

Key Therapeutic Areas, Companies and Products in 2006

Anti-infectives

Market Overview

The global anti-infectives market includes anti-virals, antibiotics and anti-fungals and is the fourth-largest market, with sales of \$49.4bn in 2006, forecast to return a 4.3% CAGR between 2006 and 2013 to reach a total value of \$66.2bn in 2013.

Leading R&D Compounds

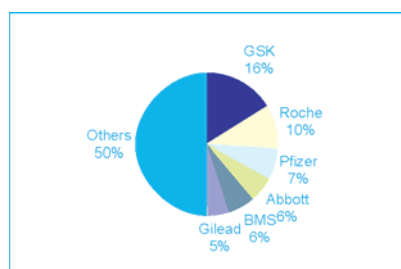
telaprevir – hepatitis (Phase III) – J&J/Vertex

Isentress – HIV (Phase III) –

Doripenem – antibiotic (Phase III) – J&J

Zeven – antibiotic (Phase III) – Pfizer

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Tamiflu	Roche/Chugai	2,097
Valtrex	GSK	1,555
Levaquin	J&J	1,530
Truvada	Gilead	1,194
Pegasys	Roche	1,147
Kaletra	Abbott	1,135
Synagis	MedImmune	1,065
Augmentin	GSK	1,049
Lamisil	Novartis	978
Zosyn	Wyeth	972

Growth of the anti-infectives sector is expected to come from anti-virals, in particular, against HIV and hepatitis. Within HIV, R&D focus is on improved HAART therapies e.g. Gilead/BMS' Atripla launched in 2006 and drugs targeting resistant or intolerant patients, such as the integrase inhibitors (Merck's Isentress). In hepatitis, there remains a considerable amount of unmet clinical need. The HCV market awaits the launch of J&J/Vertex' telaprevir following positive results from the PROVE studies. With the recent concern over an impending avian flu pandemic, sales of the neuraminidase inhibitor Tamiflu (Roche) soared during 2006, due to government stockpiling in many countries.

The antibiotics sector accounted for 50% of anti-infective sales in 2006, but is becoming an increasingly undynamic market. Zithromax's US patent expiry in November 2005 hit 2006 sales hard, while a number of other leading products – J&J's Levaquin, Pfizer's Zosyn and Abbott's Omnicef – are set to succumb to generic competition. Growth opportunities still exist, though in the form of novel antibiotics targeting resistant strains of bacteria. A similar picture exists in the anti-fungal market. Generic versions of key products Diflucan and Sporanox have already taken their toll. With blockbuster Lamisil's US patent expiring in 2007, this market is set to experience a temporary slump until newer products such as Pfizer's Eraxis and Vfend, Merck's Cancidas and Schering-Plough's Noxafil begin to rejuvenate growth.

Cardiovasculars

Market Overview

The global cardiovascular market is the largest single therapeutic market with sales of \$92.4bn in 2006, forecast to return a CAGR (2006-2013) of 1.0% and reaching a total value of \$99.2bn in 2013.

Leading R&D Compounds

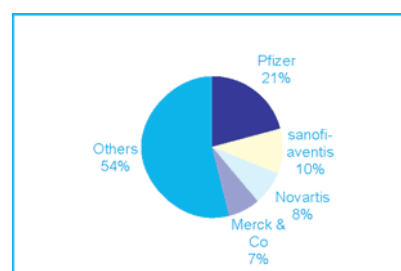
Rendix – treatment and prevention of DVT (filed) – Boehringer Ingelheim

prasugrel – acute coronary syndrome (Phase III) – Eli Lilly / Daiichi-Sankyo

MK-0524A / B (+ simvastatin) –

dyslipidaemia (Phase III) – Merck & Co

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Lipitor	Pfizer	12,886
Norvasc	Pfizer	4,866
Diovan	Novartis	4,223
Plavix	BMS	3,257
Cozaar	Merck & Co	3,163
Lovenox	sanofi-aventis	3,056
Zocor	Merck & Co	2,802
Plavix	sanofi-aventis	2,797
Crestor	AstraZeneca	2,028
Vytorin	Merck & Co/ Schering-Plough	1,933

