

## Pipe dreams

If you look at the list of the largest-selling drugs, as well as the areas of emphasis in pharmaceutical company pipelines, a pretty dismal picture of the human condition emerges. Cholesterol reducers lead global pharmaceutical sales, followed by anti-ulcerants, antidepressants, antirheumatics, and antipsychotics. What ills afflict modern humans!

The above-listed categories account for a combined \$95 billion in worldwide annual sales, and continue to grow a few percent each per year. Apparently, we are a global society confronted with clogged arteries while being stressed, aching, neurotic, and, not surprisingly, depressed. While I am not making light of the serious diseases that affect many people, admittedly many of these conditions have lifestyle connections.

Looking deeper into drug-industry pipelines, there is clearly a continuing trend to address cardiovascular, gastrointestinal, neurological, behavioral, and sexually related disorders, along with infectious diseases. The big “new” markets, according to industry analyst G. Steven Burrill, include obesity/diabetes, Alzheimer’s/memory, anti-infectives, and “wellness”-related products.

Sales figures and many development efforts reflect the lucrative markets and diseases of the developed world. According to the World Health Organization, cardiovascular disease causes about 35% of deaths in the Americas, compared with about 10% in Africa. About half of all deaths in Africa are due to infectious and parasitic diseases, compared with less than about 10% in the Americas. Many major products today, Burrill suggests, are “feel good/feel better drugs,” targeting cholesterol, baldness, wrinkles, arthritis pain, insomnia, osteoporosis, incontinence, and impotence. In the United States, he notes, people have been spending dramatically on products that reflect a growing concern about aging. And U.S. companies are responding, having nearly 300 new drugs in development to treat diseases related to aging, according to the Pharmaceutical Research and Manufacturers of America (PhRMA).

Yet, despite an aging U.S. population, spending on prescription drugs for children under age 19 is growing at a higher rate than for any other age group and has been for three years, according to Medco Health Solutions, the former pharmacy benefit management business of Merck. PhRMA reports 158 pediatric drugs in development, with the largest categories being cancer at 20%, and cystic fibrosis and vaccines each at 10%.

This month’s issue of *Modern Drug Discovery* focuses on drug products, including the struggles around their discovery and movement through the pipeline. On the discovery side, we look at new technological approaches such as proteomics and kinase polymorphism assays. Moving to a development perspective, we offer analysis of issues arising in head-to-head trials of competing products and in the public disclosure of clinical data—coincidentally, as related to antidepressant use in children. Finally, the business view is seen from two very different angles—that of a nonprofit company trying to provide drugs for the developing world and the challenges facing major drug and biotech firms to be productive.

Pharmaceutical producers are responding to their customers’ wants and needs. The leading area for drug development continues to be cancer, with PhRMA reporting nearly 400 candidates in development. Cancer therapeutics is also an area in which the industry shines, where innovative therapies and an understanding of the molecular basis of disease are coming into play. These drugs and others, as well as the individuals who helped create them, are gaining recognition, as you’ll see in this month’s People and Perspectives story.

