

GROWTH from the BOTTOM Up

MORE CONSOLIDATION DIDN'T BOOST SALES AT THE TOP, BUT A HANDFUL OF NIMBLE NEWCOMERS POSTED IMPRESSIVE GROWTH ON THE OTHER END OF THE CURVE

By Patrick Clinton and Jerry Cacciotti of Oliver Wyman



This year's *Pharm Exec 50* shows an industry whose growth has slowed to a crawl in the face of patent expirations, aggressive payers, and a tough environment for approvals. The 50 this year sold \$610 billion in human prescription pharmaceuticals, up just 2.8 percent from last year's \$593 billion. The top 10 grew even more slowly—by just 2.6 percent—and accounted for 59 percent of the 50's total sales, just like last year.

In a year in which investors have looked with increasing disfavor on large R&D budgets, R&D spending grew by just 4.5 percent, from \$101 billion to \$105. Among the top 10, R&D was almost flat, growing by just 1.6 percent.

Four companies dropped off the 50 because of mergers: Genzyme (last year's number 29), now a part of Sanofi Aventis; Alcon (previously 39), which was acquired by Novartis; Cephalon (previously 40), which is now a part of Teva; and Nycomed (previously 48), bought by Takeda.

The consolidation that knocked these companies off the list had another effect: The companies at the bottom of the list are smaller. Every company in the 50 last year

had sales of at least \$2 billion. This year, the smallest, Aspen, had sales of \$1.66 billion. The drop is even steeper when you look at revenue as a percentage of the total revenues of the whole *Pharm Exec 50*. Last year's smallest company accounted for 0.4 percent of the total revenue of all 50 companies in the ranking. This year, the equivalent figure was 0.2 percent—only half as big a percentage. By way of comparison, in 2004, the first year when all 50 companies had sales of more than \$1 billion, the smallest company accounted for 0.3 percent of the revenue of the 50.

New additions include a reincarnated Valeant (44), formed when Biovail—Canada's largest publicly held pharma, a specialist in CNS drugs and delivery—purchased the American firm for \$3.3 billion, adopting its name and putting Valeant CEO Michael Pearson in charge of the combined operation. Endo Pharmaceuticals (45) is currently in the process of “reinventing” itself with a new business model and name (Endo Health Solutions); the company grew its branded and prescription pharmaceutical business by 38 percent in 2011. Grifols, the Spanish manufacturer of plasma fractionation products (47), grew revenues by more than 80 percent, partly as a result of the acquisition of US-based Talecris. And finally, Aspen Pharmacare, the 50's first African company, grew its revenues by 29 percent last year, and its CAGR since 1998 is 46 percent. The company has been expanding its footprint, most recently by the acquisition of Australia's Sigma.

While some of the data this year may be a little depressing (incidentally, the anti-depression class of drugs jumped to number one in the US, surpassing lipid regulators), the hint of diversity and new ideas creeping up from the bottom of the list is a cause—albeit a small-cap one—for optimism. **PE**

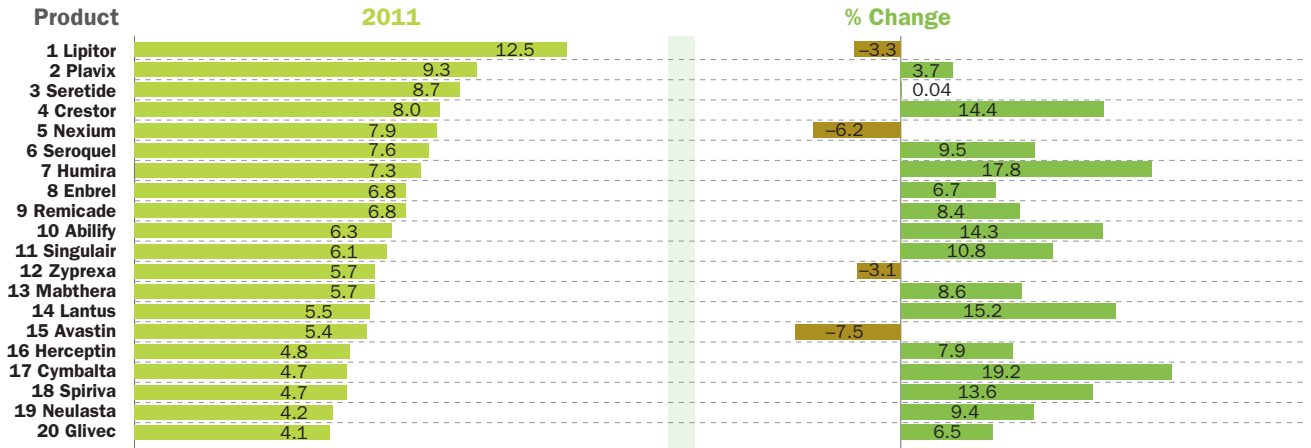
*Special thanks to the IMS Institute for Healthcare Informatics and IMS Health for supplemental data

