



Nanotech Sector CONTINUES STRONG GROWTH

The commercialization of nanotechnology continues to gain momentum worldwide, according to The Nanotech Report, 4th Edition, a comprehensive and up-to-date reference study on nanotechnology, released by Lux Research Inc. More than \$32 billion in products incorporating emerging nanotechnology were sold in 2005 — more than double the previous year. Global R&D spending on the field reached \$9.6 billion last year — an increase of 10% from 2004. Mentions of nanotechnology in major media articles rose 40% compared with 2004, to more than 18,000 citations.

Based on this strong growth, Lux analysts predict that by 2014 \$2.6 trillion in global manufactured goods — or about 15% of total output — will incorporate nanotechnology, or about 15% of total output.

In two volumes and more than 600 pages, The Nanotech Report, 4th Edition, provides: 70 in-depth profiles of nanotech leaders from innovative startups to large corporations; 24 detailed assessments of key nanotechnology applications; calculations of government nanotechnology funding worldwide in 2005; estimates of nanotechnology corporate R&D spending by country and sector in 2005; as well as

**By 2014,
\$2.6 trillion in
global
manufactured
goods will
incorporate
nanotechnology.**

analysis of venture-capital funding, trademarks, patents, and environment, health, and safety research.

The FDA's Reputation is UNDER ASSAULT

A recent Wall Street Journal Online/Harris Interactive Health-Care Poll reveals that the majority of U.S. adults think the U.S. Food and Drug Administration's (FDA) most important function is to ensure the safety and efficacy of new prescription drugs. But over the past two years, the public has become increasingly skeptical about the agency's ability to meet that mission, with seven in 10 adults giving the FDA a negative rating.

A vast majority of adults are concerned about the agency's ability to make independent decisions that will ensure public access to safe and effective drugs. Also, large majorities of adults say the FDA's decisions are influenced by politics rather than medical science. All of this suggests the FDA is facing an uphill battle in the court of public opinion.

According to the poll, 80% of adults are concerned about the FDA's ability to make independent decisions that will ensure that patients have access to safe and effective medicines, and 76% of adults doubt the FDA's ability to effectively communicate safety concerns about prescription drugs to doctors and the public. The poll also found that 82% of adults, across party lines, believe the FDA's decisions are influenced by politics rather than medical science.

These figures stand in sharp contrast to 2004 opinion polls, when 56% of U.S. adults felt the FDA did a good or excellent job, while only 37% felt the agency did a fair or poor job.

Prescription Drug Trend DIVES TO SEVEN YEAR LOW

Drug trend, the annual rate of change in spending on prescription drugs from year-to-year, fell to 5.4% in 2005, according to a national report on prescription drug spending released by Medco Health Solutions Inc. Drug trend is a key indicator of the economic state of prescription drug costs for employers. The 2005 rate represents the lowest drug trend recorded by Medco since the company began tracking these data in 1999.

Medco's 2006 Drug Trend Report includes analysis of the prescription drug claims reflecting more than 85% of Medco's overall client spending. According to the report, drug trend continued its precipitous annual drop, falling from 8.5% in 2004 to 5.4% in 2005. This is the fourth straight year of drug-trend decline, making it about 70% lower than the 16.4% growth rate recorded in 1999.

In 2005, the drug-trend decline was due to deceleration in the overall growth rate for drug use, decreases in high-use drug categories and the nation's continued use of lower-cost generic medications, according to the Medco report. Prescription drug use increased only marginally, 2.7% — half the rate of increase seen in 2004.

In 2005, only 18 new molecular entities and two therapeutic biologics were approved by the FDA — the fewest total approvals since 2002 and the third lowest total in the past quarter-century. None of those approved in 2005 were considered to be of blockbuster status.

As the pipeline for new drugs declined, the generic pipeline has expanded dramatically. Between 2002 and 2005, 57 first-time generics — each with prior-year U.S. sales greater than \$125 million — were brought to market. Medco predicts that the generic trend will continue. Within the next four years, brand-name drugs with total U.S. sales nearing \$43 billion could lose patent protection, including top sellers such as Zocor, Zoloft, and Ambien.



