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**Success Through Experience**

**This new EP Publications report:**

- Provides patient populations with key conditions causing neuropathic pain in each of the five major European country-markets, in 2002, 2007, and 2012
- Reports on interviews with thought-leading physicians regarding the treatment of neuropathic pain in the five major European country-markets
- Presents expert analysis of the commercial potential and key differences among products in development for the treatment of neuropathic pain
- Forecasts the potential value of the neuropathic pain market in each country, by etiology and by drug class
- Reveals the critical factors driving neuropathic pain market growth through 2012

**Providing an  
Enhanced Perspective...**

On  
**European  
Neuropathic Pain**

*Commercial Potential Driven by  
Clinical Need*

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**About WWMR, Inc.**

WWMR, Inc., is a leading marketing research and strategic consulting firm with global capabilities. Since 1994, WWMR, Inc., has provided over 450 high-quality, insightful proprietary studies to clients in the pharmaceutical, biotech, medical device, and diagnostics industries worldwide. Using primary and secondary research methodologies, WWMR, Inc., provides market opportunities and product assessments, competitive intelligence, forecasts, population projections, pre-launch product planning, post-launch product monitoring, product pricing strategy, database products, and on-site information center management. Enhanced Perspective Publications (EP Publications) is the multi-client service of WWMR, Inc.

ENP1203P1

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**EP Publications**

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**Providing an Enhanced Perspective...**

## EUROPEAN NEUROPATHIC PAIN

### An Opportunity to Meet Unmet Need for Therapy

By 2012, there will be more than 1.7 million individuals in the five major European pharmaceutical markets – France, Germany, Italy, Spain and the UK – suffering from major neuropathic pain conditions. Given this substantial patient population, neuropathic pain has received particular attention in recent years due to its relative resistance to conventional analgesic therapies.

The European neuropathic pain market is characterized by a particularly high level of unmet need for effective therapeutics due to the under-utilization of anti-depressants, the lack of opioid availability, commonly used to treat neuropathic pain in the U.S. and certain European country-markets, but not others. This under-utilization stems primarily from a lack of awareness about the potential utility of these drugs in neuropathic pain treatment and concerns about opioid addiction.

The anticonvulsant Neurontin (gabapentin) has recently experienced significant uptake in some countries in Europe, demonstrating the magnitude of the potential for other drugs with newer mechanisms of action. Now the product facing generic competition in Europe, and with Pfizer's recent NDA submission to the US FDA for the follow-on drug pregabalin, renewed attention is being focused on anticipated changes in the neuropathic pain market.

### Report Objectives & Methodology

In this report WWMR, Inc., provides an assessment for five major conditions causing neuropathic pain in the five major European pharmaceutical markets:

- France
- Germany
- Italy
- Spain
- UK

This report also summarizes WWMR, Inc.'s current understanding of neuropathic pain mechanisms, and highlights promising targets for drug development. Also discussed are new treatments already in development that offer the promise of improved pain management of neuropathic pain in the near future.

Models representing patient populations and the commercial value (USD) of this market in 2002, 2007, and 2012 are assessed. These models describe the important features of key conditions causing neuropathic pain:

- Neuropathic Back Pain
- Diabetic Neuropathy
- Post-Herpetic Neuralgia
- Trigeminal Neuralgia
- HIV/AIDS Neuropathy

Expert analysis and commentary describing the future neuropathic pain market are based on:

- In-depth analysis of the medical literature, including treatment review articles, medical textbooks, epidemiology studies, and clinical studies
- Thorough review of country-specific and overall trends
- Comprehensive analysis of prescriptions written for specific conditions, including estimations of prescription size, number of refills, and cost
- Evaluation of drugs in the neuropathic pain drug pipeline, with conclusions on the future directions in treatment
- Interviews with leading international clinicians and researchers, including medical directors of selected pain centers and clinicians treating neuropathic pain