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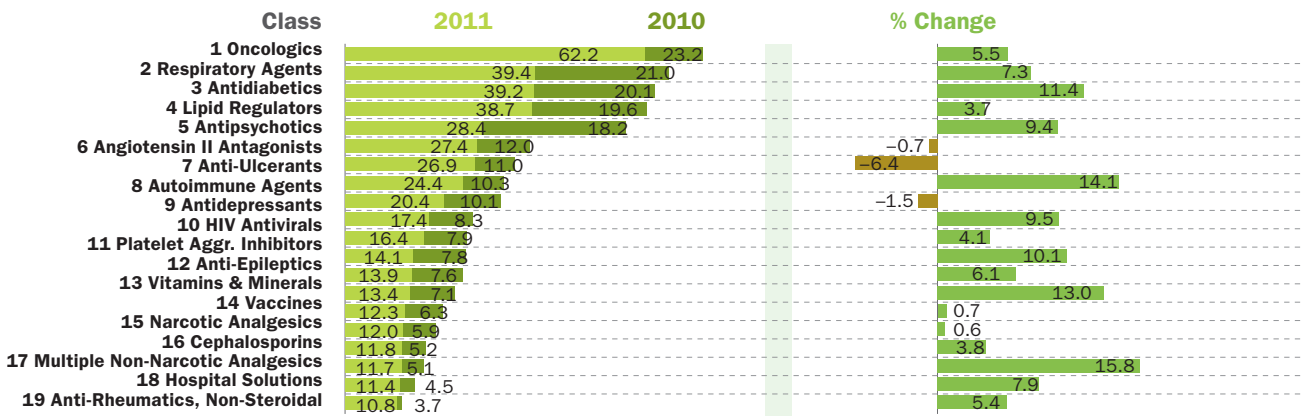
Top 20 Global Products



Figures are in US\$ billions. Growth rates in US\$ are not recommended due to extreme fluctuations in the value of the dollar. The figures above include prescription and certain over the counter data and represent manufacturer prices. Sales cover direct and indirect pharmaceutical channel wholesaler and manufacturers.

