biomarker (see BOX), which most people agreed were helpful.

Although acknowledging that pharmacogenomics has the potential to improve the drug development process as well as public health, industry representatives remained concerned about IP issues and the proprietary nature of PG data that will be submitted voluntarily. Larry Lesko, director of the FDA's Office of Clinical Pharmacology and Biopharmaceutics, acknowledged the need for the FDA to resolve IP issues and concomitant concerns about patents on research tools.

Early PG results are expected in drug metabolism, because scientific understanding of pharmacogenomics is most advanced in this field. However, GlaxoSmithKline (GSK) has previously indicated its intent to submit, as a test case to the FDA, data supporting abacavir (Ziagen) and related PG technology that tests for a rare human leukocyte antigen type that is predictive of the risk of developing abacavir hypersensitivity in individuals infected with HIV-1. But, because submission is voluntary, companies have not revealed when they plan to start submitting their data.

"The appearance of guidelines in this emerging field is sincerely welcomed by all practitioners."

"The appearance of guidelines in this emerging field is sincerely welcomed by all practitioners," stated Bill Pennie, director of molecular and investigative toxicology and drug safety evaluation at Pfizer. "As with industry, the regulatory community — not just the FDA — has been on a steep learning curve with these new technologies, and the FDA has kept on top of it extraordinarily competently."

Pennie is also chair of the International Life Sciences Institute's (ILSI) Committee on Application of Genomics and Proteomics to Mechanism-Based Risk Assessment. The ILSI consortium has garnered experience in generating and analysing data sets and has offered to share those with the FDA. Collaboration with the ILSI consortium would give the FDA real and genuinely voluntary data that is not proprietary.

The draft guidance has a comment period that lasts the statutory 90 days, until 2 February 2004, at which time the FDA will analyse and incorporate comments, and craft its final guidance.

NEWS IN BRIEF

First head-to-head statin results announced

In the first major comparison of two statin drugs, intensive treatment with 80 mg atorvastatin (Lipitor; Pfizer) halted the progression of atherosclerosis — deposition of lipid plaques on the inner walls of arteries — whereas a moderate regimen of 40 mg pravastatin (Pravachol; Bristol-Myers Squibb) was associated with continued atherosclerosis progression. The results from the Pfizer-sponsored REVERSAL trial on 654 patients, presented at the American Heart Association Scientific Sessions, indicate that aggressive statin therapy is best for halting the progression of atherosclerosis, but what this means in terms of clinical events will be the focus of further studies. Bristol-Myers Squibb is also comparing the same two statins in terms of preventing myocardial infarction and strokes.

Risk increase with accelerated oncology drug approvals

Serious adverse drug reactions (ADRs) are more likely to be reported for oncology drugs that go through accelerated approval by the US FDA than for those that are approved through the standard procedure, reports an article in the *Journal of Clinical Oncology*. Charles Bennett and colleagues at the Northwestern University Medical Center, Chicago, reviewed all potentially fatal ADRs reported between 2000 and 2002 in Medline, the FDA's MedWatch database and 'Dear Doctor' letters sent by companies to healthcare professionals. Potentially fatal ADRs were reported at a median of seven years post-approval, and overall, ADRs were reported for 80% of accelerated approval drugs, compared with 25% of standard approval drugs.

Ladewski, L. A. *et al. J. Clin. Oncol.* **21**, 3859–3866 (2003)

AstraZeneca's anticoagulant performs well

The much-awaited oral direct thrombin inhibitor ximelagatran (Exanta) from AstraZeneca is as effective as the gold-standard treatment warfarin in preventing stroke in patients with atrial fibrillation, according to results presented at the American Heart Association's Scientific Sessions meeting. Of the 3,922 patients that participated in the SPORTIF V study, 37 warfarin patients (1.2%) and 51 ximelagatran patients (1.6%) experienced a stroke or a systemic embolic event; a non-statistically-significant difference. Ximelagatran patients experienced fewer bleeding-related side effects (37% per year compared with 47% per year with warfarin). Liver toxicity continues to be a concern, with raised levels of serum transaminase enzymes in 6% of ximelagatran patients, compared with 0.8% in the warfarin group. But, if regular blood tests were to be carried out, doctors are confident that ximelagatran could provide the first major alternative in 60 years to warfarin.

US drug prices in line with per capita income

A study from the Wharton School at the University of Pennsylvania has shown that drug prices in the United States are not as inflated as perceived. A comparison of prices charged to wholesalers for the 249 most frequently used brand name and generic drugs in the United States, Japan, France, Germany, Italy, Britain, Chile, Canada, Mexico and the United Kingdom in 1999 showed that prices roughly reflected variations in the per capita income. Average prices were highest in Japan, with prices in other countries between 6–33% lower than US prices. The study, co-funded by Merck, also showed that the United States has one of the highest levels of generic drug use, and that US generic prices were lower than all countries except Canada.

Controversy clouds cardiovascular treatment success

Encouraging results from Esperion's recombinant high-density lipoprotein ETC-216 have been overshadowed by external events. In an early trial in 47 patients with acute coronary syndromes, ETC-216 reduced atheroma volume by 4.2%, the first time any drug has appreciably reversed atherosclerosis. But some analysts have questioned the fact that many subscribers might have had privileged access to the results in *JAMA* before news of the study was made public. 350,000 copies of *JAMA* were shipped on the Thursday before the journal's embargo on the paper was lifted on the following Tuesday at 4.00 pm EST. Interestingly, shares in Esperion plunged 26% on the Monday — thought to be because investors had expected a bigger reduction in atheroma volume — but rose 27% after the study was presented to the public.

Nissen, S. E. *et al. JAMA* **290**, 2292–2300 (2003)

Exhibition examines influence of treatments

An exhibition that opened last month at the British Museum, London, UK, looks at the influence that drug treatments have on our lives. In a collaboration between textile artist Susie Freeman, physician Liz Lee and video artist David Critchley called 'Cradle to Grave', over 14,000 real drugs are knitted into transparent fabric (pictured) to illustrate the average number of medicines prescribed to every person in Britain in their lifetime. There are two strips of fabric, charting the differing drug histories of men and women, and surrounding the drugs are real family photographs and significant documents to show that maintaining a sense of well-being is more complex than simply treating illness. 'Cradle to Grave' is part of the 'Living and Dying' exhibition, which is funded by the Wellcome Trust.

http://www.thebritishmuseum.ac.uk/