The most significant event in the cardiovascular market during 2006 was the 'at risk' launch of Apotex's generic clopidogrel in the US market, which had an immediate negative impact on sales of BMS' Plavix. Although BMS secured a preliminary injunction three weeks after the launch, the market had already been flooded with product. The patent litigation over Plavix resumed in January 2007. Also important were the patent expiries of Zocor (simvastatin) and Pravachol (pravastatin) in the US during 2006, which is expected to initiate a sustained decline in the value of the US statin market from 2007 onwards. 2006 also saw the termination of the highest-profile cardiovascular R&D compound – Pfizer's cholesterol ester transfer protein, torcetrapib. An increase in deaths in the ILLUMINATE trial led to the company terminating development. Interestingly, results from the ILLUSTRATE and RADIANCE trials, released in March 2007, raised more questions than answers, due to the failure of the increased HDL levels to halt progression of atherosclerosis. Analysis of the ILLUMINATE trial is expected in 2007 and should shed more light on this product class; however, doubts still remain over the future of other CETP inhibitors in development. In 2007, there was another failure in this area as development of AGI-1067 (AstraZeneca) failed to hit its primary endpoint in the ARISE trial.

Key Therapeutic Areas, Companies and Products in 2006

Central Nervous System

Market Overview

The global CNS market generated sales of \$74.9bn in 2006 and is forecast to increase by 1.7% over the period 2006-2013 to achieve sales of \$84.0bn in 2013.

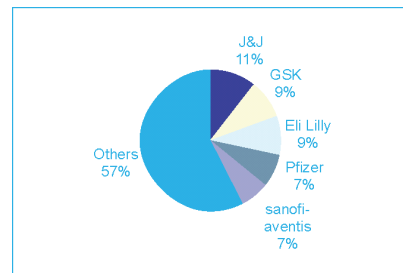
Leading R&D Compounds

bifeprunox – schizophrenia (Phase III) – Solvay/Wyeth/Lundbeck

Pristiq – depression (Phase III) – Wyeth

FTY720 – multiple sclerosis (Phase III) – Novartis

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Zyprexa	Eli Lilly	4,363
Risperdal	J&J	4,183
Effexor	Wyeth	3,722
Seroquel	AstraZeneca	3,416
Ambien	sanofi-aventis	2,542
Aricept	Eisai/Pfizer	2,381
Zoloft	Pfizer	2,110
Lexapro	Forest	2,096
Abilify	BMS/Otsuka	1,983
Topamax	J&J	1,926

The CNS sector has struggled recently, as product classes that have dominated treatment areas have come under increasing threat from generics or been plagued with safety concerns. These issues affect nearly all of this year's leading CNS products and are the reason why growth in this sector is expected to slow to low single digits by 2013.

Several major products such as Pfizer's Zoloft and sanofi-aventis' Ambien have recently succumbed to generic competition and strong generic erosion is expected to continue through to at least 2010 with upcoming patent expiries for class-leading products such as J&J's Risperdal and Topamax, GSK's Lamictal and Imitrex, as well as Pfizer's Aricept and Wyeth's Effexor XR. To add further pressure to this sector, a number of high-profile studies and continued safety monitoring has called into question the risk/benefit profile of many established treatments. In response, the FDA and other regulatory bodies have acted to strengthen labelling or restrict access to whole classes of products, reflecting concerns such as suicidal thoughts associated with anti-depressant use, cardiovascular and psychiatric events in patients taking ADHD medications, increased weight gain and diabetes associated with the atypical anti-psychotics, and the limited efficacy of acetylcholinesterase inhibitors in early Alzheimer's disease.

Dermatology

Market Overview

The global dermatology market generated sales of \$9.6bn in 2006 and is forecast to increase by a CAGR of 4.3% over the period 2006-2013 to reach sales of \$13.0bn.

Leading R&D Compounds

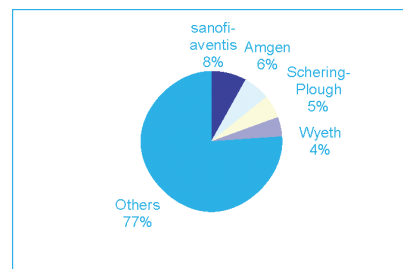
Humira – psoriasis (filed) – Abbott

Cimzia – psoriasis (Phase II) – UCB

CNTO1275 - psoriasis (Phase III) – J&J

BG-12 – psoriasis (Phase III) – Biogen Idec

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Enbrel	Amgen/Wyeth	775
Propecia	Merck & Co	352
Retin-A/Renova	Johnson & Johnson	230
Roaccutane	Roche	189
Elidel	Novartis	179
Raptiva	Genentech/Merck Serono	146