Source: IMS Health, MIDAS, December 2011

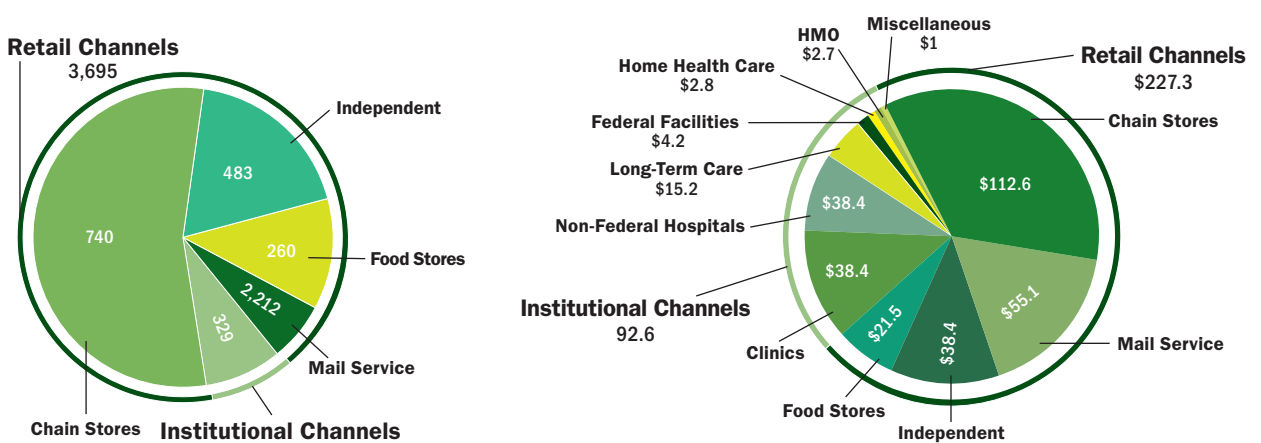
Top 20 Global Therapeutic Classes



Figures are in US\$ billions. Growth rates in US\$ are not recommended due to extreme fluctuations in the value of the dollar. The figures above include prescription and certain over the counter data and represent manufacturer prices. Sales cover direct and indirect pharmaceutical channel wholesaler and manufacturers.

Source: IMS Health, MIDAS, December 2011

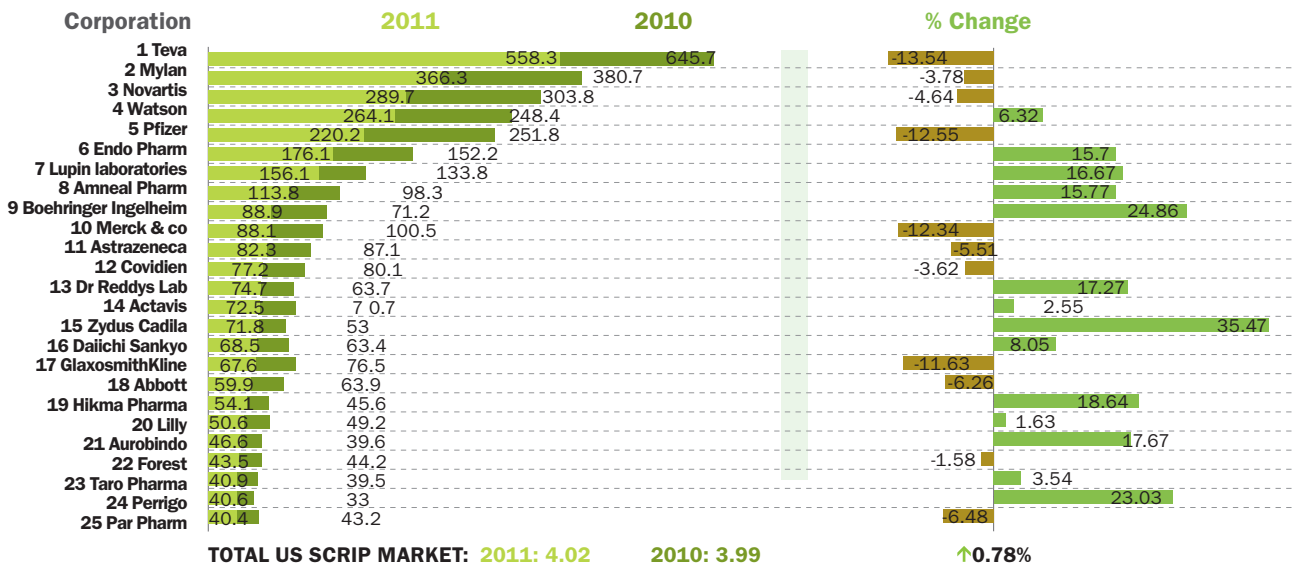
Channel Distribution by US Dispensed Prescriptions and US Sales



At left, prescriptions in millions. At right, sales in US\$ billions. Report reflects Prescription-bound products including Insulins (and excludes other products such as OTC). IMS routinely updates its market audits, which can and does result in changes to previously reported market size and growth rates. Updated February 23, 2012.

