

## Operating environment

### Competition – Pharmaceuticals

The pharmaceutical industry is highly competitive. GlaxoSmithKline's principal competitors are large international pharmaceutical companies with substantial resources. Some of these companies and their major products are mentioned below.

Pharmaceuticals may be subject to competition from different therapies during the period of patent protection and, once off patent, from generic versions. The manufacturers of generic products typically do not bear research and development costs and consequently are able to offer their products at considerably lower prices than the branded competitors. A research and development-based pharmaceutical company will normally seek to achieve a sufficiently high profit margin and sales volume during the period of patent protection to repay the original investment and to fund research for the future. Competition from generic products generally occurs as GlaxoSmithKline's patents in major markets expire.

GlaxoSmithKline undertakes a range of activities, including:

- introducing innovative products into as many markets as possible
- accelerating the process by which new products are brought to market
- increasing brand recognition among customers.

Ultimately, GlaxoSmithKline believes that its competitive position is dependent upon the discovery and development of new products, together with effective marketing of existing products. Within the pharmaceutical industry, the introduction of new products and processes by competitors may affect pricing levels or result in product replacement, and there can be no assurance that GlaxoSmithKline's products may not become outmoded, notwithstanding patent or trademark protection. In addition, increasing government and other pressure for physicians and patients to use generic pharmaceuticals rather than brand-name medicines may increase competition for products that have gone off patent.

### CNS disorders

Major competitors to *Paxil* in the US selective serotonin reuptake inhibitor (SSRI) market are Prozac from Eli Lilly (generic fluoxetine became available from August 2001), Zoloft from Pfizer and Forest Laboratories' Celexa. The success of *Seroxat/Paxil* has made it a target for generic manufacturers, against whom GlaxoSmithKline continues to respond appropriately (see Note 30 to the Financial statements, 'Legal proceedings').

*Imigran* has grown to be one of GlaxoSmithKline's leading products through addressing the previously unmet needs of migraine sufferers. Although other companies have launched competing products, newer formulations of *Imigran*, such as the nasal spray, and the introduction of *Naramig* have helped GlaxoSmithKline to retain its lead over its competitors in the migraine market and maintain growth.

### Respiratory

The combined performance of GlaxoSmithKline's *Flixotide*, *Serevent* and the recently launched *Seretide/Advair*, have continued to drive growth in this market. The established products such as *Ventolin* and *Becotide* have faced generic competition for some years but have maintained significant sales. A major competitor to GlaxoSmithKline's respiratory products in the USA is Singulair from Merck.

### Anti-bacterials and anti-malarials

Major products competing with GlaxoSmithKline's semi-synthetic penicillins are other anti-infectives including, but not limited to, generic brands, cephalosporins and, to an increasing degree, particularly in Japan, quinolones. *Augmentin* has been experiencing increased competition in the USA, particularly from Pfizer's Zithromax, Bayer's Cipro, and Johnson & Johnson's Levaquin and has lost patent protection in various countries in Europe. The success of *Augmentin* has made it a target for generic manufacturers in the USA, against whom GlaxoSmithKline continues to respond appropriately (see Note 30 to the Financial statements, 'Legal proceedings'). *Amoxil* has been without patent protection for a number of years and is subject to competition from generic brands. *Malarone*'s safety profile and convenient dosing regimen have helped put this product in a strong position versus mefloquine following its recent launch for malaria prophylaxis.

### Anti-virals

GlaxoSmithKline has a pioneering role in the HIV market, with *Retrovir* and *Epivir* acting as the cornerstone of combination therapy, and available as *Combivir* in a single tablet. The launch of *Ziagen*, *Agenerase* and *Trizivir* have broadened the Group's portfolio of HIV products. *Valtrex* has helped strengthen the company's position in the anti-herpes area, although *Zovirax* faces competition from generic aciclovir.

### Metabolic and gastro-intestinal

The major competitor for *Avandia* is Takeda Chemical's Actos, which is co-promoted with Eli Lilly in the USA. In the gastro-intestinal market, *Zantac* faces significant competition from omeprazole, a proton pump inhibitor, and from generic ranitidine hydrochloride.

### Vaccines

GlaxoSmithKline's major competitors in the vaccine market include Aventis Pasteur, Merck and Wyeth. *Engerix-B* and *Havrix* compete with vaccines produced by Merck – Comvax and Recombivax HB for hepatitis B and Vaqta for hepatitis A. *Infanrix*'s major competitors are Aventis Pasteur's Tripedia and TriHIBit, and Wyeth's Acel-Imune and Tetramune.

### Competition – Consumer Healthcare

The major competitors in the consumer healthcare markets are the major international companies Procter & Gamble, Colgate-Palmolive, American Home Products, Unilever and Johnson & Johnson. In addition, there are many other large and small companies that compete with GlaxoSmithKline in selected markets.

In the USA, the major competitor products in over-the-counter (OTC) medicines are: Tylenol Cold (cold remedy), Clearasil (acne treatment), Pepcid (indigestion) and private label smoking cessation products. In the UK the major competitor products are: Lemsip (cold remedy), Nurofen and Anadin (analgesics) and Nicotinell (smoking cessation remedy).

In Oral care, Colgate-Palmolive, Procter & Gamble and Unilever are the major international competitors.

In Nutritional healthcare the major competitors to *Horlicks* are Ovaltine and Milo malted food and chocolate drinks. The competitors to *Ribena* are primarily local fruit juice products while *Lucozade* competes with other energy drinks.

GlaxoSmithKline holds leading global positions in all its key consumer product areas. It is the second largest company worldwide in both OTC medicines and Oral care, and the fifth largest company worldwide in Nutritional healthcare.