Although heavily dominated by mature products, the dermatology sector has seen a resurgence in growth as a result of the increased use of biologics, particularly in the areas of psoriasis and eczema, with improved therapeutic profiles compared to standard therapies. It is these biologics that we forecast will drive sales in the dermatology market for the foreseeable future. The anti-TNFs, including Amgen/Wyeth's Enbrel, J&J/Schering-Plough's Remicade, Abbott's Humira, and UCB's Cimzia are likely to make the biggest impression on the market, as clinical data suggests their superior efficacy over other biologics, including Genentech/Merck KGaA's Raptiva and Astellas' Amevive. As the first anti-TNF to market for psoriasis, Enbrel maintains the leading position; however market share is slowly being eroded by newer entrants. With only a small portion of the total moderate-to-severe psoriasis market penetrated, we believe there is room for all biologics to co-exist and grow within this sector, although growth may be tempered by the high cost of treatment, particularly in single-payer markets.

Key Therapeutic Areas, Companies and Products in 2006

Gastrointestinal

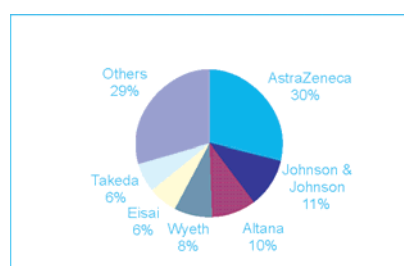
Market Overview

The global gastrointestinal market generated sales of \$25.6bn in 2006 and is forecast to increase by a CAGR of 0.2% over the period 2006–2013 to reach sales of \$26.0bn

Leading R&D Compounds

Cimzia (certolizumab) – Crohn’s disease (approvable) – UCB
Entereg (alvimopan) – post-operative ileus (approvable) – GSK
methylnaltrexone – opioid-induced constipation (filed) – Wyeth / Progenics

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Nexium	AstraZeneca	5,182
Prilosec	Takeda/AZ	2,729
Prevacid	TAP	2,600
Pariet	J&J/Eisai	2,572
Pantozol	Altana	1,995
Protonix	Wyeth	1,795
Remicade	J&J/S-P/Tanabe	1,405

The gastrointestinal sector has experienced significant activity in the past year. Key product approvals include two treatments for IBD, with the approvals of Humira (adalimumab) for Crohn’s disease and Lialda/Mesavant (mesalamine), the first once-daily oral mesalamine treatment for mild to moderate ulcerative colitis. Both products are expected to gain significant market share from existing brands as well as expand the overall value for the IBD market.

Additionally, there were also several significant setbacks within areas of already significant unmet medical need. The suspension of sales for Zelnorm (tegaserod) has left IBS patients in the US without an approved treatment option and development of GSK’s Entereg (alvimopan) was halted for opioid-induced constipation after the product was linked to increased serious adverse events. Approval of Cimzia (UCB) has been delayed due to an FDA request for more data.

Treatments for GERD and PUD continue to generate the leading revenues within this sector. However, upcoming patent expiries are expected to decimate sales of proton pump inhibitors (e.g. Pariet, Prevacid and Protonix/Pantozol). Despite the significant opportunities offered by the IBS and IBD markets, development of novel treatments for gastrointestinal indications remains a low priority for most pharmaceutical companies.

Genitourinary

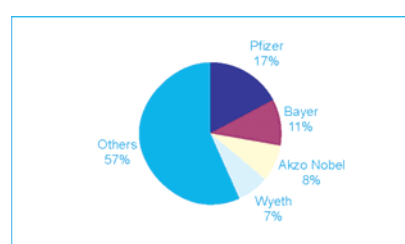
Market Overview

The global genitourinary market generated sales of \$20.6bn in 2006 and is forecast to increase by a CAGR of 2.9% over the period 2006–2013 to reach sales of \$25.2bn.

Leading R&D Compounds

Toviaz (fesoterodine) – urinary incontinence (approvable) – Pfizer
dapoxetine – premature ejaculation (filed, non-approvable in 2005) – Johnson & Johnson
Cetrotide (cetorelix) – endometriosis (Phase III) – Solvay

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Viagra	Pfizer	1,620
Flomax	BI	1,355
Detrol	Pfizer	1,100
Premarin	Wyeth	1,051
Yasmin	Bayer	996

In 2006, the modest growth exhibited by the genitourinary sector continued to be driven primarily by erectile dysfunction treatments Viagra, Cialis and Levitra. The incontinence market benefited from increased uptake of Pfizer’s Detrol and the second-generation anti-muscarinics Novartis’ Enblex and Astellas’ Vesicare. These are expected to underpin future expansion in this sector as the arrival of generics causes sales of J&J’s Ditropan XL to enter a decline. By gaining rights to the Detrol follow-on, Toviaz, Pfizer now has the opportunity to control this area. Deemed approvable by the FDA in January 2007, Toviaz is expected to be launched in late 2007.