Source: IMS National Prescription Audit™

Top 25 Corporations by US Prescriptions



Source: IMS Health, MIDAS, December 2011

Figures in millions of prescriptions

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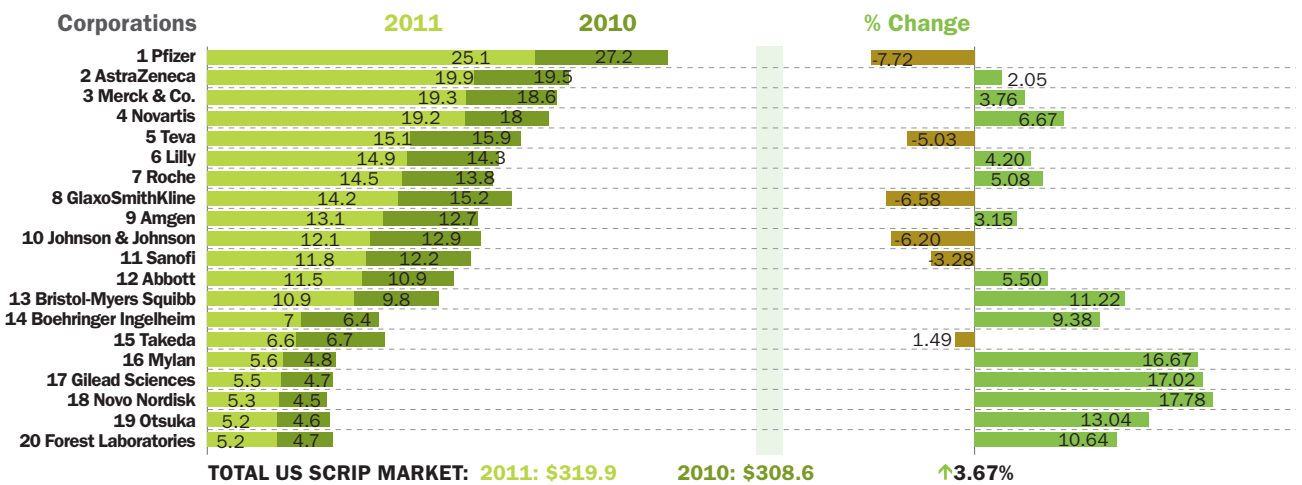
2012 Rank	Company HQ [website]	2011 Rx Sales (USD billions)	2011 R&D spend (USD millions)	2011 Top-Selling Drugs (USD billions)
1	Pfizer New York [pfizer.com]	\$57.7	\$9,112	Lipitor [9.6] Lyrica [3.7] Enbrel [3.7]
2	Novartis Basel, Switzerland [novartis.com]	\$54.0	\$9,100	Diovan/Co-Diovan [5.7] Gleevec/Glivec [4.7] Lucentis [2.1]
3	Merck Whitehouse Station, NJ [merck.com]	\$41.3	\$8,467	Singulair [5.5] Januvia [3.3] Remicade [2.7]
4	Sanofi Paris, France [sanofi.com]	\$37.0	\$6,007	Lantus [5.0] Lovenox [2.7] Plavix [2.6]
5	Roche Basel, Switzerland [roche.com]	\$34.9	\$7,862	MabThera/Rituxan [6.4] Avastin [5.6] Herceptin [5.6]
6	GlaxoSmithKline Brentford, England [gsk.com]	\$34.4	\$5,822	Seretide/Advair [7.8] Fixotide/Flovent [1.3] Advodart [1.2]
7	AstraZeneca London, England [astrazeneca.com]	\$33.6	\$5,033	Crestor [6.6] Seroquel [5.8] Nexium [4.4]
8	Johnson & Johnson New Brunswick, New Jersey [jnj.com]	\$24.4	\$5,138	Remicade [5.5] Procrit/Eprex [1.6] Risperdal [1.6]
9	Abbott Abbott Park, Illinois [abbott.com]	\$22.4	\$4,129	Humira [7.9] Trilipix/TriCor [1.4] Kaletra [1.2]
10	Eli Lilly Indianapolis, Indiana [lilly.com]	\$21.9	\$5,020	Zyprexa [4.6] Cymbalta [4.2] Alimta [2.5]

Sources: corporate data (10K's, annual reports, etc.) and Pharm Exec estimates

N/A = Not Available/Not Applicable * Estimate Figures are rounded

How the listings were compiled: Companies in the Pharm Exec 50 are ranked according to global human prescription drug sales. That includes generics, vaccines, and blood fractionation products. As far as possible we have excluded OTC products, hospital supplies such as IV fluids, contract manufacturing, and royalty revenue. Whenever possible, we have taken figures from companies' annual reports and SEO filings. As needed (and especially in the case of privately held companies), we have supplemented these documents with figures from IMS and EvaluatePharma, press coverage, and other sources. All figures represent the fiscal year that ended in 2011. For most American and European companies, that means the year ending December 31, 2011. For many Japanese companies, we used the fiscal year ending March 31, 2011. Foreign currencies were converted using the average midpoint interbank rate for the month following the end of the fiscal year. In a handful of cases we have had to use estimates. These are noted with an asterisk.

