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Europain

Understanding Chronic Pain and Improving Its Treatment

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www.imi.europa.eu

SIP 2011 Workshop, 4th May 2011, European Parliament, Brussels

What is Chronic Pain?



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Acute pain is the response to an injury, and lasts until the injury is healed.

As such acute pain is a physiological response

Chronic pain is pain that persists long after the injury has healed. Sometimes its cause is not clear.

Chronic pain is a pathological condition.

Chronic pain frequently carries a stigma, and misperceptions of laziness or pain killer addictions follow.

Often misunderstood, chronic pain is very real



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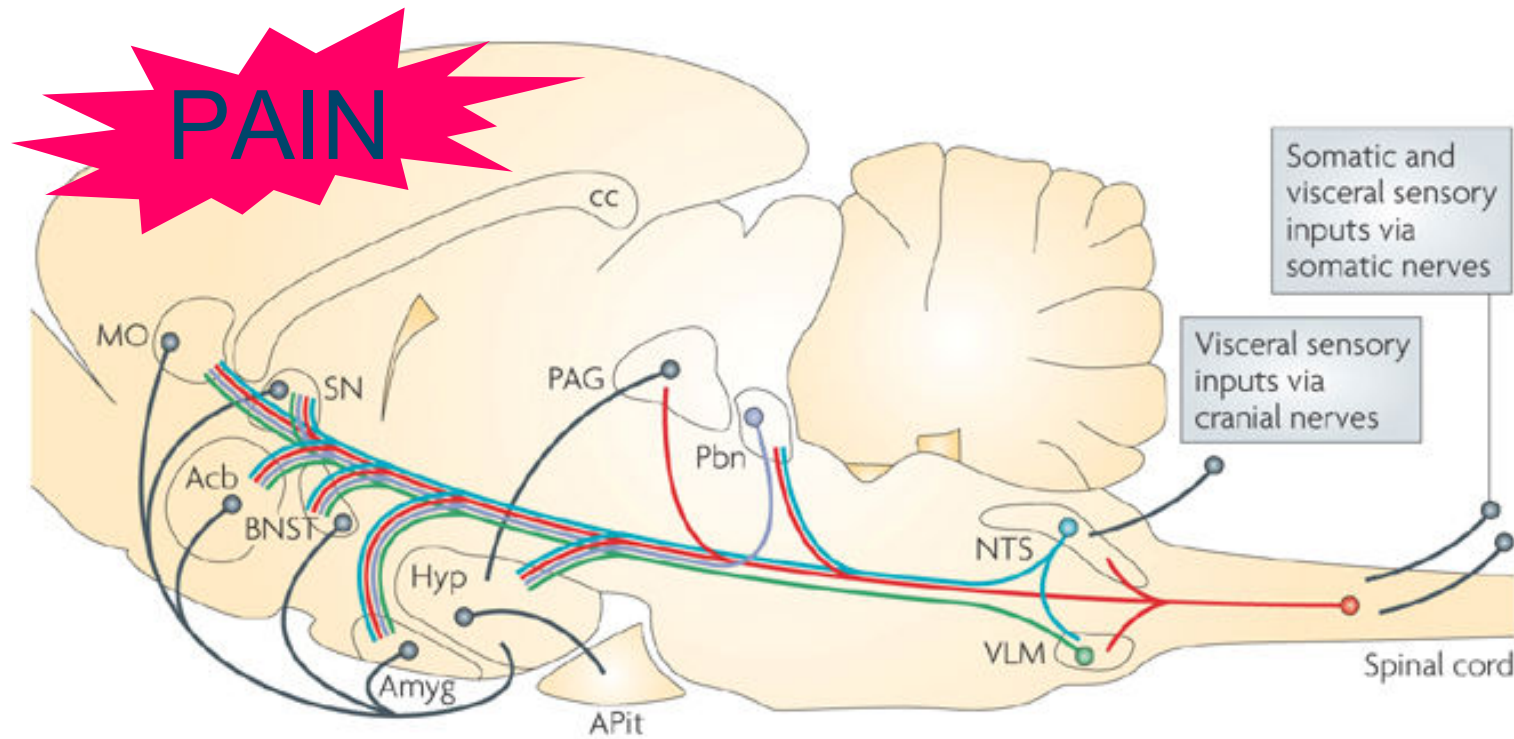


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The Chain Transmission of Pain



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Nature Reviews | Drug Discovery