David Snow Jr.

"Although the number of people taking prescription drugs continues to increase, patients and physicians are recognizing the financial burden borne by payers — such as private employers — and are embracing the availability of fiscally prudent quality-care alternatives, including the acceptance of generic medicines," says David B. Snow Jr., Chairman and CEO, Medco Health Solutions Inc.

Hematologists RANK TOP COMPANIES

Genentech and Amgen are rated as the top companies by hematologists, according to MSI's 2006 Hematology Study released by Market Strategies Inc. (MSI). Novartis and Sanofi-Aventis followed close behind in the hematologists' rankings.

MSI's survey asked 100 hematologists to rate the importance of almost 30 product, sales, marketing, and corporate activities, as well as performance measures, and then to rank how 17 different companies fared in their performance within these measures.

Following the four top-ranked companies, three "specialized" companies emerged: Millennium, Ortho Biotech, and Celgene. Both Millennium and Celgene have recently approved agents that have generated positive feedback, while Ortho Biotech has heavily used Procrit, one of the products that hematologists report as "having the most impact on the care of (their) patients."



Peter Carlin

How physicians perceive a company's total offering can be an instrumental factor in therapeutic selection, given equal expectations of patient outcomes, says Peter Carlin, Senior VP of MSI's Global Life Sciences division.

The MSI study revealed a clear correlation between products viewed as “most important” to hematological practices and these specialists’ perceptions of other leading companies.

Additionally, the study identified nine key drivers, among almost 30 covered, that contribute the most to this specialty’s assessment of a “hematology company.” Roughly half of these drivers focus on sales-force interactions, while most of the remaining drivers focus on communicating new information (especially new data on R&D activities), the quality of the firm’s clinical trials, and the firm’s development of beneficial products.

Rejected Rx Claims Rise DURING THE FIRST QUARTER OF MEDICARE PART D BENEFIT



We knew there would be a higher volume of claims during the Medicare Part D’s first quarter, but we never anticipated such a large increase in the number of rejections. We expect the second quarter may reveal the results that most would expect in terms of more enrollees and better prescription drug coverage for those who need it, says Michael Weintraub, Executive VP and General Manager, Healthcare Analytics, Pharma Solutions business unit, Wolters Kluwer Health.

Recent Medicare Part D prescription data show a substantial rise in the number of rejected prescription claims, according to recent analysis by Wolters Kluwer Health.

Rejected prescription claims are those refused for payment by the patient’s insurance company or third-party payer, resulting in the prescription not being dispensed. According to the findings, the total number of rejected claims grew by 24% from the fourth quarter of 2005 to the first quarter of 2006, with Medicare Part D accounting for a significant portion of those rejected prescription claims. These rejected prescription claims may be preventing many program enrollees from getting their medications in a timely manner, Wolters Kluwer Health suggests.

In a public-domain white paper, the company has identified the initial impacts of Medicare Part D on patients during this first quarter, reviewing claim rejections, approvals, and reversals.

Consumers Frustrated BY RX WEBSITES

Keynote Systems reviewed 20 prescription drug Websites in the allergy, depression, high cholesterol, migraine, and overactive bladder condition categories and found, across all conditions, the leading frustration among consumers researching condi-

tions, medications, and condition-related lifestyle decisions was with the level of information available on the condition or drug as well as the ease of accessing that information.

About 19% of consumers expressed the opinion that the condition and drug information available on the Web was too basic; about 17% of consumers reported difficulty finding information for which they were looking.

The Keynote Best Practices Study of Pharmaceutical Web Sites examined online experiences of more than 2,000 consumers as they interacted with prescription drugs developed, produced, or marketed by Abbott Laboratories, AstraZeneca, Eli Lilly, Forest Pharmaceuticals, GlaxoSmithKline, Merck, Ortho-McNeil Pharmaceutical, Pfizer, Schering-Plough, Valeant Pharmaceuticals, and Wyeth Pharmaceuticals.