Limited by pricing pressures and generic uptake in the US, contraceptive sales continued to register modest overall growth. However, this masks a strong performance from Bayer’s portfolio. Boosted by the US approval of YAZ, the Yasmin OC family is now a blockbuster and is expected to continue to grow during the forecast period. The hormone replacement therapy market is now showing signs of sustained recovery, aided by recently launched lower-dose offerings such as Bayer’s Angeliq and Wyeth’s reformulated Premarin/Prempro. Abbott ceased to distribute Boehringer Ingelheim’s Flomax in the US, causing a negative impact on sales. Moreover, patent expiries among key drugs – Harnal, Flomax and Proscar – will push total BPH revenues into decline from 2008.

Key Therapeutic Areas, Companies and Products in 2006

Haematology

Market Overview

The global haematology market generated sales of \$12.2bn in 2006 and is forecast to increase by a CAGR of 6.0% over the period 2006–2013 to reach sales of \$18.3bn.

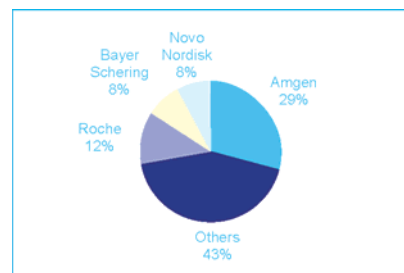
Leading R&D Compounds

Mircera – for anaemia caused by renal failure (filed) – Roche.

AMG 531 – immune thrombocytopenia purpura (ITP) (Phase III) – Amgen.

Promacta – for idiopathic thrombocytopenia purpura (ITP) (Phase III) – GSK

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Epogen	Amgen	2,511
Aranesp	Amgen	1,047
Kogenate	Bayer	988
NovoSeven	Novo Nordisk	948
Neo - Recormon	Roche	909
Procrit /Eprex	J&J	703
Epogin	Chugai	548
Renagel	Genzyme	515
BeneFIX	Wyeth	358
ReFacto	Wyeth	306

In recent months, the haematology market has been dogged by safety concerns related to its top-selling EPO franchise. In February 2007, the FDA added a black-box warning to all EPOs, warning of serious adverse events when used off-label and/or at higher doses. This was prompted by troubling safety results from several clinical trials in both the renal and oncology settings. In anaemia caused by renal disease, several clinical trials have shown that high doses increase the incidence of cardiovascular disease and death. However, the majority of physicians use EPOs at the dose indicated, mitigating the impact on sales in the renal setting.

On the research front, we believe that Roche's Mircera is the most promising R&D candidate in terms of revenue-generating potential. Given its superior dosing regimen, we expect it to win market share from all major marketed EPOs. However, we remain conservative on how much market share this product takes away, due to Amgen's entrenched position in the marketplace and a current lack of information on the product's superiority over existing brands. Elsewhere in the haematology sector, two promising compounds for the treatment of ITP, or low platelet levels, are expected to make an impact on the market in 2008.

Metabolism

Market Overview

The global metabolism market generated sales of \$28.8bn in 2006 and is forecast to increase by a CAGR of 8.3% over the period 2006–2013 to reach sales of \$50.4bn.

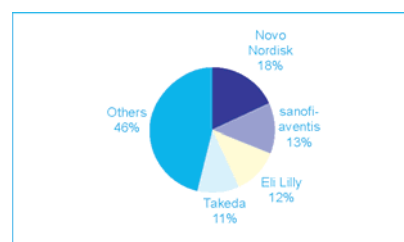
Leading R&D Compounds

Galvus – type II diabetes (Filed) – Novartis

Air Inhaled Insulin – type I and II diabetes (Phase III) – Eli Lilly.

saxagliptin – type II diabetes (Phase III) – BMS.