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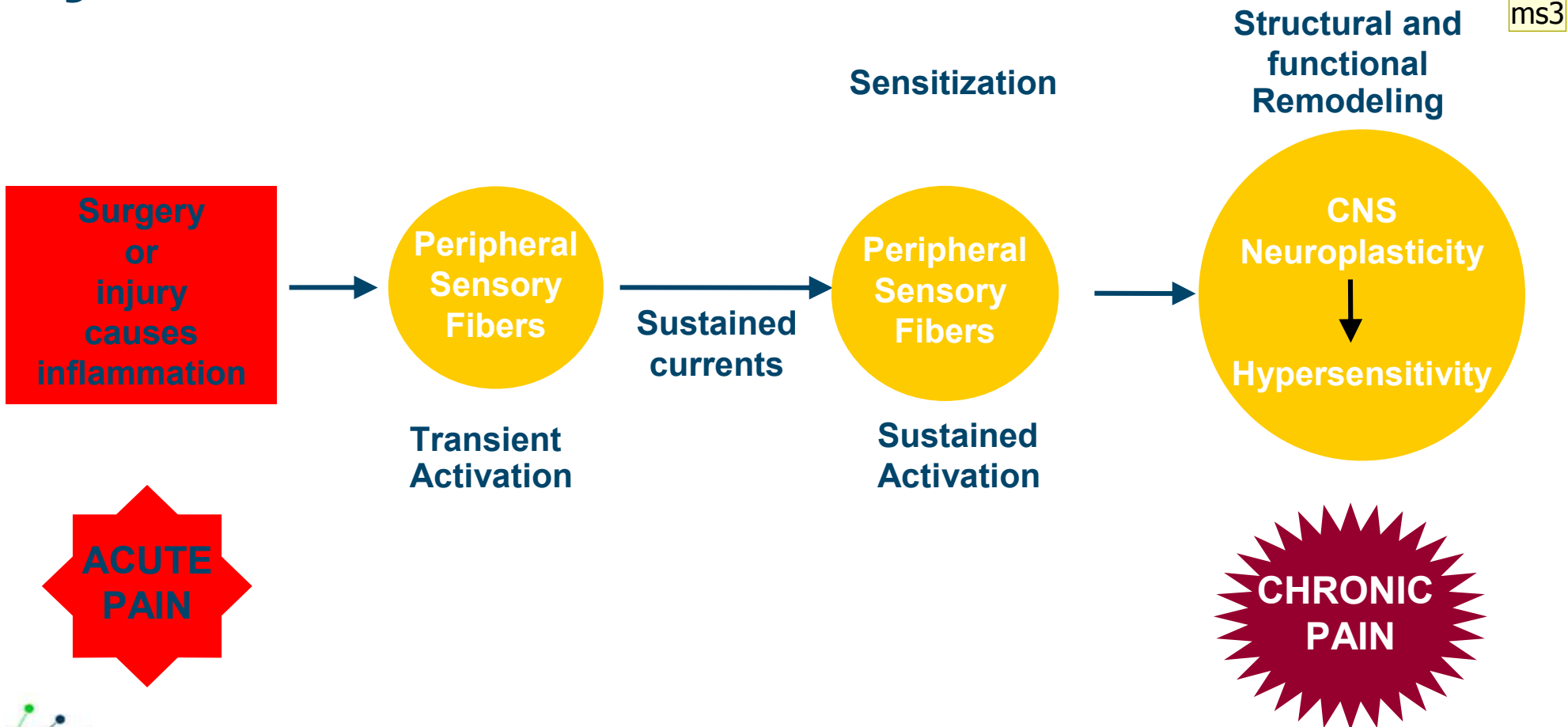


What is Chronic Pain: A Nervous System Disease



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ms3



Woolf CJ, et al. *Ann Intern Med.* 2004;140:441-451; Petersen-Felix S, et al. *Swiss Med Weekly.* 2002;132:273-278; Woolf CJ. *Nature.* 1983;306:686-688; Woolf CJ, et al. *Nature.* 1992;355:75-78.

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Slide 4

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some changes here as well...