Keynote determined that the top drivers of consumer action were all related to information access — with access to the latest news and information, patient success stories, and expert advice and articles having the greatest impact on driving consumers to talk to their doctors. Consumers say they are most interested in information on the triggers and causes of conditions, tips for coping with conditions, and treatment options.

RX WEBSITES MOST SUCCESSFUL AT DRIVING PATIENT-DOCTOR DISCUSSIONS, BY CONDITION CATEGORY	
CONDITION	LEADING WEBSITES
Allergies	Nasonex
Depression	Lexapro
High Cholesterol	Lipitor
Migraine	Zomig
Overactive Bladder	Ditropan XL

Source: Keynote Systems, San Mateo, Calif. For more information, visit keynote.com.

Biopharma Companies OFFSHORE R&D TO INDIA

Recent global pressure and changes in patent protection have stimulated the Indian pharmaceutical market to shift from its historic focus on generics to innovative drug discovery. This move, in turn, has led to an upswing in partnerships between leading multinational pharmaceutical companies and Indian companies. Initially looking to access India’s proven

capabilities, such as process scale-up, multinational pharma companies facing declining productivity in their internal R&D departments are now broadening the scope and nature of their relationships in India. But these companies must decide which opportunities serve them best, as well as how to navigate those opportunities successfully. The Boston Consulting Group (BCG) concludes in its report, *Harnessing the Power of India*.

Even as India promises major cost savings, smoother-flowing pipelines, and expedited clinical trials, it also exposes multinational pharmaceutical companies to several risks. India is still struggling with the perception of weak intellectual property protection, a resource-draining bureaucracy, and a public infrastructure already groaning under the weight of a burgeoning high-tech industry.

BCG’s analysts also note the importance of viewing R&D in India with a longer-term perspective. Pharmaceutical companies that take the long view will see that Indian R&D offers more than inexpensive custom synthesis or biostatistics work — or even solutions to bottlenecks in the pipeline.

Soon enough, the entire R&D package will be readily available in India, and, in due course, multinational pharmaceutical companies will treat their Indian operations as another vital hub in the global R&D network.



The key to any game plan in India is to determine which services best support a company’s strategy and which options will foster success. When it comes to a strategy for investing in India, one size does not fit all, says Simon Goodall, VP, The Boston Consulting Group, and Coauthor, Harnessing the Power of India.

Life-Sciences Companies INCREASE FOCUS ON SECURITY

Major global life-sciences organizations plan to enhance their security programs by hiring chief security officers and investing in technological advancements to protect their products, customers, and brands, according to a survey conducted by the Deloitte Touche Tohmatsu (DTT) Security & Privacy Services industry group.

The study canvassed more than 90% of the major, global pharmaceutical companies, as well as the leading biotechnology and medical-device companies.

The pharmaceutical industry increasingly is making security, information protection, and data-privacy issues a high priority in the face of regulatory and marketplace pressures.

The study found that the number of major life-sciences companies employing chief security officers has increased three-fold in the last decade; in 61% of



Recent trends in the industry — including global supply chains, increased regulatory pressures, outsourcing, and the importance of brand reputation — necessitate that the chief security officer position is a vital role in the success of any organization, says Amr Junaideen, Principal, Deloitte & Touche LLP, and DTT Life-sciences Leader for Security & Privacy Services.

the companies with chief security officers, the position has existed for fewer than five years.

Study findings further revealed pharmaceutical organizations are achieving mixed results in implementing security and privacy protection programs; 26% of the companies surveyed said they had experienced a security breach within the past year, while 28% were unsure whether they had a security breach.

Few companies reported any economic loss as a result of security breaches, but this could be due, in part (26%), to the companies' inability to measure the impact of breaches.

Life-sciences organizations also are turning to a variety of technology advancements to enhance security and meet regulatory standards, with investment in radio frequency identification devices (RFID) expected to increase significantly in the coming months, according to the study.

The companies surveyed also expressed interest in public key infrastructure solutions, smart cards, and biometric security measures. These organizations also reported that regulatory compliance is a primary focus of their security budget spending and that they are adopting uniform standards and international frameworks to help them comply with regulations more effectively.