Top 25 Corporations by US Sales



Source: IMS Health, MIDAS, December 2011

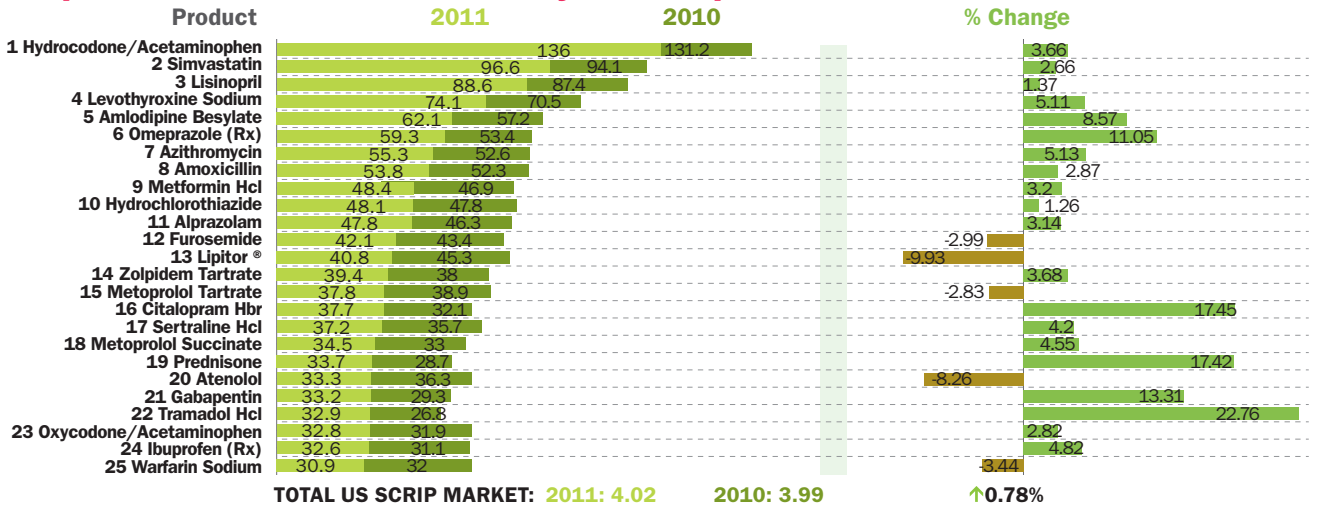
Figures in US\$ billions. Report reflects Prescription-bound products including Insulins (and excludes other products such as OTC)
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2012 Rank	Company HQ [website]	2011 Rx Sales (USD billions)	2011 R&D spend (USD millions)	2011 Top-Selling Drugs [USD billions]
11	Bristol-Myers Squibb New York, New York [bms.com]	\$21.2	\$3,800	Plavix [7.1]
12	Teva Petach Tikva, Israel [tevapharm.com]	\$16.7	\$1,080	Copaxone [3.6]
13	Amgen Thousand Oaks, California [amgen.com]	\$15.3	\$3,167	Neulasta/Neupogen [5.2]
14	Takeda Osaka, Japan [takeda.com]	\$15.2	\$3,466	Actos/Glustin [4.7]
15	Boehringer Ingelheim [boehringer-ingelheim.com]	\$13.8	N/A	Spiriva [4.4]
16	Bayer Leverkusen, Germany [bayer.com]	\$12.8	\$1,979	Betaferon/Betaseron [1.4]
17	Daiichi Sankyo Tokyo, Japan [daiichisankyo.com]	\$11.6	\$2,332	Olmесartan [2.9]
18	Novo Nordisk Bagsvaerd, Denmark [novonordisk.com]	\$11.5	\$1,662	NovoLog/NovoRapid [2.2]
19	Astellas Tokyo, Japan [astellas.com]	\$11.4	\$2,607	Lipitor [1.2]
20	Gilead Sciences Foster City, California [gilead.com]	\$8.1	\$1,229	Atripla [3.2]
21	Otsuka Tokyo, Japan [otsuka.com]	\$7.4	\$1,974	Abilify [4.4]
22	Merck KGaA Darmstadt, Germany [merckgroup.com]	\$7.2	\$1,577	Rebif [2.2]
23	Baxter International Deerfield, Illinois [baxter.com]	\$6.1	\$946	Advate [1.9]
24	Mylan Canonsburg, Pennsylvania [mylan.com]	\$5.5	\$294	Generics [N/A]
25	Servier Neuilly-sur-Seine, France [servier.com]	\$5.0	\$1,255	Coversyl [1.6]

