

Stakeholder Insight: Osteoarthritis - Drug development lags behind rising osteoarthritis population

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Abstracts

Introduction

Datamonitor expect osteoarthritis prevalence to grow by over 10 million by 2020, owing mainly to an aging population. In the near-term the approach to treatment will remain constant, with improved side-effects dominating the unmet needs. However, therapies which target the underlying causes of osteoarthritis have the potential to reshape osteoarthritis treatment.

Scope

*Snapshot of the osteoarthritis market based on a survey of 180 rheumatologists/primary care physicians, with views from key opinion leader interviews

*Analysis of osteoarthritis epidemiology, with future projections of prevalence and patient numbers to 2020

*Overview of treatment options at the class and molecule level, as well as treatment outcome analysis

*Assessment of treatment satisfaction, unmet needs and physicians' awareness of key pipeline therapies

Highlights

The estimated diagnosis rate of 55% reflects a lack of treatment-seeking by mild



sufferers of the disease, who often resort to self-medication. This equates to nearly 37 million undiagnosed patients in 2009 and with a predicted rise in osteoarthritis numbers this is a market with growth potential.

Pain-relieving drugs, particularly, oral non-steroidal anti-inflammatory drugs (NSAIDs) are the foundation of pharmacological therapy in osteoarthritis. Physicians continue to be concerned over NSAID toxicity, with three-quarters of severe patients who are receiving NSAIDs currently co-prescribed a gastroprotectant.

Physicians are generally unsatisfied with current osteoarthritis pharmacological treatments. A clear need for alternative drugs exists to treat this prevalent condition. 41% of physicians ranked disease modifying osteoarthritis drugs (DMOADs) as the highest unmet need, but the majority of physicians estimate that DMOADs are 8 years from the market.

Reasons to Purchase

*Understand current therapy trends for the major drug classes used in osteoarthritis split by disease severity and assess unmet needs in the disease

*Validate new product forecasting based on diagnosis rates and treatment by patient segmentation and drug class

*Use the interactive Excel model of treatment trees and patient numbers to estimate the osteoarthritis population in each of the seven major markets



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US

Japan

France

Germany

Italy

Spain

UK

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Definition and classification of osteoarthritis Primary (idiopathic) osteoarthritis Secondary osteoarthritis Epidemiology of osteoarthritis



Datamonitor estimates 81.4 million osteoarthritis sufferers in the seven major markets in 2009

Measures used to determine radiographic and clinical osteoarthritis

American College of Rheumatology (ACR) criteria

Kellgren-Lawrence scale

Epidemiological studies of osteoarthritis

Assumptions and caveats

US

Japan

Europe

France and Germany

Italy

Spain

UK

Changes in the osteoarthritis population

Additional international osteoarthritis epidemiology studies

Co-morbidities and risk factors in osteoarthritis

Co-morbidities in patients with osteoarthritis are common

Obesity, hypertension and high cholesterol, are the most common co-morbidities present in osteoarthritis patients

High prevalence of cardiovascular, endocrinology and pulmonary co-morbidities in osteoarthritis

Gastrointestinal co-morbidities in osteoarthritis

Previous trauma of the joint is the most common musculoskeletal co-morbidity in osteoarthritis

Central nervous system co-morbidities; depression is highly prevalent in osteoarthritis Co-morbidities associated with lifestyle factors in osteoarthritis patients

Other co-morbidities present in osteoarthritis patients

Risk factors and patient-group segmentation are critical to osteoarthritis definition

Age

Gender

Mechanical stress

Obesity

Presentation and diagnosis

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Techniques for diagnosis

Diagnosis rates

Severity of osteoarthritis

Definition of each level of severity of osteoarthritis provided by Datamonitor to



physicians surveyed

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Several guidelines exist for the treatment of osteoarthritis

American College of Rheumatology (ACR)

European League Against Rheumatism (EULAR)

National Institute for Health and Clinical Excellence (NICE)

Osteoarthritis Research Society International (OARSI)

Treatment options

Pharmacological versus non-pharmacological treatment

Non-pharmacological treatment of osteoarthritis

Weight loss and weight control is an effective and common tactic

Nutraceuticals - divided opinion on their use in osteoarthritis treatment

Exercise aids in reducing pain

Other non-pharmacological treatment options

Pharmacological treatment of osteoarthritis

Several drug classes are used in the treatment of osteoarthritis

Analgesics

Non-steroidal anti-inflammatory drugs and COX-2 inhibitors

Branded versus generic drug use

Variations exist in the use of branded versus generic drugs in osteoarthritis treatment in the seven major markets

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Efficacy assessment

Measuring disease activity in osteoarthritis patients

Communication between the patient and physician is the most common method of assessing treatment efficacy in osteoarthritis

Physicians allow an average of five months to assess treatment efficacy in their osteoarthritis patients

Osteoarthritis patients usually require joint surgery after 7-8 years

Physicians are generally unsatisfied with current pharmacological treatment for osteoarthritis

Unmet needs

Disease modifying osteoarthritis drugs is the highest unmet need in osteoarthritis



Other unmet needs in osteoarthritis

Disease modifying osteoarthritis drugs (DMOADs)

Most physicians believe DMOAD development is possible

DMOADs are up to 8 years from reaching the market

Challenges in clinical study design for DMOADs

It is important for DMOADs to show both disease modification and pain relief in clinical trials

Matrix-metalloproteinase (MMP) inhibitors are the most important molecular target for DMOAD

Pipeline products

Eli Lilly's Cymbalta (duloxetine) is the late-stage drug therapy which most physicians are aware of

Caveat of physicians' awareness to drug therapies

Cymbalta (duloxetine; Eli Lilly)

Synvisc-One (hylan G-F 20; Genzyme)

Naproxcinod (NicOx)

Tanezumab (Pfizer)

Vimovo (PN-400; naproxen plus esomeprazole; Pozen, AstraZeneca)

Fentora (fentanyl; Cephalon)

Diractin (ketoprofen; Idea AG/Alpharma)

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