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More Than 850 Medicines in Development For Diseases that Disproportionately Strike Women

Washington, D.C. (May 12, 2011) — Medical researchers are making unprecedented progress into understanding why women suffer disproportionately from a number of diseases. Those insights are providing information to help develop medicines to attack diseases such as osteoporosis, multiple sclerosis, depression, rheumatoid arthritis and age-related macular degeneration, all of which affect more women than men.

Currently, 851 medicines are in development for diseases that exclusively or disproportionately affect women, according to a report unveiled today by the [Pharmaceutical Research and Manufacturers of America \(PhRMA\)](#). The number includes 139 for cancers that affect women and 110 for autoimmune diseases, which strike women three times more often than men. The medicines are all either in human clinical trials or are awaiting review by the [Food and Drug Administration \(FDA\)](#).

“As recently as a couple decades ago, there was a basic assumption that what was good medically for men was good for women in almost every case,” said PhRMA President and CEO John J. Castellani. “Today, our increasing knowledge of the less obvious differences between men and women is providing great promise for new and better treatments that will benefit both sexes.”

About 90% of Americans suffering from lupus, migraines and fibromyalgia are women. Not only are women more prone to certain diseases, but the symptoms they present may be different. Men having heart attacks, for example, typically report chest pain that radiates down the arm, and those are the symptoms many doctors look for even today. Women may instead feel indigestion, extreme fatigue and nausea.

Among other variables, researchers developing medicines for women must take into account the possible differences in the ways men and women metabolize certain substances. For example, researchers have found that women metabolize nicotine more quickly than men, so a lower-dose nicotine patch for smoking cessation may not be as effective for women as a similar dose for men.

Some of the most promising work is in the area of [autoimmune diseases](#), which involve the body’s immune system attacking some part of the body that it mistakenly perceives as foreign. About 23.5 million Americans, most of them women, suffer from an autoimmune disease such as multiple sclerosis and rheumatoid arthritis.

A better understanding of how women react differently to stress than men is helping researchers understand how to approach treatments for autoimmune diseases and psychiatric illnesses such as depression and anxiety.

Women's bodies, for example, react to stress by producing higher levels of cytokines, which are cells secreted by the nervous system, said Lorraine Fitzpatrick, M.D., Medicine Development Leader for [GlaxoSmithKline \(GSK\)](#). Progress in understanding and treating autoimmune diseases represents "one of the great strides made recently for women's health," she added.

Charles P. Mouton, M.D., Dean of the [Meharry Medical College School of Medicine](#), also pinpointed autoimmune diseases as a promising area for research. He added that exposure to violence has recently been identified as a potential explanation for a higher incidence of certain diseases among women. "We are just beginning to understand the negative health effects of this exposure to violence," said Dr. Mouton, whose college is renowned for its study of disparate health outcomes among both minorities and women.

Within autoimmune disease research, some of the greatest progress is being made in the study of multiple sclerosis, which is two to three times more prevalent among women than men, said Anita Burrell, head of the Distinct Product Unit Multiple Sclerosis at [sanofi-aventis](#). Currently, 38 medicines are in development for multiple sclerosis. Although biopharmaceutical research involves great financial risk and the failure rate is high, Ms. Burrell predicted a number of new treatments with much better outcomes will be on pharmacy shelves within this decade.

"We are on the edge of a whole new wave of therapies," she said. "We should see remission in our lifetimes, and with the current speed of innovation, long-standing remission within our children's lifetimes."

Drs. Fitzpatrick and Mouton also expressed particular enthusiasm for progress being made in better potential treatments for osteoporosis. Biopharmaceutical research companies currently have 22 medicines in development for preventing or treating the disease and its symptoms. The disease, which makes bones prone to fractures, affects about eight million American women and two million American men.

"Research in the past two decades has provided quite a few good medicines, but there is a great deal of room for improvement," said Dr. Fitzpatrick. "The wave of the future is not simply to prevent bone erosion, but to build bone.

"For women's health generally, great strides have been made recently," she added. "It's a very exciting time for women's health."

WATCH the video here: <http://www.youtube.com/watch?v=ppiculo5b6c>

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The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country's leading pharmaceutical research and biotechnology companies, which are devoted to inventing medicines that allow patients to live longer, healthier, and more productive lives. PhRMA companies are leading the way in the search for new cures. PhRMA members alone invested an estimated \$49.4 billion in 2010 in discovering and developing new medicines. Industry-wide research and investment reached a record \$67.4 billion in 2010.

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