### WWMR's European Neuropathic Pain report will allow pharmaceutical and biotechnology executives to:

- Pinpoint the specific conditions causing neuropathic pain that have high market potential in the next 10 years
- Understand the characteristics of the unmet need in the neuropathic pain market in Europe as well as the key differences between markets in France, Germany, Italy, Spain, and the UK
- Compare the epidemiology and forecasted prevalence of neuropathic pain, among the 5 major European pharmaceutical markets
- Target specific patient populations that will benefit most from drugs in the neuropathic pain pipeline
- Anticipate upcoming competitors and product licensing opportunities
- Recognize the impact of unique market dynamics, including patent expiration, and the potential off-label usage, on product uptake forecasts
- Develop condition-specific and country-specific forecasts for major conditions associated with neuropathic pain

## About EP Publications

**Enhance your perspective through EP Publications, a service of WWMR, Inc. Each report pinpoints and evaluates key trends and markets, enabling clients to identify opportunities and augment strategic decisions. In-house consultants with industry experience use qualitative and quantitative research methodologies to provide the most comprehensive and insightful business intelligence available in the life sciences industry.**

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**EUROPEAN NEUROPATHIC PAIN**

**I. EXECUTIVE SUMMARY**

**II. INTRODUCTION AND METHODOLOGY**

**III. PHYSIOLOGY OF PAIN**

**A. Definition of Neuropathic Pain Conditions**

- 1. Nerve Injury
- 2. Long Duration
- 3. Abnormal Sensations
- 4. Aggravation by Physiological Processes
- 5. Cellular Mechanisms of Neuropathic Pain
  - 5.1 Peripheral Mechanisms of Neuropathic Pain
  - 5.2 Spinal Cord Mechanisms of Neuropathic Pain
  - 5.3 Mechanisms of Central Neuropathic Pain

**B. Definition of Neuropathic Pain States**

- 1. Neuropathic Low-Back Pain
- 2. Diabetic Neuropathy
- 3. Post-Herpetic Neuralgia
- 4. Trigeminal Neuralgia (tic douloureux)
- 5. HIV/AIDS Neuropathy

**IV. MEASUREMENT OF PAINFUL CONDITIONS**

**A. Pain Measurement Scales**

- 1. Qualitative Assessments
- 2. Standard Quantitative Pain Measurement Scales
  - 2.1 Visual Analog Scale
  - 2.2 McGill Pain Questionnaire
  - 2.3 The Neuropathic Pain Scale

**B. Clinical Assessment of Neuropathic Pain**

**V. EPIDEMIOLOGY - CURRENT AND FUTURE**

**A. Diabetic Neuropathy**

- 1. Low-Back Pain
- 2. Low-Back Pain Incidence and Prevalence
- 3. Chronic Low-Back Pain Prevalence
- 4. Neuropathic, Chronic Low-Back Pain Prevalence
- 5. Basis for Target Population
- 6. Five-Country Neuropathic, Chronic Low-Back Pain Population Projections

**B. Diabetic Neuropathy**

- 1. Diabetic Neuropathy
- 2. Diabetes Prevalence
- 3. Diabetic Neuropathy Prevalence
- 4. Symptomatic Diabetic Neuropathy Prevalence
- 5. Severe Diabetic Neuropathic Pain Prevalence
- 6. Basis for Target Population Projections
- 7. Five-Country Diabetic Neuropathy Population Projections

**C. Post-Herpetic Neuralgia**

- 1. Post-Herpetic Neuralgia
- 2. Herpes Zoster Incidence
- 3. Post-Herpetic Neuralgia Incidence
- 4. Post-Herpetic Neuralgia Prevalence
- 5. Basis for Target Population Projections
- 6. Five-Country Post-Herpetic Neuralgia Population Projections

**D. Trigeminal Neuralgia**

- 1. Trigeminal Neuralgia
- 2. Trigeminal Neuralgia Incidence and Prevalence
- 3. Basis for Target Population
- 4. Five-Country Trigeminal Neuralgia Population Projections

**E. HIV/AIDS Neuropathic Pain**

- 1. HIV/AIDS Pain
- 2. HIV/AIDS Incidence and Prevalence
- 3. AIDS Incidence and Prevalence
- 4. HIV/AIDS Pain Prevalence
- 5. HIV/AIDS Neuropathic Pain Prevalence
- 6. Basis for Target Population Projections
- 7. Five-Country HIV/AIDS Neuropathy Population Projections