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Avandia	GSK	2,574
Actos	Takeda	2,427
Lantus	sanofi-aventis	2,091
NovoRapid /NovoMix	Novo Nordisk	1,416
Humalog	Eli Lilly	1,300

A highlight in 2006 was the race-to-market featuring Januvia (Merck) and Galvus (Novartis), the first products in the oral DPP IV class, which are expected to become mainstays in diabetes treatment. Merck gained a significant advantage by securing approval for Januvia, while Galvus remains the subject of an FDA approvable letter. Merck has moved swiftly into label expansion: in 2007, JanuMet, a fixed-dose combination of Januvia and metformin received approval in the US. Further back in development, BMS entered a development and marketing collaboration with AstraZeneca for its own DPP IV inhibitor, saxagliptin, currently in Phase III studies. Meanwhile, Pfizer's Exubera (inhaled insulin) has not gained wide acceptance, despite a strong marketing campaign. Furthermore, Pfizer may have opened up the market for Eli Lilly's Air Inhaled Insulin and Novo Nordisk's AERx-IDMS, both in Phase III for type I and type II diabetes.

Within obesity, the focus is on sanofi-aventis' Acompli. Launched in the EU in 2006, the drug has suffered several regulatory delays in the US (an approvable letter was issued in February 2006). Amid the uncertainty, sanofi-aventis has initiated Phase IIIb trials designed to expand the drug's label into obesity-related conditions, thus increasing its commercial potential; first results are expected in 2007. For the future, the preclinical collaboration between Pfizer and BMS, which targets metabolic conditions, may herald more early-phase R&D deals between pharmaceutical heavyweights.

Key Therapeutic Areas, Companies and Products in 2006

Musculoskeletal & Pain

Market Overview

The global MSP market generated sales of \$49.1bn in 2006 and is forecast to increase by 5.3% over the period 2006–2013 to achieve sales of \$70.3bn in 2013.

Leading R&D Compounds

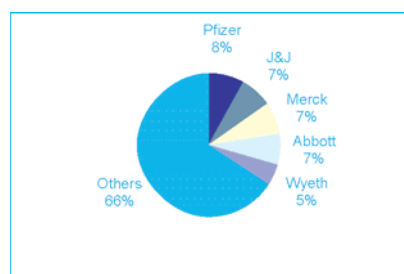
Golimumab – rheumatoid arthritis (Phase III) – J&J

AMG108 – rheumatoid arthritis (Phase II) – Amgen

Denosumab – osteoarthritis (Phase III) – Amgen

Tapentadol – pain (Phase III) – J&J/Grünenthal

Leading Companies in Franchise (market share)



Leading brands in Franchise

Brand name	Company	2006 sales \$'m
Enbrel	Amgen/Wyeth	3,705
Fosamax	Merck & Co	3,135
Remicade	J&J/Schering-Plough/Tanabe	2,947
Humira	Abbott	2,044
Celebrex	Pfizer	2,039
Actonel	P&G/sanofi-aventis/Eisai	1,844
Duragesic	J&J	1,295

The treatment of RA has undergone a change in recent years and this is typified by the growth of the anti-TNF products Enbrel, Remicade and Humira. Following the 2006 ACR conference it has become clear that early use of anti-TNFs can halt or reverse disease progression, and accordingly these products have moved earlier in treatment, opening up ever larger patient populations. Furthermore, strong development in this area has brought several new high-value biologic treatments into this space with the recent approval of BMS's Orenia and Genentech's Rituxan.

In contrast, the treatment of chronic pain continues to be dominated by the NSAIDs and opioids, both markets being heavily genericised. This was particularly evident in 2006 as the three leading opioid products, Duragesic, OxyContin, and Actiq all faced heavy impacts from generic entry. Furthermore, the impact of the Vioxx withdrawal continued to be felt, particularly in the US, as the FDA rejected Merck's follow-up COX-2 inhibitor Arcoxia, despite the fact the product is already approved in more than 60 countries. The osteoporosis market continues to be dominated by the bisphosphonates; however, with US and EU patent expiries for the leading products Fosamax and Actonel expected by 2008 it appears certain the market will decline in the mid-term despite the entry of several promising products including Amgen's antibody product denosumab.

Oncology

Market Overview

The global oncology market generated sales of \$53.3bn in 2006 and is forecast to increase by a CAGR of 5.9% over the period 2006–2013 to reach sales of \$79.6bn.