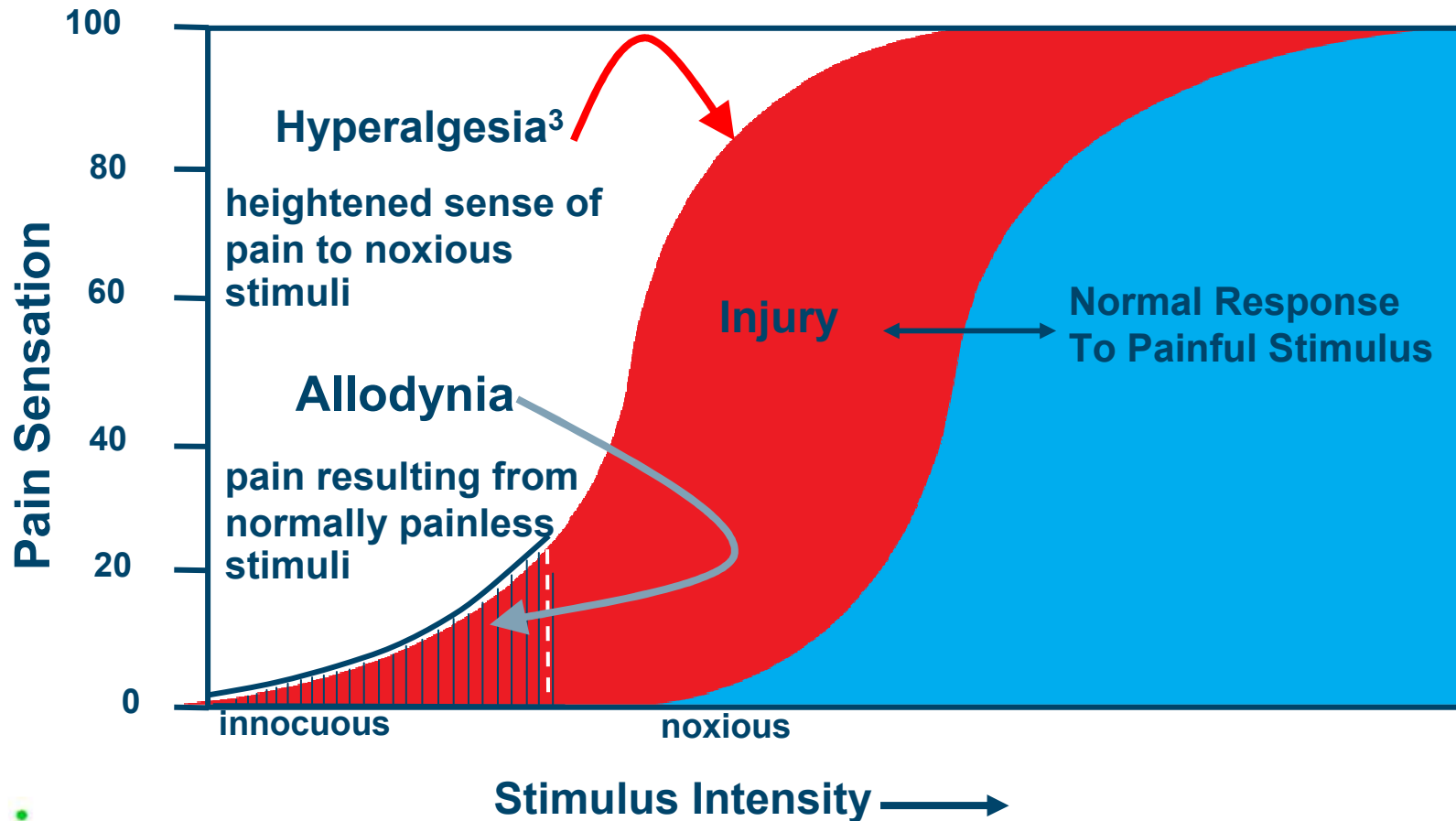
kcpw436; 28.04.2011

What is Chronic Pain?

Neuroplasticity in Pain Processing



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1. Woolf CJ, Salter MW. *Science*. 2000;288:1765-1768.
2. Basbaum AI, Jessell TM. *The perception of pain*. In: Kandel ER, Schwartz JH, et al. eds. *Principles of Neural Science*. 4th ed. New York, NY: McGraw-Hill; 2000:479.
3. Cervero F, Laird JMA. *Pain*. 1996;68:13-23.



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Chronic Pain, a Devastating and Widespread Problem

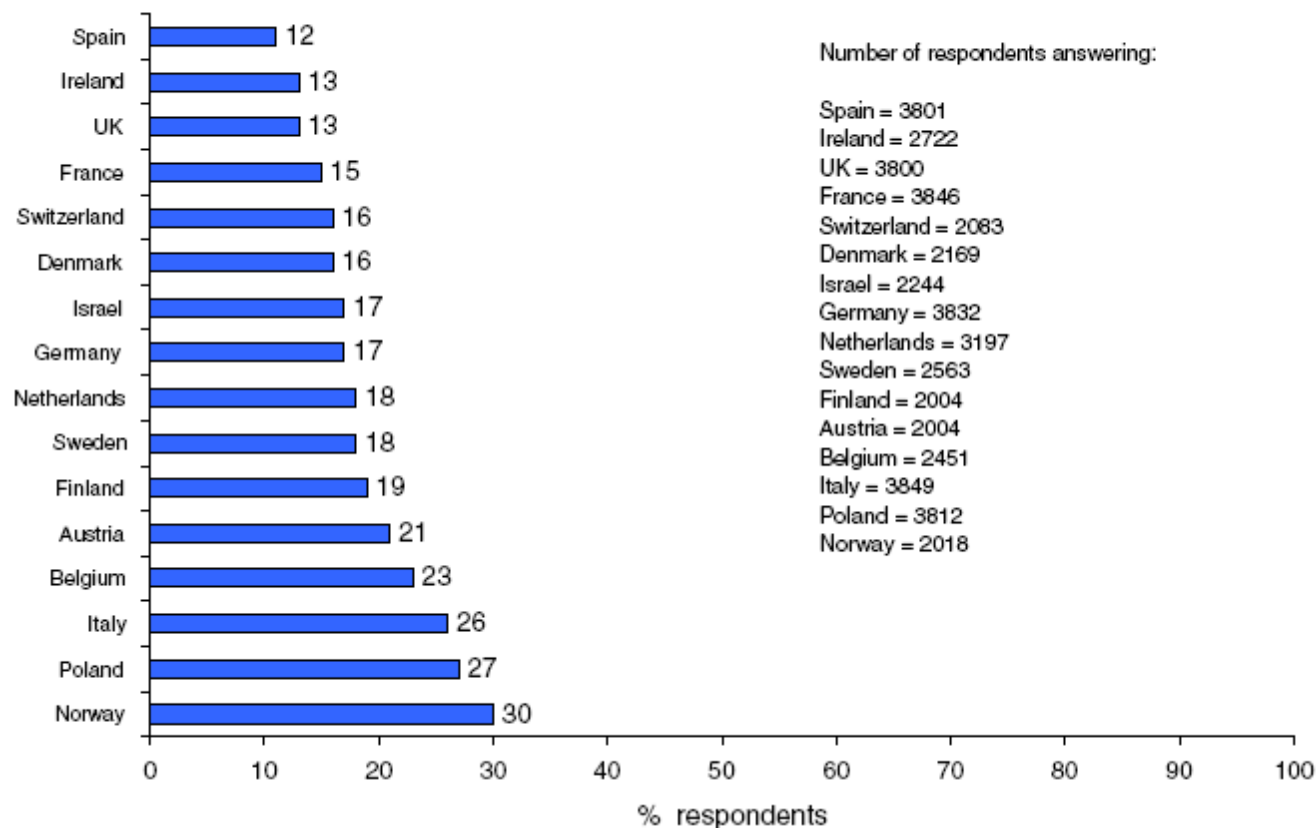


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On average, one out of every five Europeans suffer from chronic pain*

