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World Health Congress Report: Pharma Giants Take On Nonadherence

By Laura Bonetta

The perfect pill is of little use if a patient does not remember to take it or takes the wrong dose. That is why pharmaceutical companies like AstraZeneca, which has brought us blockbuster drugs such as Crestor for high cholesterol and Nexium for acid reflex, are turning their attention to making sure that patients use their drugs properly. "Any benefits you make in the lab don't benefit patients, if other issues are not addressed," said Tony Zook, company's CEO, speaking at The World Healthcare Innovation and Technology Congress last week in Washington, D.C.

Efforts to implement electronic health records and electronic prescriptions will likely serve to improve adherence to drug therapies (see related story), but AstraZeneca is taking a more proactive approach. The company joined forces with scientists at the University of Miami Leonard M. Miller School of Medicine and Humana Innovation Enterprises, Inc. to develop new tools and technologies to maximize the effectiveness of medicines.

One of the first projects for the group is to develop a technology to predict how a patient's personality will affect what the patient will do when told to take a medication or change the diet. "If you can predict how a patient will behave, the physician can customize the treatment program," said Zook. The research for this collaboration will be conducted through the University of Miami Miller School of Medicine—Humana Health Services Research Center on the school's Miami campus, which was launched in May 2005.

The challenges to developing a useful drug are formidable. On average, one out of 5,000 compounds makes it to market, to the tune of \$800 million and a lead time of 10 years. Some companies are pursuing the use of biomarkers—molecular, biological, and physical characteristics that represent a specific underlying physiologic state—to help identify subsets of patients who will benefit from a specific treatment, thereby reducing healthcare as well as drug development costs. To this end, AstraZeneca, along with a handful of other companies, joined forces with the National Institutes of Health and the U.S. Food and Drug Administration in The Biomarkers Consortium. But "it is not yet clear what the impact [of biomarkers] will be," said Zook. "If we can make sure that patients take the medicines right, that will have an impact."

Nonadherence — failing to fill a prescription, taking it incorrectly, or discontinuing taking it — is a huge health and financial burden. It has been estimated to add \$100 billion to healthcare spending in the United States every year. "About 125,000 patients with treatable ailments die each year because they do not take medications correctly," said Zook.