

# FUTURE ONCOLOGY

TECHNOLOGY, PRODUCTS, MARKETS AND SERVICE OPPORTUNITIES

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## WORLDWIDE PRODUCT DEVELOPMENT AND MARKET OPPORTUNITIES IN THE MANAGEMENT OF MODERATE-TO-SEVERE PAIN, WITH AN EMPHASIS ON CANCER PAIN

Report #430

July 1999

270 pages

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Pain remains one of the poorly served sectors in medicine today, with millions suffering from unremitting and undertreated chronic pain that destroys an individual's quality of life, increases morbidity and may hasten death among the seriously ill. Ignored in the past by drug developers, new guidelines calling for aggressive treatment of pain are refocusing attention in this sector. Pent-up demand for pain relief medications is underscored by the immediate rise to blockbuster status of the new COX-2 inhibitors introduced in the USA in 1999 to treat arthritis-related chronic pain.

More than 700,000 cancer patients experience non-neuropathic chronic pain at some time during the course of their disease annually in the USA alone. Also, many cancer survivors experience chronic neuropathic pain, a remnant of aggressive treatment approaches. Cancer-related pain is currently treated with narcotic analgesics that have been the mainstay of pain relief for the last 100 years. Despite their effectiveness, these agents are underutilized because of regulatory constraints and an unfavorable side effects profile, leaving many patients in constant pain.

After years of neglect, the pain management field is expected to enter its renaissance in the new millennium. Numerous programs are underway to meet product needs and take advantage of the opportunities emerging in this area. This report provides a comprehensive review of all aspects associated with cancer-related pain including etiology, pathogenesis, mechanisms, epidemiology, diagnosis, current treatment, and novel agents in development, and profiles 60 developers in this field.

**Section I:** (12 pages) describes the basic mechanisms involved in pain

**Section II:** (21 pages) provides detailed description of cancer pain-related syndromes such as:

- tumor-related pain syndromes (bone pain, vertebral pain syndromes, headache and facial pain, tumor involvement of the peripheral nervous system, visceral pain syndromes, etc.)
- treatment-related acute and chronic pain syndromes that occur post-chemotherapy, during hormonal therapy, post-surgery, post-mastectomy or post-radiation therapy, including mucositis

**Section III:** (44 pages) provides a worldwide epidemiology of incidence, prevalence and morbidity associated with cancer pain by origin and world region (North America, Europe, Japan and ROW) and assesses its economic and quality-of-life impact. This section also estimates the market for pain-related products worldwide, and provides estimates of current sales of selected prescription analgesics.

**Section IV:** (80 pages) delineates current approaches in the management of cancer pain:

- pharmacologic interventions (NSAIDs, morphine/opioids, methadone, corticosteroids, alpha adrenergic agonists, anticonvulsants, antidepressants, neuroleptics, bisphosphonates/calcitonin, antineoplastics, muscle relaxants, antihistamines, psychostimulants, etc.)
- radiation therapy (radiotherapy and radiopharmaceuticals)
- surgery and other approaches (neurosurgery, nerve blocks, acupuncture, psychosocial interventions)

**Section V:** (15 pages) describes drug delivery methodologies in use or in development to enhance administration of pain medications, including injectables (intravenous, subcutaneous, intramuscular, intrathecal/intraspinal), patient-controlled analgesia, oral drugs (sustained release, transmucosal), rectally administered drugs, transdermals/patches, inhaled drugs, implants and depots, etc.

— continued on next page



— continued from page 12

**Section VI:** (43 pages) provides a detailed review of R&D involving significant improvements of existing drugs such as opioids and non-opioids, as well as novel agents based on newly-discovered mechanisms, including ion channel blockers, afferent neurons, ligand/receptor interactions (neurotransmitters, NMDA antagonists, neuropeptides, cholecystokinin antagonists, etc.), anti-hypersensitivity agents, etc. This Section also incorporates a comprehensive database of over 55 novel analgesics in development worldwide, listing the agent's developer/ affiliate, mechanism/technology, and clinical status.

**Section VII:** (41 pages) profiles 60 developers of pain-related products such as:

Abbott Laboratories, Access Pharmaceuticals, Adolor, Alanex Laboratories, Algos Pharmaceutical, Allelix Biopharmaceuticals, Alza, American Pharmed Labs, AMRAD, Anesta, Aradigm,

AstraZeneca, Axys Pharmaceuticals, BASF Pharma/Knoll, Bearsden Bio, Bioglan, Boehringer Ingelheim, Bristol-Myers Squibb, British Technology Group (BTG), Cambridge Neuroscience, Carrick Laboratories (Elan), Carrington Laboratories, CeNeS, CereXus, Cognetix, Core Group, CoCensys, Cytogen, CytoTherapeutics, Delta Pharmaceuticals, DepoTech (SkyePharma), Duramed Pharmaceuticals, Elan, Endo Pharmaceuticals, Ethical Holdings, Faulding, Guilford Pharmaceuticals, Hoffmann-La Roche, Horizon Pharmaceutical, ICAgen, Johnson & Johnson, Mallinckrodt, Meridian Medical Technologies, Milkhaus Laboratory, MGI Pharma, ML Laboratories, Mundipharma, Myelos Neurosciences, NanoSystems (Elan), Napp Laboratories, Neurobiological Technologies, Neurex (Elan), Nycomed Amersham, Panos Therapeutics, Purdue Pharma, Roberts Pharmaceuticals, Signal Pharmaceuticals, Synaptic Pharmaceutical, Warner-Lambert, TheraTech (Watson Pharmaceuticals)

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