H. Breivik et al. / European Journal of Pain 10 (2006) 287-333

* Only including cases requiring treatment



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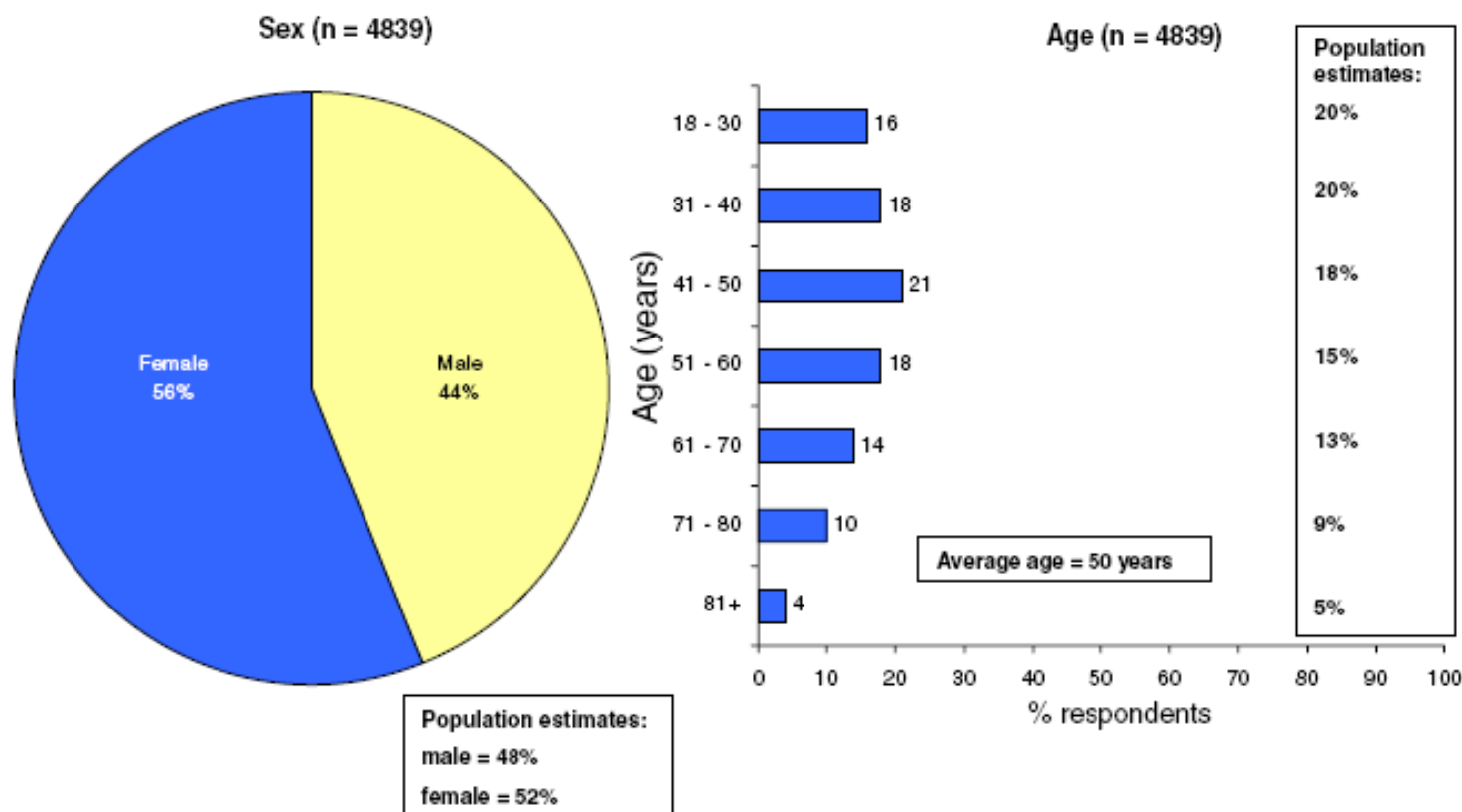
Demographics of Chronic Pain



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Chronic pain can affect anyone

