



## New Products to Treat Diabetes

### FDA Helps Counter a Major Public Health Threat

**Diabetes mellitus** is one of the most prevalent and serious diseases in the United States. A chronic ailment that impairs the production of or response to insulin, a hormone that helps convert food into energy, diabetes is diagnosed each year in 800,000 Americans and affects 16 million of them. **Type 1 diabetes** is diagnosed mostly in children and teenagers; **type 2**, which accounts for over 90 percent of the cases, is usually found in older and overweight adults. Together they contribute to about 200,000 deaths a year. Diabetes is also the leading cause of end-stage renal disease, blindness in adults, and lower-limb amputations.

To combat this public health hazard, the Food and Drug Administration helps the industry develop, evaluate and make available a variety of products that improve the diagnosis of diabetes and help achieve tighter control of blood glucose levels. Recent advances toward this goal, which reduces the diabetes-associated risk of eye, nerve and kidney diseases, include the following:

- **New drugs** to treat **insulin deficiency** and control the level of

**blood sugar.** Until the early 1980s, insulin preparations for the treatment of diabetes were made from animal products; since then, most of them have been synthesized by recombinant DNA technology. In the last decade, the FDA has approved more than ten new insulin products for types 1 and 2 diabetes, as well as several new classes of oral medications to treat type 2 diabetes. These new drugs lower the blood sugar by improving the body's effectiveness in using insulin, rapidly stimulating the secretion of insulin, and decreasing absorption

of carbohydrates.

- **New devices to test, monitor, and administer medications** for the treatment of both types of diabetes that are more accurate, less invasive and easier for patients to use. Tighter control of blood glucose levels has been facilitated by the FDA's approval of more than 100 glucose meters, test systems, insulin pumps and other devices that enable patients to better manage their diabetes. Other new devices for treating complications of diabetes include wound dressings and a skin substitute for foot ulcers.
- **New medications** to reduce the risk of **heart disease**, which people with diabetes develop at rates 2-4 times higher than normal. In recent years, there has been a major effort to develop antihypertensive drugs that reduce the risk of heart attacks, strokes, and diabetes-related deaths, as well as lipid-altering drugs that target abnormalities of cholesterol and triglycerides that are observed in diabetes.

**For more information**, visit the FDA's Web site at [www.fda.gov/diabetes](http://www.fda.gov/diabetes).

#### A Disease on the Rise

Type 2 diabetes is becoming more common in children and teenagers, but it primarily affects non-white Americans who are older and overweight. Hispanics, blacks and American Indians are almost twice as likely to have diabetes as non-Hispanic whites of the same age. Because these and other diabetes-prone minorities are among the fastest growing segments of the United States population, and because Americans are increasingly overweight and sedentary, the incidence of diabetes in the United States is expected to rise to nearly 9 percent of the population by 2025.