Generics Offer SIGNIFICANT COST SAVINGS

For millions of Americans, getting a new prescription increasingly means first trying a lower-cost generic medicine before using a more expensive brand drug.

According to Express Scripts, 14 million con-

sumers in pharmacy-benefit plans are covered by programs that support using a generic as a first treatment option. This figure represents a five-fold increase in the number of pharmacy-benefit plan members covered by programs promoting first-use of generics — up from 2.8 million in 2001.

Since 2001, generic drug use at Express Scripts has increased from 42.1% of all prescriptions to a record 56.3% during the first quarter of 2006.

According to the company's research, every percentage point increase in generic use reduces the overall drug spend by nearly a percentage point — resulting in more than \$10 billion of savings for Express Scripts' clients and members since 2001.

Additionally, according to Express Scripts' 2005 Generic Drug Usage Report, generic drugs could

14 million consumers in pharmacy-benefit plans are covered by programs that support using a generic as a first treatment option, a five-fold increase from 2001's 2.8 million.

save U.S. consumers \$24.7 billion this year alone.

The report examined the clinical potential for greater generic drug use in six major drug-therapy classes used to treat common conditions such as stomach ulcers, inflammation, depression, high blood pressure, and high cholesterol.

The savings potential reflects the introduction this year of new generic drugs in two of the most widely used classes — the anti-cholesterol drug simvastatin (generic Zocor) and the antidepressant drug sertraline (generic Zoloft). In 2005, Zocor and Zoloft had sales of \$3.1 and \$2.6 billion, respectively.

Additionally, according to Express Scripts, failure to take advantage of the full potential of generics in the six classes resulted in missed savings opportunities of \$20 billion in 2004 and \$21.3 billion in 2005.

POTENTIAL GENERIC DRUG SAVINGS ACROSS SIX DRUG-THERAPY CLASSES

Drug Therapy Class	2006 Current Rate (%)	Generic Usage Targets (%)	Potential Savings if Targets Reached
Anticholesterol	18.8%	85%	\$10.3 billion
Gastrointestinals	35.4	95	\$6.8 billion
Antidepressant	57.0	85	\$3.4 billion
Antihypertensives	58.3	75	\$2.1 billion
NSAIDs	77.0	97	\$1.2 billion
Calcium channel blockers	49.4	95	\$0.9 billion
TOTAL POTENTIAL SAVINGS			\$24.7 BILLION

Source: Express Scripts Inc., St. Louis, Mo. For more information, visit express-scripts.com.

Follow up

THE BOSTON CONSULTING GROUP,

Boston, is an international strategy and general management consulting firm. For more information, visit bcg.com.

DELOITTE TOUCHE TOHMATSU,

New York, is an organization of member firms around the world devoted providing professional services and advice in four professional areas — audit, tax, consulting, and finance. For more information, visit deloitte.com.

EXPRESS SCRIPTS INC.,

St. Louis, Mo., is a pharmacy benefit management company. For more information, visit express-scripts.com.

HARRIS INTERACTIVE,

Rochester, N.Y., is a market-research firm. For more information, visit harrisinteractive.com.

KEYNOTE SYSTEMS INC.,

San Mateo, Calif., provides services that improve online business performance and communications technologies. For more information, visit keynote.com.

LUX RESEARCH INC.,

New York, provides market intelligence and strategic advice on nanotechnology and the physical sciences. For more information, visit luxresearchinc.com.

MARKET STRATEGIES INC. (MSI),

Livonia, Mich., is a full-service custom and syndicated research and strategic consulting company that provides data to the healthcare industry. For more information, visit marketstrategies.com.

MEDCO HEALTH SOLUTIONS INC.,

Franklin Lakes, N.J., manages prescription drug benefit programs. For more information, visit medco.com.

THE WALL STREET JOURNAL ONLINE,

New York, published by Dow Jones & Co., is the largest Web-based, paid subscription news site. For more information, visit wsj.com.

WOLTERS KLUWER HEALTH,

Conshohocken, Pa., provides research and information for professionals and students in medicine, nursing, allied health, pharmacy, and the pharmaceutical industry. For more information, visit wkhealth.com.