Sources: corporate data (10K's, annual reports, etc.) and Pharm Exec estimates

N/A = Not Available/Not Applicable * Estimate Figures are rounded

Top 25 US Pharma Products by Prescriptions



Source: IMS Health, MIDAS, December 2011

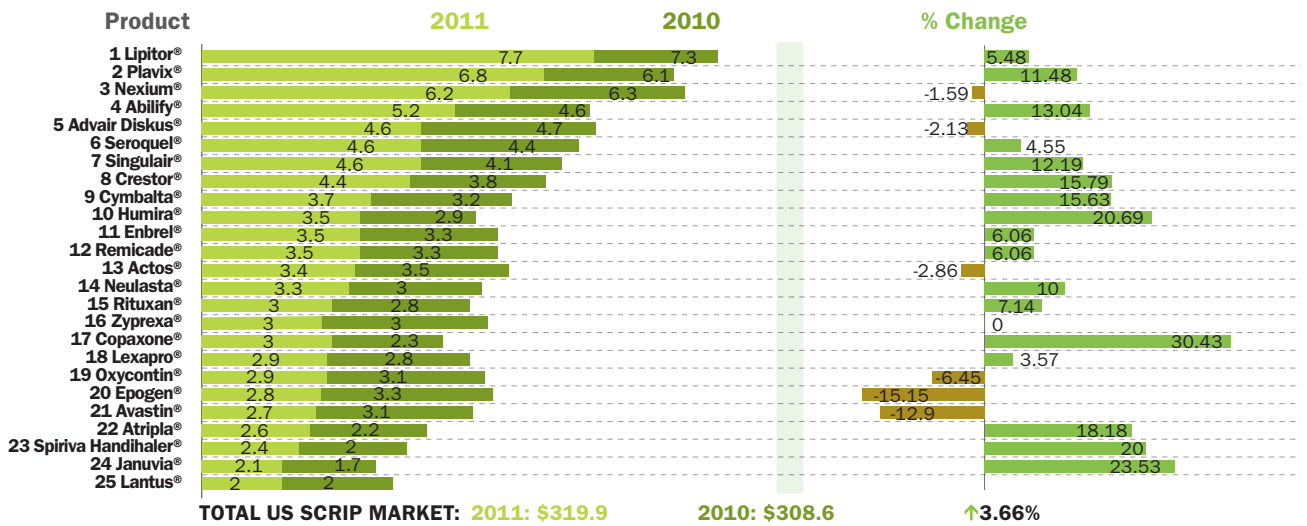
Figures in millions of prescriptions. Report reflects Prescription-bound products including Insulins (and excludes other products such as OTC). IMS routinely updates its market audits, which can and does result in changes to previously reported market size and growth rates. Updated February 23, 2012