H. Brevik et al. / European Journal of Pain 10 (2006) 287-333



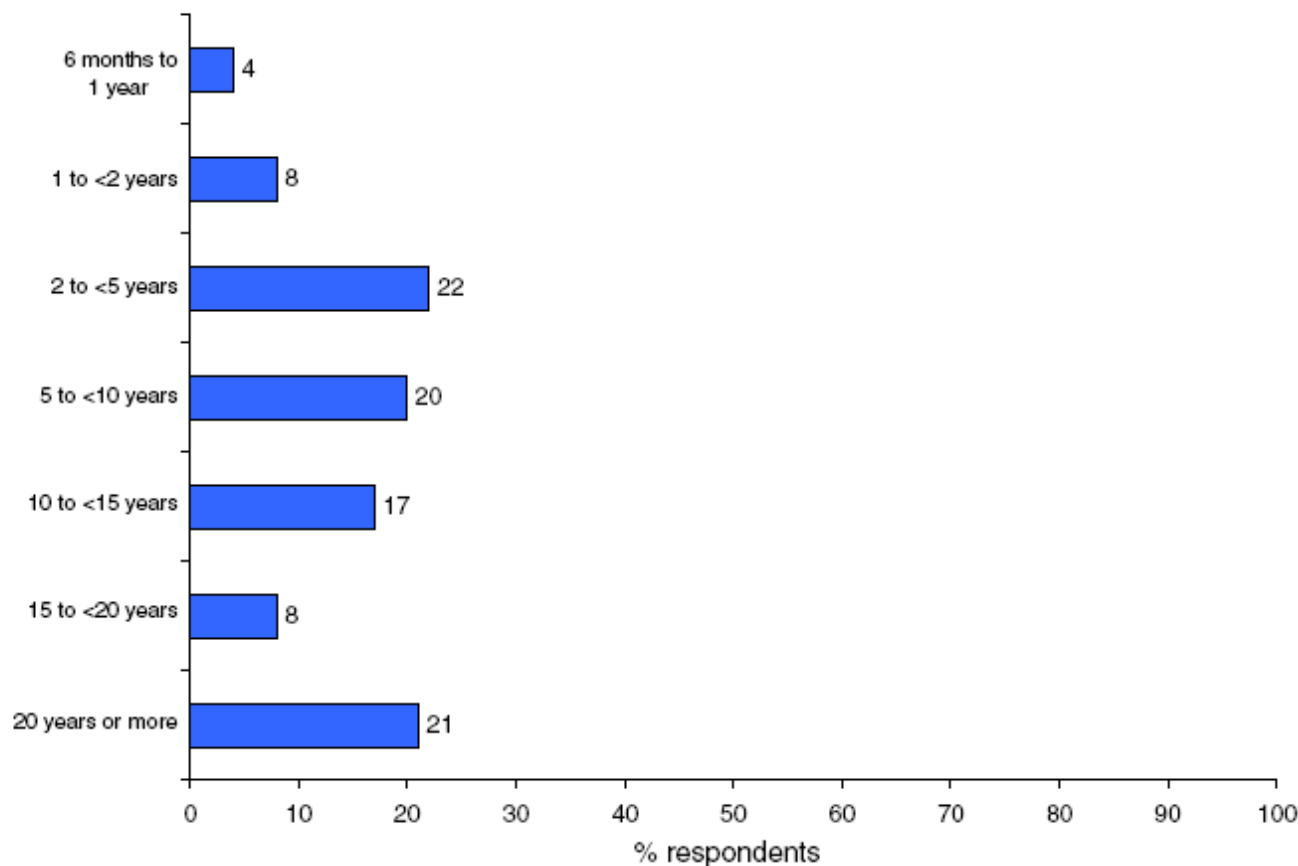
Duration of Chronic Pain



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In 21% of cases chronic pain lasts more than 20 years

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Severity of Chronic Pain

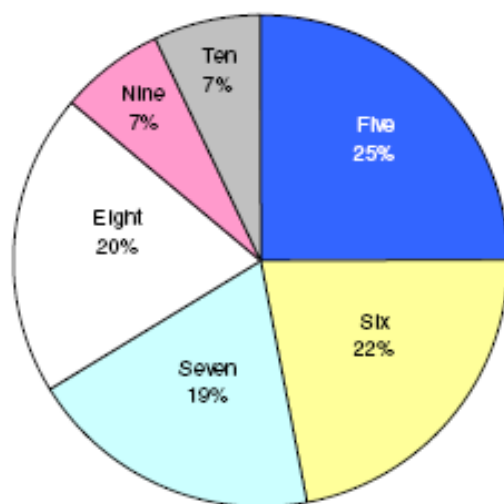


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In 31% of cases Chronic pain is defined as unbearable

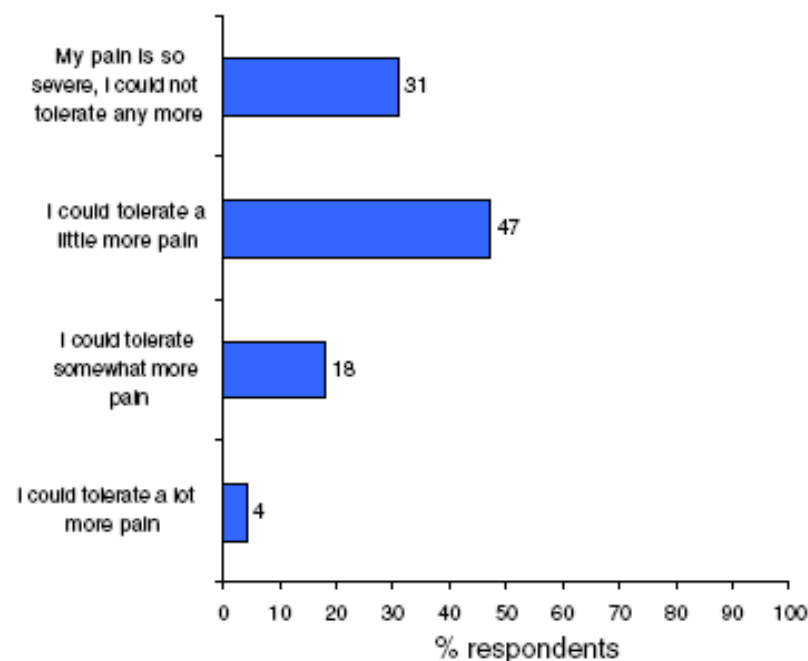
H. Breivik et al. / *European Journal of Pain* 10 (2006) 287-333

