

Company using cannabis in pharmaceuticals

By Carol Matlack, Bloomberg Businessweek

Medicinal marijuana advocates contend that smoking pot helps relieve pain and alleviate nausea. British drug company GW Pharmaceuticals is betting that medicine made from cannabis can also treat maladies as diverse as diabetes, colitis and epilepsy.

GW is the only pharmaceutical group in the world that sells a prescription medicine derived from marijuana plants, as opposed to synthetic equivalents. The drug, a nasal spray called Sativex, has been approved by regulators in eight countries – Italy, most recently – to treat spasms associated with multiple sclerosis. A request for U.S. Food and Drug Administration approval is pending.

Taking aim at a potentially much bigger market, the company plans to start second-stage clinical trials of a cannabis-based drug that has showed promise in treating Type 2 diabetes. The drug, with the tongue-twisting name of tetrahydrocannabivarin-9, improved patients' production of insulin and helped lower blood-sugar levels between meals.

An estimated 371 million people worldwide suffer from Type 2 diabetes. Patients taking the cannabis-based drug "could potentially be controlled on oral therapy for a longer period of time and wouldn't need to take injections," says Mike Cawthorne, a GW consultant who is director of metabolic research at the University of Buckingham.

GW Pharma, with \$52.2 million in annual sales, is literally betting the farm on cannabis: Its entire drug pipeline is derived from pot that it grows at an undisclosed location in southeastern England.

By contrast, other companies developing pot-based medicines have used synthetic versions of chemicals that are either identical or similar to those found in the plant.

While the idea of using a living plant might have some marketing appeal, in fact GW Pharma has to “purify the chemicals so much, that it’s almost incidental that they’re using cannabis as the source,” says Sam Fazeli, chief pharmaceutical analyst for Bloomberg Industries in London.

Though the diabetes drug has the potential to be GW’s first blockbuster, it also faces big regulatory hurdles. One is the possibility that it could block receptors in the body that ordinarily trigger pleasurable sensations and increased appetite often associated with pot smoking.

French drugmaker Sanofi developed an antiobesity drug called Acomplia that acted by blocking these receptors, but had to pull it from the market after it caused heightened rates of depression and suicide.

Diabetes, though, is just one of many diseases that GW is targeting. It’s developing a pot-based medication to treat inflammation in ulcerative colitis, and is working with Otsuka Pharmaceutical of Japan on a drug that could treat epilepsy. The company also is carrying out further studies on the multiple sclerosis drug Sativex that could lead to its use for treating pain in cancer patients.

And no, patients taking these medicines won’t get a buzz. Of an estimated 60 chemical compounds in marijuana, only one will get you high. GW is working with the other 59.