**F. References**

**VI. APPROACHES FOR TREATMENT OF NEUROPATHIC PAIN**

**A. Actual Clinical Practice**

- 1. Antidepressants
- 2. Anticonvulsants
- 3. Local Anesthetics, Regional Nerve Blocks, and Sympathetic Nerve Blocks
- 4. Antiarrhythmics
- 5. Non-Narcotic Synthetic Opioids
- 6. Opioids and Semi-Synthetic Narcotics
- 7. Muscle Relaxants
- 8. NMDA Receptor Antagonists
- 9. VR-1 Receptor Agonists
- 10. Non-Steroidal Anti-Inflammatory Agents (NSAIDs)
- 11. Non-Pharmacologic Treatments
  - 11.1 Electrical Nerve Stimulation
  - 11.2 Acupuncture
  - 11.3 Hypnosis and Psychological Approaches
  - 11.4 Surgery

**B. Clinical Practice Guidelines**

**C. Limitations of Current Treatment**

**D. Promising New Approaches**

**E. Future Trends**

**F. Drugs in Clinical Development to Treat Neuropathic Pain**

- 1. Recent Launches
- 2. Current Pipeline
  - 2.1 Phase III, Pre-registration, and Registration
  - 2.2 Ion Channel Antagonists
  - 2.3 Glutamate Receptor Antagonists
  - 2.4 Cyclo-Oxygenase Inhibitors
  - 2.5 Cannabinoid Receptor Agonists
  - 2.6 Neuromuscular Blocking Agents
  - 2.7 Norepinephrine and Serotonin Reuptake Inhibitors
  - 2.8 Alpha Adrenoceptor Agonist

**3. Phase II**

**3.1 Glutamate/NMDA Receptor Antagonists**

- 3.2 Ion Channel Antagonists
- 3.3 Opioid Receptor Agonists
- 3.4 GABA Receptor Agonists
- 3.5 Cyclo-Oxygenase 2, 5-Lipoxygenase and Platelet Activating Factor Inhibitors
- 3.6 Cholecystokinin Antagonists
- 3.7 Free Radical Scavengers and Mitogen-Activated Protein Kinase Inhibitors
- 3.8 Nicotinic Acetylcholine Receptor Agonists
- 3.9 Adenosine A1 Receptor Agonists
- 3.10 Nociceptin Antagonists and Vanilloid Receptor Agonists
- 3.11 Alpha 2 Adrenoceptor Agonists
- 3.12 Undefined Mechanisms

**4. Phase I**

- 4.1 GABA Receptor Agonist
- 4.2 NMDA Antagonist and Monoamine Oxidase Inhibitors
- 4.3 Neurotransmitter Agonists
- 4.4 Ion Channel Modulators
- 4.5 Superoxide Dismutase Stimulants
- 4.6 Cannabinoid CB1 Receptor Agonists
- 4.7 Undefined Mechanisms
- 4.8 Antioxidants
- 4.9 Discontinued, Suspended, or No Development Reported Drugs

**G. References**

**VII. MARKET VALUE, CURRENT AND FUTURE**

**A. Current Sales of Pharmaceutical Products, By Drug Class and Condition**

- 1. Five-Country Market Analysis:
  - 1.1 Anticonvulsants
  - 1.2 Antidepressants
  - 1.3 Opioids
  - 1.4 Other
- 2. European Market Summary
  - 2.1 Clinician Views
  - 2.2 Sales by Condition, Class & Country
- 3. Five-Country Market Analysis: Details by Class
  - 3.1 Neuropathic Back Pain
  - 3.2 Trigeminal Neuralgia
  - 3.3 Diabetic Neuropathic Pain
  - 3.4 Post-Herpetic Neuralgia
  - 3.5 HIV/AIDS Neuropathic Pain
- 4. Methodology

**B. Market Forecasts for Neuropathic Pain**

- 1. Five-Country Market Forecast - 2007 & 2012
  - 1.1 Anticonvulsants
  - 1.2 Antidepressants
  - 1.3 Opioids
  - 1.4 Other
- 2. European Total Market Forecasts for Pipeline Products for the Treatment of Neuropathic Pain

**VIII. APPENDICES**