% respondents rating pain as 5 –10 on a 10-point numerical rating scale¹
(n= 4839)



¹ Respondents with scores of 1 – 4 were not eligible to participate in the study

Tolerance level for more pain
(n= 4785)



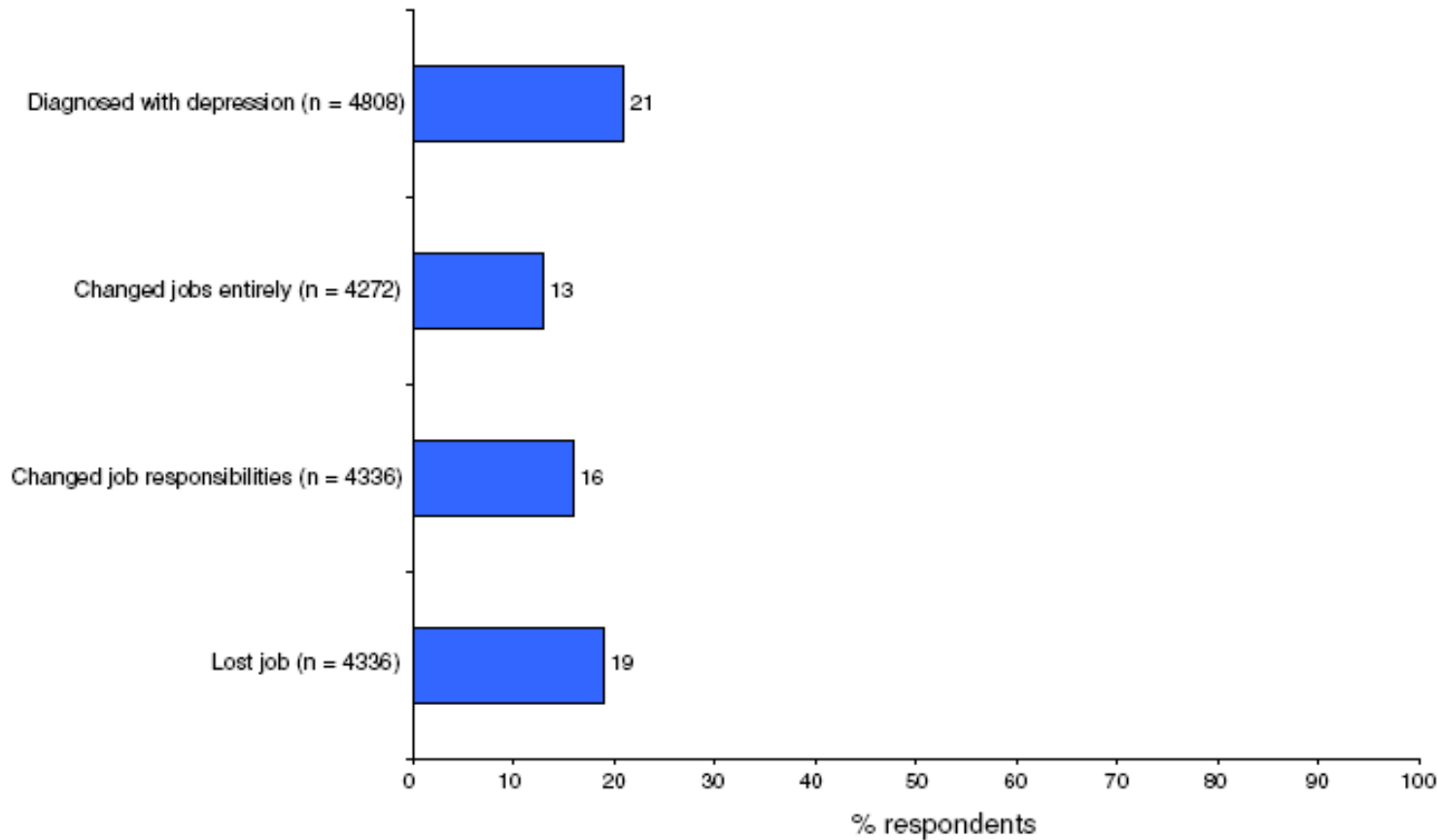
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Chronic Pain Has Severe Consequences

