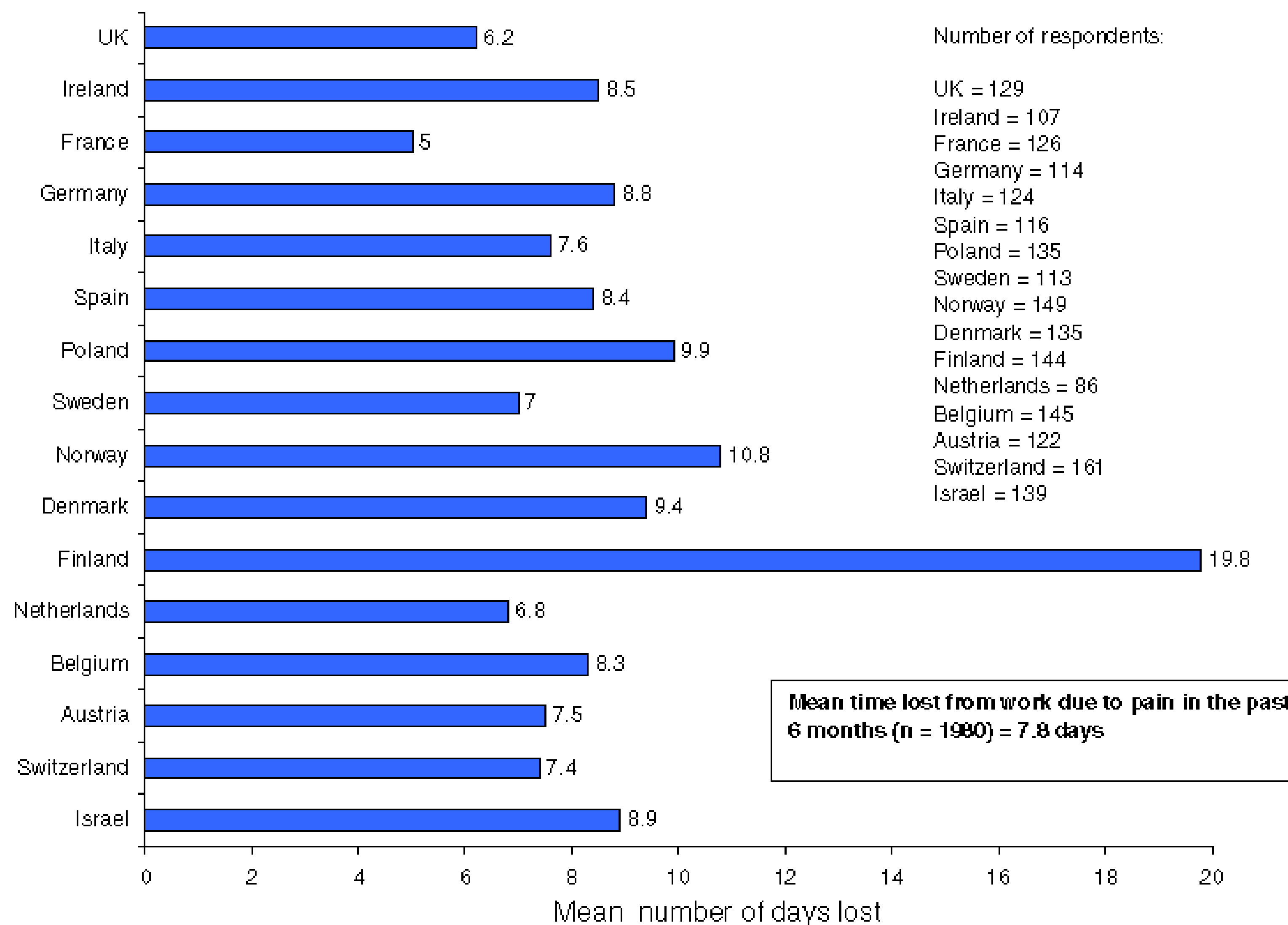


Switzerland Bachman 2009

	FCT		PCT	
	Mean	SE	Mean	SE
Rehabilitation treatment				
Direct costs	5,889	106	5,935	107
1 year				
Direct costs	2,658	282	1,926	226
Indirect costs	22,737	1,627	26,601	1,341
Total costs	25,395	1,714	28,527	1,379
3 years				
Direct costs	4,843	561	4,269	496
Indirect costs	72,462	4,619	78,816	4,072
Total costs	77,305	4,747	83,085	4,231

A total of 174 patients with chronic low back pain were randomized to function- (FCT) or pain-centred inpatient treatment (PCT)

Absence from work



Note: 22% unemployed; 26% report that pain influenced employment status

Breivik et al (2006)

3. Factors associated with cost (Guerriere et al, 2010)

Variables	*P* value	Multiplier of outcome
Education level		
university vs ≤ high school	0.03	1.20
Employment status		
unable to work due to illness or disability vs employed/homemaker	<0.0001	1.71
student/other vs employed/homemaker	0.02	1.34
Pain duration (10 yr increase)	0.05	0.93
Depression level (BDI global score) (10 pt increase)	0.05	1.08
SF 36v2 Physical summary measure	<0.0001	0.44

Something to think about

- **The health insurance industry has continued to fail to take the needs of suffering chronic pain patients into consideration in developing and enacting their policies that ultimately dictate the quality and quantity of pain management services available to enrollees.**

  (Schatman, US, 2011)