A worldwide epidemic of type 2 diabetes has been in progress since the mid-1980s, according to the World Health Organization. The worldwide number of diabetics was 30 million in 1985 and is projected to increase to at least 366 million by 2030.

In the United States, it is estimated that almost 60% of people with type 2 diabetes have at least 1 serious health problem associated with the disease, and almost 8% of diabetics have 4 or more of these complications, according to a report from the American Association of Clinical Endocrinologists (AACE).

This new report from Insight Pharma Reports (formerly Advances Reports), provides a strategic perspective on the field of drugs for diabetes and its complications, with an emphasis on novel and emerging drugs and therapeutic strategies.
Overview

In the United States, almost 21 million people, or 7% of the population, have diabetes, and an estimated 54 million people are in a state of prediabetes, according to the American Diabetes Association. The AACE report estimates that the direct medical costs related to diabetes complications in 2006 alone amounted to $22.9 billion. Typical complications from diabetes include heart attack, chronic kidney disease, congestive heart failure, stroke, coronary heart disease, foot problems, and eye damage.

Diabetes and Its Complications: Strategies to Advance Therapy and Optimize R&D gives a complete picture of today’s therapeutic landscape, including:

- Background for understanding the nature, epidemiology, pathobiology, and cost of diabetes
- Experimental therapeutic strategies for prevention of type 1 diabetes in susceptible individuals
- The pathogenesis of type 2 diabetes and its relationship to obesity
- Current diagnosis and treatment modalities for diabetes, types 1 and 2
- An evaluation of competitors in the diabetes market—their pipelines and specific products, alliances, therapeutic focus, and more
- Assessment of novel classes of antidiabetics that include drugs introduced into the market in 2005 and 2006, as well as drugs in still newer classes now in corporate pipelines
- Assessment of leading research and preclinical-stage drugs, and novel therapeutic strategies for type 2 diabetes
- Assessment of agents in development for diabetic complications, including a novel unifying model for induction of microvascular complications and a novel model for induction of macrovascular complications
- The market outlook for new antidiabetic drugs

The report also includes a survey conducted by CHI in January 2007 of the views and plans of individuals at the forefront of R&D for diabetes and its complications.

The worldwide epidemic in diabetes, overwhelmingly type 2 diabetes, is driven by increased rates of obesity, especially in industrialized countries and in emerging industrial countries such as India and China, coupled with the aging of the populations in both sets of countries. A key factor in the discovery and development of successful new antidiabetic drugs is addressing the major unmet needs in type 2 diabetes, especially the need for drugs that both lower blood glucose and enable patients to lose weight, and the need to slow or reverse the decline in pancreatic beta-cell function, which is the major cause of the progression of the disease.

Diabetes and Its Complications: Strategies to Advance Therapy and Optimize R&D, with thorough analyses of the therapeutic sectors, combined with detailed tables and figures, puts this complicated disease and its complications in perspective.

### Table 5.1. Classes of Antidiabetic Drugs Introduced into the Market since 2005

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Marketed and Leading Pipeline Drugs</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylin analogs</td>
<td>Pramlintide (Amylin's Symlin). Approved, 2005.</td>
<td>Peptide drug; delivered via subcutaneous injection. Approved for use in type 1 and type 2 diabetics who use premixed insulin therapy and have failed to achieve desired glycemic levels despite optimal insulin therapy. Taken before meals.</td>
</tr>
<tr>
<td>Incretin mimetics</td>
<td>Exenatide (Amylin/Lilly's Byetta). Approved, 2005.</td>
<td>Peptide drug delivered via subcutaneous injection. Exenatide must be taken together with a sulfonylurea, metformin, a TZD, or a combination of these established agents. Promotes insulin secretion by beta cell.</td>
</tr>
</tbody>
</table>

Source: Haberman Associates

About the Author
Allan B. Haberman, PhD, is Principal of Haberman Associates, a consulting firm specializing in science and technology strategy for pharmaceutical, biotechnology, and other life science companies. He is also a Principal and Founder of the Biopharmaceutical Consortium (www.biopharmconsortium.com), an expert team formed to assist life science companies, research groups, and emerging enterprises to identify and exploit promising, breakthrough technologies. He is also the author of numerous publications on the pharmaceutical and biotechnology industries, their technologies and products, and on the major therapeutic areas for drug discovery and development. Formerly the associate director of the Biotechnology Engineering Center at Tufts University, he received his PhD in biochemistry and molecular biology from Harvard University.

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Metabolic and Inflammatory Disease R&D: An Assessment of 5 Highly Promising Therapeutic Classes

This report details early development efforts for targets of high interest in the areas of inflammatory or metabolic diseases, concentrating on 5 target classes:

- Chemokine antagonists
- Toll-like receptors
- Melanin-concentrating hormone antagonists
- Melanocortin MC4 agonists
- 11β-hydroxysteroid dehydrogenase inhibitors

Each of these target classes has the potential to provide high-revenue drugs, for the treatment of inflammatory disease, obesity, and metabolic syndrome. Details are provided for the following diseases:

**Inflammatory Diseases**
- Respiratory Diseases
- Arthritis

**Metabolic Diseases**
- Diabetes
- Metabolic Syndrome
- Obesity
- Lipid Disorders

**Metabolic and Inflammatory Disease R&D** details and assesses the efforts of more than 20 major pharmaceutical companies and more than 25 additional companies to manage the development of potential metabolic/inflammatory therapeutic products through R&D into the clinic. Leading researchers at companies at the forefront of R&D in these target areas offer their views of the challenges, the applications, and the relevant clinical data that will determine their potential use in medicine.

To view a table of contents and executive summary, please visit www.InsightPharmaReports.com

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