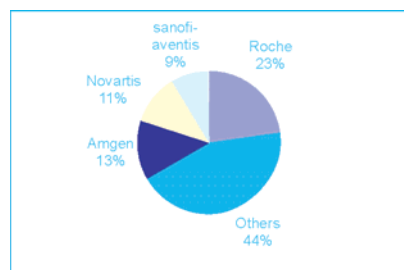
Leading R&D Compounds

ipilimumab – metastatic melanoma (Phase III) – BMS

ticilimumab – metastatic melanoma (Phase III) – Pfizer

HuMax-CD20 – non-Hodgkin's lymphoma (NHL) and chronic lymphocytic leukaemia (CLL) (Phase III) – GSK

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
MabThera/Rituxan	Roche	3,776
Herceptin	Roche	3,132
Aranesp	Amgen	3,074
Neulasta	Amgen	2,710
Glivec	Novartis	2,554
Procrit/Eprex	J&J	2,477
Avastin	Roche	2,363
Taxotere	sanofi-aventis	2,199
Eloxatin	sanofi-aventis	2,125
Zofran	GSK	1,559

Oncology was the second-fastest growing TA in 2006 (behind vaccines), principally as a result of the success of novel targeted therapies: witness the sales of MabThera/Rituxan, Herceptin, Avastin (all Roche/Genentech) and Glivec (Novartis), which all generated double-digit growth in 2006. Three more targeted cancer drugs were launched in 2006: Sprycel (BMS), Sutent (Pfizer) and Vectibix (Amgen), and one so far in 2007: Tykerb (GSK). Cancer treatments are trending towards a multidisciplinary approach, incorporating targeted therapies with the current standard (generally chemotherapeutic) regimens, an approach pioneered by Avastin and increasingly popular as the more traditional cytotoxic or hormone-based approaches become genericised. A significant amount of R&D is focused on indication expansion of established drugs, as well as developing second-generation targeted drugs. In the latter category, ticilimumab (Pfizer), ipilimumab (BMS) and HuMax-CD20 (GSK) show considerable promise. Despite their success, questions are being asked about the high costs of targeted cancer drugs: as more big pharma companies gravitate towards the market, such as GSK and Merck, pricing and reimbursement pressures are expected to increase.

Key Therapeutic Areas, Companies and Products in 2006

Ophthalmology

Market Overview

The global respiratory market generated sales of \$8.7bn in 2006 and is forecast to increase by a CAGR of 4.5% over the period 2006–2013 reaching \$11.8bn.

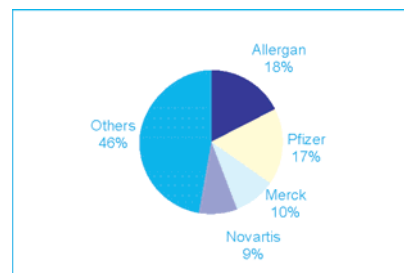
Leading R&D Compounds

memantine – glaucoma (Phase III) – Allergan

Posurdex – macular oedema (Phase III) – Allergan

OPC759 – dry eye (Phase III) – Novartis

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Xalatan	Pfizer	1,453
Trusopt/ Cosopt	Merck & Co	697
Lucentis	Genentech	380
Patanol	Alcon	375
Visudyne	Novartis	354

In 2006, Genentech/Novartis' Lucentis received US approval; EU approval followed in January 2007. A fragment of Genentech's oncology drug, Avastin, Lucentis is indicated for the wet form of age-related macular degeneration (AMD), a lucrative and expanding sector within ophthalmology. Indeed, Lucentis is expected to achieve blockbuster status as data suggest that, unlike existing AMD treatments, the drug can reverse the condition. While its arrival has signalled a downturn in competitor sales, particularly for OSI/Pfizer's Macugen, premium pricing has caused Lucentis to receive competition from off-label use of the cheaper Avastin. This approach has been supported by studies among ophthalmologists, but Genentech and Novartis have highlighted the risks of using a drug that has not been fully tested. This situation may change, as the US NIH is set to fund an Avastin-Lucentis head-to-head trial in AMD.

The glaucoma sector continues to be dominated by Pfizer's Xalatan, which has maintained its growth in the largest markets (US and Japan). Phase III data for Allergan's oral memantine, which potentially offers a new treatment paradigm in glaucoma, are eagerly awaited in 2007. The company also anticipates a filing for Posurdex, an extended-release formulation developed in 2007 for the treatment of diabetic and non-diabetic macular oedema. Elsewhere, Novartis expects to file OPC759, which targets a new approach to dry eye, in 2008.

Respiratory

Market Overview

The global respiratory market generated sales of \$34.5bn in 2006 and is forecast to increase by a CAGR of 4.9% over the period 2006–2013 to reach sales of \$48.2bn.