2012 Rank	Company HQ [website]	2011 Rx Sales (USD billions)	2011 R&D spend (USD millions)	2011 Top-Selling Drugs [USD billions]
26	Mitsubishi Tanabe Osaka, Japan [mt-pharma.co.jp]	\$4.7	\$788	Remicade [0.7]
27	Celgene Summit, New Jersey [celgene.com]	\$4.7	\$1,600	Revlimid [3.2]
28	CSL Melbourne, Australia [csl.com.au]	\$4.5	\$349	Privigen [n/a]
29	Allergan Irvine, California [allergan.com]	\$4.4	\$902	Botox [1.6]
30	Forest New York, New York [frx.com]	\$4.2	\$715	Lexapro [2.3]
31	Dainippon Sumitomo Osaka, Japan [ds-pharma.com]	\$4.0	\$817	Lunesta [0.6]
32	Shire Dublin, Ireland [shire.com]	\$4.0	\$770	Vyvanse [0.8]
33	Menarini Florence, Italy [menarini.com]	\$3.9	n/a	n/a [n/a]
34	Biogen Idec Weston, Massachusetts [biogenidec.com]	\$3.8	\$1,219	Avonex [2.7]
35	Eisai Tokyo, Japan [eisai.com]	\$3.7	\$1,740	Aricept [3.5]
36	UCB Brussels, Belgium [ucb.com]	\$3.7	\$1,004	Keppra [1.2]
37	Watson Parsippany, New Jersey [watson.com]	\$3.7	\$295	Generic atorvastatin [0.1]
38	Purdue Stamford, Connecticut [purduepharma.com]	\$2.9	N/A	OxyContin [2.6]
39	Lundbeck Copenhagen, Denmark [lundbeck.com]	\$2.7	\$620	Cipralext [1.0]
40	Warner Chilcott Dublin, Ireland [wcrx.com]	\$2.7	\$107	Actonel [0.8]

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Top 25 US Pharma Products by Sales



Source: IMS Health, MIDAS, December 2011

Figures in US\$ billions

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Patent expiries

Major Patent Expiries in 2012	Sales in 2011 (in billions)
Plavix / Sanofi-BMS	\$6.8
Seroquel / AstraZeneca	\$4.6
Singulair / Merck	\$4.6
Actos / Takeda	\$3.4
Lexapro / Forest	\$2.9

Major Patent Expiries in 2012, Ex-US:

Japan: Seroquel
UK: Seroquel, Singulair
France: Singulair
Germany: Seroquel

2012 Rank	Company HQ [website]	2011 Rx Sales (USD billions)	2011 R&D spend (USD millions)	2011 Top-Selling Drugs [USD billions]
41	Kyowa Hakko Kirin Tokyo, Japan [kyowa-kirin-pharma.com]	\$2.7	\$543	Nesp/Espo [0.8]
42	Shionogi Osaka, Japan [shionogi.com]	\$2.6	\$611	Crestor [0.3]
43	Hospira Lake Forest, Illinois [hospira.com]	\$2.6	\$358	generic injectables [n/a]
44	Valeant Pharmaceuticals Mississauga, Ontario [valeant.com]	\$2.4	\$65	Welbutrin [219.2]
45	Endo Pharmaceuticals Chadds Ford, Pennsylvania [endo.com]	\$2.2	\$182	Lidoderm [0.8]
46	Actavis Zug, Switzerland [actavis.com]	\$2.0	n/a	Generics [n/a]
47	Grifols Barcelona, Spain [grifols.com]	\$1.9	\$98	Plasma fractionation products [n/a]
48	Actelion Allschwil, Switzerland [actelion.com]	\$1.8	\$486	Tracleer [1.6]
49	Galderma Lausanne, Switzerland [galderma.com]	\$1.8	\$363	Restylane [0.1]
50	Aspen Durban, South Africa [aspenpharma.com]	\$1.7	\$1.3	N/A [n/a]

Sources: corporate data (10K's, annual reports, etc.) and Pharm Exec estimates

N/A = Not Available/Not Applicable * Estimate Figures are rounded

The Top 10 Year In Review

1. Pfizer faced a brutal year of patent expirations in 2011, including not just US exclusivity loss for its leading product, Lipitor, but Aromasin, Xalatan, Vfend, and Protonix as well. Still, the industry giant had five products that sold \$2 billion or more, and revenues that topped \$500 million in 18 countries outside the US. It also acquired King for \$3.6 billion, providing a broader profile in pain, and sold formulation specialist Capsugel. Approvals included Xalkori (crizotinib) for some lung cancers with the ALK gene.