Chronic pain influence job perspectives and may lead to depression

H. Breivik et al. / European Journal of Pain 10 (2006) 287–333



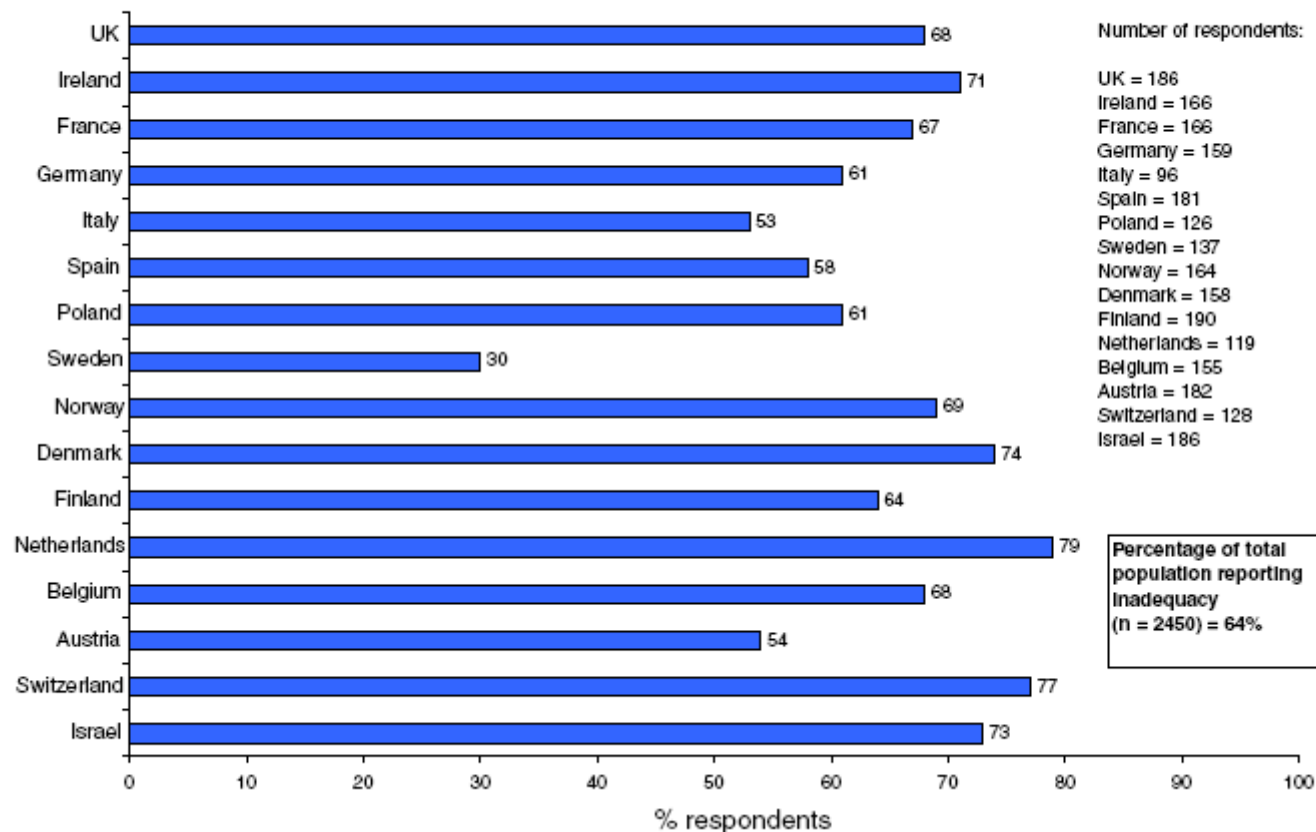
Chronic Pain Treatment is Inadequate



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Existing drug therapies are insufficient and a majority of patients withdraw from treatment due to lack of efficacy or subjective side effects

H. Breivik et al. / European Journal of Pain 10 (2006) 287-333



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Why Developing New Analgesics is Difficult



- Pain experience and pain-related problems are not always predictably related to the underlying cause
- Different forms of chronic pain have different underlying mechanisms.
- For personalised health care the right patient segment has to be identified
- The gap between animal behavioural models and humans has not been overcome
- Only recently has identification of novel targets and genes important in chronic pain become fairly easy



IMI is the Largest PPP in Health Sciences



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€1 billion*



€1 billion*



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* Research performed by EFPIA member companies

= *in kind* contribution

* IMI Research funding from FP7 Health Budget (total €6.1 billions)

for

Academia, SMEs, patients organisations, Regulatory Authorities, etc.



IMI Research Projects



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Euro pain

The EuroPain Project



In order to succeed in providing better medicines to patients we need to collaborate closely between Academic partners, Biotech SMEs and pharmaceutical companies

The ultimate goal of the project is to improve the pharmacological treatments against chronic pain and to reduce the burden of illness of very large groups of the European population.



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The EuroPain Project



London Pain Consortium

- King's College London (Managing Entity)
- University College London
- University of Oxford
- Imperial College London

German Neuropathic Pain Network

- Christian-Albrechts-Universitaet zu Kiel
- Ruprecht-Karls Universitaet Heidelberg
- Technische Universitaet Muenchen
- BG Universitätsklinikum Bergmannsheil GmbH
- Klinikum der Johann Wolfgang Goethe-Universitaet

Danish Pain Research Centre

- Aarhus University Hospital
- Region Hovedstaden
- University of Southern Denmark

SME:

Neurosciences Technologies S.L.

