

## Drugs in the Pipeline for the Obesity Market

David C. Klonoff, M.D., FACP<sup>1</sup> and Frank Greenway, M.D.<sup>2</sup>

### Abstract

Obesity is a major public health problem. For many obese patients, diet and exercise are an inadequate treatment and bariatric surgery may be too extreme of a treatment. As with many other chronic diseases, pharmacologic treatment may be an attractive option for selected obese patients. Antiobesity drugs may potentially work through one of three mechanisms: (1) appetite suppression, (2) interference with absorption of nutrients, and (3) increased metabolism of nutrients. The three most widely prescribed drugs approved to treat obesity are phentermine, sibutramine, and orlistat. Drugs approved for treating obesity usually result in an additional weight loss of approximately 2–5 kg in addition to placebo. For pharmacologic therapy in obesity to be widely utilized, greater effectiveness and safety will be needed. Four types of single-agent drugs are in late stage development, including (1) selective central cannabinoid-1 receptor blockers, (2) selective central 5-hydroxytryptamine 2C serotonin receptor agonists, (3) an intestinal lipase blocker, and (4) central-acting incretin mimetic drugs. Four combination agent compounds in late stage development include (1) Contrave, which combines long-acting versions of naltrexone and bupropion; (2) Empatic, which combines long-acting bupropion and long-acting zonisamide; (3) Qnexa, which combines phentermine with controlled release topiramate; and (4) an injectable combination of leptin and pramlintide. Peptide YY and melanin-concentrating hormone receptor-1 antagonists are centrally acting agents in early stage development. It is expected that several new drug products for obesity will become available over the next few years. Their role in managing this disease remains to be determined.

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**Author Affiliations:** <sup>1</sup>Mills-Peninsula Health Services, Frank Diabetes Research Institute, San Mateo, California, and <sup>2</sup>Pennington Biomedical Research Center, Louisiana State University System, Baton Rouge, Louisiana

**Abbreviations:** (5-HT<sub>2A</sub>) 5-hydroxytryptamine 2A, (5-HT<sub>2B</sub>) 5-hydroxytryptamine 2B, (5-HT<sub>2C</sub>) 5-hydroxytryptamine 2C, (BMI) body mass index, (DEA) Drug Enforcement Administration, (FDA) Food and Drug Administration, ((MCHR1) melanin-concentrating hormone receptor-1

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**Corresponding Author:** David C. Klonoff, M.D., FACP, Mills-Peninsula Health Services, 100 South San Mateo Drive, Room 3124, San Mateo, CA 94401; email address [dklonoff@yahoo.com](mailto:dklonoff@yahoo.com)