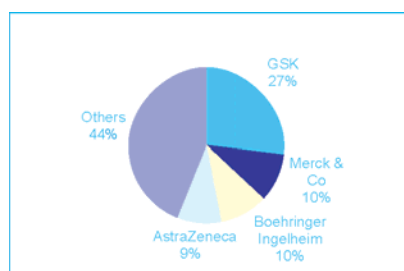
Leading R&D Compounds

QAB149 – asthma/COPD (Phase II) – Novartis

Veramyst – allergic rhinitis (filed) – GSK

LAS34273 – COPD (Phase III) – Forest

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Advair	GSK	6,097
Singulair	Merck & Co Boehringer	3,579
Spiriva	Ingelheim	1,648
Zyrtec	Pfizer	1,569
Pulmicort	AstraZeneca	1,292
Flixotide	GSK	1,213
Symbicort	AstraZeneca	1,184

Significant events within the respiratory arena in 2006 included results from GSK's long-awaited TORCH (Towards a Revolution in COPD Health) study. Results from the three-year, 6,000 patient trial, showed that Advair had a 17% relative reduction in mortality versus placebo, although this narrowly missed statistical significance. The combination product also lowered the rate of COPD exacerbations by 25% and improved quality of life, compared to placebo. Although sales of Advair will be negatively impacted by the expected launch of AstraZeneca's Symbicort in 2007 in the US, we believe that Advair will retain its market dominance for the foreseeable future.

In terms of market value, asthma continues to dominate the respiratory sector, with total sales of over \$21bn in 2006 – and we expect this trend to continue throughout our forecast period. However, by 2020, COPD is expected to be the fourth-leading cause of death worldwide, and this is reflected in the strong growth expected from Boehringer Ingelheim's Spiriva and the combination therapies – GSK's Advair and AstraZeneca's Symbicort. Future R&D trends in both COPD and asthma are likely to be centred on combination therapies such as Novartis' glycopyrronium (a once-daily anti-muscarinic) plus indacaterol (a long-acting beta-2 agonist). Widespread genericisation of the allergic rhinitis market will lead to significant erosion of this area throughout the forecast period.

Key Therapeutic Areas, Companies and Products in 2006

Transplant

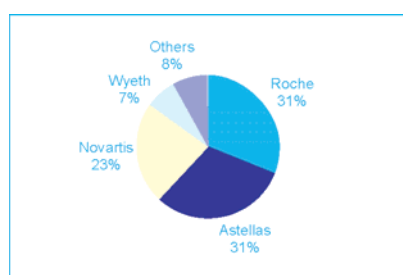
Market Overview

The global transplant market generated sales of \$4.7bn in 2006 and is forecast to increase by a CAGR of 5.4% over the period 2006–2013 to reach sales of \$6.8bn.

Leading R&D Compounds

belatacept – acute rejection and maintenance therapy of solid organ transplants (Phase III) – BMS

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Cellcept	Roche	1,469
Prograf	Astellas	1,464
Sandimmun	Novartis	783
Rapamune	Wyeth	337

The transplant sector continues to be dominated by Roche, Astellas and Novartis – these three companies captured 85% of the global market in 2006. Although demand for immunomodulators within the transplant sector will continue, we are only expecting a modest CAGR throughout the forecast period, due to the limited growth that is expected from products other than Roche's Cellcept and Astellas' Prograf. This reflects the attitude of physicians in this arena, who are reluctant to use anything other than these established products. Indeed, despite both products losing US patent protection in the near future (Prograf in 2008 and Cellcept in 2009), we are expecting limited generic penetration due to physician loyalty.

New products are generally introduced in combination with mature products, such as ciclosporin and glucocorticoids, and can take a significant amount of time to establish themselves. In terms of novel compounds, the pipeline is weak, with Roche's belatacept the only product of note in development. Indeed, the transplant arena continues to be a graveyard for R&D compounds, with Novartis and Astellas discontinuing development of FTY-720 and FK-778 respectively, in the last 18 months. For the future, we expect Cellcept and Prograf to continue to dominate the transplant sector, driven by physician loyalty and a lack of generic penetration.

Vaccines

Market Overview

The global vaccines market generated sales of \$13.5bn in 2006. It is forecast to return a CAGR from 2006 to 2013 of 9.0%, reaching a total value of \$24.8bn by 2013.