EFPIA

- AstraZeneca (Coordinator)
- Boehringer Ingelheim
- Pfizer Limited
- Eli Lilly and Company Ltd
- Esteve S.A.
- UCB Pharma
- Sanofi-Aventis R&D
- Grünenthal

Total project cost: 18.5 MEUR

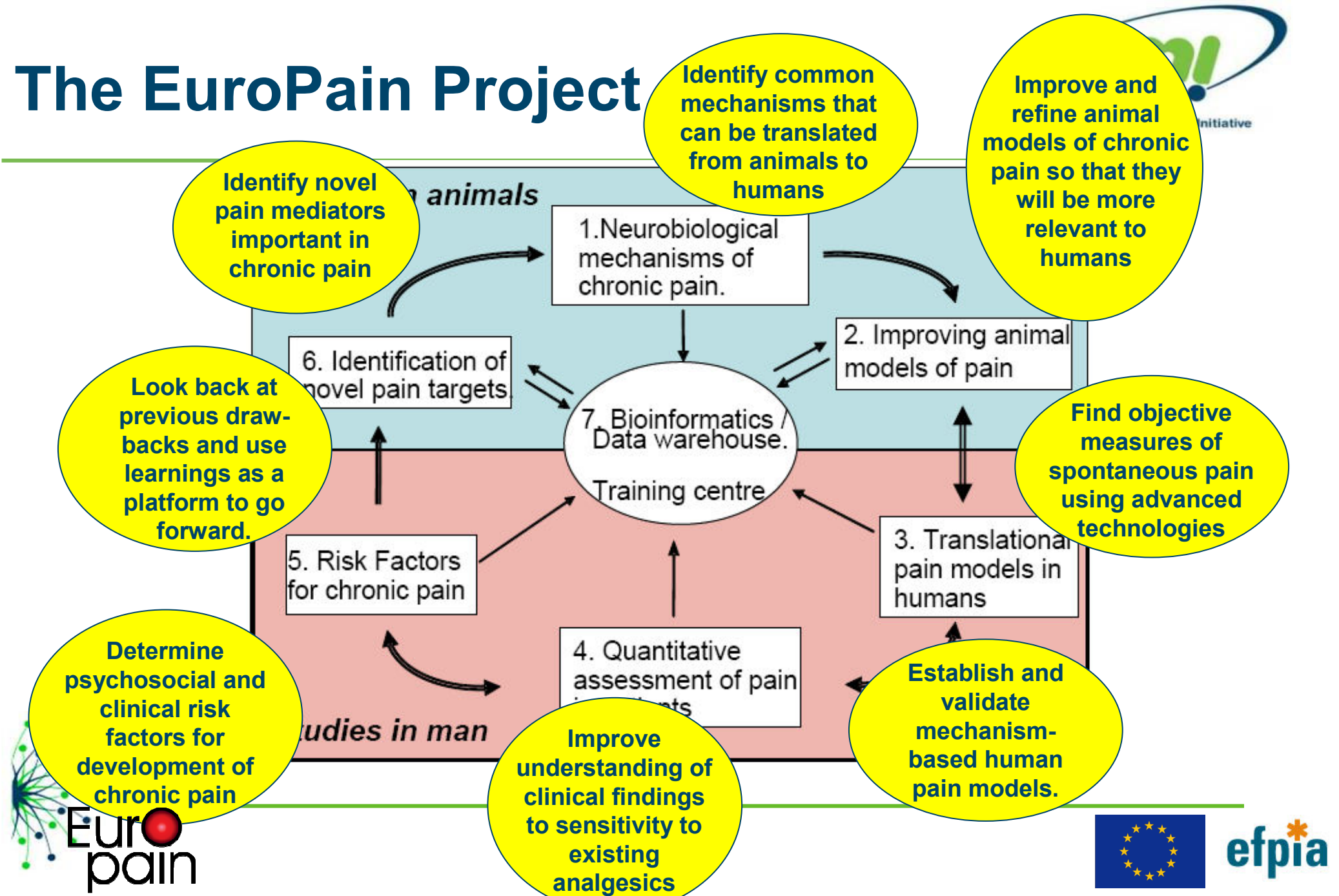
Timing:

Starting date: October 1, 2009

Duration: 60 months, ending Sept 30, 2014



The EuroPain Project



The EuroPain Project: Some Achievements



- Using a standardised Quantitative Sensory Testing (QUAST) protocol a database has been developed of different measures in patients suffering neuropathic pain of different origins.

This will help identify potential underlying mechanisms of chronic neuropathic pain and differences in patients groups.

- A novel imaging technique based on magnetic resonance imaging (MRI) has visualised changes in the normal brain resting state network (RSN) in patients with low-back pain compared with healthy controls.

This can be used to predict the intensity of pain experienced by the patients.

- A new model for cold hypersensitivity has been developed in healthy human volunteers, with a similarity with the sensory profile for chemotherapy-induced pain.

This model can be used for faster and more efficient testing of novel treatments



The EuroPain Project: the Benefit for Europe



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- Better pain treatment will reduce the socio-economic burden for patients and society



- Improved success rate in drug development will give EFPIA members and Biotech SMEs better possibility to contribute to economic growth in Europe.



Euro
pain



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Questions?

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