2. Novartis won 15 approvals in the United States, the EU, and Japan. Among them was US approval for Arcapta Inhalr for COPD. It also launched the oral MS drug Gilenya. While still integrating Alcon, the world's largest eyecare company, acquired last year, Novartis bought Genoptix, a diagnostics company, for \$458 million, and hit a key landmark as Sandoz's generic version of the anticoagulant enoxaparin became the company's first "generic blockbuster," with sales of more than \$1 billion.

3. Merck gained FDA and EU approval for Victrelis, the first new medicine for chronic hepatitis C in almost a decade. Other approvals included Juvissync, a combination of the diabetes drug Januvia with the statin Zocor. Merck also bought Inspire, an ophthalmic specialty firm, for \$430 million and formed alliances with India's Sun Pharma (to promote branded generics in emerging markets) and Parexel (to pursue biosimilars). As the year ended, CEO Kenneth Frazier was appointed chairman, replacing Richard Clark.

4. Sanofi acquired Genzyme for \$20 billion in April, the largest of 30 new transactions in 2011. Others included

the acquisition of pediatric specialist Topaz Pharmaceuticals and Universal Medicare, a consumer health company in India. Jevtana, for advanced prostate cancer, launched in Europe, and the Allegra family of allergy products launched in the US on an over-the-counter basis. Lost market exclusivity included Taxotere, Xatral, and Nasacort in the US and Aprovel in Western Europe.

5. Roche gained simultaneous FDA approval for Zelboraf, a targeted therapy for metastatic melanoma, and its companion diagnostic test—a first. It also acquired Anadys, a hepatitis C specialist, for \$230 million, and announced a partnership with Evotec to develop oncology biomarkers. In a controversial decision, FDA withdrew approval of Roche's Avastin for breast cancer—though CMS announced it would continue to reimburse for it. For the first time, the family-owned bloc of Roche shares dipped below 50 percent when Maia Oeri dropped out of the group.

6. GlaxoSmithKline announced the \$660 million sale of 17 noncore OTC brands, including Beano, Goody's, Ecotrin, Fiber Choice, Sominex, and Tagamet, to Prestige Brands. US approvals included Benlysta, the first new lupus treatment in more than 50 years (developed with Human Genome Sciences); the anticonvulsant Potigal (developed with Valeant); and Horizant for restless leg syndrome (developed with Xenoport).

7. AstraZeneca sold its Astra Tech subsidiary, which makes dental implants and medical devices for surgery and urology, to Dentsply for \$1.8 billion. FDA approved Brilinta, AZ's new anticoagulant, reversing its 2010 rejection of the drug, as well as giving the nod to

Caprelsa, the first approved therapy for nonoperable advanced medullary thyroid cancer, an orphan condition. Meanwhile, Japanese regulators approved Nexium—a decade after the drug's US launch.

8. Johnson & Johnson,

while struggling to put manufacturing problems behind it, took a commanding position in the orthopedic market with its \$21.3 billion acquisition of medical-equipment maker Synthes. It won approval for Zytiga (for late-stage prostate cancer) and the anticoagulant Xarelto. J&J exited the drug-eluting stent market it helped create. It sold off its Janssen dermatology business and the US rights to St. Joseph's aspirin, and bought the over-the-counter brands of India's J.B. Chemicals & Pharmaceuticals.

9. Abbott

announced plans to split itself into two companies: a medical products company focused on medical devices, branded generics, and nutritionals; and a research-based pharmaceutical company. The spinoff is slated to take place late this year. Abbott also received European approval for a new absorbable heart stent, and filed for multiple new indications for Humira.

10. Eli Lilly

successfully fended off a challenge to its Cymbalta patent in federal court, preserving its market exclusivity until at least June 2013. It won US and EU market approval for Bydureon, the diabetes drug it developed with Amylin, only to have the nine-year-old partnership break up in November. It announced a strategic alliance with Boehringer Ingelheim focused on diabetes. The partnership won US and UK approval for Tradjenta/Trajenta. In July, Lilly acquired the animal health business of Janssen, a Johnson & Johnson company.

About the Authors

Jerry Cacciotti is a Partner in Oliver Wyman's Health and Life Sciences Practice. He can be reached at Jerry.Cacciotti@oliverwyman.com

Patrick Clinton is Marketing Director in the Health & Life Sciences practice of Oliver Wyman. He can be reached at Patrick.Clinton@oliverwyman.com