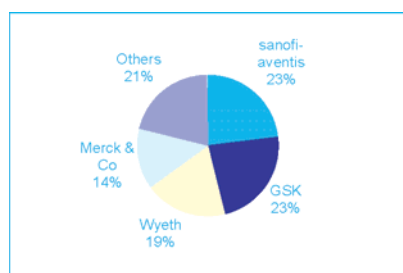
Leading R&D Compounds

Pprevnar 13 – paediatric vaccine (Phase III) – Wyeth

Cervarix – HPV – (filed) – GlaxoSmithKline

Synflorix – streptococcus – (Phase III) – GlaxoSmithKline

Leading Companies in Franchise (market share)



Leading Brands in Franchise

Brand name	Company	2006 sales \$'m
Pprevnar	Wyeth	1,961
Fluzone/other flu	sanofi-aventis	1,048
Infanrix/Pediarix	GSK	940
hepatitis vaccines	GSK	881
paediatric vaccines	sanofi-aventis	794
paediatric vaccines	Merck	585
paediatric vaccines	sanofi Pasteur	319
paediatric vaccines	MSD	319

There was a great deal of interest and activity within the vaccines sector in 2006. Both Novartis and Pfizer entered the sector via strategic acquisitions – Novartis with Chiron, and Pfizer with PowderMed – while Merck grabbed the world's headlines following the launch of Gardasil, the HPV vaccine for the prevention of cervical cancer. Already it looks like 2007 will be another busy year in vaccines, with AstraZeneca announcing its entrance into the sector through the acquisition of MedImmune and with GSK gearing up to launch Gardasil's first competitor, Cervarix.

When looking at the forecast CAGR of the vaccines market, it is clear why there is so much interest in this sector. Over the years, a number of forces have come together to make vaccines more appealing to pharmaceutical companies: better science and production methods; improved revenue and profitability; greater global access to vaccines; and increased support from governments. Overall, there is increasing recognition that vaccines represent a positive step in shifting the medical paradigm from therapeutics towards prevention. As a result, we expect to see the majority of R&D activity in producing vaccinations for new and underserved areas such as post-herpetic neuralgia associated with shingles (Merck's Zostavax), as well as the development of improved versions of existing vaccines against influenza and paediatric vaccines.

The Wood Mackenzie 25

The top 25 pharmaceutical companies ranked by 2006 ethical drug sales

Rank 2006 (2005)	Company	Ethical drug sales \$'m	Growth 2006 v 2005 %	Ethical drug R&D spend \$'m	Ethical R&D as % ethical Sales
1 (1)	Pfizer	45,083	1.8%	7,409	16.4%
2 (3)	GlaxoSmithKline	36,947	8.9%	5,985	16.2%
3 (2)	sanofi-aventis	35,605	4.9%	5,559	15.6%
4 (4)	Novartis	28,868	17.9%	4,814	16.7%
5 (8)	Hoffmann-La Roche	26,560	21.4%	4,698	17.7%
6 (5)	AstraZeneca	25,741	10.5%	3,824	14.9%
7 (6)	Johnson & Johnson	23,267	4.2%	4,988	21.4%
8 (7)	Merck & Co	22,636	2.8%	4,783	21.1%
9 (10)	Wyeth	15,683	9.8%	2,893	18.4%
10 (11)	Eli Lilly	14,816	7.5%	3,035	20.5%
11 (9)	Bristol-Myers Squibb	13,861	(9.1%)	2,800	20.2%
12 (13)	Amgen	13,858	15.3%	3,366	24.3%
13 (12)	Abbott	12,395	(6.8%)	1,466	11.8%
14 (15)	Boehringer Ingelheim	10,401	21.2%	1,527	14.7%
15 (14)	Takeda	9,429	1.8%	1,640	17.4%
16 (22)	Bayer	8,681	88.3%	1,257	14.5%
17 (17)	Schering-Plough	8,561	13.2%	2,079	24.3%
18 (16)	Astellas Pharma	7,723	0.2%	1,480	19.2%
19 (18)	Daiichi-Sankyo	6,859	10.8%	1,410	20.6%
20 (19)	Novo Nordisk	6,518	15.8%	1,062	16.3%
21 (20)	Eisai	5,345	5.0%	878	16.4%
22 (23)	Merck KGaA	4,669	6.8%	604	12.9%
23 (24)	Solvay	3,264	15.7%	532	16.3%
24 (25)	Forest	3,101	1.6%	410	13.2%
25 (N/A)	UCB	2,746	8.2%	768	28.1%

Source: Wood Mackenzie